EATON Emergency Lighting
Central Power Systems – global catalogue 2022



Emergency Lighting – Central Power Systems

Powering Business Worldwide

Emergency Lighting – Central Power Systems

Supply and test systems from Eaton ensure a safe and dependable energy supply, in addition to monitoring the connected exit sign luminaires and escape luminaires.

Eaton offers a wide range of emergency exit and safety luminaires. With their CEWA GUARD and STAR technology available as standard, they offer the basis for minimized inspection and maintenance costs. Innovative lighting technology combined with highly efficient LEDs ensure up to 70% less power consumption and significantly lower maintenance costs with a service life up to 50,000 hours.

The high performance VisionGuard and CGVision visualization software controls and monitors even large-scale safety lighting systems with maximum reliability. Up to 500 individual emergency lighting systems with over one million light points can be kept in view on a monitor in the control room. With larger buildings such as airports, universities, museums, sports centres and industrial facilities, the software is the ideal partner for optimal and therefore also economical operation of the complete safety lighting.





A long history of expertise in the life safety industry with a commitment to deliver market-leading solutions that protect people and property.

Heritage of innovation.

CEAG
Cooper
Menvier
JSB
Luminox



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When it comes to protecting life and property, there's no room to compromise.

In a constantly changing world, owners and operators of commercial and industrial buildings must keep up to date with the changing nature of risk.
Safe evacuation is becoming more challenging due to several external influences.

What are the risks businesses face today?
The ongoing risk of fire
Over a third of businesses never resume operations after a major fire- resulting in a loss of orders, contracts, and key employees and consequently a loss of jobs and services in the community.
Non-traditional threats
Power outages, terrorism and domestic extremism are a rising cause for evacuation. These risks demand a different approach when planning for safe evacuation. High-profile terrorist attacks can shape regulation.

Each emergency lighting system is important, it protects life and health.

- Escape route marking during regular power supply: Evacuation of a building due to an accident, a bomb threat etc.
- During blackout: Light supply
    - Showing the directions out of the building
    - Illumination of the escape route to guarantee a safe evacuation

Our products meet your challenges

Innovation, tests and compliance for more reliability
- We constantly innovate for contemporary design and technologies
- Customers light engineering requirements are fully tested at an in-house lighting laboratory. We also expose newly developed products to extreme conditions and life cycle testing
- As a commitment to deliver high quality for all products and employees, Eaton's emergency lighting manufacturing facilities are certified ISO 9001
- Most of our products and complete systems are 3rd party certified

Eco-friendly luminaires all along their life cycle
Our manufacturing plants are ISO14001 & ISO 9001 certified. We are committed to favour the choice of recycled materials and reduce weight and volume of products and packaging. Our LED luminaires are low consumption and prevent from relamping operations as their life time goes up to 50.000 hours.

A large portfolio for a wide range of applications
- Exit sign, escape route, anti-panic luminaires
- Aesthetic solutions
- Indoor or outdoor
- High output
- Special Luminaire solutions: Explosion protected, high ingress protection, Low temperature, high light output, narrow-beam lenses for high bay installations, HACCP suitable
- Central Battery Systems: With AC/DC or AC/AC output
- Central Visualization



References

Main station, Berlin

The projects listed below are only a selection of the locations and applications where Eaton emergency lighting solutions are installed. A more detailed reference list is available on our website at www.ceag.de.

Hotels

- Radisson blu Hotel, Germany
- Ritz-Carlton Hotel, Germany
- Atlantic Sail City Hotel, Germany
- Ramada Resort Hotel, Hungary
- Atlantis the Palm Hotel, Dubai

Airports

- Frankfurt, Germany
- Cologne, Germany
- Schiphol, Netherlands
- Bangkok, Thailand
- Dubai, United Arab Emirates

High-rise buildings

- Tower 115, Slovakia
- Etisalat Tower, Abu Dhabi
- Capital Gate Tower, Abu Dhabi
- Burj Khalifa Tower, Dubai
- Burj Al Arab, Dubai

Industry

- Dr. Oetker, Germany
- EADS Airbus, Germany
- Bayer, Germany
- BP, Norway
- Dubai Cable Company, Abu Dhabi

Schools and universities

- Technical University Berlin, Germany
- RWTH Aachen, Germany
- University Hamburg, Germany
- University Zürich, Switzerland
- American University Sharjah, Sharjah

Sport venues

- Fritz-Walter-Stadium, Germany
- Stadium Borussia-Park, Germany
- Rhein-Neckar-Arena, Germany
- Karaiskakis Stadium, Greece
- National Aquatics Center, China

Commercial centres / retail

- CentrO, Germany
- Limbecker Platz, Germany
- Potsdamer Platz Arkaden, Germany
- Montedoro Freetime, Italy
- Dubai Mall, Dubai

Assembly halls / rooms

- German Bundestag, Germany
- Museums Island, Germany
- National Library Leipzig, Germany
- Town Hall Sydney, Australia
- National Convention Centre, Qatar

Emergency Lighting – Central Power Systems

Explanation of the Icons for product features



In order to help you to find the solutions you need, we created a set of icons presented on each product page of this catalogue. This way, you will be able to identify the main characteristics of the product in one quick look.

Please note that most of our emergency lighting luminaires are also available as self-contained luminaires.

Please contact us for further information.

Explanation of the Icons for product features

20 m Viewig distance, here: 20 m	Protection class 2	ENEC certified	STAR With STAR technology
Light output, here: single-sided	Protection class 3	Suitable for outdoor use	S+TAR With STAR+ technology
LED LED light source	DIN 4844 According to DIN 4844	IP20 Degree of protection, here: IP20	CG Line With CGLine technology
10 W Compact fluorescent lamp, here: 10 W/TC-DEL	EN 1838 According to EN 1838	IK10 Degree of mechanical impact resistance, here: IK10	CG+ Line With CGLine+ technology
8 W Fluorescent lamp, here: 8 W/T16	For use in food processing industry	Luminaire with limited surface temperature	Suitable for use in low temperature down to -40 °C
Protection class 1	Explosion protected	Li-Ion With Lithium-ion battery	

In dangerous situations, Eaton escape sign luminaires reliably show the right way

The background in terms of standards for the optical requirements of escape sign luminaires is specified in Europe with EN 1838. For emergency operation, this standard defines the minimal requirement for brightness of 2 cd/m² in the green area of the symbol and specific uniformity and contrast within and between the luminous surfaces.

For mains operation the DIN 4844-1 standard applies. Here a luminance of 500 cd/m² for the white surface is stipulated.

The increased level of luminance enables good visibility of the emergency exits even with bright surroundings (daylight, general lighting) and the existence of other luminous signs for advertising or information, for example for routing systems in buildings.

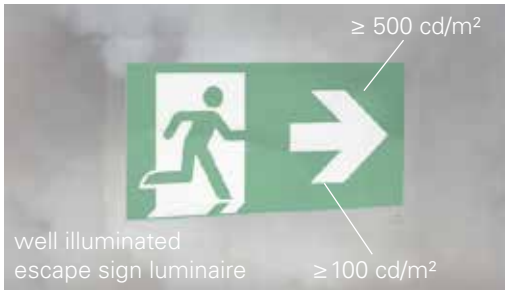
After all, not all emergencies are related to a power failure, for example in cases of evacuation of a building resulting from accidents or bomb threats.

Photometric requirements on the exit signs

DIN 4844-1 (2012-06):
L_m ≥ 500 cd/m² (white surface)
for use in light surroundings.

ISO 30061 (2007):
L_{min} = 10 cd/m² (green surface)
in case of smoke development. The luminaires should be suspended by at least 0.5 m.


badly illuminated escape sign luminaire





1

Eight ways to ensure compliance with emergency lighting regulations

Emergency lighting can be a lifeline for people trying to find their way out of a building if main lighting fails. This is particularly important in the event of a blackout, fire, earthquake, flood, etc.

To ensure that emergency lighting is fit for purpose, European standards and local regulations bring all aspects of safety to save people. To ensure the quality, reliability and conformity of your installation we recommend that the emergency lighting used is covered by a third part certification. So how can you be sure your emergency lighting is compliant?



1. Carry out a risk assessment

If you have employees, workers or any public visitors in your building you may be required by law, under the European and local regulations, to carry out a safety risk assessment and keep a written record of the assessment. This legislation exists to ensure that the correct emergency lighting for the safety of people is installed to cover any identifiable risks and that it will correctly operate in the event of a failure of the main lighting supply. These regulations provide specifiers with information regarding areas that need emergency lighting such as: the minimum levels of illumination, duration, maximum brightness to prevent glare, and any points of emphasis which require particular consideration. Failure to comply with these stipulations not only puts lives at risk and raises the possibility of prosecution, but could also invalidate insurance policies.

Know what you are buying

2.

Given that emergency lighting will never be used on an everyday basis, it can be tempting to opt for cheaper luminaires. These are often supplied from distant sources and will pass through numerous intermediaries before installation. This can lead to confusion over the precise specifications and the claims made by manufacturers and sellers, which may not be independently verified. Buying cheaply may also turn out to be a false economy since lower-quality components can shorten the lifespan of batteries and lamps; they may also have inferior optics, resulting in an increased number of fittings being required to meet the minimum emergency lighting levels. As this is a life safety product you need to consider whether a cheaper option might be more vulnerable to failure.

3. Look for third-party certification

The most reliable way to ensure your emergency lighting is fit for purpose is to buy products approved by third-party certification schemes such as ENEC approved testing laboratories. ENEC is the high quality European mark for electrical products that demonstrates compliance with European standards (EN). The ENEC approved testing laboratory governs the implementation of strict European standards on the design and manufacture of emergency luminaires under regulations including EN60598-1 and EN60598-2-22. If ENEC approved luminaires are installed, maintained and used according to the manufacturer's instructions, installation standards and good engineering practice such as the correct location, spacing data, etc, the emergency lighting system will meet the minimum emergency lighting levels for the safety of people.

However, this may need enhancement if specific risks are identified during the risk assessment. Upon meeting these conditions, the installation needs to be considered sufficiently safe to protect users of the building and reduce the likelihood of any legal action relating to non-compliance with regulations.

4. Consider the long-term costs

Buying high-quality and industry approved emergency lighting may initially seem more costly, but consider the bigger picture. For example, good quality products may have a higher output and better spacing performance meaning fewer units are needed to achieve the required level of illumination, which may not only reduce the outlay on products but also the installation cost. LED based emergency luminaires, low consumption, long life components, automatic testing and monitoring devices significantly reduce the operating and maintenance costs of the installation to optimise the total cost of ownership (TCO).

For example, LED-based emergency luminaires have a working life up to 50,000 hours, which is up to 10 times longer than a conventional fluorescent lamp and 2 to 4 times lower energy consuming.

Using 10 years life time central battery systems will also significantly reduce maintenance costs in the long term.

Low voltage directive

All emergency lighting shall be compliant with the low voltage directive (2014/35/EU) who is referring to product standard such as EN60598-1 and EN60598-2-22. For a better and global understanding of the signage, Pictogram is normalised by the ISO7010.

These regulations apply to all safety signs including those which provide directional signage for escape routes.

Other regulations

Please refer to your local regulation because some places like theatres, cinema, stadiums, nursing houses, schools, hospitals, car parks, etc may required specific equipment and installation rules.

5. Location, location, location

The positioning of emergency lighting is crucial. Some of the key locations where emergency luminaires should be installed are: along escape routes, at every change in direction, adjacent to any step or trip hazard, over every flight of stairs so that each tread receives direct light, close to firefighting equipment, call points and first aid points, outside every final exit to a place of safety or any other location identified by the risk assessment.
Please refer to your local regulation to choose the recommended Eaton emergency lighting product at the right location.

6. Pay attention to the exit

Emergency lighting shall be chosen in accordance with the application and environmental conditions to ensure a safe exit way. Eaton designs emergency lighting with waterproof, high bay, industrial, and various other solutions.

7. Think about maintenance and servicing

Minimum routine testing schedules are one of the requirements of the regulations and standards. The time this takes can become a significant demand on facilities managers and maintenance teams. One way to avoid the ongoing costs associated with maintenance, servicing, repairs and replacements is to specify quality emergency luminaires in the first place.

Additionally, self-testing systems should be considered to reduce the expense, time demands and disruption associated with manual testing regimes upon individual luminaires. With automatic test systems, results from an entire network are collected and fed back to a central point where the exact location of the fault can be pinpointed. The system will also identify the cause of the fault, so that the necessary spare part can be selected and taken to the location to speed up the repair process.
Using long lifetime LEDs will significantly reduce maintenance costs.

8. Do not ignore the signs

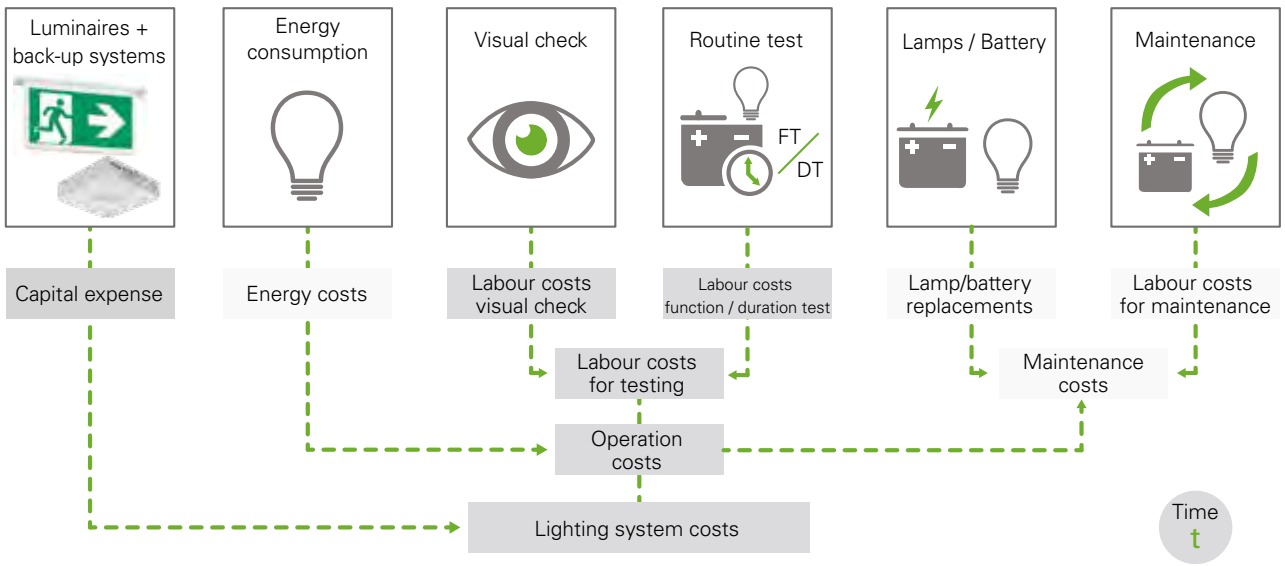
In addition to the emergency lighting, it is important to consider signage at the earliest stage. The obligation is to ensure that escape routes are clearly defined and identified with the correct exit signage.

When selecting a product, be aware that the viewing distance for an internally illuminated exit sign is calculated by multiplying the height of the illuminated element by a factor of 200. This information will normally be available from reputable manufacturers. For externally illuminated signs, the multiplication factor is only 100.

Additionally, EN1838 states that under emergency lighting conditions the sign shall be sufficiently illuminated so that it is clearly visible. The safety colour must remain green and the contrast colour must remain white within the colour boundaries specified in ISO3864-4.
Also, pictogram are normalized by ISO7010 with the arrow and the running man.



Emergency lighting costs



1 Locate luminaires at mandatory "Points of Emphasis"

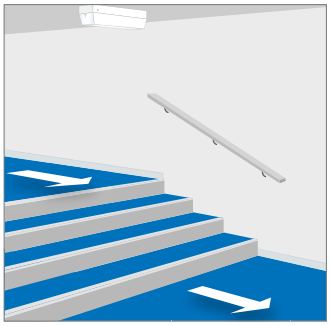
Initial design is conducted by situating luminaires to reveal specific hazards and highlight safety equipment and signs. Care should be taken to ensure the correct illumination level is achieved, in addition to providing illumination to assist safe travel along the escape route. This should be performed regardless of whether it is an emergency escape route or an open (anti-panic) area. Only when this is accomplished should the type of luminaire or its light output be considered. EN 1838: 2013 requires that the luminaires sited at points of emphasis must comply with EN 60598-2-22.

Specific locations where a luminaire must be provided are:


At each exit door

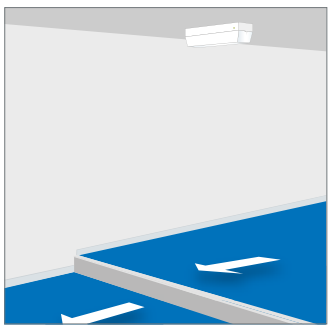

All safety exit signs

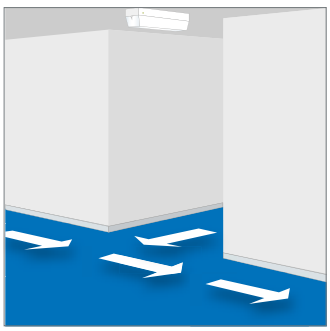

Outside the final exits and to a place of safety

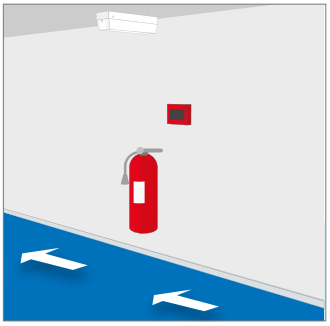

Near stairs so that each tread receives direct light


At each change of direction


Near each first aid post (5lx, vertical)


Near any other change of floor level


At each intersection of corridors


Near each piece of fire fighting equipment and call point (5lx, vertical)



Near (5 lx, vertical) every panel for fire alarm system


Near escape equipment for handicapped people

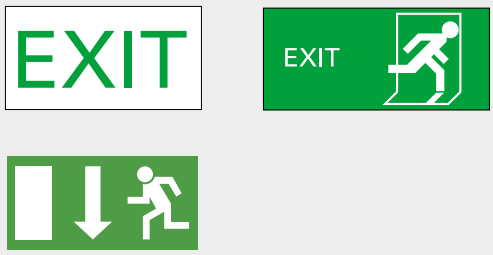

Near safe areas, for handicapped people and P.A. systems, Alarm devices in toilets for handicapped people

Ensure the exit signs are of correct format and size

Section 4.1 of EN 1838: 2013 states that "Signs which are provided at all exits intended to be used in an emergency and along escape routes shall be illuminated to indicate unambiguously the route of escape to a point of safety". Where direct sight of an emergency exit is not possible, an illuminated directional sign (or series of signs) shall be provided to assist progression towards the emergency exit.

Sign formats should not be mixed

Example of old-style signs now obsolete:



European signs directive format

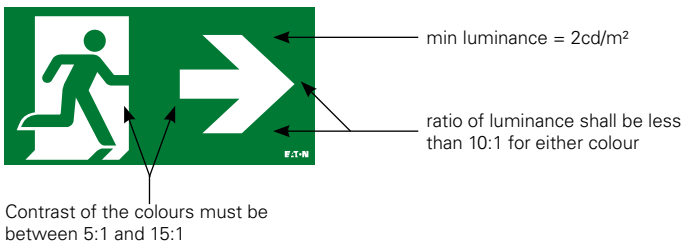


ISO 7010

In 2011, the National Standards Body decided to adop a single pictogram format as detailed in ISO 7010.

Illumination Requirements

The sign must conform to the colours of ISO 3864, which defines that exit and first aid signs must be white with green as the contrast colour. The ratio of luminance of the white colour to the green colour must be between 5:1 and 15:1. The minimum luminance of any 10mm patch area on the sign must be greater than 2cd/m² and the ratio of maximum to minimum luminance shall be less than 10:1 for either colour.



Note:

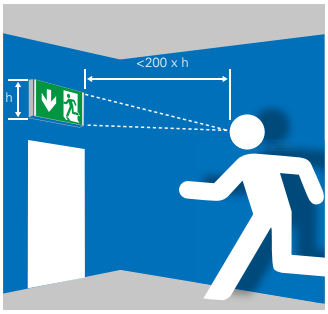
- According to DIN 4844-1 the min. luminaire of the white colour must be > 500 cd/m² in normal conditions
- Internally illuminated exit signs are pre-tested to ensure they meet these requirements, provided that they comply with EN 60598-2-22. If the sign is designed to be externally illuminated, considerable care must be taken by the system designer to see that these conditions are met.

Maximum viewing distances

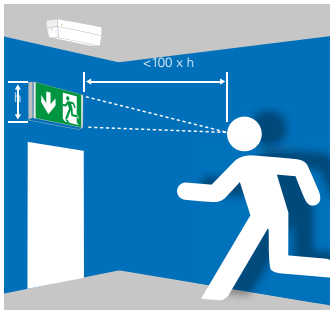
For all formats of safety signs, the maximum viewing distances and luminance conditions are given in EN 1838: 2013. Signs can be either internally illuminated, such as exit boxes or edge lit emergency luminaires with a screened sign that have a controlled illuminance, or painted signs.

Maximum viewing distances are:

Internally illuminated signs - 200 x the panel height



Externally illuminated signs - 100 x the panel height

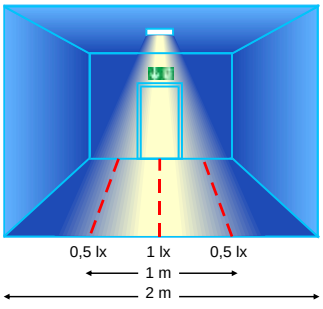


Escape Route Lighting

When the points of emphasis have been covered, it is essential to provide any additional luminaires to ensure that minimum illuminance levels are met to enable the routes to be used safely. In addition, every compartment on the escape route must have at least two luminaires to provide some light in the event of luminaire failure.

- **Lighting Level Requirements**

EN 1838: 2013 4.2 calls for a minimum of 1 lux anywhere on the centre line of the escape route for normal risks. A uniformity ratio of 40:1 maximum to minimum must not be exceeded. This illuminance must be provided for the full duration and life of the system. 50% of the illuminance must be available within 5 seconds and the full value within 60 seconds of supply failure.



- **Photometric Design**

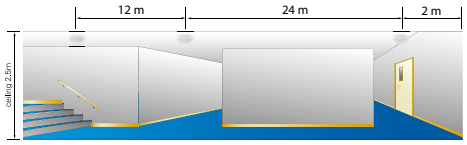
Emergency Escape Routes
The use of authenticated spacing tables or a suitable computer program provides the information to determine whether luminaires are needed in addition to those for the points of emphasis (see data section), to provide the minimum required level of illumination on the escape routes. To ensure that the design will meet the required levels at all times the data is de-rated, as required by the standard, to cover the following factors:

i. Reduction in light as the battery voltage reduces during discharge
ii. Ageing of lamps in maintained circuits
iii. The effects of dirt

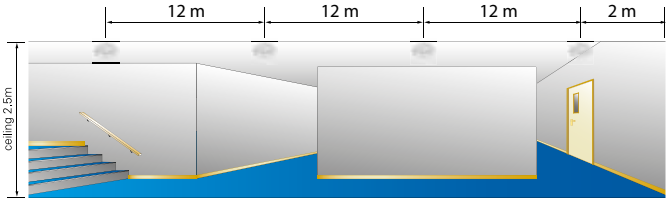
1 **Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)**
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.3 (3.4)	6.8 (8.3)	6.4 (7.1)	14.1 (15.6)
3.0	Escape route	2.3 (3.2)	6.4 (9.2)	7.3 (8.1)	16.1 (17.8)
3.5	centre	2.3 (3.2)	6.5 (9.7)	8.1 (9.0)	17.9 (19.9)

Example - luminaire spacing along escape route

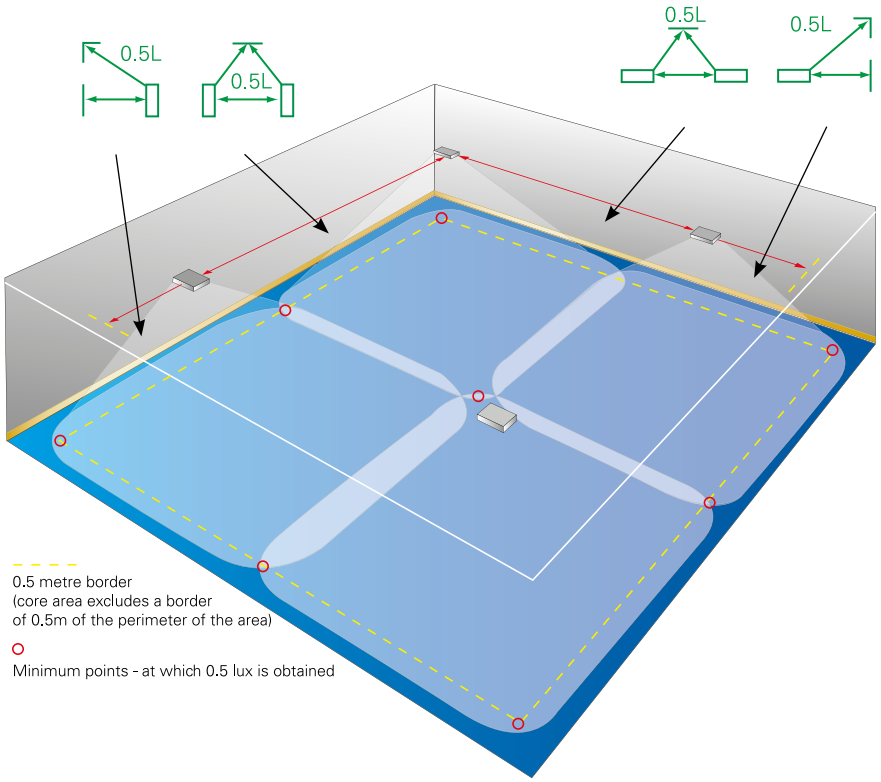


Locate luminaires at mandatory “Points of emphasis”



Add additional luminaire to achieve 1 lux minimum

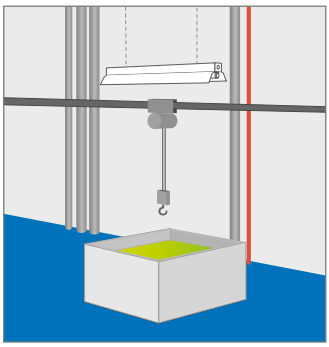
Luminaire spacing in open (anti-panic) core areas



Open (anti-panic) core areas

Open areas with an escape route passing through them, or **hazards identified by the building risk assessment** all require emergency lighting. The current standard is easy to design for and to verify, promoting systems that provide good uniformity rather than ones that use a few large output luminaires.

- **Light level requirements**
  EN 1838:2013 - 4.3 calls for 0.5 lux minimum of the empty core area, which excludes a border of 0.5m of the perimeter of the area. Spacing tables or a suitable computer program provide simple and accurate data that can easily be used. The spacing tables for 0.5 lux are de-rated on the same basis as those for escape routes. They can also be used as a guide for initial selection of the location of luminaires when using a computer program.
- **Spacing data**
  Specific data is available for dedicated emergency luminaires. This can be found on each of the individual product entries in this catalogue.
  If using standard mains luminaires fitted with an emergency conversion kit, you should use one of the available computer programs to calculate the layout of converted luminaires. Using the actual distribution of the luminaire ensures that the correct emergency lumen value is used with the relevant depreciation factors.



High risk task area lighting

The risk assessment carried out will identify a number of locations needing special consideration. These may be areas in which plant and production lines are deemed to have a high risk or control rooms managing dangerous processes.

EN 1838: 2013 defines that in areas of high risk the maintained illuminance on the reference plane shall not be less than 10% of the required maintained illuminance for that task, however it shall not be less than 15 lux.

Key product standards

- **EN 60598-2-22:** Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting
- **ISO 7010:** Registered safety signs
- **ISO 3864-1:** Design principles for safety signs and safety markings
- **DIN 4844-1:** Observation distances and colorimetric and photometric requirements
- **EN 50171:** Central power supply systems
- **DIN EN 50272-2**: Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
- **EN 62034:** Automatic test systems for battery powered emergency lighting

Key installation standards

- **EN 1838:** Lighting applications – Emergency Lighting
- **IEC 60364-5-56 / HD 60364-5-56:** Low-voltage electrical installations – Part 5-56: Selection and erection of electrical equipment – Safety services
- **EN 50172:** Emergency escape lighting systems
- **DIN V VDE V 0108-100:** Emergency escape lighting systems

1



Requirements of EN 1838

≥ 15 lx Illuminance at safety lighting for workplaces with special hazards

In workplaces where failure of the general lighting could lead to accident risks, the illuminance of the safety lighting must be determined on the basis of the risk assessment.

The illuminance of the safety lighting must not be less than 15 lx. In individual cases higher illuminance levels may be necessary.

In order to meet the requirements of EN 1838 and the Technical Rules for Workplaces, we have highlighted the suitable CEAG safety lights including distance tables for you in the following.

We can provide you with 15 lx data on request. Contact your Eaton representative.

Work areas with special hazards

Workplaces where the safety and health of employees is endangered by the failure of general lighting and where safety lighting is required.
For example:



The immediate area of long-traveling work equipment with moving parts which are not to be protected and which can cause accident hazards. e.g. facing machines. as well as additional accident hazards caused by light failure.



Laboratories when it is necessary for employees to stop or interrupt an ongoing experiment in order to prevent acute danger to employees and third parties.



Jobs near hot baths or casting pits that cannot be secured by railings or barriers for production reasons.



Workplaces without daylight. Workstations that must be kept dark for technical reasons



Control equipment for installations requiring continuous monitoring. e.g. control rooms and control stations for power plants, chemical and metallurgical plants, as well as workplaces at shut-off and control equipment which have to be actuated during operation or in case of malfunctions to avoid the risk of accidents in order to interrupt or terminate production processes without risk.



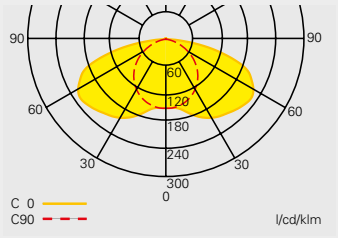
Electrical operating rooms and rooms for building services installations which must be entered if the artificial lighting fails.

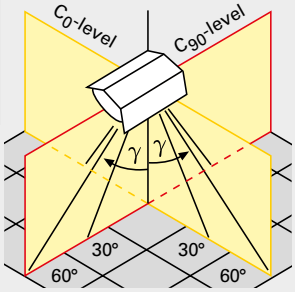


Areas around working pits that cannot be covered for reasons related to the work process.

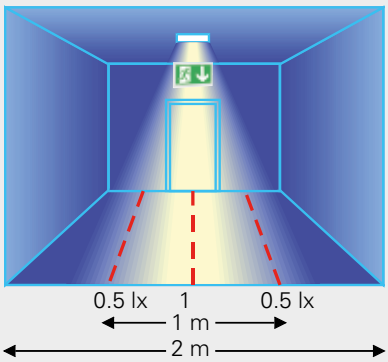
Planning example of escape routes and anti-panic lighting

1 **DIN EN 1838 supplies detailed information about the planning and calculation of safety lighting systems:**





Safety lighting for escape routes



Escape routes to 2 m width must be illuminated with 1 lx on the central axes and to 50% of the width to 0.5 lx.

Measurement height max. 2 m.

Wider escape routes can be considered as several 2 m strips or can be equipped with anti-panic lighting.

With the calculation of illuminance, no reflections are to be considered on the peripheral room surfaces. The illuminance can therefore be calculated with the point lighting formula.

$$E = \frac{I_{(\gamma)} \times \Phi_E}{h^2} \cos^3(\gamma)$$

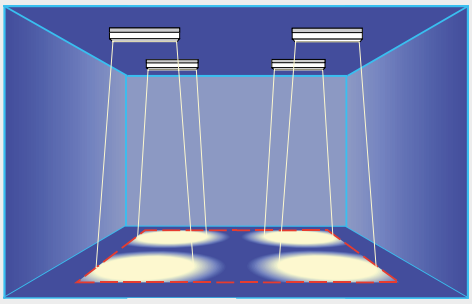
The formula for the point to point method of calculation is as follows:

- $I(\gamma)$ = Light intensity at the given distribution angle taken from the light distribution curve in cd/klm
- Φ_E = Luminous flux of the lamp in lm at the end of the rated duration
- γ = Angle of distribution to the downward point of measurement
- h = Mounting height of the luminaire above the measurement level in meters
- H = Mounting height of the luminaire in meters above floor level
- E = Illuminance in Lux
- a = Distance in meters between the point of measurement and the foot of the luminaire
- P = Point of measurement

The EN 1838 standard requires a minimum value for illuminance of 0.5 lx or 1 lx. Because a lighting installation grows old over the course of time and the light emitted becomes less as a result, the initial value must be greater, meaning that a maintenance factor must be applied for planning. A common value is MF = 0.8. This means that the lighting system is dimensioned so that the new value for illuminance is 1.25 times the nominal value.

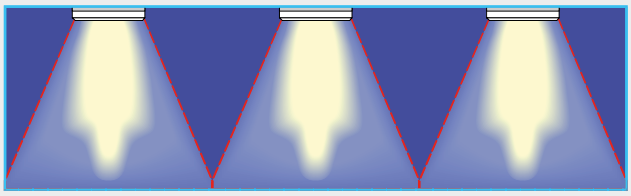
Other maintenance factors can also be considered according to light source, probability of soiling of a room and luminaires and the planned maintenance intervals. The assumptions must be documented by the planner.

Anti-panic lighting



The horizontal illuminance must not fall below 0.5 lx on the free floor surfaces.

Safety lighting for escape routes



Due to the inertia of the eye, recognition of obstacles or the escape route path is impaired with excessive differences in brightness/darkness.

Uniformity < 40:1 ($E_{max.}$ / $E_{min.}$)

Example:
Calculation of the number of luminaires required using the point to point method.

Given data

- The minimum illuminance is 1.0 lx (Planning basis maintenance factor MF = 0.8)
- Escape route length = 38 m
- Mounting height of the luminaire above floor level = 3 m
- Luminous flux Φ_E at the end of the rated duration = 337 lm (450 lm x 75%)
- The measure level is 0.02 m above floor level
- Light distribution curve of the luminaries
- Position of luminaires is across the width of the escape route

Method:

- Calculation of illuminance at various points and calculation of the distances for E = 0.625 lx and E = 1.25 lx.

E directly underneath the luminaire:
light intensity I from the light distribution curve at 0° = 145 cd/klm.

$$E_{(0\,m)} = \frac{I_{(0°)} \times \Phi_E}{h^2} \cos^3(0°)$$

$$E_{(0\,m)} = \frac{145\ cd/klm \times 0.337\ klm}{(2.98\ m)^2} \times 1$$

$$E_{(0\,m)} = 5.4\ lx$$

E for example at 5.2 m distance

$$\tan\gamma = \frac{5.2\ m}{2.98\,m^2} = 1.73;\ \arctan(1.73) = 60°$$

$$E_{(5.2\,m)} = \frac{270\ cd/klm \times 0.337\ klm}{(2.98\ m)^2} \times \cos^3(60°)$$

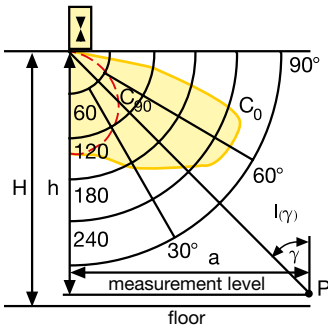
$$E_{(5.2\,m)} = 1.26\ lx$$

E for example at 6.9 m distance

$$\tan\gamma = \frac{6.9\ m}{3\ m} = 2.3;\ \arctan(2.3) = 66.5°$$

$$E_{(6.9m)} = \frac{270\ cd/klm \times 0.337\ klm}{(2.98\ m)^2} \times \cos^3(66.5°)$$

$$E_{(6.9m)} = 0.64\ lx$$



Results:

The max. permissible luminaire spacing results from doubling the illuminance values of 0.64 lux (approx. 6.9 m) of adjacent luminaires at least 1.25 lux. According to the point-by-point method, for transverse arrangement of emergency luminaires approx. 13.8 m between the luminaires is required.

It should also be noted that, after this calculation, the luminaire spacing from the start or end of the escape route must not exceed 5.2 m. In order not to fall below the required illuminance (1.25 lux planning value), the illuminance for the illumination of the escape route of 38 m length 3 emergency luminaires required. The uniformity is approx. 1: 5.

Planning examples

1

The calculation with the point lighting formula for everyday planning is complex, therefore planning aids were drawn up in collaboration with the German Institute for Applied Lighting Technology (DIAL) in accordance with the conditions of EN 1838 and LBO (national building directives) enabling simple and rapid planning.

A maintenance factor of MF = 0.8 (or planning factor P = 1.25) is already integrated so that the luminaire distances to be planned can be read directly for the desired initial value of 1.25 lx or 0.625 lx (in brackets).

The ratio of reflective light was not considered in accordance with DIN EN 1838.

The tables differentiate between three applications:

1 Illumination of an escape route acc. to EN 1838 | ceiling mounting, escape route centre
Calculation basis:
1 lx for escape route centre, 0.5 lx on both sides, at distance of 0.5 m

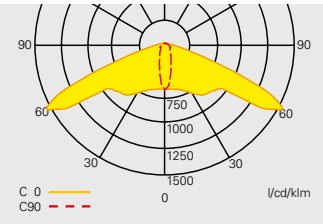
2 Calculation for anti-panic lighting | Room illumination
Calculation basis:
1 lx (0.5 lx) minimum value on the complete surface, with consideration of a peripheral area of 0.5 m

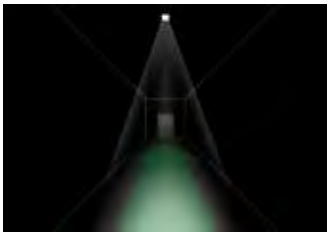
3 Illumination of an escape route acc. to EN 1838 | wall mounting
Calculation basis:
1 lx for escape route centre, 0.5 lx on both sides, at distance of 0.5 m, distance of wall to escape route centre 1 m





In addition the arrangement of the luminaires must be considered: Are these aligned longitudinally or laterally to the escape route or surface? Does it concern the first or last luminaire or a luminaire within a luminaire arrangement? And lastly, the distances of the first luminaire to the wall are always somewhat less, as this must achieve the illuminance level of 1 lx by itself, while luminaires within the luminaire arrangement are supported by the adjacent luminaire.

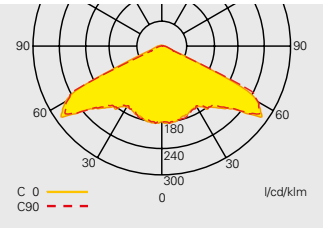


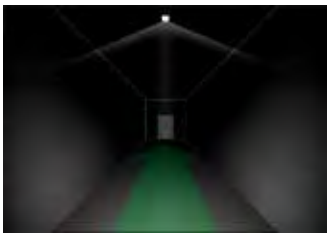


Escape route illumination with asymmetric optics

Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.3 (3.4)	6.8 (8.3)	6.4 (7.1)	14.1 (15.6)
3.0	Escape route	2.3 (3.2)	6.4 (9.2)	7.3 (8.1)	16.1 (17.8)
3.5	centre	2.3 (3.2)	6.5 (9.7)	8.1 (9.0)	17.9 (19.9)
4.0		2.3 (3.3)	6.5 (9.4)	8.8 (9.9)	19.7 (21.9)
4.5		2.3 (3.3)	6.6 (9.1)	9.5 (10.7)	21.4 (23.7)
5.0		2.2 (3.3)	6.6 (9.2)	10.0 (11.5)	23.0 (25.6)
5.5		2.1 (3.3)	6.6 (9.2)	10.4 (12.2)	24.4 (27.4)
6.0		2.0 (3.3)	6.5 (9.3)	10.7 (12.9)	25.8 (29.1)
6.5		1.9 (3.2)	6.4 (9.4)	7.9 (13.5)	27.0 (30.8)
7.0		1.8 (3.1)	6.2 (9.4)	7.6 (14.0)	26.0 (32.3)
7.5		1.7 (3.1)	6.1 (9.3)	7.3 (14.5)	25.9 (33.7)
8.0		1.6 (2.9)	5.8 (9.3)	7.0 (14.8)	26.2 (35.2)
8.5		1.4 (2.8)	5.7 (9.3)	6.7 (15.1)	26.4 (36.6)
9.0		1.2 (2.8)	5.5 (9.1)	6.1 (14.9)	26.1 (37.8)
9.5		1.0 (2.7)	5.3 (9.0)	4.7 (10.9)	21.9 (37.6)
10.0		0.6 (2.5)	5.0 (8.8)	2.5 (10.7)	21.4 (36.7)





Escape route illumination
with symmetric optics



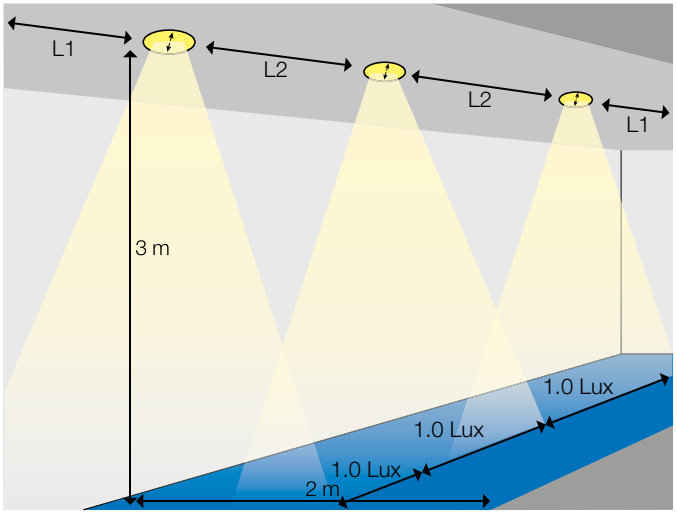
Room illumination
with symmetric optics

Planning assistance for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

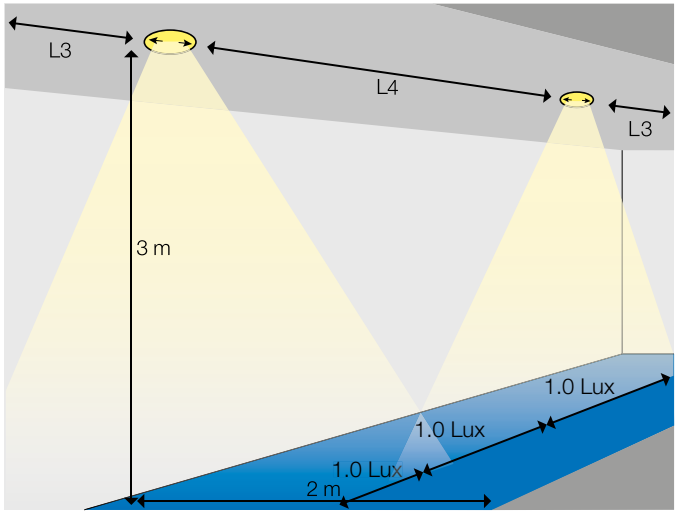
Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.4 (5.0)	9.9 (10.4)	4.4 (4.9)	9.8 (10.4)
3.0	Escape route	4.6 (5.9)	11.2 (12.3)	4.6 (5.7)	11.2 (12.1)
3.5	centre	4.5 (6.2)	12.3 (14.0)	4.6 (6.2)	12.3 (13.8)
4.0		3.5 (6.4)	12.5 (15.2)	3.8 (6.4)	12.5 (15.2)
4.5		2.9 (6.6)	13.0 (16.4)	3.2 (6.6)	12.7 (16.4)
5.0		2.4 (6.2)	12.3 (17.4)	2.4 (6.4)	12.4 (17.4)
5.5		1.9 (5.3)	10.6 (17.5)	1.8 (5.5)	11.0 (17.6)
6.0		0.7 (4.7)	9.4 (17.8)	0.9 (4.8)	9.6 (17.9)
2.5	Ceiling mounting	4.3 (4.4)	9.8 (10.3)	4.1 (4.3)	9.5 (10.3)
3.0	Room illumination	4.4 (5.2)	11.1 (12.0)	4.6 (5.2)	11.0 (11.9)
3.5		4.7 (5.6)	12.2 (13.6)	5.0 (5.8)	12.2 (13.5)
4.0		2.9 (5.9)	12.1 (15.0)	2.9 (6.3)	12.4 (15.0)
4.5		2.7 (6.2)	12.6 (16.3)	2.5 (6.5)	12.5 (16.3)
5.0		1.0 (6.4)	12.2 (17.2)	0.5 (6.8)	12.5 (17.4)
5.5		0.5 (4.3)	11.8 (17.2)	0.7 (4.5)	11.5 (17.6)
6.0		1.0 (3.5)	11.7 (17.4)	0.7 (3.7)	11.4 (17.5)
6.5		0.5 (2.8)	12.2 (17.8)	0.5 (1.1)	11.6 (18.0)
7.0		0.5 (1.1)	12.1 (17.3)	0.5 (0.7)	11.2 (17.8)
7.5		0.5 (0.5)	11.8 (14.5)	0.5 (2.9)	11.2 (20.5)
8.0		0.5 (2.4)	11.0 (20.3)	0.5 (0.5)	10.9 (14.8)
8.5		0.7 (0.8)	9.4 (21.7)	0.7 (0.7)	9.3 (13.7)
9.0		0.6 (0.5)	8.4 (17.8)	0.6 (0.5)	8.3 (16.5)

Planning examples

1 **Example 1: Type of mounting: ceiling mounting / escape route**



Luminaire optics installed cross to the escape route



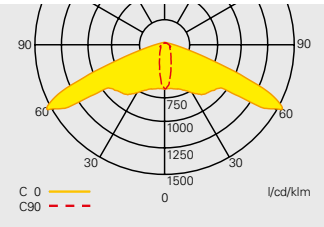
Luminaire optics installed lengthways to the escape route

Example calculation No. 1 – escape route illumination with LED safety luminaire:

Specification data:

Length of escape route 30 m, luminaires mounted directly above escape route, illumination according to EN 1838 with 1 lx on central axis, luminaires lateral to longitudinal axis, maintenance factor = 0.8, luminaire mounting height = 3.0 m

Selected luminaire type: GuideLed SL 13012.1 CG-S with asymmetric LED optic, 1 x 2 W LED



Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height: 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height (m)	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.3 (3.4)	6.8 (8.3)	6.4 (7.1)	14.1 (15.6)
3.0	Escape route centre	2.3 (3.2)	6.4 (9.2)	7.3 (8.1)	16.1 (17.8)
3.5		2.3 (3.2)	6.5 (9.7)	8.1 (9.0)	17.9 (19.9)
4.0		2.3 (3.3)	6.5 (9.4)	8.8 (9.9)	19.7 (21.9)
4.5		2.3 (3.3)	6.6 (9.1)	9.5 (10.7)	21.4 (23.7)

Result:

The planning aid shows that the first luminaire must be mounted at a distance of 7.4 m (L3) from the corridor end and the distance between the luminaires must be a maximum of (L4) 16.1 m in order to maintain the required illuminance of 1 lx.

2 x L3 + 1 x L4 = 2 x 7.3 m + 1 x 16.1 m = 30.7 m ✓

Therefore for this area only 2 GuideLed SL 13012.1 CG-S are required.

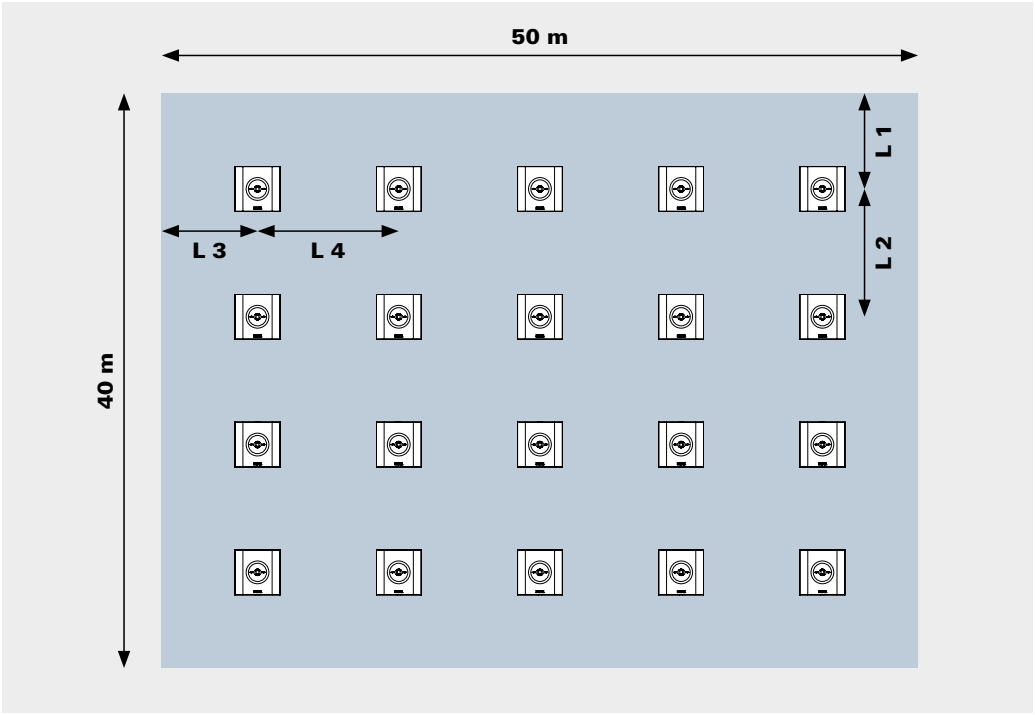
Example 2: Type of mounting: ceiling mounting / room illumination

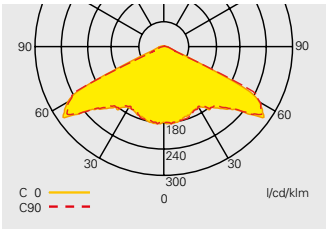
Example calculation No. 2 – room illumination

Specification data:

A sales area with 2000 m² surface area (50 m x 40 m), luminaires mounted to the ceiling, luminaires lateral to longitudinal axis, illumination according to EN 1838 with 1 lx on complete surface, maintenance factor = 0.8, luminaire mounting height = 4.0 m

Selected luminaire type: GuideLed SL 13022.1 CG-S, symmetric LED optic, 1 x 2 W LED





Planning help for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)
Measuring height: 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height (m)	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.3 (4.4)	9.8 (10.3)	4.1 (10.3)	9.5 (10.3)
3.0	Room illumination	4.4 (5.2)	11.1 (12.0)	4.6 (5.2)	11.0 (11.9)
3.5		4.7 (5.6)	12.2 (13.6)	5.0 (5.8)	12.2 (13.5)
4.0		2.9 (5.9)	12.1 (15.0)	2.9 (6.3)	12.4 (15.0)
4.5		2.7 (6.2)	12.6 (16.3)	2.5 (6.5)	12.5 (16.3)
5.0		1.0 (6.4)	12.2 (17.2)	0.5 (6.8)	12.5 (17.4)

Result:

The planning aid shows that the first luminaire in the x-direction must be mounted at a distance of 2.9 m (L3) from the wall.
The distance between the luminaires must be a maximum of 12.4 m (L4) in order to achieve the required 1 lx.

2 x L3 + 4 x L4 = 2 x 2.9 m + 4 x 12.4 m = 55.4 m ✓

Therefore 5 luminaires in the x-direction are required.

In the y-direction the first luminaire can be mounted up to 2.9 (L1) m from the wall.
The distance between the luminaires must be a maximum of 12.1 m (L2).

2 x L1 + 3 x L2 = 2 x 2.9 m + 3 x 12.1 m = 42.1 m ✓

Therefore 4 luminaires in the y-direction are required.

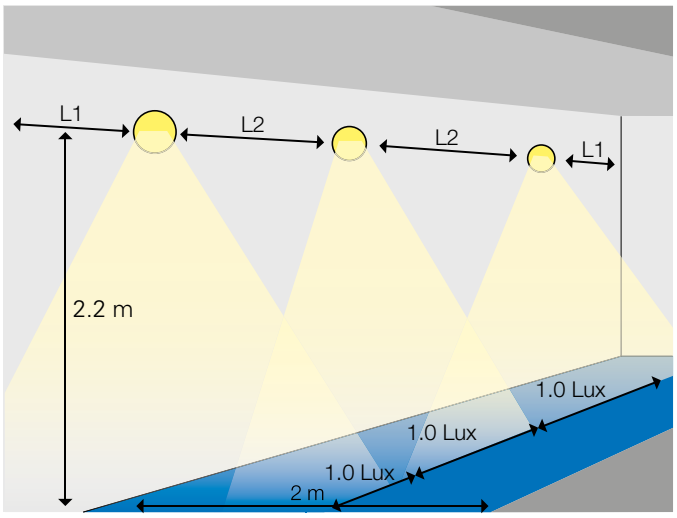
1

Example calculation – escape route illumination with wall luminaires

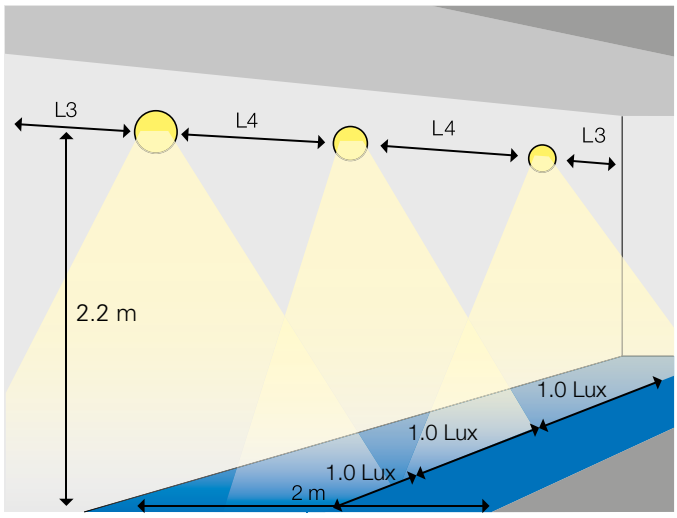
Specification data:

Length of escape route 30 m, luminaires mounted to the wall, illumination according to EN 1838 with 1 lx on central axis, maintenance factor = 0.8, luminaire mounting height = 2.5 m

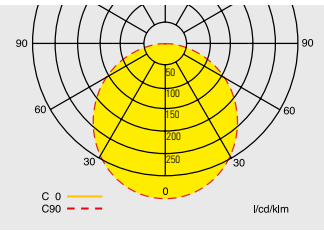
Selected luminaire type: 84022 LED CG-S



Luminaire arranged horizontally



Luminaires arranged vertically



Light distribution curve 84022 LED CG-S

Engineering help for 84022 LED CG-S for E = 1.0 Lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.9 (6.0)	11.9 (14.5)	4.9 (6.0)	11.9 (14.5)
3.0	Escape route centre	5.2 (6.5)	12.9 (15.7)	5.2 (6.5)	12.9 (15.7)
3.5		5.5 (6.9)	13.8 (16.8)	5.5 (6.9)	13.8 (16.8)
4.0		5.7 (7.2)	14.5 (17.8)	5.7 (7.2)	14.5 (17.8)
4.5		5.9 (7.6)	15.1 (18.7)	5.9 (7.6)	15.1 (18.7)
5.0		6.1 (7.8)	15.6 (19.5)	6.1 (7.8)	15.6 (19.5)
5.5		6.2 (8.1)	16.1 (20.3)	6.2 (8.1)	16.1 (20.3)
6.0		6.2 (8.3)	16.5 (20.9)	6.2 (8.3)	16.5 (20.9)
6.5		6.2 (8.4)	16.8 (21.5)	6.2 (8.4)	16.8 (21.5)
7.0		6.2 (8.6)	17.1 (22.1)	6.2 (8.6)	17.1 (22.1)
2.2	Wall mounting	3.3 (6.0)	8.5 (14.5)	3.3 (6.0)	8.5 (14.5)
2.5		3.3 (6.9)	8.5 (16.8)	3.3 (6.9)	8.5 (16.8)
3.0		3.1 (7.6)	8.4 (18.7)	3.1 (7.6)	8.4 (18.7)

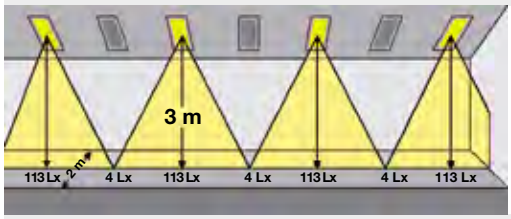
Result:

The planning aid shows that the first luminaire must be mounted at a distance of 3.3 m (L1 or L3) from the corridor end and the distance between the luminaires must be a maximum of (L2 or L4) 8.5 m in order to achieve the required 1 lx. The luminaire has a very symmetric light distribution.
This is why the values L1 and L3 or L2 and L4 are identical or differ only slightly.

2 x L1 + 3 x L2 = 2 x 3.3 m + 3 x 8.5 m = 32.1 m ✓

Therefore this area requires a total of four SL 84022 LED CG-S luminaires.

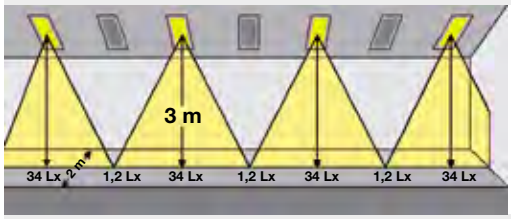
Standard EVG 58 W/100 % Luminous flux





100 %

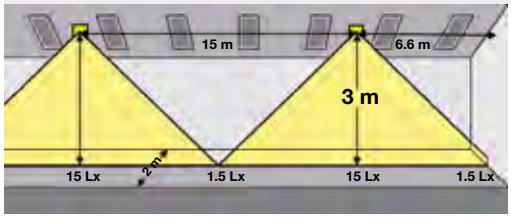
N-EVG 58 W/30 % Luminous flux





50 %

N-EVG 58 W/30 % Luminous flux





5 %

Planning an emergency lighting system should set out with the lighting engineering and not with the battery in order to ensure the efficient and most economical layout of the luminaires.
A cost benefit combined with a high safety standard can only be achieved by safety luminaires featuring excellent lighting properties and the respective planning of the lighting.

Luminaires for general lighting are designed for illuminance values of e.g. 100 to 1000 lx. In addition, other requirements are valid here for uniformity and glare limitation. The light distributions and levels of luminous flux required for this are therefore not highly suitable for the demands of emergency lighting. The illuminance below the luminaires is many times greater then 1 lx. In order to fulfill the uniformity requirement of 1:40, the distance to the next luminaire cannot be too large despite the high light level. This would mean the minimum demand would in total be exceeded many times, leading to high energy demands for emergency lighting. This though can be reduced by up to 50% with the use of CEAG N ECGs, as these enable the reduction of luminous flux with battery operation.

CEAG safety luminaires have optics matched to lighting planning according to EN 1838. Light distribution and luminous flux are dimensioned so that the spacing is optimised while the values of current standards are adhered to. This means that energy consumption in emergency operation compared to use of general lighting is reduced by up to 94%, as shown by the case study below:

Exemplary calculation: Corridor with length 30 m, ceiling height 3 m

General lighting:
Illuminance according to EN 12464: 100 lx. Uniformity g_1 = 0.7, standard reflection factors for ceiling/walls/floor: 70 %/50 %/20 %
Lighting with recessed linear louvre luminaire with white louvre, 1 x 58 W. Required number of luminaires: 5

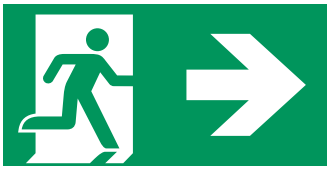
Emergency lighting:
Illuminance according to EN 1838: at least 1 lx,
uniformity g_2 > 1:40
Reflection factors for ceiling/walls/floor: 0%/0%/0%

				Emergency operation							
Version	**Luminaire**	**Ballast**	**Number of luminaires mains operation**	**Number of luminaires emergency operation**	**Dimming level**	**E_{min} [lx]**	**E_{max} [lx]**	**$g_2 = E_{min}/ E_{max}$**	**Battery current input per luminaire in A**	**Total battery current input in A**	**Energy requirement**
No. 1	Louvre luminaire, white, 1 x 58 W	EVG + CEAG V-CG-S	5	3	100 %	4	113	1:28	0.250	0.750	**100 %**
No. 2	Louvre luminaire, white, 1 x 58 W	CEAG N-EVG	5	3	30 %	1.2	34	1:28	0.110	0.330	**44.0 %**
No. 3	CEAG GuideLed SL with asymmetric optics	CEAG V-CG-SLS701	0	2	100 %	1.5	15	1:10	0.020	0.040	**5.3 %**

Pictogram summary

Summary of the standard pictograms according to ISO 7010 which can be orderd on request for our luminaires.
More special pictograms on request.

PR



PL 90°



PR 90°



PU 90°



PL



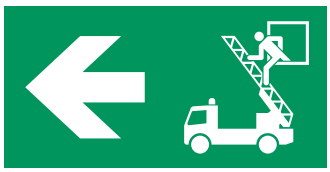
PU



Wheelchair PL



Rescue exit PL



Fire-extinguisher



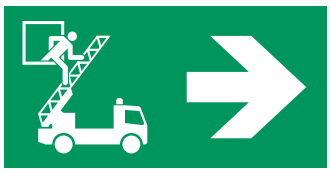
PO



Wheelchair PR



Rescue exit PR



Fire hose



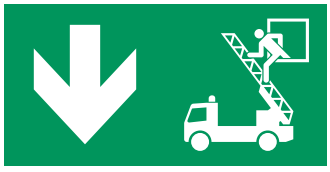
PLU



Wheelchair PU



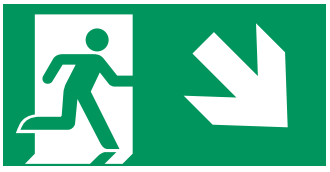
Rescue exit PU



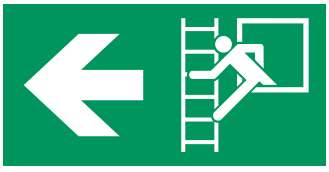
Hydrant



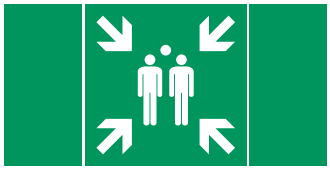
PRU



Emergency exit with escape ladder PL



Gathering place



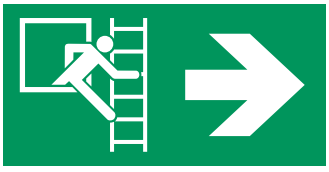
Information



PLO



Emergency exit with escape ladder PR



First aid



WC



PRO



Emergency exit with escape ladder PU







Exit Sign Panel luminaires

SpiritLED 16 CG-S 30
SpiritLED 28 CG-S 31
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1903 LED CG-S 38
CrystalWay 19021 CG-S 40
CrystalWay 19022 CG-S 41
CrystalWay 220/45 CG-S 42
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GuideLed 11025, 11026 CG-S 65
Velos LED CG-S 66
Velos LED 67
Velos LED EC 1.5 68
FlexiTech ED 70

Exit Sign Panel Luminaires

Overview

2

		Performance	Global Features					Voltage					Technology	
			Aesthetic	One box solution	Low consumption / Eco-friendly	Protection Degree	Viewing distance	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
2.1 Spirit LED		★★★	●		●	41 (20)	16 28				●	●	●	
2.2 Brilliant LED		★★★	●		●	20	20 28				●	●	●	
2.3 1903		★★★	●		●	20	22				●	●	●	
2.4 CrystalWay		★★★	●	●	●	42	20 30	●	●		●	●	●	
2.5 GuideLed Cinema		★★★	●		●	40	20 30				●	●	●	
2.6 GuideLed		★★★	●		●	40	20 30				●	●	●	
2.7 Velos		★★			●	20	30 40				●	●	●	
2.8 FlexiTech ED		★★★	●	●	●	43	20				●	●	●	

Installation				Applications							
Wall	Ceiling	Recessed	Suspended	Healthcare	Hotels	Cinemas / Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
●	●	●	●	●	●	●	●		●		
●	●	●	●	●	●	●	●		●		
●	●			●	●	●	●		●		
●	●	●	●	●	●	●	●		●		
●	●	●	●	●	●	●	●		●		
●	●	●	●	●	●	●	●		●		
●	●	●	●	●	●	●	●		●		
●	●	●		●	●	●	●		●		

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Spirit*LED* 16 CG-S

Exit Sign Panel Luminaires

16 m | LED | IP41 ** | DIN 4844 | S TAR | S+ TAR

SpiritLED 16 wire suspension with panel PL/PR



SpiritLED 16 ceiling surface mounting with panel PL/PR



Spirit*LED* 16 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Frameless design with pictogram integrated in acrylic glass
- Very good perceptibility via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1, and high uniformity L_{min}/L_{max} > 0.5
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	16 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Plastic
Weight	1.0 kg
Housing colour	Silver
Type of mounting	Recessed and surface ceiling mounting (max. 0.7 m)
Connection terminals	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	7 mA
Power consumption mains operation (apparent power / effective power)	3.8 VA / 1.7 W
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	LED batten

Ordering details – fastening set

Type	Scope of supply	Order No.
Recessed ceiling mounting kit	with wire suspension, incl. LED supply	40071352152
Surface mounting kit	incl. LED supply, colour aluminium	40071352072
Surface mounting kit	with wire suspension, incl. LED supply, colour aluminium	40071352073

Ordering details - LED pictograms

Type	Scope of supply	Order No.
Spirit*LED* 16 PL/PR	LED panel with pictogram PL/PR and LED-module (fastening set required) acc. to ISO 7010	40071354600
Spirit*LED* 16 PU/PU	LED panel with pictogram PU/PU and LED-module (fastening set required) acc. to ISO 7010	40071354601
Spirit*LED* 16 PU/Blind	LED panel with pictogram PU/Blind and LED-module (fastening set required) acc. to ISO 7010	40071354602
Spirit*LED* 16 PL/PR-R* 90°	LED panel with pictogram PL/PR and LED-module (fastening set required) acc. to ISO 7010	40071354603
Spirit*LED* 16 PL/PR-W* 90°	LED panel with pictogram PL/PR and LED-module (mounting kit is required) is required) acc. to ISO 7010	40071354604

Please note: Phase-out in Q4-2022!

* R = Arrow from mounting wall
  W = Arrow to mounting wall

** Degree of protection recessed ceiling mounting kit IP20

28 m | LED | IP41** | DIN 4844 | S TAR | S+ TAR

SpiritLED 28 wire suspension with panel PL/PR



SpiritLED 28 Wall mounting with panel PL/PR-R



Spirit*LED* 28 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Frameless design with pictogram integrated in acrylic glass
- Very good perceptibility via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1, and high uniformity L_{min}/L_{max} > 0.5
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	28 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Plastic
Weight	2.0 kg
Housing colour	Silver
Type of mounting	Recessed and surface ceiling mounting (max. 0.7 m)
Connection terminals	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	16 mA
Power consumption mains operation (apparent power / effective power)	6.6 VA / 3.7 W
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	LED batten

Ordering details – fastening set

Type	Scope of supply	Order No.
Recessed ceiling mounting kit	with wire suspension, incl. LED supply	40071352007
Surface mounting kit	incl. LED supply, colour aluminium	40071352005
Surface mounting kit	with wire suspension, incl. LED supply, colour aluminium	40071352006

Ordering details - LED pictograms

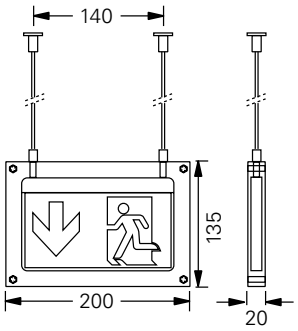
Type	Scope of supply	Order No.
Spirit*LED* 28 PL/PR	LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010	40071354610
Spirit*LED* 28 PU/PU	ED panel with pictogram PU/PU and LED-module (mounting kit is required) acc. to ISO 7010	40071354611
Spirit*LED* 28 PU/Blind	LED panel with pictogram PU/Blind and LED-module (mounting kit is required) acc. to ISO 7010	40071354612
Spirit*LED* 28 PL/PR-R* 90°	LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010	40071354613
Spirit*LED* 28 PL/PR-W* 90°	LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010	40071354614

Please note: Phase-out in Q4-2022!

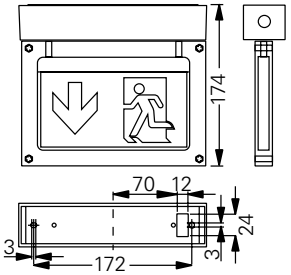
* R = Arrow from mounting wall
W = Arrow to mounting wall

** Degree of protection recessed ceiling mounting kit IP20

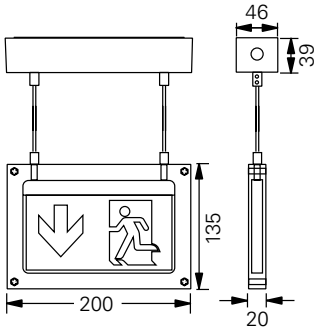
SpiritLED 16



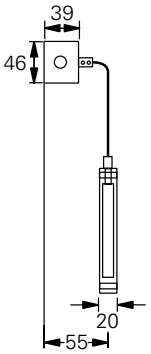
Recessed ceiling mounting
with wire suspension



Surface mounting

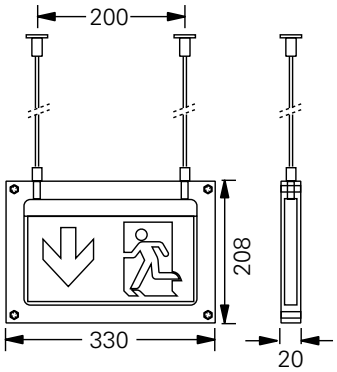


Surface mounting
with wire suspension

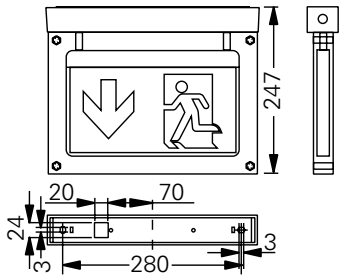


Wall parallel with wire suspension

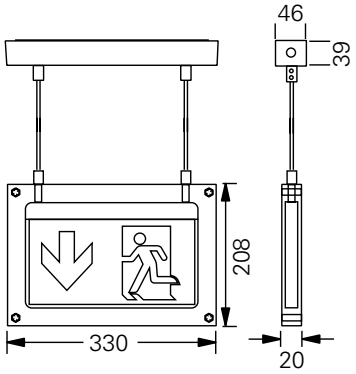
SpiritLED 28



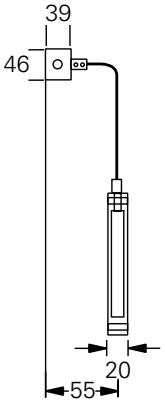
Recessed ceiling mounting
with wire suspension



Surface mounting



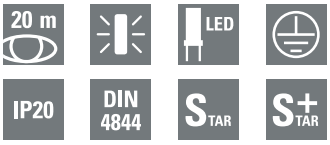
Surface mounting
with wire suspension



Wall parallel with wire suspension

Brillant 1503 ... 1803 LED CG-S

Exit Sign Panel Luminaires



Brillant 1503 ... 1803 LED CG-S

- Exit sign panel luminaire in LED technology
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

1503 LED CG-S



1603 LED CG-S



1703 LED CG-S



1803 LED CG-S



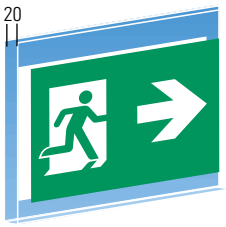
Viewing distance	20 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium, sheet steel
Weight incl. panel	2.3 kg (1503 LED CG-S) 2.2 kg (1603 LED CG-S) 1.8 kg (1703 LED CG-S) 2.9 kg (1803 LED CG-S)
Housing colour	White
Type of mounting	Wall mounting (1503 LED CG-S, 1603 LED CG-S) Ceiling surface, suspended, chain mounting (1703 LED CG-S) Ceiling recessed mounting (1803 LED CG-S)
Connection terminals	Plug in terminals 2.5 mm^2
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	12 mA
Power consumption mains operation (apparent power / effective power)	5.5 VA / 2.9 W
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	LED batten

Ordering details

Type	Scope of supply	Order No.
1503 LED CG-S	Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; for parallel wall mounting, without panel; design: white, RAL 9010	40071350900
1603 LED CG-S	Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket, without panel; design: white, RAL 9010	40071350901
1703 LED CG-S	Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for surface ceiling mounting, suitable for chain and pendant mounting (not included), without panel; design: white, RAL 9010	40071350902
1803 LED CG-S	Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for recessed ceiling mounting, with plastic shield RAL 9010, without panel	40071352292

Please note: Phase-out in Q4-2022!

Panel PL/PR



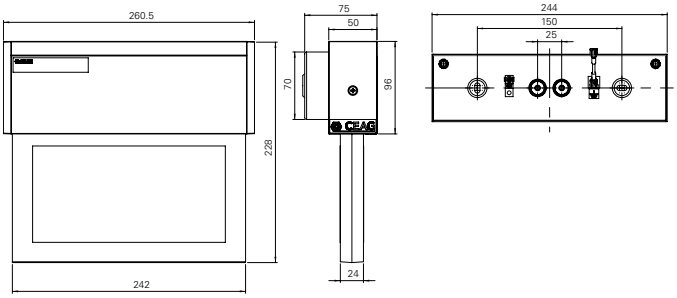
Ordering details

Type	Scope of supply		Order No.
Panel PL/PR acc. to ISO 7010	Two-sided pictogram panel		40071354620
Panel PU/PU acc. to ISO 7010	Two-sided pictogram panel		40071354621
Panel PU/BL acc. to ISO 7010	Two-sided pictogram panel		40071354622

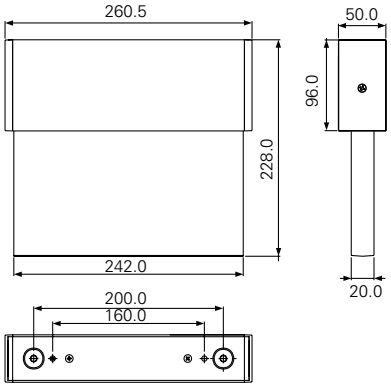
Ordering details

Type		Order No.
Bezel for 1803	metal shield white, RAL 9010	40071348860
Concrete mounting box for 1803 ...	for installation in concrete ceilings	40071348725
Mounting kit for 1803 ...	for installation in concrete recessing box	40071341720
Suspension set 0.5 m	white canopy and aluminium pendulum tube	40071348721
Suspension set 1.5 m	white canopy and aluminium pendulum tube	40071348722
Chain suspension metal	Chain fastening for 1703	40071348723

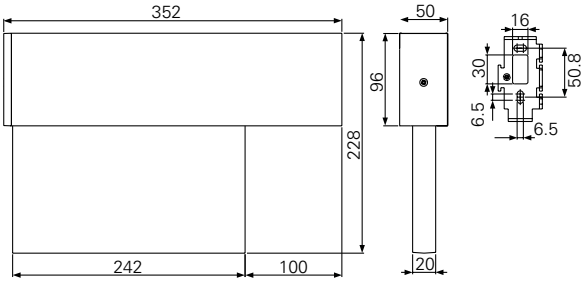
Please note: Phase-out in Q4-2022!



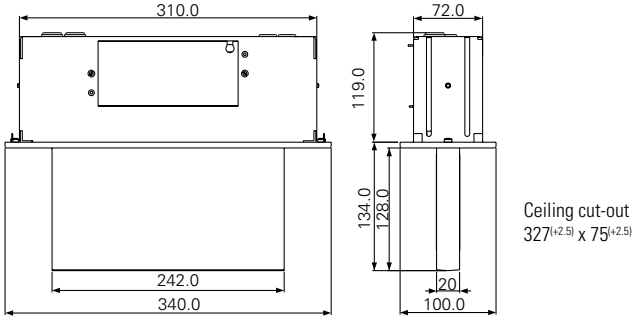
1503 LED CG-S



1703 LED CG-S



1603 LED CG-S



Ceiling cut-out
$327^{(+2.5)}$ x $75^{(+2.5)}$

1803 LED CG-S

Brillant 1504 ... 1804 LED CG-S

Exit Sign Panel Luminaires

28 m | LED | IP20 | DIN 4844 | STAR | S+TAR

1504 LED CG-S



1604 LED CG-S



1704 LED CG-S



1804 LED CG-S



Brillant 1504 ... 1804 LED CG-S

- Exit sign panel luminaire in LED technology
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

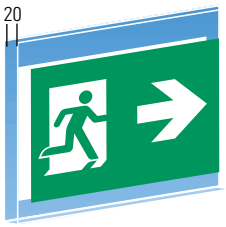
Viewing distance	28 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium, sheet steel
Weight incl. panel	2.7 kg (1504 LED CG-S) 2.5 kg (1604 LED CG-S) 2.2 kg (1704 LED CG-S) 3.3 kg (1804 LED CG-S)
Housing colour	White
Type of mounting	Wall mounting (1504 LED CG-S, 1604 LED CG-S) Ceiling surface, suspended, chain mounting (1704 LED CG-S) Ceiling recessed mounting (1804 LED CG-S)
Connection terminals	Plug in terminals 2.5 mm^2
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	17 mA
Power consumption mains operation (apparent power / effective power)	7.,1 VA / 4.1 W
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	LED batten

Ordering details

Type	Scope of supply	Order No.
1504 LED CG-S	Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket for parallel wall mounting, without panel; design: white, RAL 9010	40071350903
1604 LED CG-S	Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket, without panel; design: white, RAL 9010	40071350904
1704 LED CG-S	Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for surface ceiling mounting, suitable for chain and pendant mounting (not included), without panel; design: white, RAL 9010	40071350905
1804 LED CG-S	Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for recessed ceiling mounting, without panel; design: plastic shield white, RAL 9010	40071350678

Please note: Phase-out in Q4-2022!

Panel PL/PR



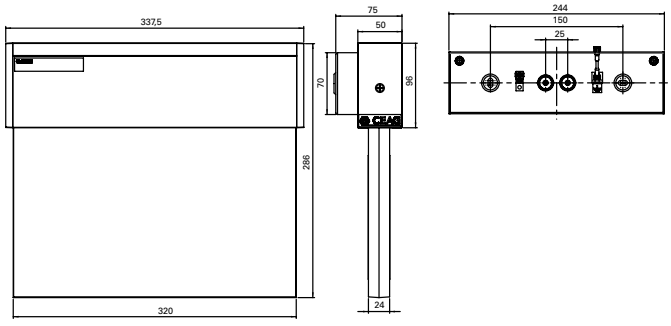
Ordering details

Type	Scope of supply		Order No.
Panel PL/PR acc. to ISO 7010	Two-sided pictogram panel		40071354630
Panel PU/PU acc. to ISO 7010	Two-sided pictogram panel		40071354631
Panel PU/BL acc. to ISO 7010	Two-sided pictogram panel		40071354632

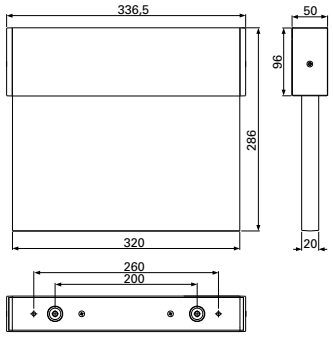
Ordering details

Type		Order No.
Bezel for 1804	metal shield white, RAL 9010	40071348859
Concrete mounting box for 1804 ...	for installation in concrete ceilings	40071341710
Mounting kit for 1804 ...	for installation in concrete recessing box	40071341720
Suspension set 0.5 m	white canopy and aluminium pendulum tube	40071348721
Suspension set 1.5 m	white canopy and aluminium pendulum tube	40071348722
Chain suspension metal	Chain fastening for 1704	40071348723

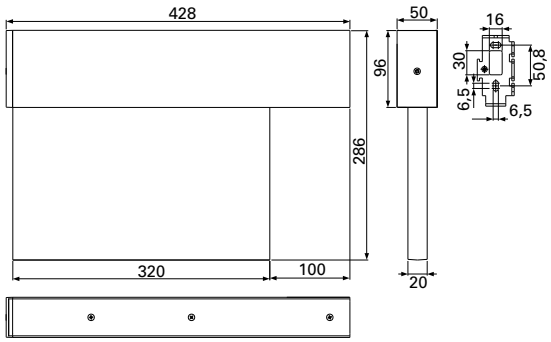
Please note: Phase-out in Q4-2022!



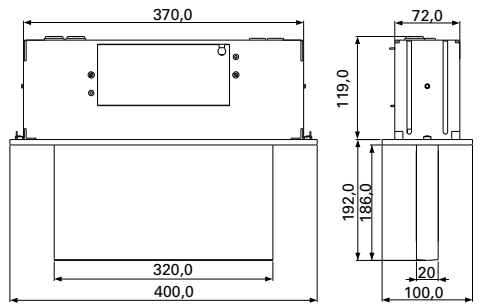
1504 LED CG-S



1704 LED CG-S



1604 LED CG-S



1804 LED CG-S

Ceiling cut-out
$387^{(+2.5)}$ x $75^{(+2.5)}$

1903 LED CG-S

Exit Sign Panel Luminaires

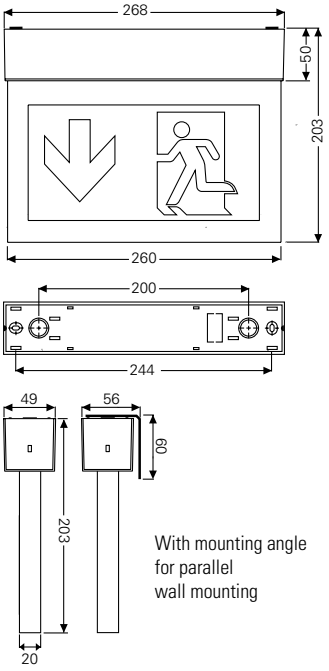
22 m | LED | IP20 | DIN 4844 | STAR | S+TAR

1903 LED CG-S aluminium
with panel PL/PR



1903 LED CG-S white
with panel PL/PR W 90°





With mounting angle
for parallel
wall mounting

1903 LED CG-S

- LED Exit sign panel luminaire in surface-mounted design with minimised rectangular housing form
- Simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel rotated at 90°
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum maintenance effort via high LED service life (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	22 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Plastic
Weight incl. panel	1.28 kg
Housing colour	White / Aluminium
Type of mounting	Wall or ceiling mounting
Connection terminals	Clamp terminal 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	12 mA
Power consumption mains operation (apparent power / effective power)	5.5 VA / 3.0 W
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	LED batten

Ordering details

Type	Scope of supply	Order No.
1903 LED CG-S white	Luminaire housing plastic, without panel, colour white, with CEWA GUARD monitoring and 20-digit address switch	40071352230
Panel PL/PR acc. to ISO 7010	Two-sided pictogram panel 22 m	40071354660
Panel PU/PU acc. to ISO 7010	Two-sided pictogram panel 22 m	40071354661
Panel PU/BL acc. to ISO 7010	Two-sided pictogram panel 22 m	40071354662
Panel PL/BL acc. to ISO 7010	Two-sided pictogram panel 22 m	40071354663
Panel PR/BL acc. to ISO 7010	Two-sided pictogram panel 22 m	40071354664
Panel PL/PR-R* 90° acc. to ISO 7010	Two-sided pictogram panel 22 m, wall mounting	40071354666
Panel PL/PR-W* 90° acc. to ISO 7010	Two-sided pictogram panel 22 m, wall mounting	40071354665

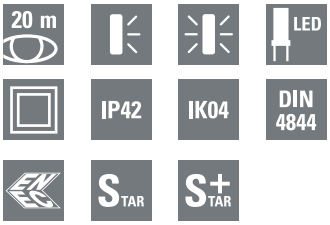
Accessories

Type		Order No.
Mounting angle	for parallel wall mounting, white	40071350599
Suspension set 0.5 m	white canopy and aluminium pendulum tube	40071348721
Suspension set 0.5 m	aluminium canopy and pendulum tube	40071352842

* R = Arrow from mounting wall
W = Arrow to mounting wall

CrystalWay 19021 CG-S

Exit Sign Panel Luminaires



Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



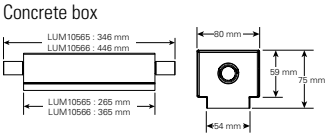
Recessed base



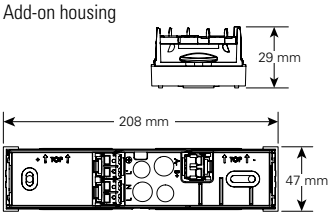
Add-on housing



Concrete box



Add-on housing



CrystalWay 19021 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.6 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

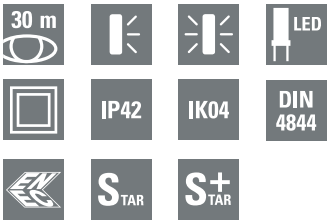
Viewing distance	20 m
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.4 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	3.5 VA / 1.6 W
Current consumption- battery operation (220 V)	7 mA
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED strip

Ordering details

Type	Scope of supply	Order-No.
CrystalWay 19021 CG-S	including pictogram set (Arrow right, left, down, up, blank)	40071354592

Ordering details - Accessories

Type		Order-No.
Wire suspension kit, 20 m + 30 m		LUM10560
Recessed base, for ceiling mounting, 20 m		LUM10561
Recessed base with cover, for ceiling mounting, 20 m		LUM10563
Recessed base with cover, for combination with wire suspension, 20 m		LUM10563S
Concrete box (suitable for recessed base with cover), 20 m		LUM10565
Add-on housing for CrystalWay 20 m for expanded spatial conditions, for wiring and cable infeed		LUM10567
Pictogram PU, ISO 7010, 20 m		LUM10573
Pictogram PL, ISO 7010, 20 m		LUM10574
Pictogram PR, ISO 7010, 20 m		LUM10575
Pictogram PA, ISO 7010, 20 m		LUM10577
Pictogram PU vertical, ISO 7010, 20 m		LUM10584
Pictogram PO vertical, ISO 7010, 20 m		LUM11163
Pictogram PL vertical, ISO 7010, 20 m		LUM10585
Pictogram PR vertical, ISO 7010, 20 m		LUM10586



Wall-surface mounting



Ceiling-surface mounting



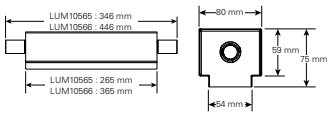
Wire suspension kit



Recessed base



Concrete box



CrystalWay 19022 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 3.7 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

Viewing distance	30 m
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.7 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	6.5 VA / 3.7 W
Current consumption- battery operation (220 V)	15 mA
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED strip

Ordering details

Type	Scope of supply	Order-No.
CrystalWay 19022 CG-S	including pictogram set (Arrow right, left, down, up, blank)	40071354593

Ordering details - Accessories

Type	Order-No.
Wire suspension kit, 20 m + 30 m	LUM10560
Recessed base, for ceiling mounting, 30 m	LUM10562
Recessed base with cover, for ceiling mounting, 30 m	LUM10564
Recessed base with bezel, for combination with wire suspension, 30 m	LUM10563S
Concrete box (suitable for recessed base with cover), 30 m	LUM10566
Pictogram PU, ISO 7010, 30 m	LUM10587
Pictogram PL, ISO 7010, 30 m	LUM10588
Pictogram PR, ISO 7010, 30 m	LUM10589
Pictogram PA, ISO 7010, 30 m	LUM10591
Pictogram PU vertical, ISO 7010, 30 m	LUM10592
Pictogram PO vertical, ISO 7010, 30 m	LUM11164
Pictogram PL vertical, ISO 7010, 30 m	LUM10593
Pictogram PR vertical, ISO 7010, 30 m	LUM10594

CrystalWay 220/45 CG-S

Exit Sign Panel Luminaires

Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



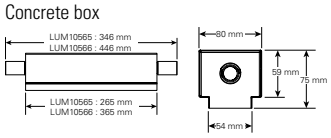
Recessed base



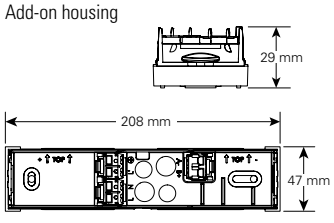
Add-on housing



Concrete box



Add-on housing



French market

CrystalWay 220/45 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.6 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

Viewing distance	20 m
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.4 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	3.5 VA / 1.6 W
Current consumption- battery operation (220 V)	7 mA
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED strip

Ordering details

Type	Scope of supply	Order-No.
CrystalWay 220/45 CG-S	including pictogram set (Arrow right, left, down, blank)	LUM22214
CrystalWay 220/45 CG-S	including pictogram set (Arrow right, left, down, up, blank)	LUM22214U

Ordering details - Accessories

Type		Order-No.
Wire suspension kit, 20 m + 30 m		LUM10560
Recessed base, for ceiling mounting, 20 m		LUM10561
Recessed base with cover, for ceiling mounting, 20 m		LUM10563
Recessed base with cover, for combination with wire suspension, 20 m		LUM10563S
Concrete box (suitable for recessed base with cover), 20 m		LUM10565
Add-on housing for CrystalWay 20 m for expanded spatial conditions, for wiring and cable infeed		LUM10567
Pictogram PU, ISO 7010, 20 m		LUM10573
Pictogram PL, ISO 7010, 20 m		LUM10574
Pictogram PR, ISO 7010, 20 m		LUM10575
Pictogram PA, ISO 7010, 20 m		LUM10577
Pictogram PU vertical, ISO 7010, 20 m		LUM10584
Pictogram PL vertical, ISO 7010, 20 m		LUM10585
Pictogram PR vertical, ISO 7010, 20 m		LUM10586

Wall-surface mounting



Ceiling-surface mounting



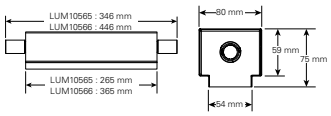
Wire suspension kit



Recessed base



Concrete box



French market

French Market / U: UK Market

CrystalWay 220/45 CG-S XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 3.7 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

Viewing distance	30 m
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.7 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	6.5 VA / 3.7 W
Current consumption- battery operation (220 V)	15 mA
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED strip

Ordering details

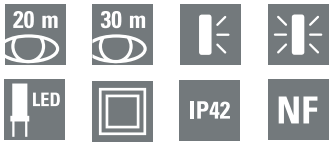
Type	Scope of supply	Order-No.
CrystalWay 220/45 CG-S XL	including pictogram set (Arrow right, left, down, blank)	LUM22215
CrystalWay 220/45 CG-S XL	including pictogram set (Arrow right, left, down, up, blank)	LUM22215U

Ordering details - Accessories

Type		Order-No.
Wire suspension kit, 20 m + 30 m		LUM10560
Recessed base, for ceiling mounting, 30 m		LUM10562
Recessed base with cover, for ceiling mounting, 30 m		LUM10564
Concrete box (suitable for recessed base with cover), 30 m		LUM10566
Pictogram PU, ISO 7010, 30 m		LUM10587
Pictogram PL, ISO 7010, 30 m		LUM10588
Pictogram PR, ISO 7010, 30 m		LUM10589
Pictogram PA, ISO 7010, 30 m		LUM10591
Pictogram PU vertical, ISO 7010, 30 m		LUM10592
Pictogram PL vertical, ISO 7010, 30 m		LUM10593
Pictogram PR vertical, ISO 7010, 30 m		LUM10594

CrystalWay 220/45, 220/45XL

Exit Sign Panel Luminaires



French Market / U: UK Market / Portuguese Market

CrystalWay 220/45, 220/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8 (except XL variant)
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.8 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



Recessed base

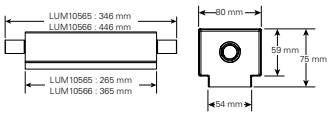


Viewing distance	20 / 30 m (XL variant)
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.4 / 0.7 kg (XL variant)
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	230 V AC, 50 Hz 220 V DC
Power consumption mains operation (apparent power/effective power)	3 VA / 1.8 W
Permissible ambient temperature	5 °C to +35 °C
Light source	LED strip

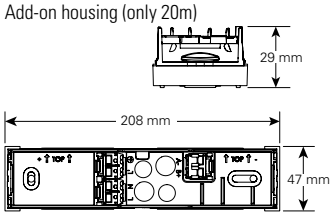
Ordering details

Type	Scope of supply	Order-No.
CrystalWay 220/45	including pictogram set (Arrow right, left, down, blank)	LUM22212
CrystalWay 220/45	including pictogram set (Arrow right, left, down, up, blank)	LUM22212U
CrystalWay 220/45 XL	including pictogram set (Arrow right, left, down, blank)	LUM22213
CrystalWay 220/45 XL	including pictogram set (Arrow right, left, down, up, blank)	LUM22213U

Concrete box

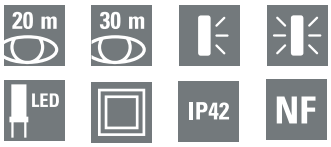


Add-on housing (only 20m)



Accessories

Product	Reference CrystalWay 45	Reference CrystalWay 45 XL
Signage plate suspension kit	LUM10560	LUM10560
Mounting frame	LUM10561	LUM10562
Mounting frame with surround	LUM10563	LUM10564
Recess mounting box	LUM10565	LUM10566
Extended base for increased wiring volume	LUM10567	
Horizontal Down Arrow label	LUM10573	LUM10587
Horizontal Left Arrow label	LUM10574	LUM10588
Horizontal Right Arrow label	LUM10575	LUM10589
Horizontal Up Arrow label	LUM10577	LUM10591
Vertical Down Arrow label	LUM10584	LUM10592
Vertical Left Arrow label	LUM10585	LUM10593
Vertical Right Arrow label	LUM10586	LUM10594



Italian market

CrystalWay 220/45, 220/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8 (except XL variant)
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.8 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



Recessed base

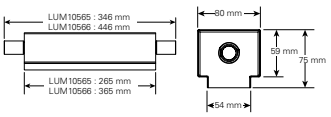


Viewing distance	20 / 30 m (XL variant)
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.4 / 0.7 kg (XL variant)
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	230 V AC, 50 Hz 220 V DC
Power consumption mains operation (apparent power/effective power)	3 VA / 1.8 W
Permissible ambient temperature	5 °C to +35 °C
Light source	LED strip

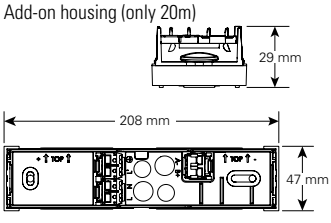
Ordering details

Type	Scope of supply	Order-No.
CrystalWay 220/45	including pictogram set (Arrow right, left, down, blank)	LUM22216
CrystalWay 220/45 XL	including pictogram set (Arrow right, left, down, blank)	LUM22217

Concrete box



Add-on housing (only 20m)

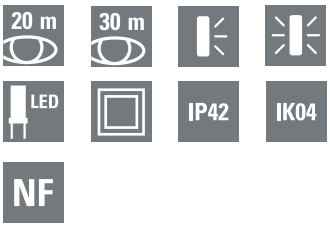


Accessories

Product		Reference CrystalWay 45	Reference CrystalWay 45 XL
Signage plate suspension kit		LUM10560	LUM10560
Mounting frame		LUM10561	LUM10562
Mounting frame with surround		LUM10563	LUM10564
Recess mounting box		LUM10565	LUM10566
Extended base for increased wiring volume		LUM10567	
Horizontal Down Arrow label		LUM10573	LUM10587
Horizontal Left Arrow label		LUM10574	LUM10588
Horizontal Right Arrow label		LUM10575	LUM10589
Horizontal Up Arrow label		LUM10577	LUM10591
Vertical Down Arrow label		LUM10584	LUM10592
Vertical Left Arrow label		LUM10585	LUM10593
Vertical Right Arrow label		LUM10586	LUM10594

CrystalWay 24-48/45, 24-48/45XL

Exit Sign Panel Luminaires



Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



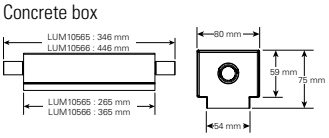
Recessed base



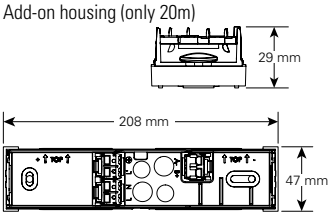
Add-on housing



Concrete box



Add-on housing (only 20m)



French Market

CrystalWay 24-48/45, 24-48/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.5 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

Viewing distance	20 / 30 m (XL variant)
Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	RAL 9003
Weight	0.4 / 0.7 kg (XL variant)
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	24 – 48 V DC
Power consumption mains operation (apparent power/effective power)	LUM22210: 1.5 W LUM22211: 1.9 W
Permissible ambient temperature	5 °C to +35 °C
Light source	LED strip

Ordering details

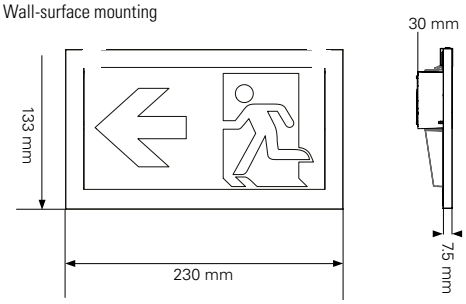
Type	Scope of supply	Order-No.
CrystalWay 24-48/45	including pictogram set (Arrow right, left, down, blank)	LUM22210
CrystalWay 24-48/45 XL	including pictogram set (Arrow right, left, down, blank)	LUM22211

Accessories

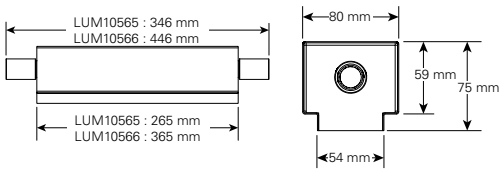
Product		Reference CrystalWay 45	Reference CrystalWay 45 XL
Signage plate suspension kit		LUM10560	LUM10560
Mounting frame		LUM10561	LUM10562
Mounting frame with surround		LUM10563	LUM10564
Recess mounting box		LUM10565	LUM10566
Extended base for increased wiring volume		LUM10567	
Horizontal Down Arrow label		LUM10573	LUM10587
Horizontal Left Arrow label		LUM10574	LUM10588
Horizontal Right Arrow label		LUM10575	LUM10589
Horizontal Up Arrow label		LUM10577	LUM10591
Vertical Down Arrow label		LUM10584	LUM10592
Vertical Left Arrow label		LUM10585	LUM10593
Vertical Right Arrow label		LUM10586	LUM10594

Dimensions in mm, viewing distance 20 m

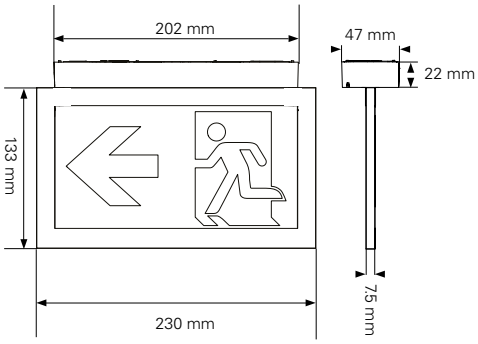
Wall-surface mounting



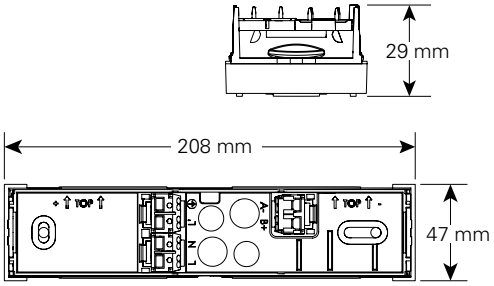
Concrete box



Ceiling-surface mounting

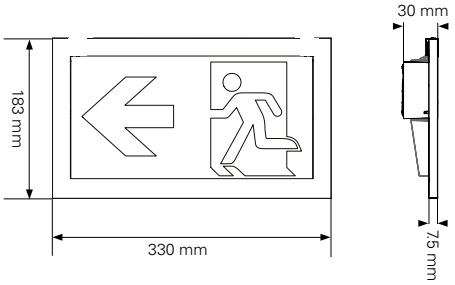


Add-on housing

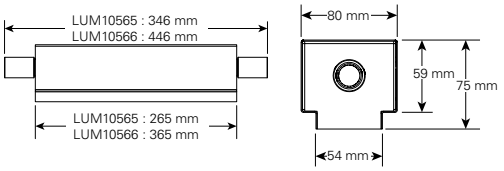


Dimensions in mm, viewing distance 30 m (XL)

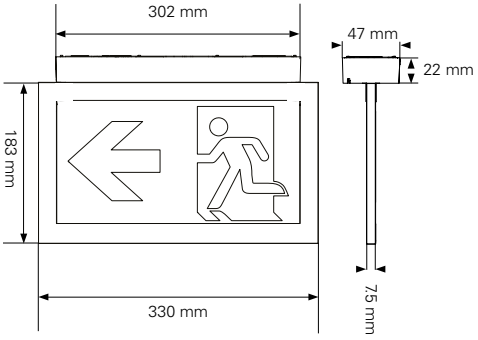
Wall-surface mounting



Concrete box



Ceiling-surface mounting

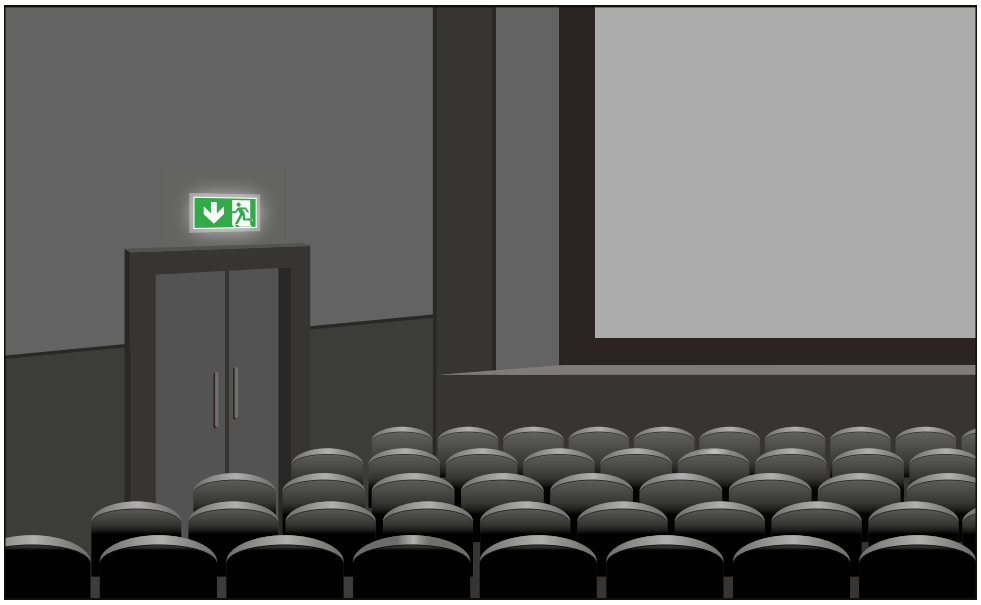




Eaton´s new exit sign luminaire for assembly rooms darkened during operation

Exit sign luminaire for assembly rooms darkened during operation

The GuideLed Cinema - our classic with a new feature: the exit sign luminaire from Eaton offers due of the dimming undisturbed and glare-free movie enjoyment without neglecting safety.



Admission with 100% Licht

During the admission, the hall lighting is switched on. The GuideLed Cinema are fixed undimmed to 100% luminous flux.



Cinema show

with dimmed light

At the beginning of the cinema show, the lighting in the hall is dimmed to off. The GuideLed Cinema is dimmed to adjusted dim-level via the dimming input:
Via a rotary switch a desired dimming value can be adjustet in order to optically adapt to circumstances.

In case of an emergency, the exit sign luminaire regulates the luminous flux directly to 100% so that the room can be safely left.

GuideLed Cinema 1x011 CG-S

Exit Sign Panel Luminaires



Features

- Dimming via pot.-free input for connection of external switch actors
- One of ten possible dimming values via rotary switch selectable
- For 20m and 30m viewing distance
- Minimized maintenance effort due to high life expectancy of LEDs of up to 50.000 hours
- Toolless mounting of the LED pictogram on the mounting set
- Fulfills the EN1838 in dimming mode at > 3% dimming setting



The exit sign luminaires GuideLed Cinema 10011 or 11011 CG-S are specially designed for dark rooms like cinemas. To avoid a glare due to bright exit sign during a movie presentation, the GuideLed Cinema 10011/11011 CG-S has a switch input, which dims the exit sign to a fix light output, if the input is closed via a potential free relay contact, e.g. DMX actor. It is possible to select **one** of ten available DIM levels. In case of emergency operation, e.g. mains failure of the general lighting, the exit signs regulates immediately to 100% light output so that the hall can be left safely.



Areas of application

- Cinema
- Theater
- Projection room
- Training room
- Lecture hall
- Planetarium





GuideLed Cinema 10011 CG-S

Exit Sign Panel Luminaires

20 m | LED | IP20 | DIN 4844 * | EN 1838 * | STAR | DIM

GuideLed Cinema 10011 CG-S

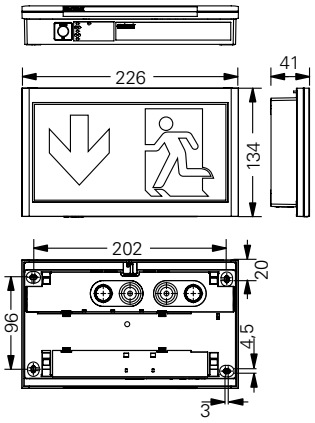
- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional feature: Dimming can be activated via potential-free switching input
- Specially designed for operationally darkened rooms, e.g. cinemas, dimming is possible during film screening
- Ten dimming values can be selected via rotary switch
- Luminance of the white contrasting colour > 500 cd/m² in line with DIN 4844-1 and high uniformity Lmin/Lmax > 0.8 (dimmer switch position of 100%)
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50 000 hours)
- Installation of the LED pictogram without tools on the mounting set

GuideLed Cinema 10011 CG-S





Dimensions in mm



Please observe a distance of 10 mm above for mounting!

Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.7 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input / 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	8 mA (undimmed)
Power consumption mains operation (apparent power / effective power)	4.0 VA / 1.9 W
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED stripes

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Wall mounting set for GuideLed Cinema 10011/11011CG-S, Surface mounting, including LED supply with additional dimming input and CG-S technology (20 addresses)	40071354656

Ordering details - LED pictograms (fastening set required)

Scope of supply	Order No.
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow left (PL), acc. ISO 7010, 20 m	40071354500
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow right (PR), acc. ISO 7010, 20 m	40071354501
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow down (PU), acc. ISO 7010, 20 m	40071354502
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow up (PO), acc. ISO 7010, 20 m	40071354515

* Adjustable dimming levels:
3%, 5%, 7%, 9%, 11%, 14%, 30% (fulfills EN 1838)
100% (fulfills ISO 3864-1)

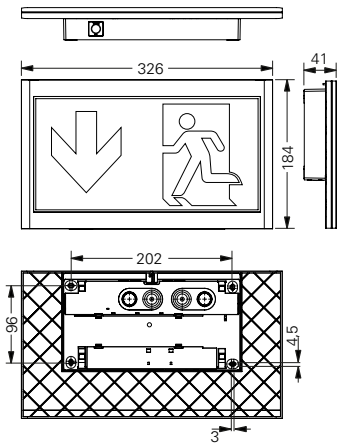
GuideLed Cinema 11011 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional feature: Dimming can be activated via potential-free switching input
- Specially designed for operationally darkened rooms, e.g. cinemas, dimming is possible during film screening
- Ten dimming values can be selected via rotary switch
- High luminance of the white contrasting colour
  > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8 (dimmer switch position of 100%)
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50 000 hours)
- Installation of the LED pictogram without tools on the mounting set

GuideLed Cinema 11011 CG-S



Dimensions in mm



Please observe a distance of 10 mm above for mounting!

Viewing distance	30 m
Luminous Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.7 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input / 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	11 mA (undimmed)
Power consumption mains operation (apparent power / effective power)	5.0 VA / 2.6 W
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED stripes

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Wall mounting set for GuideLed Cinema 10011/11011CG-S, Surface mounting, including LED supply with additional dimming input and CG-S technology (20 addresses)	40071354656

Ordering details - LED pictograms (fastening set required)

Scope of supply	Order No.
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow left (PL), acc. ISO 7010, 30 m	40071354530
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow right (PR), acc. ISO 7010, 30 m	40071354531
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow down (PU), acc. ISO 7010, 30 m	40071354532
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow up (PO), acc. ISO 7010, 30 m	40071354545

* Adjustable dimming levels:
3%, 5%, 7%, 9%, 11%, 14%, 30% (fulfills EN 1838)
100% (fulfills ISO 3864-1)









Linear design combined with high economy

The GuideLed LED luminaire family is a prime example of how the adherence to standards, diverse possibilities for mounting and a high level of economy is not at all contrary to outstanding design. With GuideLed, an escape sign luminaire was developed that completely fulfills the stipulations of ISO 3864-1 and DIN 4844-1, including the requirement for 500 cd/m^2 within the white surface.

The basis for these values is the highly developed Lightguide technology that transforms the high point-sourced luminance of an LED into an illuminated surface with absolutely homogeneous brightness. The LEDs used in this process ensure a high level of operational safety with a service life of 50,000 hours to significantly reduce maintenance costs. And all of this with a power consumption that is up to 70 % below a comparable luminaire with fluorescent lamp.

The wide-ranging product portfolio makes GuideLed a real all-rounder: escape sign luminaires with viewing distances of 20 m or 30 m, as single-sided or double-sided versions and with a total of six different mounting types make them the optimal solution for all room situations. All GuideLed escape sign luminaires impress with clear functionality, an especially flat construction design and without visible screw connections.

Features:

- Lightguide technology for perfect illumination in line with standards and for a special slender design
- High efficiency LEDs for a higher operational safety and especially low power consumption
- Up to 70% lower power costs compared to luminaires with fluorescent lamps
- Minimum service requirement due to high service life of the LEDs (50,000 h)
- Two viewing distances (20 m and 30 m) with versatile types of installation in a continuous design without visible screw fastenings

Design – GuideLed CG-S

Exit Sign Panel Luminaires



The versatile types of installation turn the GuideLed into an all-rounder.

With its extensive range of products and a large choice of pictograms, GuideLed offers the perfect solution for every room situation. GuideLed is supplied in an unobtrusive light-grey colour as a standard.

Upon request other colours and individual special pictograms can be supplied harmonised to the respective architecture.

All variants are available in two viewing distances

Wall mounting with recessed installation of the LED supply

Wall surface mounting

Ceiling mounting

Exemplary design based on revolutionary technology.
Exit signs have to be well visible in order to provide orientation in case of an emergency. They also have to be unobtrusively enough to match the architecture.
Irrespective of whether the luminaire is installed to the wall or is suspended freely, both GuideLed variants stand out for their clear functionality without visible screw connections and their unsurpassed flat design.



The wall mounting appears especially unobtrusive with a mounting height of only 14 mm.



Cable suspension



Pendant mounting



Recessed mounting

GuideLed 10011, 10012, 10013 CG-S

Exit Sign Panel Luminaires

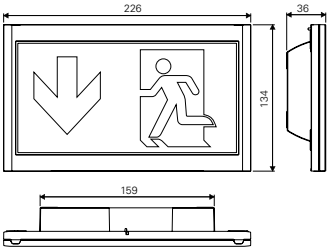
GuideLed 10011, 10012, 10013 CG-S

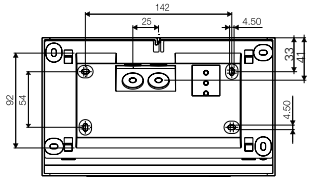
- Exit sign luminaire in LED technology for wall mounting
- Slender design with mounting heights of 14 mm or 36 mm only
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.9 W only
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Installation of the LED pictogram without tools on the mounting set

GuideLed 10011 CG-S

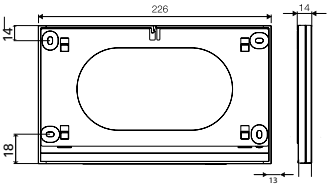


Dimensions in mm





10011 CG-S



10012/10013 CG-S

Please observe a distance of 10 mm above for mounting!

Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.47 kg (10011 LED CG-S) 0.41 kg (10012, 10013 LED CG-S)
Type of mounting	Wall mounting
Connection terminal	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 V – 275 V DC
Current consumption - battery operation (220 V)	8 mA
Power consumption mains operation (apparent power / effective power)	4.0 VA / 1.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Wall mounting set for GuideLed 10011 CG-S and 11011 CG-S, surface-mounted installation incl. LED supply and CG-S technology (20 addresses), without LED pictograms	40071353641
Wall mounting set for GuideLed 10012 CG-S and 11012 CG-S, flush-mounted installation of the V-CG-SLS28* (angular) and CG-S technology (20 addresses)	40071353642
Wall mounting set for GuideLed 10013 CG-S and 11013 CG-S, flush-mounted installation of the V-CG-SLR28* (round) and CG-S technology (20 addresses)	40071353644

Ordering details - LED pictograms (fastening set required)

Scope of supply		Order No.
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow left (PL), acc. ISO 7010, 20 m		40071354500
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow right (PR), acc. ISO 7010, 20 m		40071354501
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow down (PU), acc. ISO 7010, 20 m		40071354502
LED pictogram for GuideLed 10011/10012/10013 CG-S, arrow up (PO), acc. ISO 7010, 20 m		40071354515

Ordering details - accessories

Scope of supply	Order No.
Feed-through wiring set for GuideLed 10011/11011 CG-S	40071353643

* Installation of the LED supply in a not included device, for further information about the LED supply see module SLS28 und SLR28.

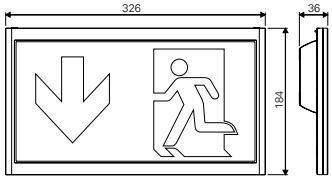
GuideLed 11011, 11012, 11013 CG-S

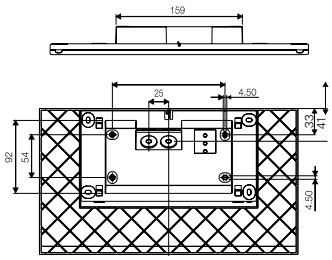
- Exit sign luminaire in LED technology for wall mounting
- Slender design with mounting heights of 14 mm or 36 mm only
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.6 W only
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Installation of the LED pictogram without tools on the mounting set

GuideLed 11011 CG-S

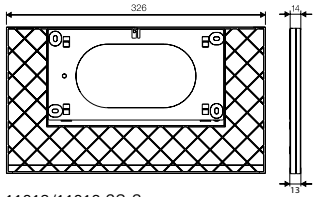


Dimensions in mm





11011 CG-S



11012/11013 CG-S

Please observe a distance of 10 mm above for mounting!

Viewing distance	30 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.60 kg (11011 LED CG-S) 0.56 kg (11012/11013 LED CG-S)
Type of mounting	Wall mounting
Connection terminal	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 V – 275 V DC
Current consumption - battery operation (220 V)	11 mA
Power consumption mains operation (apparent power / effective power)	5.0 VA / 2.6 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Wall mounting set for GuideLed 10011 CG-S and 11011 CG-S, surface-mounted installation incl. LED supply and CG-S technology (20 addresses)	40071353641
Wall mounting set for GuideLed 10012 CG-S and 11012 CG-S, flush-mounted installation of the included V-CG-SLS28* (angular) and CG-S technology (20 addresses)	40071353642
Wall mounting set for GuideLed 10013 CG-S and 11013 CG-S, flush-mounted installation of the included V-CG-SLR28* (round) and CG-S technology (20 addresses)	40071353644

Ordering details - LED pictograms (fastening set required)

Scope of supply		Order No.
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow left (PL), acc. ISO 7010, 30 m		40071354530
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow right (PR), acc. ISO 7010, 30 m		40071354531
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow down (PU), acc. ISO 7010, 30 m		40071354532
LED pictogram for GuideLed 11011/11012/11013 CG-S, arrow up (PO), acc. ISO 7010, 30 m		40071354545

Ordering details - accessories

Scope of supply	Order No.
Feed-through wiring set for GuideLed 10011/11011 CG-S	40071353643

* Installation of the LED supply in a not included device, for further information about the LED supply see module SLS28 and SLR28.

GuideLed 10021, 10022, 10023, 10024 CG-S

Exit Sign Panel Luminaires

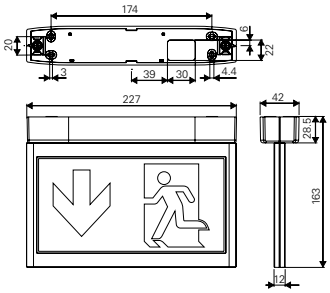
GuideLed 10021, 10022, 10023, 10024 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9 W only (1.9 W one-sided)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 10021 CG-S



Dimensions in mm

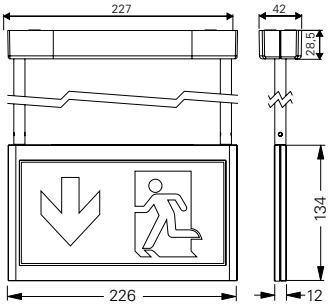


Viewing distance	20 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.39 kg (10021 LED CG-S) 0.49 kg (10022 LED CG-S) 0.54 kg (10023 LED CG-S) 0.70 kg (10024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation
Connection terminal	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 V – 275 V DC
Current consumption - battery operation (220 V)	one-sided 8 mA – two-sided 12 mA
Power consumption mains operation (apparent power / effective power)	one-sided 4.0 VA / 1.9 W two-sided 5.5 VA / 2.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

GuideLed 10022 CG-S



Dimensions in mm



Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Ceiling installation set for GuideLed 10021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses)	40071353610
Ceiling installation set for GuideLed 10022 CG-S with canopy and tube suspension 0.5 m incl. LED supply and CG-S technology (20 addresses)	40071353611
Ceiling installation set for GuideLed 10023 CG-S with canopy and tube suspension 1.5 m incl. LED supply and CG-S technology (20 addresses)	40071353612
Ceiling installation set for GuideLed 10024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses)*	40071353613

Ordering details - accessories

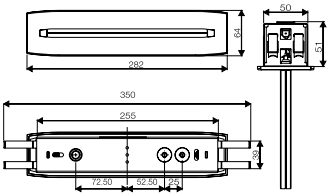
Scope of supply	Order No.
Chain fastening for 10021 CG-S	40071353645
Concrete installation GuideLed 10024 CG-S, 20 m*	40071352892

* Ceiling mounting set for GuideLed 10024 and concrete installation box corresponding to protection class I

GuideLed 10024 CG-S



Dimensions in mm



Ordering details - LED pictograms*

Scope of supply		Order No.
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow left/right (PL/PR) ISO 7010, 20 m		40071354503
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow down/down (PU/PU) ISO 7010, 20 m		40071354504
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow left/blind (PL/BL) ISO 7010, 20 m		40071354505
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow right/blind (PR/BL) ISO 7010, 20 m		40071354506
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow down/blind (PU/BL) ISO 7010, 20 m		40071354507
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow up/blind (PO/BL) ISO 7010, 20 m		40071354516
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow left/right (PL/PR_R**) ISO 7010, 20 m		40071354508
LED pictogram for GuideLed 10021/10022/10023/10024 CG-S, arrow left/right (PL/PR_W**) ISO 7010, 20 m		40071354509

** R = Arrow from mounting wall
W = Arrow to mounting wall

GuideLed 11021, 11022, 11023, 11024 CG-S

Exit Sign Panel Luminaires

2

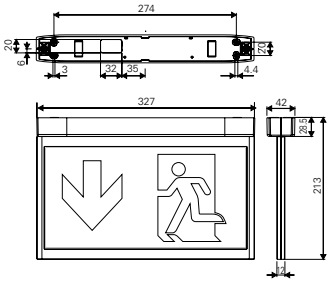
GuideLed 11021, 11022, 11023, 11024 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m²in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 4.1 W only (2.6 W one-sided, radiating)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 11021 CG-S



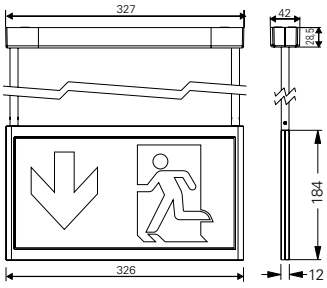
Dimensions in mm



GuideLed 11022 / 11023 CG-S



Dimensions in mm



Viewing distance	30 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.79 kg (11021 LED CG-S) 0.94 kg (11022 LED CG-S) 0.99 kg (11023 LED CG-S) 1.22 kg (11024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation
Connection terminal	Clamp terminal 2.5 mm² reverse-polarity protected
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	one-sided 11 mA – two-sided 17 mA
Power consumption mains operation (apparent power / effective power)	one-sided 5.0 VA / 2.6 W two-sided 7.1 VA / 4.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Ceiling installation set for GuideLed 11021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses)	40071353620
Ceiling installation set for GuideLed 11022 CG-S with canopy and tube suspension 0.5 m, incl. LED supply and CG-S technology (20 addresses)	40071353621
Ceiling installation set for GuideLed 11023 CG-S with canopy and tube suspension 1.5 m, incl. LED supply and CG-S technology (20 addresses)	40071353622
Ceiling installation set for GuideLed 11024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses)*	40071353623

Ordering details - accessories

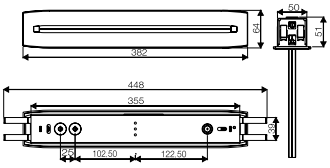
Scope of supply	Order No.
Chain fastening for 11021 CG-S	40071353646
Concrete installation box for GuideLed 11024 CG-S, 30 m*	40071352893

* Ceiling mounting set for GuideLed 11024 and concrete installation box corresponding to class of protection I

GuideLed 11024 CG-S



Dimensions in mm



Ordering details - LED pictograms*

Scope of supply		Order No.
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow left/right (PL/PR), ISO 7010, 30 m		40071354533
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow down/down (PU/PU), ISO 7010, 30 m		40071354534
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow left/blind (PL/BL), ISO 7010, 30 m		40071354535
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow right/blind (PR/BL), ISO 7010, 30 m		40071354536
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow down/blind (PU/BL), ISO 7010, 30 m		40071354537
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow up/blind (PO/BL), ISO 7010, 30 m		40071354546
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow left/right (PL/PR-R**), ISO 7010, 30 m		40071354538
LED pictogram for GuideLed 11021/11022/11023/11024 CG-S, arrow left/right (PL/PR-W**), ISO 7010, 30 m		40071354539

** R = Arrow from mounting wall
W = Arrow to mounting wall

GuideLed 10025, 10026 CG-S

Exit Sign Panel Luminaires

GuideLed 10025, 10026 CG-S

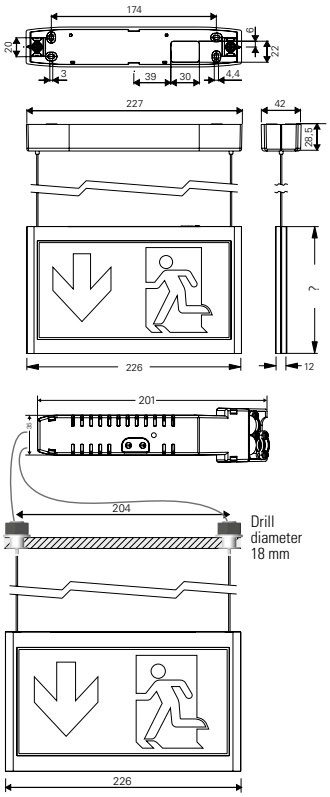
- Exit sign panel luminaire in LED technology for suspended ceiling mounting
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m²in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9 W only (1.9 W one-sided)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 10025 CG-S



Viewing distance	20 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.40 kg (10025 LED CG-S) 0.52 kg (10026 LED CG-S)
Type of mounting	Suspended installation (max. 1.5 m)
Connection terminal	Clamp terminal 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	one-sided 8 mA – two-sided 12 mA
Power consumption mains operation (apparent power / effective power)	one-sided 4.0 VA / 1.9 W two-sided 5.5 VA / 2.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Dimensions in mm



GuideLed 10026 CG-S

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Cable installation set for GuideLed 10025 CG-S with LED supply and CG-S technology (20 addresses) integrated in the canopy	40071353609
Cable installation set for GuideLed 10026/11026 CG-S with ceiling cable holder LED supply and CG-S technology (20 addresses) integrated in a housing with strain relief	40071353640

Ordering details - LED pictograms (fastening set required)

Scope of supply	Order No.
LED pictogram for GuideLed 10025/10026 CG-S (wire suspension), arrow left/right (PL/PR), ISO 7010, 20 m	40071354510
LED pictogram for GuideLed 10025/10026 CG-S (wire suspension), arrow down/down (PU/PU), ISO 7010, 20 m	40071354511
LED pictogram for GuideLed 10025/10026 CG-S (wire suspension), arrow left/blind (PL/BL), ISO 7010, 20 m	40071354512
LED pictogram for GuideLed 10025/10026 CG-S (wire suspension), arrow right/blind (PR/BL), ISO 7010, 20 m	40071354513
LED pictogram for GuideLed 10025/10026 CG-S (wire suspension), arrow down/blind (PU/BL), ISO 7010, 20 m	40071354514

GuideLed 11025, 11026 CG-S

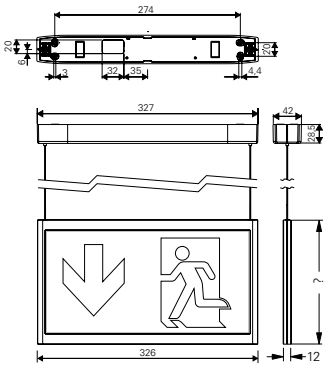
- Exit sign panel luminaire in LED technology for suspended ceiling mounting
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m²in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9 W only (1.9 W one-sided, radiating)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

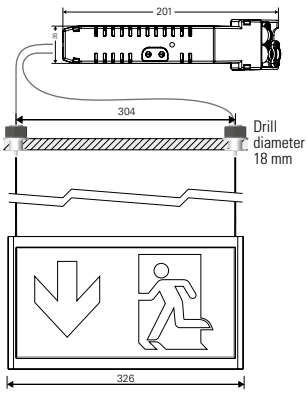
GuideLed 11025 CG-S



Viewing distance	30 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.81 kg (11025 LED CG-S) 0.93 kg (11026 LED CG-S)
Type of mounting	Suspended installation (max. 1.5 m)
Connection terminal	Clamp terminal 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	one-sided 11 mA – two-sided 17 mA
Power consumption mains operation (apparent power / effective power)	one-sided 5.0 VA / 2.6 W two-sided 7.1 VA / 4.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Dimensions in mm





GuideLed 11026 CG-S

Ordering details - fastening set

LED pictograms must ordered seperate	Order No.
Cable installation set for 11025 CG-S with LED supply and CG-S technology (20 addresses) integrated in the canopy	40071353619
Cable installation set for GuideLed 10026/11026 CG-S with ceiling cable holder, LED supply and CG-S technology (20 addresses) integrated in a housing with strain relief	40071353640

Ordering details - LED pictograms

Scope of supply	Order No.
LED pictogram for GuideLed 11025/11026 CG-S (wires suspension), arrow left/right (PL/PR), ISO 7010, 30 m	40071354540
LED pictogram for GuideLed 11025/11026 CG-S (wires suspension), arrow down/down (PU/PU), ISO 7010, 30 m	40071354541
LED pictogram for GuideLed 11025/11026 CG-S (wires suspension), arrow left/blind (PL/BL), ISO 7010, 30 m	40071354542
LED pictogram for GuideLed 11025/11026 CG-S (wires suspension), arrow right/blind (PR/BL), ISO 7010, 30 m	40071354543
LED pictogram for GuideLed 11025/11026 CG-S (wires suspension), arrow down/blind (PU/BL), ISO 7010, 30 m	40071354544

Velos LED CG-S

Exit Sign Panel Luminaires

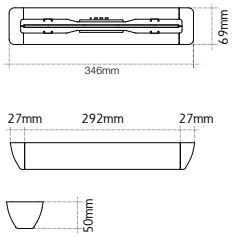
30 m | 40 m | LED | IP20 | EN 1838 | STAR | S+TAR

Velos LED CG-S

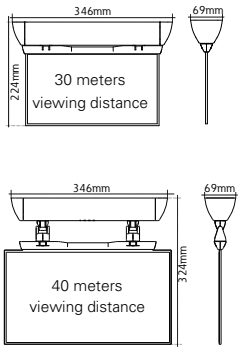


Dimensions in mm

dimensions - PSUs



dimensions - Emergency sign



Velos LED CG-S

- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	30 m and 40 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	White RAL 9016
Weight	PSU O-ES-CG-S 0.35 kg Exit sign O-ESP-xxx (30 m) 0.55 kg Exit sign O-ESP40-xxx (40 m) 0.87 kg
Type of mounting	Wall and Ceiling mounting
Connection terminals	2 x 2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power / effective power)	7.5 VA / 4.5 W
Permissible temperature range	0 °C to +40 °C
Light source	24 LED strip

Ordering details

Type	Scope of supply	Order No
Velos LED CG-S	Power Supply Unit, mounting set for Velos incl. LED supply and CG-S technology (20 adresses), without panel	O-ES-CG-S

Ordering details - Panel

Type		Order No
ISO7010 Left/Right 30m		O-ESP-ILR
ISO7010 Down/Blank 30m		O-ESP-ID
ISO7010 Down/Down 30m		O-ESP-IDD
ISO7010 Up/Blank 30m		O-ESP-IU
ISO7010 Up/Up 30m		O-ESP-IUU
ISO7010 Lateral to Room		O-ESP-I2R
ISO7010 Lateral to Wall		O-ESP-I2W
ISO7010 Left/Right 40m		O-ESP40-ILR
ISO7010 Down/Down 40m		O-ESP40-IDD
ISO7010 Up/Blank 40m		O-ESP40-IU
ISO7010 Up/Up 40m		O-ESP40-IUU
ISO7010 Down/Blank 40m		O-ESP40-ID

Accessories

Type	Order No
Recessed Base	O-ESA-RB
Wall FLEXI Joint	O-ESA-FLEX
Wire Suspension Adjustable 150 cm	O-ESA-RSA
Tube Suspension 48 cm	O-ESA-PS30
Lateral Mounting Base	O-ESA-LMB
Back Mounting Base	O-ESA-BMB

30 m | 40 m | LED | IP20 | EN 1838

Velos LED

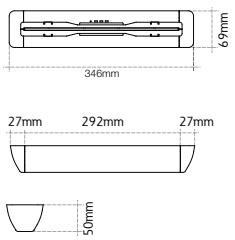
- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

Velos LED

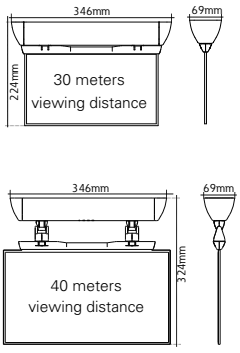


Dimensions in mm

dimensions - PSUs



dimensions - Emergency sign



Viewing distance	30 m and 40 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	White RAL 9016
Weight	PSU O-ES-MAINS 0.37 kg Exit sign O-ESP-xxx (30 m) 0.55 kg Exit sign O-ESP40-xxx (40 m) 0.87 kg
Type of mounting	Wall and Ceiling mounting
Connection terminals	2 x 2 x 2,5 mm²
Connection voltage	230 V AC, 50/60 Hz
Power consumption mains operation (apparent power / effective power)	6.5 VA / 3.6 W
Permissible temperature range	0 °C to + 40 °C
Light source	24 LED strip

Ordering details

Type	Scope of supply	Order No
Velos LED 230 V AC	Power supply unit, mounting set for Velos incl. LED supply, without panel	O-ES-MAINS

Ordering details - Panel

Type		Order No
ISO7010 Left/Right 30m		O-ESP-ILR
ISO7010 Down/Blank 30m		O-ESP-ID
ISO7010 Down/Down 30m		O-ESP-IDD
ISO7010 Up/Blank 30m		O-ESP-IU
ISO7010 Up/Up 30m		O-ESP-IUU
ISO7010 Lateral to Room		O-ESP-I2R
ISO7010 Lateral to Wall		O-ESP-I2W
ISO7010 Left/Right 40m		O-ESP40-ILR
ISO7010 Down/Down 40m		O-ESP40-IDD
ISO7010 Up/Blank 40m		O-ESP40-IU
ISO7010 Up/Up 40m		O-ESP40-IUU
ISO7010 Down/Blank 40m		O-ESP40-ID

Accessories

Type	Order No
Recessed Base	O-ESA-RB
Wall FLEXI Joint	O-ESA-FLEX
Wire Suspension Adjustable 150 cm	O-ESA-RSA
Tube Suspension 48 cm	O-ESA-PS30
Lateral Mounting Base	O-ESA-LMB
Back Mounting Base	O-ESA-BMB

Velos LED EC 1.5

Exit Sign Panel Luminaires

30 m | 40 m | LED | IP20 | EN 1838

Velos LED EC 1.5

- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

Velos LED EC 1.5



Viewing distance	30 m and 40 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	White RAL 9016
Weight	0.45 kg
Type of mounting	Wall and Ceiling mounting
Connection terminals	2 x 2 x 2,5 mm²
Connection voltage	230 V AC, 50/60 Hz
Power consumption mains operation (apparent power / effective power)	6.5 VA / 3.6 W
Permissible temperature range	0 °C to + 40 °C
Light source	24 LED strip

Ordering details

Type	Scope of supply	Order No
Velos LED EC 1.5	Power supply unit, mounting set for Velos incl. LED supply, without panel	OES-EX0363

Ordering details - Panel

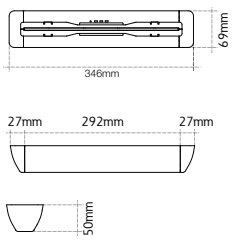
Type		Order No
ISO7010 Left/Right 30m		O-ESP-ILR
ISO7010 Down/Blank 30m		O-ESP-ID
ISO7010 Down/Down 30m		O-ESP-IDD
ISO7010 Up/Blank 30m		O-ESP-IU
ISO7010 Up/Up 30m		O-ESP-IUU
ISO7010 Lateral to Room		O-ESP-I2R
ISO7010 Lateral to Wall		O-ESP-I2W
ISO7010 Left/Right 40m		O-ESP40-ILR
ISO7010 Down/Down 40m		O-ESP40-IDD
ISO7010 Up/Blank 40m		O-ESP40-IU
ISO7010 Up/Up 40m		O-ESP40-IUU
ISO7010 Down/Blank 40m		O-ESP40-ID

Accessories

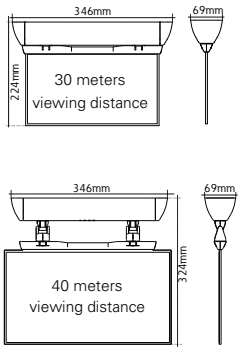
Type	Order No
Recessed Base	O-ESA-RB
Wall FLEXI Joint	O-ESA-FLEX
Wire Suspension Adjustable 150 cm	O-ESA-RSA
Tube Suspension 48 cm	O-ESA-PS30
Lateral Mounting Base	O-ESA-LMB
Back Mounting Base	O-ESA-BMB

Dimensions in mm

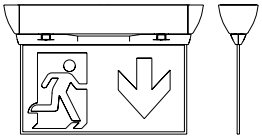
dimensions - PSUs



dimensions - Emergency sign

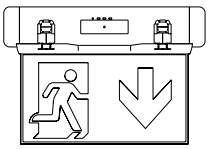


Ceiling mount



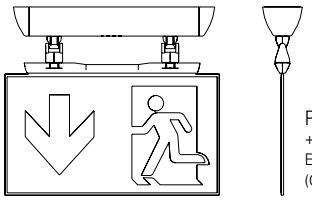
PSU + Exit Sign ➔ Velos

Wall mount



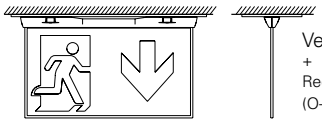
Velos
+
Wall FLEXI Joint
(O-ESA-FLEX)

Ceiling mount (40m)



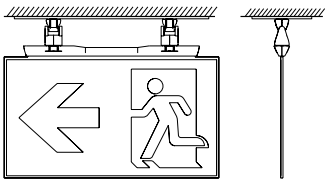
PSU
+
Exit sign 40m
(O-ESP40-IDD)

Recessed (30m)



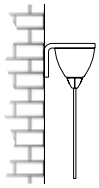
Velos
+
Recessed Base
(O-ESA-RB)

Recessed (40m)



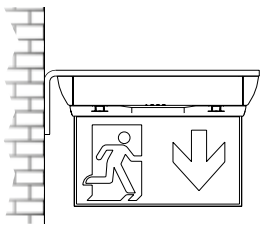
Velos
+
PSU
+
Recessed Base
(O-ESA-RB)
+
Exit sign 40m
(O-ESP40-ILR)

Back wall mount



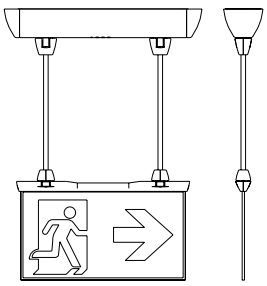
Velos
+
Back mounting Base
(O-ESA-BMB)

Lateral mount



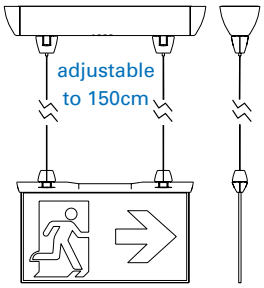
Velos
+
Lateral Base
(O-ESA-LMB)

Suspended with metal tube



Velos
+
Tube Suspension
48cm (ISO30061)
(O-ESA-PS30)

Suspended with adjustable wire



Velos
+
Wire Suspension
Adjustable 150cm
(O-ESA-RSA)

FlexiTech ED

Exit Sign Panel Luminaires

FlexiTech ED CG-S

- 20m viewing distance Exit sign, single and double sided
- Unobstrusive design and slim housing (34 mm)
- Same aesthetic either in wall or ceiling mounting
- "Dual" concept, Exit sign luminaire ready for use in wall-surface or ceiling-surface mounting (one box solution)
- Delivered with non-adhesive inlay exit legends for the most common applications (single & double sided signage)
- Perfect homogeneity and uniformity of the pictogram's illuminance
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Large working space, cable entries in flexible material and spirit level for easy and fast installation
- Transparent base plate with honeycomb footprint for easy replacement of existing products
- Complete range of accessories (recessed kit for ceiling, wire guard)

FlexiTech ED - Wall mounted



FlexiTech ED - Ceiling mounted

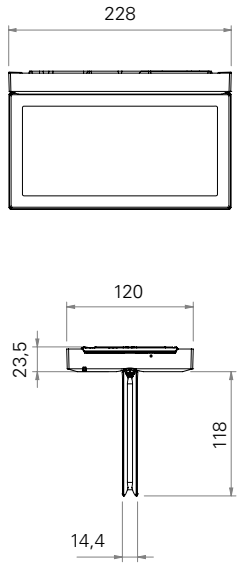


Viewing distance	20 m
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	Polycarbonat
Housing colour	White RAL 9003
Weight	0.4 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	3.9 VA / 1.6 W
Current consumption- battery operation (220 V)	6 mA
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED strip 0.7 W

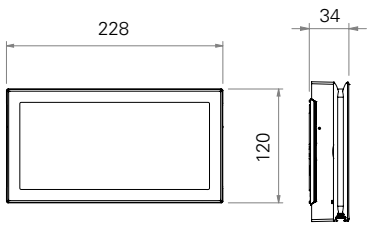
Ordering details

Type	Scope of supply	Order-No.
FlexiTech ED CG-S, 20 m	including pictogram set	FT2ED4ICGS

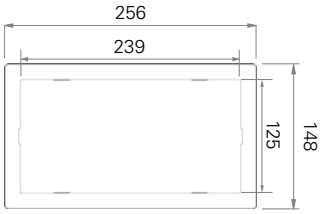
Dimensions in mm (ceiling mounted)



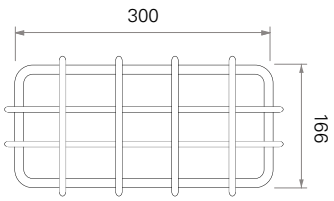
Dimensions in mm (wall mounted)



Dimensions in mm
(Recessed kit for ceiling)



Dimensions in mm (Wire Guard)



Accessories

	FT2-RKC	Recessed Kit for Ceiling, compatible with FlexiTech SE and FlexiTech ED (ceiling position)
	FT2-WG	Wire Guard, compatible with FlexiTech SE and FlexiTech ED
	FT2ED-4I	Set of 4 pictos for FlexiTech ED, 20m (D, L, R, U), ISO format

Pictograms

	FT2ED-PICTO-VL	EATON FlexiTech 20m, Picto, ISO7010-E001 VL, Exit Vertical Left
	FT2ED-PICTO-VR	EATON FlexiTech 20m, Picto, ISO7010-E002 VR, Exit Vertical Right
	FT2ED-PICTO-VD	EATON FlexiTech 20m, Picto, ISO7010-E002 VD, Exit Vertical Down
	FT2ED-PICTO-UR	EATON FlexiTech 20m, Picto, ISO7010-E002 U/R, Exit Up Right
	FT2ED-PICTO-DR	EATON FlexiTech 20m, Picto, ISO7010-E002 D/R, Exit Down Right
	FT2ED-PICTO-DL	EATON FlexiTech 20m, Picto, ISO7010-E001 D/L, Exit Down Left
	FT2ED-PICTO-UL	EATON FlexiTech 20m, Picto, ISO7010-E001 U/L, Exit Up Left
	FT2ED-PICTO-DMD	EATON FlexiTech 20m, Picto, FDX08-040-3 T28, Man in wheel chair door & arrow down
	FT2ED-PICTO-DMU	EATON FlexiTech 20m, Picto, FDX08-040-3 T28, Man in wheel chair door & arrow up
	FT2ED-PICTO-DML	EATON FlexiTech 20m, Picto, FDX08-040-3 T28, Man in wheel chair door & arrow left
	FT2ED-PICTO-DMR	EATON FlexiTech 20m, Picto, FDX08-040-3 T28, Man in wheel chair door arrow right
	FT2ED-PICTO-DML1	EATON FlexiTech 20m, Picto, DIN4844, Man in wheel chair & arrow left
	FT2ED-PICTO-DMR1	EATON FlexiTech 20m, Picto, DIN4844, Man in wheel chair & arrow right
	FT2ED-PICTO-DMD1	EATON FlexiTech 20m, Picto, DIN4844, Man in wheel chair & arrow down
	FT2ED-PICTO-MP	EATON FlexiTech 20m, Picto, ISO7010-E007, Meeting Point
	FT2ED-PICTO-H	EATON FlexiTech 20m, Picto, Hydrant
	FT2ED-PICTO-CR	EATON FlexiTech 20m, Picto, ISO7010-E003, First-Aid
	FT2ED-PICTO-FEX	EATON FlexiTech 20m, Picto, ISO7010-F001, Fire Extinguisher
	FT2ED-PICTO-FHO	EATON FlexiTech 20m, Picto, ISO7010-F002, Fire Hose
	FT2ED-PICTO-INFO	EATON FlexiTech 20m, Picto, ISO7001/P-I PF001, INFO
	FT2ED-PICTO-WC	EATON FlexiTech 20m, Picto, ISO7001/P-I PF003, WC
	FT2ED-PICTO-EWL	EATON FlexiTech 20m, Picto, ISO7010-E016, Escape Window Left
	FT2ED-PICTO-EWR	EATON FlexiTech 20m, Picto, ISO7010-E016, Escape Window Right
	FT2ED-PICTO-EWD	EATON FlexiTech 20m, Picto, ISO7010-E016, Escape Window Down
	FT2ED-PICTO-RWL	EATON FlexiTech 20m, Picto, ISO7010-E017, Rescue Window Left
	FT2ED-PICTO-RWR	EATON FlexiTech 20m, Picto, ISO7010-E017, Rescue Window Right
	FT2ED-PICTO-RWD	EATON FlexiTech 20m, Picto, ISO7010-E017, Rescue Window Down





Exit Sign Luminaires

Exit Cube 33022 LED CG-S 76
Exit Cube 33042 LED CG-S 77
70011 ... 70021 LED CG-S 78
71011 ... 71021 LED CG-S 80

Exit Sign Luminaires

Overview

		Performance	Global Features					Voltage					Technology	
			Aesthetic	One box solution*	Low consumption / Eco-friendly	Protection Degree	Viewing distance	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
3.1 Exit Cube		★ ★ ★		●	●	40	20 40				●	●	●	
3.3 Alu LED		★ ★			●	40	20 32				●	●	●	

	Installation				Applications							
	Wall	Ceiling	Recessed	Suspended	Healthcare	Hotels	Cinemas / Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
		●		●				●	●		●	●
	●	●		●	●			●	●		●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

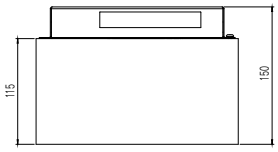
Exit Cube 33022 LED CG-S

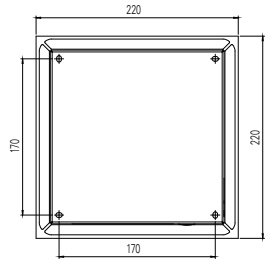
Exit Sign Luminaires

Exit Cube 33022 LED CG-S



Dimensions in mm





Wall bracket



Chain mounting kit



Cable mounting kit



Replacement Exit sign cube



Exit Cube 33022 LED CG-S

- Exit sign cube with LED Technology for large, wide areas, e.g. warehouses or retail areas
- Robust design with impact-resistance of IK07
- Low operating costs via low connected load
- Minimum maintenance effort via use of LEDs with high service life (up to 50,000 hours)
- Modular design of the polycarbonate cube enables simple and safe mounting by just sliding cube onto installed luminaire
- Easy and flexible mounting options with space to land cables- Ceiling, wall, cable and chain.
- Optimal perceptibility due to high luminance of the white contrasting colour (> 500 cd/m²) acc. DIN 4844-1 / ISO 3864-1 (for bright environments) and high uniformity L_{min}/L_{max} > 0,4 (in mains operation)
- Reduced operating costs due to of especially low power consumption
- Shorten inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost with STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

Viewing Distance	20 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Cube: polycarbonate; enclosure: coated steel sheet
Housing colour	White RAL 9010
Weight	Luminaire 1.1 kg Cube: 0.6 kg
Type of mounting	Ceiling or wall mounting (bracket required)
Connection terminals	Loop terminals 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption with battery operating	25 mA
Power consumption mains opteration (apparent power / effective power)	9.5 VA / 5.9 W
Inrush current	1.5 A
Permissible temperature range	-20 °C to +40 °C
Light source	HighPower LEDs 4 x 1 W

Ordering details

Type	Scope of supply	Order No.
Exit Cube 33022 LED CG-S	Enclosure and exit sign cube, for 20 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, down, right) acc. to ISO 7010	40071353421
Exit Cube 33022 LED CG-S	Enclosure and exit sign cube, for 20 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, up, right) acc. to ISO 7010	40071353360

Ordering details accessories

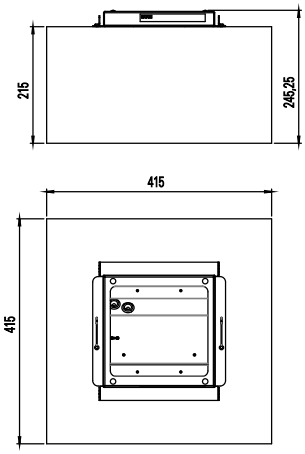
Type	Scope of supply	Order No.
Wall bracket	incl. attachments	40071353444
Chain mounting kit	with 4 eyelets (chain not included)	40071353457
Cable mounting kit	with 4 fasteners and cables, adjustable hanging height (max 1.5 m)	40071353443
Replacement Exit sign cube (20 m viewing distance)	silkscreened pictograms (arrow left, down, right) acc. to ISO 7010	40071354450
Replacement Exit sign cube (20 m viewing distance)	silkscreened pictograms (arrow left, up, right) acc. to ISO 7010	40071353358

40 m | LED | IP40 | IK07 | DIN 4844 | S TAR | S+ TAR | SLI

Exit Cube 33042 LED CG-S



Dimensions in mm



Replacement Exit sign cube



Exit Cube 33042 LED CG-S

- Exit sign cube with LED Technology for large, wide areas, e.g. warehouses or retail areas
- Robust design with impact-resistance of IK07
- Low operating costs via low connected load
- Minimum maintenance effort via use of LEDs with high service life (up to 50,000 hours)
- Modular design of the polycarbonate cube enables simple and safe mounting by just sliding cube onto installed luminaire
- Easy and flexible mounting options with space to ceiling or chain (four mounting eyes existing).
- Optimal perceptibility due to high luminance of the white contrasting colour (> 500 cd/m²) acc. DIN 4844-1 / ISO 3864-1 (for bright environments) and high uniformity L_{min}/L_{max} > 0,4 (in mains operation)
- Reduced operating costs due to of especially low power consumption
- Shorten inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost with STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

Viewing Distance	40 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Cube: PMMA; enclosure: coated steel sheet
Housing colour	White RAL 9010
Weight	Luminaire 1.6 kg Cube: 3,1 kg
Type of mounting	Ceiling mounting, chain mounting (four mounting holes existing)
Connection terminals	Loop terminals 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption with battery operating	46 mA
Power consumption mains opteration (apparent power / effective power)	17.6 VA / 10.6 W
Inrush current	3 A
Permissible temperature range	-20 °C to +40 °C
Light source	HighPower LEDs 8 x 1 W

Ordering details

Type	Scope of supply	Order No.
Exit Cube 33042 LED CG-S	Enclosure and exit sign cube, for 40 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, down, right) acc. to ISO 7010	40071353422
Exit Cube 33042 LED CG-S	Enclosure and exit sign cube, for 40 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, up, right) acc. to ISO 7010	40071353361

Ordering details accessories

Type	Scope of supply	Order No.
Replacement Exit sign cube (40 m viewing distance)	silkscreened pictograms (arrow left, down, right) acc. to ISO 7010	40071354451
Replacement Exit sign cube (40 m viewing distance)	silkscreened pictograms (arrow left, up, right) acc. to ISO 7010	40071353359

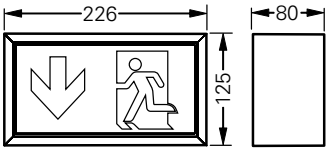
70011 ... 70021 LED CG-S

Exit Sign Luminaires

70011 LED CG-S



Dimensions in mm



70011 ... 70021 LED CG-S

- Enclosure made of slim aluminium profile, anodised, with silk-screened pictogram cover
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Low operating costs with low effective connected load of only 3.1 W (2.0 W with single sided emission)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	20 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium
Weight incl. panel	1.20 kg (70011 LED CG-S) 1.25 kg (70021 LED CG-S)
Housing colour	Aluminium, anodised
Type of mounting	Wall mounting (70011 LED CG-S) Wall, ceiling and pendant mounting (70021 LED CG-S)
Connection terminals	3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	8.7 mA (70011 LED CG-S) 14.0 mA (70021 LED CG-S)
Power consumption mains operation (apparent power / effective power)	4.36 VA/2.0 W (70011 LED CG-S) 5.80 VA/3.1 W (70021 LED CG-S)
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	HighPower LEDs 1 x 1.1 W LED (70011 LED CG-S) HighPower LEDs 2 x 1.1 W LED (70021 LED CG-S)

Ordering details

Type	Scope of supply	Order No.
70011 LED CG-S	Luminaire with CEWA GUARD monitoring and 20-digit address switch, without cover	40071351270
70021 LED CG-S WM	Luminaire with CEWA GUARD monitoring for wall mounting, with 20-digit address switch, without covers*	40071351271
70021 LED CG-S DM	Luminaire with CEWA GUARD monitoring for ceiling mounting, with 20-digit address switch, without covers*	40071351272
70021 LED CG-S PM	Luminaire with CEWA GUARD monitoring for pendant mounting, with 20-digit address switch, without covers*	40071351273
Cover PL	Cover with pictogram acc. to ISO 7010	40071354220
Cover PR	Cover with pictogram acc. to ISO 7010	40071354221
Cover PU	Cover with pictogram acc. to ISO 7010	40071354222
Blind cover		40071351196

* Each luminaire requires 2 covers.
Installation material is not included in the scope of delivery of the luminaire. Please order installation material separately depending on the type of mounting (see accessories).
WM = Wall mounting, DM = Ceiling mounting, PM = Pendant mounting

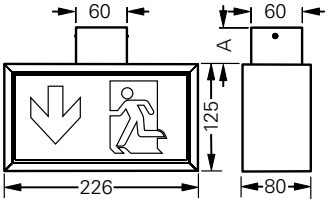
70021 LED CG-S DM
with wall/ceiling mounting kit



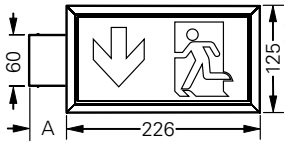
Accessories

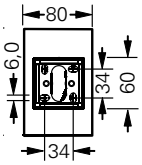
Type		Order No.
Wall/ceiling mounting kit	for WM / DM, A = 42 mm	40071351011
Wall/ceiling mounting kit	for WM / DM, A = 100 mm	40071351497
Single suspension	for PM	40071351157

Dimensions in mm

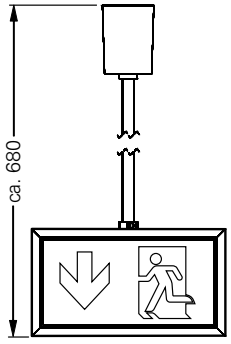


70021 LED CG-S DM





70021 LED CG-S WM



70021 LED CG-S PM

71011 ... 71021 LED CG-S

Exit Sign Luminaires

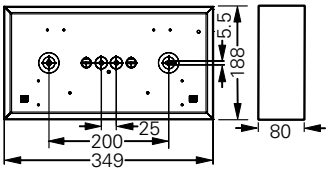
71011 ... 71021 LED CG-S

- Enclosure made of slim aluminium profile, anodised, with silk-screened pictogram cover
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Low operating costs with low connected load of only 5.8 W (3.1 W with single sided emission)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

71011 LED CG-S



Dimensions in mm



Viewing distance	32 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium
Weight incl. panel	1.75 kg (71011 LED CG-S) 1.50 kg (71021 LED CG-S)
Housing colour	Aluminium, anodised
Type of mounting	Wall mounting (71011 LED CG-S) Wall, ceiling and pendant mountinge (71021 LED CG-S)
Connection terminals	3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	14 mA (71011 LED CG-S) 25 mA (71021 LED CG-S)
Power consumption mains operation (apparent power / effective power)	5.8 VA/3.1 W (71011 LED CG-S) 9.5 VA/5.8 W (71021 LED CG-S)
Inrush current	1.5 A
Permissible ambient temperature	-10 °C to +40 °C
Light source	HighPower LEDs 2 x 1.1 W LED (71011 LED CG-S) HighPower LEDs 4 x 1.1 W LED (71021 LED CG-S)

Ordering details

Type	Scope of supply	Order No.
71011 LED CG-S	Luminaire with CEWA GUARD monitoring and 20-digit address switch, without cover	40071351280
71021 LED CG-S WM	Luminaire with CEWA GUARD monitoring for wall mounting, with 20-digit address switch, without covers*	40071351281
71021 LED CG-S DM	Luminaire with CEWA GUARD monitoring for ceiling mounting, with 20-digit address switch, without covers*	40071351282
71021 LED CG-S PM	Luminaire with CEWA GUARD monitoring for pendant mounting, with 20-digit address switch, without covers*	40071351283
Cover PL	Cover with pictogram acc. to ISO 7010	40071354240
Cover PR	Cover with pictogram acc. to ISO 7010	40071354241
Cover PU	Cover with pictogram acc. to ISO 7010	40071354242
Blind cover		40071351197

* Each luminaire requires 2 covers.
Installation material is not included in the scope of delivery of the luminaire. Please order installation material separately depending on the type of mounting (see accessories).
WM = Wall mounting, DM = Ceiling mounting, PM = Pendant mounting

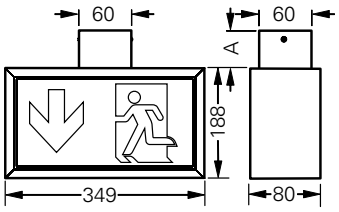
71021 LED CG-S WM
with wall/ceiling mounting kit



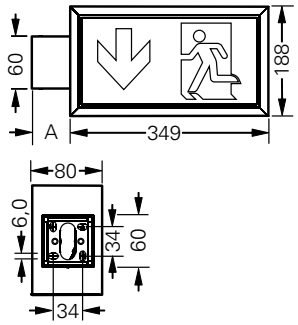
Accessories

Type		Order No.
Wire guard	for 71011 LED CG-S	40071348370
Wall/ceiling mounting kit	for WM / DM, A = 42 mm	40071351011
Wall/ceiling mounting kit	for WM / DM, A = 100 mm	40071351497
Suspension set 0.5 m	with canopy, silver, square form, for PM	40071344599
Suspension set 1.0 m	with canopy, silver, square form, for PM	40071350775
Suspension set 1.5 m	with canopy, silver, square form, for PM	40071350776
Chain fastening	Ring eyelets, for PM	40071351158

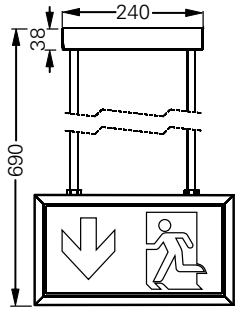
Dimensions in mm



71021 LED CG-S DM



71021 LED CG-S WM



71021 LED CG-S PM



Inhalt



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Sirios LED CG-S / Sirios LED 114

Safety and Exit Sign Luminaires with the same design

Overview

		Performance	One box solution	Low consumption / Eco-friendly	Protection Degree	Viewing distance	Luminous flux	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
								Voltage					Technology	
4.1	Style LED 21011 	★★★		●	54		305 lm 410 lm				●	●	●	
4.2	Style LED 22011/22021 	★★★	●	●	41 54	32	320 lm				●	●	●	
4.3	23011 	★★★		●	41 54		320 lm				●	●	●	
4.4	Style LED 51011/51021 	★★★		●	41	17	390 lm				●	●	●	
4.5	Style Variant 29011/29021 	★★★		●	41	32					●	●	●	
4.6	NexiTech LED 	★★		●	40 65	20 30*	250 lm 500 lm				●	●	●	
4.7	NexiTech LED 	★★		●	65		1000 lm		●					
4.8	Sirios LED 	★★	●	●	42 65	30	119 lm 130 lm				●	●	●	

Safety and Exit Sign Luminaires with the same design

Overview

Installation				Applications							
Wall	Ceiling	Recessed	Suspended	Healthcare	Hotels	Cinemas / Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
●	●							●		●	●
●	●		●	●	●		●		●		●
		●		●	●		●		●		
●	●			●	●		●		●		●
●	●			●	●		●		●		●
●	●	●		●	●		●		●		●
●	●	●		●	●	●	●	●	●		●
●	●	●		●	●		●		●		●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.







Diverse applications thanks to flexible mounting systems

Precisely matched modular elements form the basis of our STYLE system luminaire series. Diverse combinations made possible with various accessory parts for a wide variety of applications.

By using the optional IP54 module, the luminaires may also be operated under challenging environmental conditions.

Furthermore, the quick-mounting set facilitates the installation of most types of luminaires, containing the required fixing elements and mains terminals. The unit can be mounted prior to completion of construction work; only the selected enclosures need to be snapped to the base.

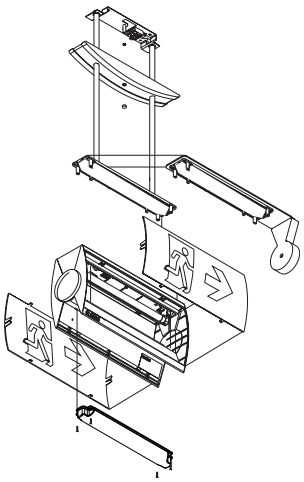
Mounting of the pictogram covers is a quick and easy process thanks to snap mounting.

The STYLE escape sign luminaires with LED technology minimises energy consumption considerably. In addition, maintenance effort for the LEDs is reduced to a minimum as a result of their high service life.

CEAG's proven electronic ballasts with new 20 digit address switch together with CEWA GUARD monitoring system and connecting option to all CEAG emergency lighting systems. Connecting the luminaires to a suitable emergency lighting system makes it possible to select individual switching modes (non-maintained, maintained or switched maintained) for each luminaire within one final circuit.

Features:

- Versatile types of application via matched modular elements
- IP54 optionally available
- Luminaires with quick-mounting sets facilitate and fasten the installation
- Highly efficient LED technology with especially low current consumption and low maintenance effort with a long service life
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures thanks to STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

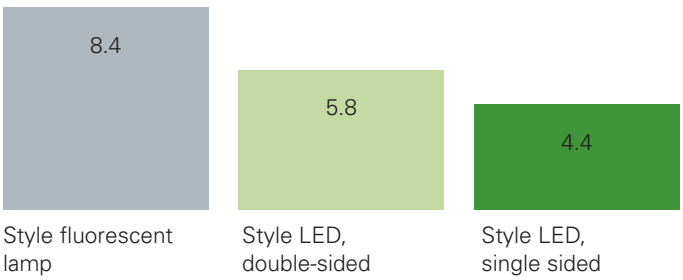




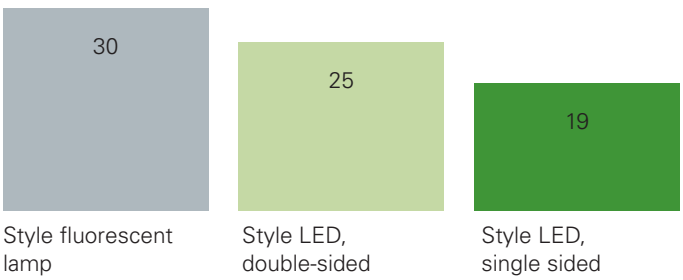
Up to 48% energy savings with efficient LED technology

With the introduction of new LED components, the proven and reliable Style CG-S series becomes more durable efficient. Power consumption and thus energy costs with a double-sided luminaire, for example, are cut by 31% compared to fluorescent tube luminaires, and the consumption for single sided luminaires is reduced by 48% – a positive factor for your next electricity bill.

System effective power P_{sys} in W in case of mains operation



Current in case of battery operation in mA





A direct comparison of both luminaire types: Above the Style 22011 CG-S with fluorescent tube, and below with efficient LED technology. Energy savings using the LED luminaire as compared to the fluorescent tube model: 48%.



LED upgrading guarantees safe operation and perfect illumination

Three LED upgrade kits have been developed to replace the existing fluorescent tube as light source, thus already installed Style fluorescent luminaires can benefit from efficient LED technology (includes ballast). The result is that fluorescent luminaires are transformed into complete LED luminaires with matched components, ensuring safe and reliable operation.

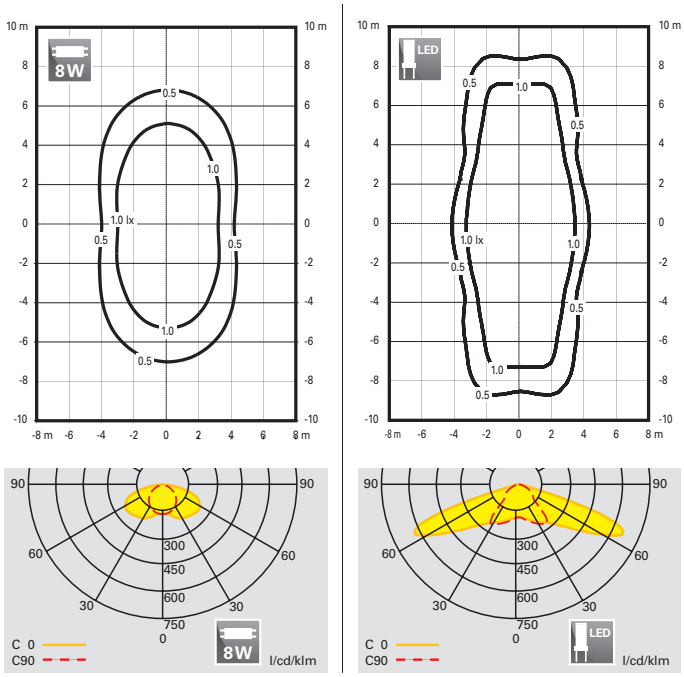


The modular design of the Style luminaires is once again a distinct advantage, as the quick mounting set with mains connection remains attached to the ceiling or wall; no additional effort is needed for electrical installation or decorating. Assembly and disassembly of the single sided luminaires is achieved almost completely with snap fasteners so that replacement requires only a few twists of the wrist.

In Style LED safety luminaires the optical components are designed so that the same values as the previous fluorescent luminaires are achieved with existing light point distances.
This guarantees standard-compliant illumination for the future and replanning is not is not required.

22011 CG-S (transparent cover) | **22011 LED SL CG-S (transparent cover)**

Luminaire mounting height: 3 m, emergency light operation



A comparison of light distribution patterns makes it clear: the LED optics (right), here with the Style 22011, achieve improved illumination compared to the same luminaire with a fluorescent tube (left). New planning when upgrading to LED is thus not required for continued standard-compliant illumination.

An economical long-runner



Costs for an emergency light system consist of investment and operation costs. In addition to overheads for electricity and manual tests with non-automated systems, maintenance costs are a major part of the operating costs.

With the use of LED technology, the regular re-lamping of fluorescent tubes is no longer necessary as the service life and operating duration of Style LED surpass 50,000 hours. This significantly reduces maintenance costs and therefore operating costs as well.
It is now no longer necessary to replace the lamps up to once yearly. This is especially advantageous with luminaires that are difficult to get to, or even when production has to be halted in an industrial environment to access escape luminaires on the hall ceiling. This means that upgrading to efficient LED technology becomes profitable immediately.

Due to their longer service life, exit signs and escape luminaires also benefit from their emergency lighting systems being operated safely and reliably.



Overview of suitable upgrade kits according to existing luminaire model







Luminaire	Application	Style LED Upgrade Kit SL CG-S Order No. 40071350150	Style LED Upgrade Kit 1 CG-S Order No. 40071350151	Style LED Upgrade Kit 2 CG-S Order No. 40071350152
55011, 57011 CG-S	Escape luminaire	X		
	Exit sign luminaire		X	
55021, 57021 CG-S	Exit sign luminaire			X
22011 CG-S	Escape luminaire	X		
	Exit sign luminaire *)		X	
22021 CG-S	Exit sign luminaire *)			X
23011 CG-S	Escape luminaire	X		
21011 CG-S	Escape luminaire	X		optional for symmetric illumination
51011 CG-S	Escape luminaire			X
	Exit sign luminaire			X
51021 CG-S	Exit sign luminaire			new luminaire 40071356814 recommended
40011 CG-S	Escape luminaire	X		
	Exit sign luminaire		X	

For luminaires with IP54 assembly set and for 21011 CG-S luminaires, a new IP54 assembly set for LEDs is mandatory.
Only this way improved illumination (with exit sign luminaires) and long LED service life is achieved.

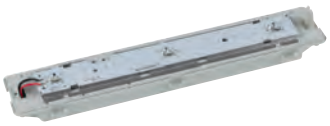
*) Screenprinted pictograms must be used for illumination in accordance with DIN EN 4844-1.

LED Upgrade Kits

For style luminaires with T5-lamps

4

Style LED Upgrade Kit 1 CG-S



Style LED Upgrade Kit 2 CG-S



Style LED Upgrade Kit SL CG-S



Style Upgrade Kits

- Upgrade Kit for converting CEAG Style CG-S Luminaires from T5-Lamps to LED technology
- Suitable for all luminaires with Style quick-mounting sets
- Minimum maintenance required due to high service life of the LEDs (over 50,000 hours)
- Up to 48% energy savings, reducing operating cost
- Available in three variants:
  - Upgrade Kit 1: For single sided exit signs
  - Upgrade Kit 2: For double sided exit signs and luminaires 51011/51021
  - Upgrade SL: For escape route lighting with specialized LED-optics
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Dismounting and mounting via snaps (single sided luminaire and 51011/21), double sided luminaires with screw connections
- Includes specialized LED-converter with V-CG-S-technology

Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.21 kg
Type of mounting	for refitting of Style CG-S luminaires
Connection terminal	2 x 3 x 2.5 mm²
Voltage ranges	220 – 240 V AC, 50/60 Hz, 176 V – 275 V DC
Power consumption mains operation (apparent power / effective power)	Upgrade Kit 1 + Kit SL: 7.6 VA / 4.4 W Upgrade Kit 2: 9.5 VA / 5.8 W
Permissible temperature range	-20 °C to +40 °C
Inrush current	1.5 A
Current consumption - battery operation (220 V)	Upgrade Kit1 + Kit SL: 19 mA Upgrade Kit 2: 25 mA
Light source	Upgrade Kit1 + Kit SL: 3 x 1 W LED Upgrade Kit 2: 4 x 1 W LED

Ordering details

Type	Scope of supply	Order No.
Style LED Upgrade Kit 1 CG-S	Style LED Upgrade Kit 1 CG-S, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for replacing single sided exit sign luminaires	40071350151
Style LED Upgrade Kit 2 CG-S	Style LED Upgrade Kit 2 CG-S, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for replacing double-sided exit sign luminaires and Style 51011 or 51021	40071350152
Style LED Upgrade Kit SL CG-S	Style LED Upgrade Kit SL CG-S, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for replacing safety luminaires for escape route lighting	40071350150
IP54* LED Upgrade	Style IP54 cover (silicone), optimized for LED, incl. replacement gasket with foamed, sulphur-free sealing for quick mounting set, repuired for upgrading existing style luminaires with IP54 set	40071350598

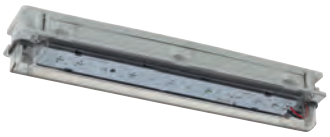
Style II 21011 LED CG-S

Safety and Exit Sign Luminaires with the same design

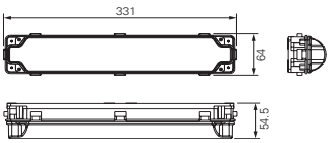
21011 LED SL R CG-S



21011 LED SL O CG-S



Dimensions in mm



Style II 21011 LED CG-S

- Compact safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Available in two different optical variants:
  - Asymmetric light distribution for exit route illumination up to 6 m mounting height
  - Symmetrical light distribution for mounting heights up to 9 m
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with plug-in connectors for through-wiring
- Ingress protection IP54 for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Luminous flux Φ_N	21011 SL R: 305 lm 21011 SL O: 410 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.39 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	2 x 3 x 2.5 mm^2
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	21011 SL R: 19 mA 21011 SL O: 25 mA
Power consumption mains operation (apparent power / effective power)	21011 SL R: 7.6 VA / 4.4 W 21011 SL O: 9.5 VA / 5.8 W
Inrush current	1.5 A
Permissible temperature range	-20 °C to +40 °C
Light source	21011 SL R: 3 x 1.1 W LED (6500 K / CRI 70) 21011 SL O: 4 x 1.1 W LED (6500 K / CRI 70)

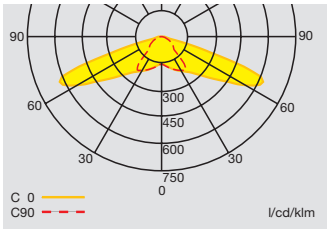
Ordering details

Type	Scope of supply	Order No.
Style II 21011 LED SL R CG-S	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, with asymmetric light distribution and quick mounting set	40071356815
Style II 21011 LED SL O CG-S	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, with symmetric light distribution and quick mounting set	40071356816

Start of phase-out in 2022

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

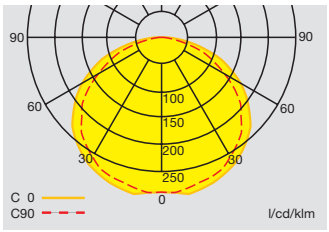
Planning help for 21011 LED SL R CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



Light distribution curve 21011 LED SL R CG-S

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.9 (3.7)	7.4 (9.1)	6.5 (7.3)	14.6 (16.1)
3.0	Exit route centre	3.0 (3.9)	7.9 (9.8)	7.1 (8.3)	16.7 (18.3)
3.5		3.2 (4.1)	8.2 (10.5)	7.4 (9.2)	18.3 (20.6)
4.0		3.6 (4.2)	8.3 (11.0)	7.3 (9.9)	19.7 (22.6)
4.5		3.8 (4.3)	8.6 (11.3)	6.6 (10.3)	20.5 (24.5)
5.0		4.0 (4.6)	9.3 (11.6)	5.8 (10.5)	20.9 (26.1)
5.5		4.0 (4.9)	9.9 (11.7)	4.6 (10.4)	20.7 (27.5)
6.0		3.4 (5.2)	10.5 (11.9)	3.6 (10.0)	19.9 (28.5)
6.5		- (5.5)	10.9 (12.4)	- (9.2)	18.3 (29.2)
2.0	Wall mounting	1.9 (2.5)	5.0 (6.5)	1.8 (2.8)	5.6 (7.1)
2.5		1.7 (2.4)	4.8 (6.4)	1.2 (2.3)	4.6 (6.7)
3.0		1.6 (2.3)	4.6 (6.1)	- (1.8)	3.7 (6.1)
2.5	Ceiling mounting	2.6 (3.3)	5.8 (7.0)	3.3 (3.9)	14.7 (14.9)
3.0	Room illumination	2.8 (3.3)	6.5 (7.5)	3.7 (8.2)	16.7 (18.0)
3.5		2.3 (3.5)	7.0 (8.2)	6.6 (4.5)	18.5 (20.6)
4.0		1.5 (3.8)	7.3 (8.8)	5.3 (10.4)	19.9 (22.7)
4.5		1.0 (3.6)	7.5 (9.5)	5.4 (5.6)	20.9 (24.7)
5.0		2.1 (3.1)	8.9 (10.0)	3.5 (6.3)	19.5 (26.3)
5.5		1.3 (2.2)	9.4 (10.3)	3.2 (7.0)	20.1 (27.8)
6.0		0.7 (1.3)	8.8 (10.4)	4.7 (7.6)	21.0 (29.1)
6.5		0.5 (1.9)	8.4 (11.0)	4.0 (6.9)	21.0 (28.9)
7.0		0.9 (2.9)	9.6 (12.5)	3.1 (4.8)	17.6 (27.5)
7.5		0.6 (2.3)	9.9 (13.4)	1.2 (3.3)	16.4 (27.6)

Planning help for 21011 LED SL O CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



Light distribution curve
21011 LED SL O CG-S

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.2 (5.1)	10.3 (12.5)	4.5 (5.6)	11.1 (13.7)
3.0	Exit route centre	4.5 (5.6)	11.1 (13.5)	4.8 (6.0)	12.0 (14.8)
3.5		4.7 (5.9)	11.8 (14.5)	5.0 (6.3)	12.7 (15.7)
4.0		4.9 (6.2)	12.4 (15.3)	5.1 (6.6)	13.3 (16.6)
5.0		5.0 (6.7)	13.4 (16.8)	5.2 (7.1)	14.1 (18.0)
6.0		4.9 (7.0)	13.9 (17.9)	5.1 (7.3)	14.6 (19.1)
7.0		4.5 (7.0)	14.0 (18.8)	4.8 (7.4)	14.8 (19.9)
8.0		3.9 (7.0)	14.0 (19.5)	4.2 (7.4)	14.7 (20.4)
9.0		2.7 (6.8)	13.6 (19.8)	3.1 (7.1)	14.2 (20.8)
2.0	Wall mounting	3.0 (3.8)	7.6 (9.2)	3.1 (4.0)	8.0 (9.8)
2.5		2.9 (3.8)	7.7 (9.5)	3.0 (4.0)	8.0 (10.0)
3.0		2.7 (3.7)	7.5 (9.7)	2.7 (3.8)	7.7 (10.1)
2.5	Ceiling mounting	3.1 (4)	8.9 (10.9)	3.6 (4.2)	10.1 (12)
3.0	Room illumination	3.6 (4.3)	10.1 (12)	3.5 (4.4)	10.5 (12.9)
3.5		3.4 (3.8)	10.5 (12.2)	3.9 (5.2)	11.6 (14.6)
4.0		4 (4.8)	11.7 (13.8)	3.5 (4.8)	11.6 (14.6)
5.0		4 (4.8)	12.8 (15.1)	3.5 (5.2)	12.7 (16.3)
6.0		3.9 (4.6)	13.6 (16.1)	3.3 (5.6)	13.5 (17.8)
7.0		3.6 (5.1)	14.2 (17.7)	2.8 (5.2)	14.1 (18.3)
8.0		3.1 (5.3)	14.5 (18.9)	2.5 (4.5)	14.5 (18.8)
9.0		1.5 (5.2)	14.2 (19.5)	2.7 (4.3)	15.3 (19.5)

Style II 22011 LED CG-S

Safety and Exit Sign Luminaires with the same design

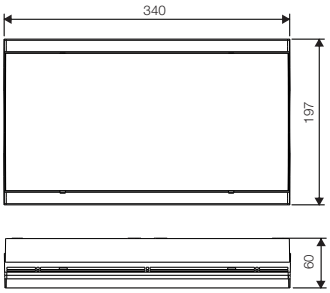
22011 LED SL CG-S with transparent cover



22011 LED CG-S with cover PR



Dimensions in mm



Style II 22011 LED CG-S

- Single sided exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Large selection of screenprinted pictogram covers with simple snap mounting
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Special LED optical arrangement for efficient illumination of exit routes, suitable for mounting heights up to 6 m, maximum distance from luminaire to luminaire: > 16 m from 3 m mounting height and > 20 m from 4.5 m mounting height
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with plug-in connectors for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements for indoor rooms or for canopied outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	32 m
Luminous flux Φ_N 22011 LED SL CG-S	320 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.79 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	7.6 VA / 4.4 W
Inrush current	1.5 A
Permissible temperature range	- 20 °C to + 40 °C
Current consumption - battery operation (220 V)	19 mA
Light source	3 x 1.1 W LED (6500 K / CRI 70)

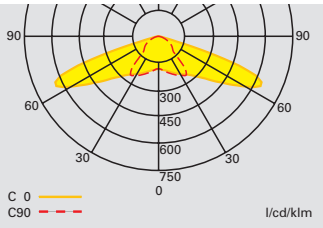
Ordering details

Type	Scope of supply	Order No.
Style II 22011 LED SL CG-S	Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit route lighting, without cover, without quick mounting set	40071356810
Style II 22011 LED CG-S	Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit signage, without cover, without quick mounting set	40071356811
Cover PL acc. to ISO 7010	Cover with silkscreened pictogram	40071354130
Cover PR acc. to ISO 7010	Cover with silkscreened pictogram	40071354131
Cover PU acc. to ISO 7010	Cover with silkscreened pictogram	40071354132
Cover SL	Transparent cover	40071345985
Quick-mounting set	With terminals and optional distance plates	40071356826
IP54 set*	Incl. quick-mounting set and mounting accessories	40071356825

Start of phase-out in 2022

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24



Light distribution curve 22011 LED CG-S with transparent cover

Planning help for 22011 LED SL CG-S with transparent cover for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.1 (3.9)	7.9 (9.6)	6.5 (7.3)	14.6 (15.9)
3.0	Exit route centre	3.2 (4.2)	8.4 (10.4)	7.1 (8.3)	16.6 (18.4)
3.5		3.3 (4.4)	8.8 (11.1)	7.5 (9.1)	18.3 (20.6)
4.0		3.6 (4.5)	9.0 (11.7)	7.5 (9.9)	19.7 (22.6)
4.5		3.9 (4.6)	9.1 (12.1)	7.1 (10.3)	20.6 (24.5)
5.0		4.2 (4.8)	9.5 (12.4)	6.3 (10.6)	21.2 (26.0)
5.5		4.4 (5.1)	10.1 (12.6)	5.3 (10.7)	21.3 (27.4)
6.0		4.4 (5.4)	10.7 (12.8)	4.3 (10.4)	20.8 (28.5)
6.5		3.7 (5.7)	11.3 (13.0)	3.4 (9.8)	19.6 (29.4)
2.0	Wall mounting	1.6 (2.2)	4.4 (5.7)	1.5 (2.2)	4.4 (5.7)
2.5		1.3 (1.9)	3.8 (5.2)	- (1.8)	3.7 (5.2)
3.0		- (1.6)	3.2 (4.6)	- (-)	- (4.6)
2.5	Ceiling mounting	2.7 (3.5)	5.9 (7.1)	6.7 (6.3)	14.6 (14.5)
3.0	Room illumination	2.7 (3.5)	6.6 (7.7)	3.7 (8.0)	16.7 (17.7)
3.5		2.4 (3.6)	7.1 (8.4)	6.5 (4.6)	18.4 (20.4)
4.0		1.8 (3.8)	7.4 (9.0)	5.4 (9.7)	19.9 (22.7)
4.5		1.2 (3.6)	7.5 (9.7)	5.8 (5.2)	21.0 (24.4)
5.0		2.2 (3.1)	9.0 (10.1)	3.7 (9.0)	19.7 (26.2)
5.5		1.5 (2.5)	9.6 (10.4)	3.4 (7.4)	20.3 (27.7)
6.0		0.8 (1.7)	9.1 (10.5)	4.7 (7.9)	21.3 (29.1)
6.5		0.6 (3.4)	8.6 (11.8)	4.7 (6.1)	21.6 (27.3)
7.0		0.7 (3.1)	9.4 (12.7)	3.9 (5.0)	19.1 (27.6)

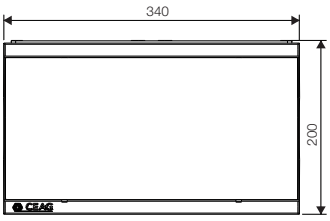
Style II 22021 LED CG-S

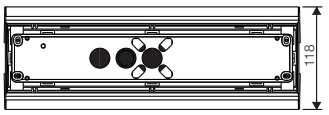
Safety and Exit Sign Luminaires with the same design

22021 LED CG-S with cover PR



Dimensions in mm





Style II 22021 LED CG-S

- Double-sided exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Large selection of screenprinted pictogram covers with simple snap mounting
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with plug-in connectors for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements for indoor rooms or for canopied outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	32 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	1.14 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	9.5 VA / 5.8 W
Inrush current	1.5 A
Permissible temperature range	-20 °C to +40 °C
Current consumption - battery operation (220 V)	25 mA
Light source	4 x 1.1 W LED

Ordering details

Type	Scope of supply	Order No.
Style II 22021 LED CG-S	Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for exit signage, without cover, without quick mounting set	40071356812
Cover PL acc. to ISO 7010	Cover with silkscreened pictogram	40071354130
Cover PR acc. to ISO 7010	Cover with silkscreened pictogram	40071354131
Cover PU acc. to ISO 7010	Cover with silkscreened pictogram	40071354132
Cover SL	Transparent cover	40071345985
Quick-mounting set	With terminals and optional distance plates	40071356826
IP54 set*	Incl. quick-mounting set and mounting accessories	40071356825

Start of phase-out in 2022

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Style II 22011, 22021 LED CG-S, SET luminaires

Safety and Exit Sign Luminaires with the same design

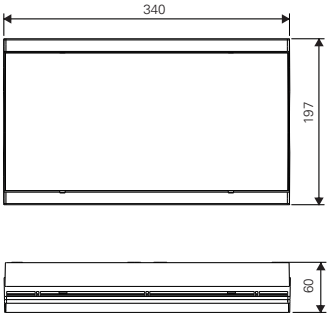
22011 LED SL CG-S with transparent cover



22011 LED CG-S with cover PR



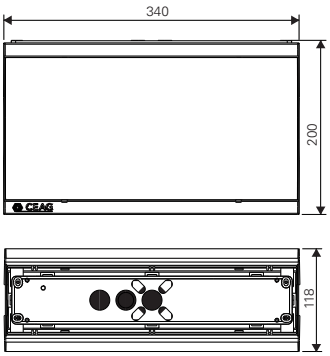
Dimensions in mm



22021 LED CG-S with cover PR



Dimensions in mm



Style II 22011, 22021 LED CG-S, set luminaires

- Exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series allowing combination with various fixing modules
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Special LED optical arrangement for efficient illumination of exit routes, suitable for mounting heights up to 7m, maximum distance from luminaire to luminaire: > 16m from 3m mounting height and > 20 m from 4.5 m mounting height
- Minimum maintenance required due to high service life of the LEDs (over 50,000 hours)
- Simple mounting via quick mounting set (pre-assembly possible) with plug-in connectors for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	32 m
Luminous flux Φ_N	320 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.79 kg
Type of mounting	Wall and ceiling mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	22011: 7.6 VA / 4.4 W 22021: 9.5 VA / 5.8 W
Inrush current	1.5 A
Permissible ambient temperature	- 20 °C to + 40 °C
Current consumption - battery operation (220 V)	19 mA
Light source	22011: 3 x 1.1 W LED (6500 K / CRI 70) 22021: 4 x 1.1 W LED

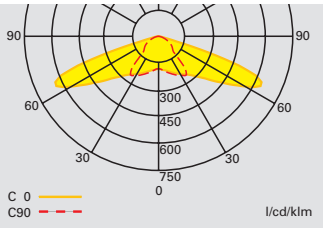
Ordering details

Type	Scope of supply	Order No.
Style II 22011 LED SL CG-S SET	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit route lighting, with quick mounting set, with transparent cover	40071356819
Style II 22011 LED CG-S SET	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit signage, with opaque cap and pictogram set (arrow left, right, down acc. to ISO 7010) and quick mounting set	40071356820
Style II 22021 LED CG-S SET	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for exit signage, with opaque cap and pictogram set (arrow left, right, down acc. to ISO 7010) and quick mounting set	40071356821
IP54 set*	Incl. quick mounting set and mounting accessories	40071356825

Start of phase-out in 2022

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24



Light distribution curve 22011 LED CG-S with transparent cover

Planning help for 22011 LED SL CG-S with transparent cover for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

Mounting height (m)	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.1 (3.9)	7.9 (9.6)	6.5 (7.3)	14.6 (15.9)
3.0	Exit route centre	3.2 (4.2)	8.4 (10.4)	7.1 (8.3)	16.6 (18.4)
3.5		3.3 (4.4)	8.8 (11.1)	7.5 (9.1)	18.3 (20.6)
4.0		3.6 (4.5)	9.0 (11.7)	7.5 (9.9)	19.7 (22.6)
4.5		3.9 (4.6)	9.1 (12.1)	7.1 (10.3)	20.6 (24.5)
5.0		4.2 (4.8)	9.5 (12.4)	6.3 (10.6)	21.2 (26.0)
5.5		4.4 (5.1)	10.1 (12.6)	5.3 (10.7)	21.3 (27.4)
6.0		4.4 (5.4)	10.7 (12.8)	4.3 (10.4)	20.8 (28.5)
6.5		3.7 (5.7)	11.3 (13.0)	3.4 (9.8)	19.6 (29.4)
2.0	Wall mounting	1.6 (2.2)	4.4 (5.7)	1.5 (2.2)	4.4 (5.7)
2.5		1.3 (1.9)	3.8 (5.2)	- (1.8)	3.7 (5.2)
3.0		- (1.6)	3.2 (4.6)	- (-)	- (4.6)
2.5	Ceiling mounting	2.7 (3.5)	5.9 (7.1)	6.7 (6.3)	14.6 (14.5)
3.0	Room illumination	2.7 (3.5)	6.6 (7.7)	3.7 (8.0)	16.7 (17.7)
3.5		2.4 (3.6)	7.1 (8.4)	6.5 (4.6)	18.4 (20.4)
4.0		1.8 (3.8)	7.4 (9.0)	5.4 (9.7)	19.9 (22.7)
4.5		1.2 (3.6)	7.5 (9.7)	5.8 (5.2)	21.0 (24.4)
5.0		2.2 (3.1)	9.0 (10.1)	3.7 (9.0)	19.7 (26.2)
5.5		1.5 (2.5)	9.6 (10.4)	3.4 (7.4)	20.3 (27.7)
6.0		0.8 (1.7)	9.1 (10.5)	4.7 (7.9)	21.3 (29.1)
6.5		0.6 (3.4)	8.6 (11.8)	4.7 (6.1)	21.6 (27.3)
7.0		0.7 (3.1)	9.4 (12.7)	3.9 (5.0)	19.1 (27.6)

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

Style II 51011 LED CG-S

Safety and Exit Sign Luminaires with the same design

17 m | LED | IP41 | IP54* | DIN 4844 | EN 1838 | STAR | S+TAR | **

Style II 51011 LED CG-S

- Compact exit sign or safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Includes transparent cap with simple snap mounting and pictogram foil set
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with plug-in connectors for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

51011 LED CG-S



51011 LED CG-S with pictogram foil PR

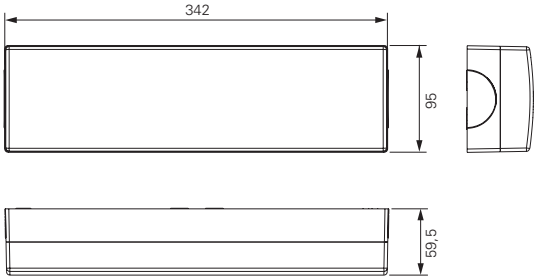


Luminous flux Φ_N	390 lm (without pictrogram foil)
Viewing distance	17 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.58 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	9.5 VA / 5.8 W
Permissible temperature range	-20 °C to +40 °C
Inrush current	1.5 A
Current consumption - battery operation (220 V)	25 mA
Light source	4 x 1.1 W LED (6500 K / CRI 70)

Ordering details

Type	Scope of supply	Order No.
Set: Style II 51011 LED CG-S	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, with opaque cap and pictogram set (arrow left, right, down), without quick mounting set	40071356813
Quick-mounting set	With terminals and optional distance plates	40071356826
IP54 set*	Incl. quick-mounting set and mounting accessories	40071356825

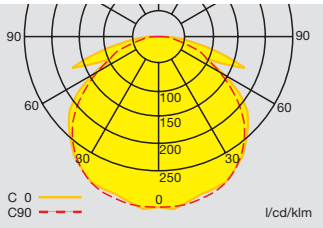
Start of phase-out in 2022



Dimensions in mm

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24



Light distribution curve 51011 LED CG-S with transparent cover

Planning help for 51011 LED CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.0 (5.0)	9.9 (12.1)	4.1 (5.0)	9.9 (14.8)
3.0	Exit route centre	4.3 (5.4)	10.7 (13.0)	4.5 (5.5)	10.9 (12.8)
3.5		4.6 (5.7)	11.4 (13.9)	4.8 (5.9)	11.7 (13.9)
4.0		4.8 (6.0)	12.0 (14.8)	5.0 (6.2)	12.4 (14.9)
4.5		4.9 (6.3)	12.6 (15.5)	5.1 (6.5)	13.0 (15.8)
5.0		5.0 (6.5)	13.0 (16.2)	5.1 (6.8)	13.5 (16.6)
5.5		5.0 (6.7)	13.4 (16.8)	5.1 (7.0)	13.9 (17.4)
6.0		4.9 (6.8)	13.6 (17.4)	5.0 (7.1)	14.2 (18.0)
6.5		4.8 (6.9)	13.8 (17.9)	4.9 (7.2)	14.3 (18.6)
7.0		4.6 (7.0)	14.0 (18.3)	4.6 (7.2)	14.3 (19.0)
7.5		4.4 (7.0)	14.0 (18.7)	4.3 (7.1)	14.2 (19.4)
8.0		4.0 (7.0)	13.9 (19.0)	4.0 (7.1)	14.1 (19.7)
8.5		3.6 (6.9)	13.8 (19.3)	3.5 (7.0)	14.0 (20.0)
9.0		2.9 (6.8)	13.6 (19.5)	2.7 (6.9)	13.7 (20.1)
9.5		2.0 (6.7)	13.3 (19.6)	1.8 (6.8)	13.5 (20.2)
10.0		- (6.5)	12.9 (19.8)	- (6.5)	13.0 (20.2)
2.0	Wall mounting	3.1 (3.9)	7.9 (9.6)	3.5 (4.4)	8.8 (10.5)
2.5		3.2 (4.2)	8.4 (10.4)	3.5 (4.5)	9.0 (10.9)
3.0		3.2 (4.2)	8.5 (10.9)	3.3 (4.4)	8.9 (11.2)
2.5	Ceiling mounting	1.2 (0.8)	7.9 (8.8)	3.7 (4.7)	10.1 (15.4)
3.0	Room illumination	3.4 (1.2)	9.3 (10.2)	3.5 (4.8)	9.5 (15.1)
3.5		3.7 (1.2)	10.1 (11.2)	3.6 (5.0)	10.0 (14.3)
4.0		3.8 (4.4)	10.7 (12.8)	3.7 (4.7)	10.7 (13.1)
4.5		3.9 (4.9)	11.3 (13.7)	3.8 (4.8)	11.3 (13.6)
5.0		3.9 (5.0)	11.8 (14.4)	3.8 (4.9)	11.8 (14.3)
5.5		3.9 (5.1)	12.3 (15.0)	3.7 (5.0)	12.2 (15.0)
6.0		3.9 (5.2)	12.7 (15.6)	3.7 (5.1)	12.6 (15.6)
6.5		3.7 (5.3)	13.0 (16.2)	3.6 (5.1)	13.0 (16.1)
7.0		3.6 (5.4)	13.3 (16.7)	3.4 (5.1)	13.3 (16.6)
7.5		3.3 (5.3)	13.5 (17.1)	3.2 (5.1)	13.6 (17.1)
8.0		3.2 (5.1)	13.8 (17.3)	2.7 (5.3)	13.7 (17.8)
8.5		2.9 (5.3)	13.9 (17.9)	2.5 (5.1)	13.9 (17.9)
9.0		2.7 (4.8)	14.0 (18.0)	2.2 (5.2)	14.0 (18.6)
9.5		2.2 (4.9)	14.1 (18.5)	1.8 (4.9)	14.1 (18.7)
10.0		1.8 (4.9)	14.2 (18.9)	1.4 (4.6)	14.1 (18.8)

Style II 51021 LED CG-S

Safety and Exit Sign Luminaires with the same design

51021 LED CG-S with pictogram foil PR



Style II 51021 LED CG-S

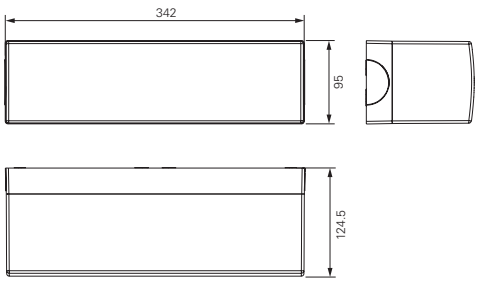
- Compact exit sign or safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Includes opaque cap with simple snap mounting and pictogram foil set
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with plug-in connectors for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	17 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey RAL 7035
Weight	0.75 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	9.5 VA / 5.8 W
Permissible temperature range	-20 °C to +40 °C
Inrush current	1.5 A
Current consumption - battery operation (220 V)	25 mA
Light source	4 x 1.1 W LED

Ordering details

Type	Scope of supply	Order No.
Set: Style II 51021 LED CG-S	Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, with opaque cap and pictogram set (arrow left, right, down), without quick mounting set	40071356814
Quick-mounting set	With terminals and optional distance plates	40071356826
IP54 set*	Incl. quick-mounting set and mounting accessories	40071356825

Start of phase-out in 2022



Dimensions in mm

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Accessories Style II CG-S

Safety and Exit Sign Luminaires with the same design

Suspension set



Ordering details

Type	Order No.
Suspension set 0.5 m incl. quick-mounting set (IP41)	40071356823
Suspension set 0.5 m IP54 incl. quick-mounting set and IP54 supplement	40071356822
Suspension set 1.5 m incl. quick-mounting set (IP41)	40071356827
Suspension set 1.5 m IP54 incl. quick-mounting set and IP54 supplement	40071356828
Suspension set 0.5 m incl. quick-mounting set and 90° angle (IP41)	40071356829

Suspension set with 90° angle



Wall bracket, including quick-mounting set



Type	Order No.
Wall bracket incl. quick-mounting set (IP41)	40071356824
Wall bracket (without quick-mounting set) for use with luminaires already delivered with quick mounting set or with IP54 options	40071354552

Chain fastening, including quick-mounting set



Type	Order No.
Chain fastening incl. quick-mounting set (IP41)	40071356830
Chain fastening (without quick-mounting set) for use with luminaires already delivered with quick mounting set	40071354553

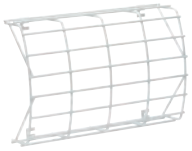
Luminaire with IP54 cover



Type	Order No.
IP54 supplement* incl. IP54 cover and quick mounting set with foamed, sulphur-free sealing each and mounting accessories, suitable for LED and fluorescent lamps	40071356825

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas

Wire guard



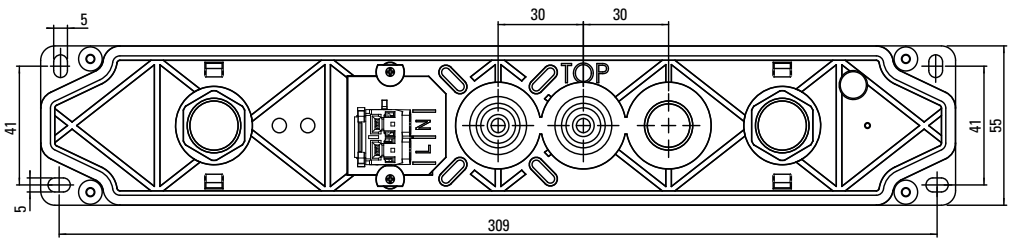
Type	Order No.
Wire guard incl. mounting clamps	40071348370

Type	Order No.
Quick-mounting set with terminals and optional distance plates (IP41)	40071356826

Quick-mounting set



Dimensions in mm (quick-mounting set)



Suspension set with 90° angle and 51011 LED CG-S



Suspension set with 90° angle and 22011 LED CG-S



Suspension set with 51021 LED CG-S



Wire guard with 22011 LED CG-S



Ordering details special pictograms

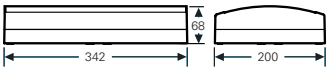
Type	Piktogramm	Viewing distance	Order No.
Style series		32 m	40071354138
		32 m	40071354134
		32 m	40071354135
		32 m	40071354136
		32 m	40071354137
		32 m	40071348010
		32 m	40071348017
		32 m	40071348018
		32 m	40071348019
		32 m	40071348029
		32 m	40071348030
		32 m	40071348031
		32 m	40071348021
		32 m	40071349349
		32 m	40071349350
		32 m	40071349351
		32 m	40071349352
		32 m	40071349335
		32 m	40071349342
		32 m	40071349343
		32 m	40071349358
		32 m	40071348674
		32 m	40071349368
		32 m	40071349369
		32 m	40071349370
		32 m	40071352387

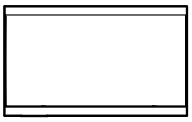
Style Variant 29011 LED CG-S

Safety and Exit Sign Luminaires with the same design

29011 LED with cover PR







Style Variant 29011 LED CG-S

- Single sided LED exit sign luminaire of high quality, UV-resistant, halogen-free plastic
- Large selection of screenprinted pictogram covers with simple snap mounting
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	32 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate (850 °C glow wire resistant)
Weight incl. cover	1.1 kg
Housing colour	Grey
Type of mounting	Wall mounting
Connection terminals	Clamp terminal 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz, 176 – 275 V DC
Current consumption - battery operation (220 V)	19 mA
Power consumption mains operation (apparent power / effective power)	7.6 VA / 4.4 W
Inrush current	1.5 A
Permissible temperature range	-10 °C ... +40 °C
Light source	HighPower LEDs 3 x 1.1 W

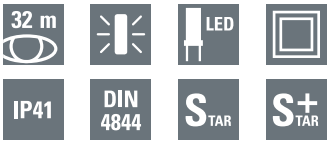
Ordering details

Type	Scope of supply		Order No.
29011 LED CG-S	Luminaire housing without cover, with CEWA GUARD monitoring and 20-digit address switch		40071350551
Cover PL acc. to ISO 7010	Cover with silkscreened pictogram		40071354130
Cover PR acc. to ISO 7010	Cover with silkscreened pictogram		40071354131
Cover PU acc. to ISO 7010	Cover with silkscreened pictogram		40071354132

Start of phase-out in 2022

Accessories

Scope of supply	Order No.
Wire guard	40071348370

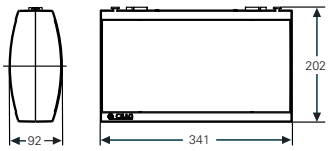


Style Variant 29021 LED CG-S

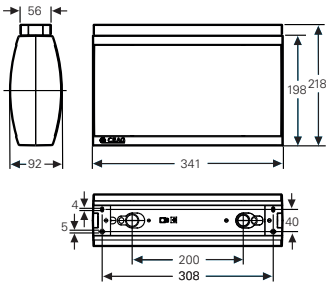
- Double-sided LED exit sign luminaire of high quality, UV-resistant, halogen-free plastic
- Large selection of screenprinted pictogram covers with simple snap mounting
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

29021 LED with cover PR

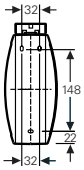




29021



29021 with ceiling mounting



29021 with wall bracket



Ceiling mounting



Chain fastening



Wall bracket

Viewing distance	32 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate (850 °C glow wire resistant)
Weight incl. cover	1.2 kg
Housing colour	Grey
Type of mounting	Ceiling mounting
Connection terminals	Clamp terminal 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz, 176 – 275 V DC
Current consumption - battery operation (220 V)	25 mA
Power consumption mains operation (apparent power / effective power)	9.5 VA / 5.8 W
Inrush current	1.5 A
Permissible temperature range	-10 °C ... +40 °C
Light source	HighPower LEDs 4 x 1.1 W

Ordering details

Type	Scope of supply		Order No.
29021 LED CG-S	Luminaire housing without covers, with CEWA GUARD monitoring and 20-digit address switch		40071350550
Cover PL acc. to ISO 7010	Cover with silkscreened pictogram		40071354130
Cover PR acc. to ISO 7010	Cover with silkscreened pictogram		40071354131
Cover PU acc. to ISO 7010	Cover with silkscreened pictogram		40071354132
Blind cover	Blind cover		40071345987

Start of phase-out in 2022

Accessories

Type	Scope of supply	Order No.
Ceiling mounting	for ceiling mounting and chain fastening with chain link diameter < 5 mm	40071350432
Suspension set 0.5 m	with canopy, curved	40071350394
Chain fastening[1)]	ring-eyelet	40071351158
Wall bracket		40071350418

[1)] for chain link diameter from 5 to 12 mm ceiling mounting 40071350432 required

NexiTech LED CG-S

Safety and Exit Sign Luminaires with the same design

NexiTech LED CG-S

- Safety or exit sign luminaire with LED technology
- Combined version "Door" specific for emergency exits's illumination
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

NexiTech LED CG-S Standard indoor version IP40



NexiTech LED CG-S with IP65 protection kit



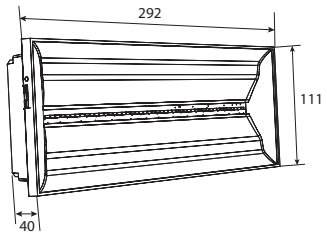
NexiTech LED CG-S with double side panel



Single side glue-less pictogram
Order No. NEXI-PICTO-x



Dimensions in mm



Viewing distance	20 m (single sided), 30 m (double-sided)
Luminous flux Φ_{NOM}	250 lm, 500lm, 250+30 lm (Door version)
Luminous flux Φ_E/Φ_{NOM} at the end of rated operating time	100%
Housing material	Polycarbonate (850° glow wire resistant)
Housing colour	White
Weight	0.45 kg
Type of mounting	Wall and ceiling mounting, surface or recessed installation in false ceiling and bricks wall
Connection terminals	Quick plug in terminals up to 2.5 mm² for rigid and flexible cable
Connection voltage	220 – 240 V AC, 50/60 Hz, 176 – 275 V DC
Current consumption - battery operation (220 V)	250lm: 25,5 mA / 500lm: 49,5 mA / Door: 32 mA
Power consumption mains operation (apparent power / effective power)	250 lm: 7.6 VA / 4.2 W / 500 lm: 12.9 VA / 7.7 W Door: 9 VA / 5.5 W
Permissible ambient temperature	-10 °C to +40 °C
Light source	29 LED (250lm), 60 LED (500lm), 29+2 LED (Door)

Ordering details

Type	Order No.
Universal application safety and exit sign luminaire with 250lm of luminous flux, incl. LED-supply with CG-S technology and 20-digit address switch	NEXI250-CGS
Universal application safety and exit sign luminaire with 250lm of luminous flux, IP65, IK07, incl. LED-supply with CG-S technology and 20-digit address switch	NEXI250-CGS-IP
Universal application safety and exit sign luminaire with 500lm of luminous flux, incl. LED-supply with CG-S technology and 20-digit address switch	NEXI500-CGS
Universal application safety and exit sign luminaire with 500lm of luminous flux, IP65, IK07, incl. LED-supply with CG-S technology and 20-digit address switch	NEXI500-CGS-IP
Combined luminaire specific for emergency exits's illumination, including LED-supply with CG-S technology and 20-digit address switch, without pictograms	NEXI-D-CGS

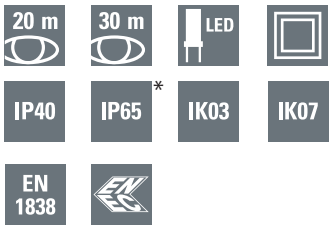
Ordering details - single side pictograms

Type	Order No.
Single sided pictograms with 20 m viewing distance	
Single sided glue-less pictogram DOWN, ISO7010	NEXI-PICTO-D
Single sided glue-less pictogram LEFT, ISO7010	NEXI-PICTO-L
Single sided glue-less pictogram RIGHT, ISO7010	NEXI-PICTO-R
Single sided glue-less pictogram UP, ISO7010	NEXI-PICTO-U

Accessories

Type	Order No.
IP65 Protection kit	NEXI-IP
45° Wall Bracket (IP40/IP65)	NEXI-WB45
90° Wall Bracket (IP40/IP65)	EL-BR1
Bricks wall recessed base (cut-out 277x100 mm)	NEXI-RB
False ceiling adapter (cut-out 272x95 mm)	NEXI-FC
Design frame NexiTech LED	NEXI-FR

* Use NEXI-IP accessory to transform IP40 variant into IP65. Order new product, e.g. NEXI250-CGS-IP for IP65 luminaire

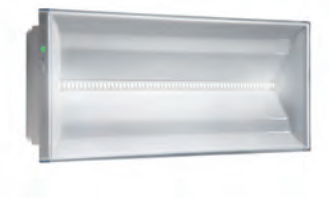


NexiTech LED

- Safety or exit sign luminaire with LED technology
- Combined version "Door" specific for emergency exits's illumination
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

Viewing distance	20 m (single sided), 30 m (double-sided)
Luminous flux Φ_{NOM}	250 lm, 500lm , 250+30 lm (Versione Door)
Luminous flux Φ_E/Φ_{NOM} at the end of rated operating time	100%
Housing material	Polycarbonate (850° glow wire resistant)
Housing colour	White
Weight	0.45 kg
Type of mounting	Wall and ceiling mounting, surface of recessed installation in false ceiling and bricks wall
Connection terminals	Quick plug in terminals up to 2.5 mm² for rigid and flexible cable
Connection voltage	110 – 240 V AC, 50/60 Hz 110 – 240 V DC
Power consumption mains operation	250 lm: 3.45 W 500 lm: 6.9 W Door: 3.45 W
Permissible ambient temperature	-10 °C to +40 °C
Light source	29 LED (250lm), 60 LED (500lm), 29+2 LED (Door)

NexiTech LED Standard indoor version IP40



NexiTech LED with IP65 protection kit



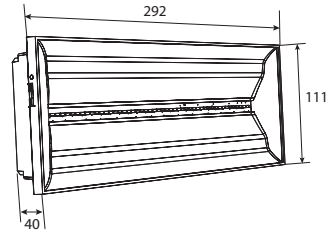
NexiTech LED with double side panel



Single side glue-less pictogram
Order No. NEXI-PICTO-x



Dimensions in mm



Ordering details

Type	Order No.
Universal application safety and exit sign luminaire with 250lm of luminous flux, including LED-supply	NEXI250-230
Universal application safety and exit sign luminaire with 250lm of luminous flux, IP65, IK07, including LED-supply	NEXI250-230-IP
Universal application safety and exit sign luminaire with 500lm of luminous flux, including LED-supply	NEXI500-230
Universal application safety and exit sign luminaire with 500lm of luminous flux, IP65, IK07, including LED-supply	NEXI500-230-IP
Combined luminaire specific for emergency exits's illumination, including LED-supply, without pictograms	NEXI-D-230

Ordering details - single side pictograms

Type	Order No.
Single sided pictograms with 20 m viewing distance	
Single sided glue-less pictogram DOWN, ISO7010	NEXI-PICTO-D
Single sided glue-less pictogram LEFT, ISO7010	NEXI-PICTO-L
Single sided glue-less pictogram RIGHT, ISO7010	NEXI-PICTO-R
Single sided glue-less pictogram UP, ISO7010	NEXI-PICTO-U

Accessories

Type	Order No.
IP65 Protection kit *)	NEXI-IP
45° Wall Bracket (IP40/IP65)	NEXI-WB45
90° Wall Bracket (IP40/IP65)	EL-BR1
Bricks wall recessed base (cut-out 277x100 mm)	NEXI-RB
False ceiling adapter (cut-out 272x95 mm)	NEXI-FC
Design frame NexiTech LED	NEXI-FR

* Use NEXI-IP accessory to transform IP40 variant into IP65. Order new product, e.g. NEXI250-230-IP for IP65 luminaire

NexiTech LED /NexiTech LED CG-S

Safety and Exit Sign Luminaires with the same design



Ordering details - Double side panels with additional light output for escape route lighting, High Uniformity, complying with EN1838, suitable for Nexi LED IP40 versions

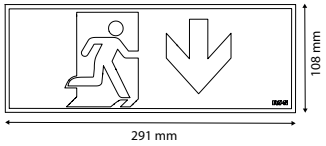
Type	Order No.
NEXI PANEL OPAL 30 D-B ISO High Uniformity, 30m, Down/Blank	NEXI-PLEXO-DB
NEXI PANEL OPAL 30 D-D ISO High Uniformity, 30m, Down/Down	NEXI-PLEXO-DD
NEXI PANEL OPAL 30 L-R ISO High Uniformity, 30m, Left/Right	NEXI-PLEXO-LR
NEXI PANEL OPAL 30 U-B ISO High Uniformity, 30m, Up/Blank	NEXI-PLEXO-UB
NEXI PANEL OPAL 30 U-U ISO High Uniformity, 30m, Up/Up	NEXI-PLEXO-UU
NEXI PANEL OPAL 20 D-B ISO High Uniformity, 20m, Down/Blank	NEXI-PLEXO-20-DB
NEXI PANEL OPAL 20 D-D ISO High Uniformity, 20m, Down/Down	NEXI-PLEXO-20-DD
NEXI PANEL OPAL 20 L-R ISO High Uniformity, 20m, Left/Right	NEXI-PLEXO-20-LR
NEXI PANEL OPAL 20 U-B ISO High Uniformity, 20m, Up/Blank	NEXI-PLEXO-20-UB
NEXI PANEL OPAL 20 U-U ISO High Uniformity, 20m, Up/Up	NEXI-PLEXO-20-UU

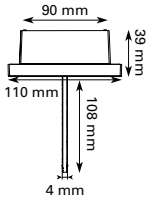
Ordering details - Double side panels, High Uniformity, complying with EN1838, suitable for Nexi LED IP40 versions

Type	Order No.
NEXI PANEL 20 D-B ISO High Uniformity, 20m, Down/Blank	NEXI-PLEX-20-DB
NEXI PANEL 20 D-D ISO High Uniformity, 20m, Down/Down	NEXI-PLEX-20-DD
NEXI PANEL 20 L-R ISO High Uniformity, 20m, Left/Right	NEXI-PLEX-20-LR
NEXI PANEL 20 U-B ISO High Uniformity, 20m, Up/Blank	NEXI-PLEX-20-UB
NEXI PANEL 20 U-U ISO High Uniformity, 20m, Up/Up	NEXI-PLEX-20-UU
NEXI PANEL 30 D-B ISO High Uniformity, 30m, Down/Blank	NEXI-PLEX-DB
NEXI PANEL 30 D-D ISO High Uniformity, 30m, Down/Down	NEXI-PLEX-DD
NEXI PANEL 30 L-R ISO High Uniformity, 30m, Left/Right	NEXI-PLEX-LR
NEXI PANEL 30 U-B ISO High Uniformity, 30m, Up/Blank	NEXI-PLEX-UB
NEXI PANEL 30 U-U ISO High Uniformity, 30m, Up/Up	NEXI-PLEX-UU

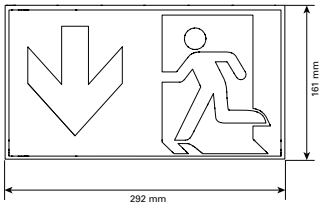
Nexi LED + design frame + Edge light panel

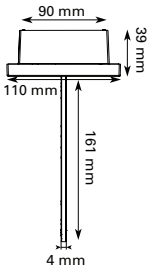




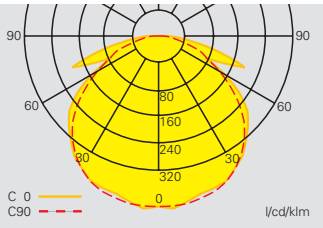


Nexi LED 20m viewing distance

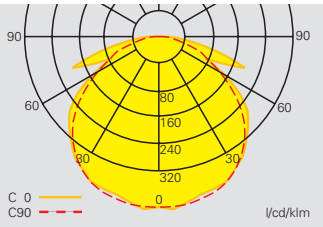




Nexi LED 30m viewing distance

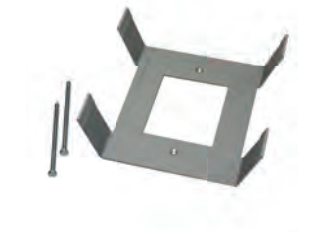


Light distribution curve NexiTech LED CG-S



Light distribution curve NexiTech LED

False ceiling adapter
Order No. NEXI-FC



Recessed base for bricks wall
Order No. NEXI-RB



IP65 protection kit - 308x125x53 mm



NexiTech LED DOOR CG-S
Detail of additional LEDs



Planning assistance for NEXI250-CGS for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.0 (3.7)	8.1 (9.7)	2.8 (3.3)	8.2 (9.8)
3.0	Room illumination	3.1 (4.0)	8.7 (10.8)	3.0 (3.3)	8.7 (10.7)
3.5		3.1 (4.1)	9.2 (11.5)	3.1 (3.6)	9.3 (11.5)
4.0		3.1 (4.2)	9.7 (12.1)	3.2 (3.9)	9.8 (12.0)
4.5		3.1 (4.2)	10.2 (12.7)	3.1 (4.0)	10.2 (12.6)
5.0		3.2 (4.1)	10.6 (13.1)	3.1 (4.2)	10.5 (13.3)
5.5		3.0 (4.2)	10.9 (13.7)	3.1 (4.2)	10.9 (13.7)
6.0		2.9 (4.3)	11.2 (14.2)	3.0 (4.1)	11.1 (14.1)
6.5		2.7 (4.2)	11.4 (14.6)	2.9 (4.2)	11.4 (14.5)
7.0		2.5 (4.1)	11.6 (14.9)	2.7 (4.2)	11.5 (15.0)

Planning assistance for NEXI500-CGS for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.7 (4.5)	9.7 (11.4)	3.3 (4.0)	9.8 (11.3)
3.0	Room illumination	4.0 (4.7)	10.8 (12.7)	3.3 (4.1)	10.7 (12.6)
3.5		4.1 (5.1)	11.5 (13.8)	3.6 (4.3)	11.4 (13.7)
4.0		4.2 (5.3)	12.1 (14.8)	3.9 (4.5)	12.0 (14.8)
4.5		4.1 (5.4)	12.5 (15.6)	4.2 (4.7)	12.8 (15.6)
5.0		4.3 (5.5)	13.2 (16.3)	4.2 (5.0)	13.1 (16.4)
5.5		4.3 (5.6)	13.7 (16.9)	4.2 (5.3)	13.6 (16.9)
6.0		4.3 (5.6)	14.1 (17.4)	4.3 (5.5)	14.1 (17.6)
6.5		4.3 (5.8)	14.6 (18.1)	4.2 (5.5)	14.5 (18.0)
7.0		4.2 (5.7)	14.9 (18.5)	4.3 (5.7)	14.9 (18.7)
7.5		4.1 (5.8)	15.2 (19.1)	4.3 (5.7)	15.3 (19.1)
8.0		4.0 (5.8)	15.6 (19.6)	4.1 (5.7)	15.5 (19.6)
8.5		3.9 (5.8)	15.8 (20.0)	4.1 (5.8)	15.8 (20.0)
9.0		3.7 (5.8)	16.1 (20.5)	3.9 (5.7)	16.0 (20.4)
9.5		3.5 (5.7)	16.3 (20.9)	3.7 (5.7)	16.2 (20.8)
10.0		3.2 (5.7)	16.4 (21.2)	3.6 (5.7)	16.4 (21.2)

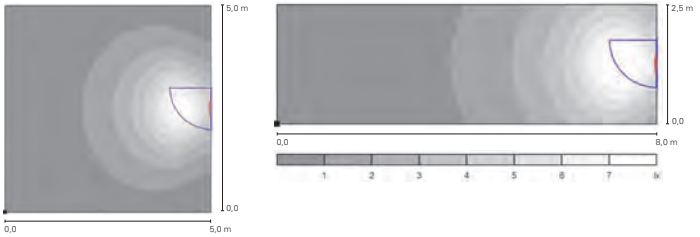
NexiTech LED CG-S - Version DOOR



The combined version "Door" of NexiTech LED CG-S allows to get two functions in one luminaire: single-side exit sign with 20 m viewing distance and safety lighting for emergency door as requested by standard EN1838.

In addition to the main LEDs used for backlighting of the pictogram, NexiTech LED Door CG-S has 2 additional LEDs on the bottom of the luminaire for the lighting of emergency exit in accordance with the regulatory requirements.

Illuminance values NexiTech LED Door CG-S
Workplane H 1m. Luminaire installation height H 2,3m, environment height 3m



NexiTech LED

Safety and Exit Sign Luminaires with the same design

LED | IP65 | IK10 | EN 1838 | NF

NexiTech LED

- Safety luminaire with LED technology
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Most compact and highly efficient high flux luminaire
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

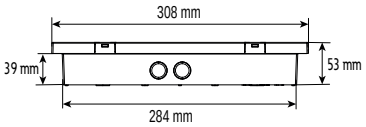
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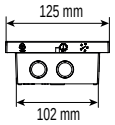
NexiTech LED 1000 lm IP65

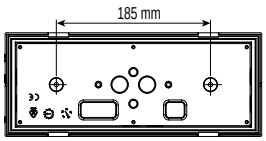


Luminous flux Φ_{NOM}	1000 lm
Luminous flux Φ_E/Φ_{NOM} at the end of rated operating time	100 %
Housing material	Polycarbonate (850° glow wire resistant)
Housing colour	White (RAL9003)
Weight	0.5 kg
Type of mounting	Wall and ceiling mounting, surface of recessed installation in false ceiling and bricks wall
Connection terminals	Quick plug in terminals up to 2.5 mm² for rigid and flexible cable
Connection voltage	24 – 48 V DC
Power consumption mains operation	8.6 W
Current consumption - battery operation	351.5 mA @ 24 V DC 169.7 mA @ 48 V DC
Permissible ambient temperature	-20 °C to +40 °C
Light source	32 LED

Dimensions in mm







Ordering details

Type	Order No.
Universal application luminaire for safety and exit route panel luminaire with 1000 lm of luminous flux, including LED-supply, IP65	NEXI1000-LX-IP

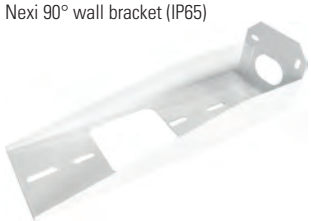
Accessories

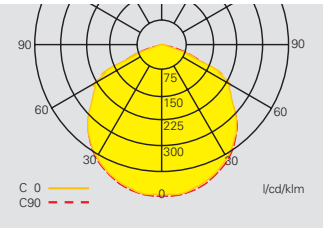
Type	Order No.
45° Wall Bracket (IP65)	NEXI-WB45
90° Wall Bracket (IP65)	EL-BR1

Nexi 45° wall bracket (IP65)



Nexi 90° wall bracket (IP65)





Light distribution curve NexiTech LED

Planning assistance for NEXI1000 for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	5.5 (6.5)	13.0 (15.3)	5.6 (6.2)	12.5 (14.3)
3.0	Escape route centre	6.0 (7.2)	14.3 (16.9)	6.4 (7.0)	14.0 (16.2)
4.0		6.9 (8.3)	16.6 (19.7)	7.2 (8.7)	17.3 (19.0)
5.0		7.5 (9.2)	18.4 (22.1)	7.7 (9.6)	19.2 (22.5)
6.0		7.9 (9.9)	19.8 (24.1)	8.0 (10.5)	20.9 (25.3)
7.0		8.2 (10.5)	21.0 (25.8)	8.2 (10.8)	21.6 (27.1)
8.0		8.4 (11.0)	21.9 (27.4)	8.4 (11.2)	22.3 (28.9)
10.0		8.3 (11.6)	23.1 (29.8)	8.3 (11.6)	23.2 (30.7)
12.0		7.8 (11.9)	23.8 (31.5)	7.7 (11.9)	23.8 (31.9)

Planning assistance for NEXI1000 for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.4 (5.4)	11.2 (13.3)	5.5 (5.5)	11.1 (11.9)
3.0	Room illumination	4.4 (5.4)	12.5 (14.5)	5.5 (6.5)	12.4 (14.1)
4.0		5.4 (5.4)	14.5 (17.0)	5.5 (8.5)	14.4 (17.0)
5.0		5.4 (6.4)	15.9 (19.2)	6.5 (8.5)	16.4 (19.2)
6.0		6.4 (7.4)	16.6 (20.8)	6.5 (8.5)	18.2 (21.4)
7.0		6.4 (7.4)	17.3 (22.3)	6.5 (8.5)	19.7 (23.3)
8.0		6.4 (8.4)	18.1 (23.3)	6.5 (8.5)	20.7 (24.8)
10.0		6.4 (8.4)	21.1 (24.6)	6.5 (9.5)	21.0 (28.0)
12.0		6.0 (8.4)	22.4 (27.1)	5.9 (9.5)	22.3 (29.1)

Sirios LED CG-S / Sirios LED

Safety and Exit Sign Luminaires with the same design

Sirios LED CG-S / Sirios LED

- Sirios range of emergency luminaires are low profile, designed and equipped with technical solutions and accessories for a wide range of applications
- Adjustable LED arrays enable antipanic and exit sign illumination, as well as escape route lighting
- The range of accessories includes a base for recessed installation in walls and false ceilings. as well as an IP65 weatherproof kit
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

only CG-S version

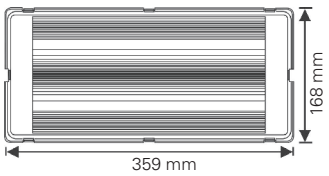
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

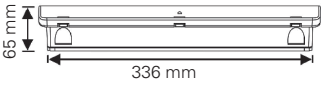
Sirios LED CG-S

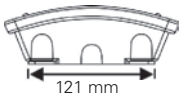




Dimensions in mm







Viewing distance	30 m
Luminous flux Φ_N	Led position „open“ 130 lm Led position „closed“ 119 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	White
Weight	0.77 kg
Type of mounting	Wall and ceiling mounting
Connection terminals	plug-in terminal 2.5 mm²
Connection voltage	O-SLED-CG-S: 220 – 240 V AC, 50/60 Hz; 176 – 275 V DC O-SLED-MAINS: 230 V AC, 50/60 Hz; 186 – 275 V DC
Power consumption mains operation	O-SLED-CG-S: 7.5 VA / 4.3 W O-SLED-MAINS: 3.2 W
Current consumption- battery operation (220 V)	O-SLED-CG-S: 18 mA
Permissable temperature range	0 °C bis +40 °C
Light source	24 white LEDs 1.5 W

Accessories

Type	Scope of supply	Order No
Sirios LED CG-S	Luminaire housing including pictogram set (arrow left, right, down) with CG-S technology and 20-digital address switch	O-SLED-CG-S
Sirios LED	Luminaire housing including pictogram set (arrow left, right, down)	O-SLED-MAINS

Recessed mounting set



IP65 set

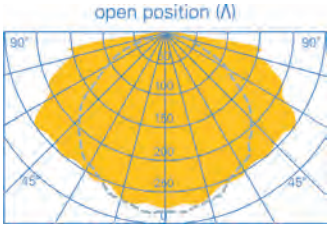


Accessories

Type	Order No
Sirios IP65 set	O-S-IP
Sirios pictogram panel (down/down) for ceiling mounting	O-S-PSD
Sirios pictogram panel (left/right) for ceiling mounting	O-S-PSLR
Sirios recessed mounting set for cavity wall or ceiling mounting with frontal brackets	O-S-RB
Sirios recessed mounting set for cavity ceiling or recessed mounting with side-springs	O-S-RB2
Sirios wall quick mounting set	O-S-WB

Wall quick mounting set





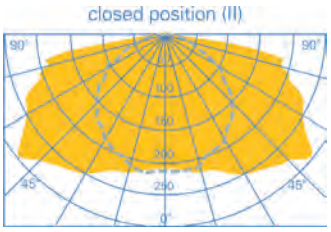
Light distribution curve Sirios LED CG-S



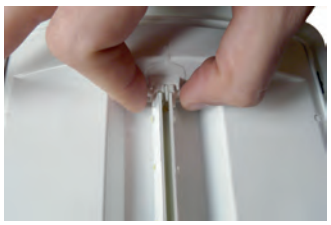
Open position (Λ)
for Antipanic and Exit Sign

Engineering help for Sirios LED CG-S (open position) for E = 1.0 Lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.6 (3.4)	6.7 (8.4)	3.1 (4.2)	8.3 (10.8)
3.0	Escape route centre	2.6 (3.6)	7.2 (8.9)	3 (4.4)	8.9 (11.2)
3.5		2.5 (3.7)	7.4 (9.5)	2.9 (4.5)	8.9 (11.8)
4.0		2.4 (3.8)	7.5 (10.0)	2.5 (4.3)	8.6 (12.3)
4.5		2.0 (3.7)	7.4 (10.3)	2.1 (4.2)	8.4 (12.7)
5.0		1.5 (3.6)	7.2 (10.5)	1.4 (4.0)	8.0 (12.6)
2.5	Wall mounting	2.2 (1.9)	6.7 (7.4)	1.5 (3.9)	7.6 (10.4)
3.0	Room illumination	1.7 (3.2)	6.7 (9.1)	2.3 (1.5)	8.6 (9.7)
3.5		1.5 (2.8)	6.9 (9.4)	2.3 (2.1)	9.0 (10.8)
4.0		1.3 (2.5)	7.2 (9.5)	2.1 (2.9)	9.0 (11.7)
4.5		0.7 (2.2)	7.1 (9.6)	2.1 (3.1)	9.2 (12.4)
5.0		1.1 (2.2)	7.5 (10.1)	1.6 (2.6)	8.7 (12.4)
5.5		0.8 (2.0)	7.6 (10.3)	1.3 (2.6)	8.4 (12.5)
6.0		0.7 (1.2)	7.8 (10.1)	0.9 (2.9)	7.8 (12.9)



Light distribution curve Sirios LED CG-S



Closed position (II)
for Escape Route

Engineering help for Sirios LED CG-S (closed position) for E = 1.0 Lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation. distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.2 (3.0)	6.0 (7.8)	3.2 (4.2)	8.4 (11.0)
3.0	Escape route centre	2.1 (3.2)	6.4 (8.2)	3.1 (4.4)	8.8 (11.6)
3.5		2.0 (3.2)	6.3 (8.5)	2.8 (4.6)	9.1 (11.9)
4.0		1.5 (3.1)	6.2 (8.8)	2.3 (4.6)	9.1 (12.3)
4.5		0.5 (2.9)	5.8 (9.0)	0.4 (4.3)	8.5 (12.6)
5.0		1.5 (3.6)	7.2 (10.5)	1.4 (4.0)	8.0 (12.6)
2.5	Wall mounting	1.7 (2.4)	6.2 (7.7)	2.6 (3.6)	8.1 (10.2)
3.0	Room illumination	1.6 (2.5)	6.6 (8.4)	1.0 (3.8)	8.7 (10.6)
3.5		1.2 (2.0)	6.7 (8.6)	0.6 (3.9)	9.4 (11.6)
4.0		0.7 (2.2)	6.6 (9.2)	0.7 (2.0)	9.9 (12.0)
4.5		0.7 (2.1)	6.5 (9.5)	0.7 (0.6)	9.9 (12.6)
5.0		0.5 (1.2)	6.1 (9.4)	1.0 (0.8)	9.9 (13.5)
5.5		0.5 (1.0)	5.6 (9.4)	0.5 (0.6)	9.3 (13.9)
6.0		0.5 (0.5)	6.7 (9.3)	0.5 (0.7)	6.7 (14.1)

Application / LED position	Exit Sign	Antipanic	Escape Route
Open (Λ)	Best*	Best**	Good
Closed (II)	Good	Good	Best***

* Better uniformity on exit sign
** Larger illuminated area
*** Longer distance at lower heights, more concentrated illuminance along the escape route





Safety and Exit Sign Luminaires with High Ingress Protection

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Safety and Exit Sign Luminaires with High Ingress Protection

Overview

5

		Performance	Aesthetic	Low consumption / Eco-friendly	Protection Degree	Viewing distance	Luminous flux	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
			Global Features					Voltage					Technology	
5.1	Atlantic LED II 	★★★	●	●	65	24	220/ 225 lm HB: 340 lm				●	●	●	
5.2	Atlantic Outdoor Wall 	★★★	●	●	65		225 lm				●	●	●	
5.3	46011 LED 	★★★		●	65	60					●	●	●	
5.4	i-P65+ 	★★★		●	65		770 lm 590 lm				●	●	●	●
5.5	i-P65 	★★		●	65	18/ 20	225 lm			●	●	●	●	●
5.6	83022.1 / 84022.1 LED 	★★			65	20*	600 620 lm				●	●	●	
5.7	Tufflite LED 	★★			66		2500 lm				●	●		
5.8	SafeLite 	★		●	65	20	200 lm 400 lm	●	●	●	●	●	●	●

*only optional for 83022

Safety and Exit Sign Luminaires with High Ingress Protection

Special Features				Installation				Applications							
Outdoor	Low Temperature	High Bay	HACCP	Wall	Ceiling	Recessed	Suspended	Healthcare	Hotels	Cinemas /Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
●	●	●	●	●	●							●		●	●
●			●	●				●	●	●	●	●	●	●	●
●	●		●	●								●		●	●
		●	●		●									●	●
				●	●							●		●	●
●				●				●	●	●	●	●	●	●	●
					●							●		●	●
				●	●	●			●		●			●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.



Eaton's Low Temperature-Series is specialized for low temperature environments down to -40 °C



When working in an environment with extremely low temperatures, a rapid, uninhibited evacuation when faced with an emergency situation is vital. At this moment, the emergency lighting system is needed to kick into action. Centrally powered safety luminaires illuminate the escape route out of the building through the exits clearly marked by bright escape signs. Regardless of the application, workplaces in low temperature environments have the same safety requirements as workplaces with normal temperature.

Cold store facilities are constructed with heavy insulating doors and without windows in order to ensure effective cooling. This constitutes a particularly challenging environment for emergency scenarios. Without direct sunlight, the cold storage facility is cast into complete darkness in the event of a power cut. Therefore, the importance of the provision of light for all those inside the cold store cannot be understated, ensuring all personnel are able to exit the building to safety.

Eaton's LT-Series of central battery-supplied luminaires, specialized for environments down to -40 °C, alleviates difficulty in the planning of escape routes for low temperature facilities. Distribution networks and supply chains of foodstuffs can be streamlined for cost-effectiveness by installing specialized LT-Series emergency luminaires that will keep performing where other luminaires fail or reduce in output.

Escape routes are required to continue even outside of the building to lead people to a point of safety. This makes emergency luminaires necessary on external areas at the exits of buildings. In locations with vast seasonal differences in temperature, a tough challenge is posed for external escape route illumination. Eaton's LT-Series combines both certified IP65 enclosures and specialized electronics that will not fail during the freezing winter temperatures.

Low Temperature Concept

To cater for vastly varying choices of tastes from all corners of the world and in all seasons, there is a growing number of foodstuffs available that are transported to supermarkets from large and small distribution centres. This requires continuously cooling or freezing without interruption.

High temperatures are well-known to cause functional problems for the electronics in luminaires. However sub-zero temperatures adversely put luminaire electronics under strain and can lead to malfunction if the components are not suitable for such a harsh environment. The LT-Series is built on specialized electronics with specific components capable of functioning in extremely cold environments.

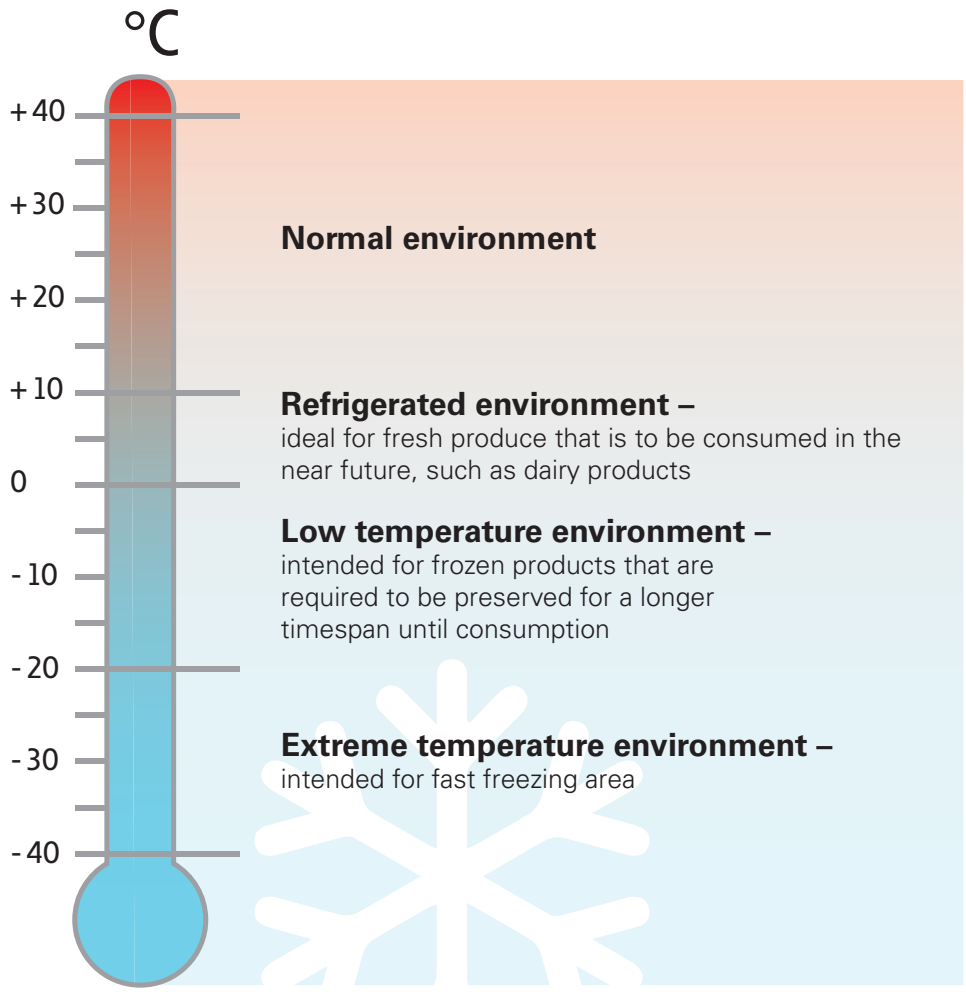
Additionally low temperatures also pose a challenge for conventional lamps. For this reason, the LT-Series utilizes LED technology, allowing a life expectancy of 50,000 hours that reduces maintenance costs and minimizes running costs through lower power input.



The Series contains the ideal mix of escape signs for large zones and smaller, more contained areas, as well as safety luminaires for both high and low mounting heights. The LT-Series is therefore optimal for all applications with low temperatures, regardless of the size of the installation.

Facilities in the supply chain of both refrigerated and frozen products can achieve norm-conformity, enhanced safety and become more cost-effective with Eaton's LT-Series of emergency luminaires.

Eaton's LT-Series guarantees reliable performance across a wide temperature range.





Eaton's LT-Series: Performing where others freeze

Robust housings – Enclosures with IP65 and IK08 to IK10 ratings are required to protect the LEDs and electronics inside, enabling the luminaires to be operated under challenging cold environmental conditions.

Sophisticated illumination – High quality LEDs in combination with specialized optics technology ensure a consistent, uniform illumination of the escape sign pictograms. With 500 cd/m² light density in the white area, the escape sign remains clearly visible, despite poor conditions or bright ambient lighting. Likewise for safety luminaires, superior illumination of escape routes and wide areas is guaranteed by high power LEDs and associated specialized optics, allowing for larger spacings between luminaires as well as high mounting heights. Cold temperature not only increases the life of consumable foodstuffs, it also increases the service life of the LEDs, therefore a service life much longer than normal can be expected from the LT-Series, making certain that escape routes and emergency exits are illuminated when you need them most.

Electronics with high performance – For applications down to -40 °C, the specialized electronic module in the LT-Series has carefully selected components to guarantee function without disruption or malfunction in harsh conditions. Integrated in every LT-Module is Eaton's proven STAR-Technology, that enables the free programmability of the switching modes (non-maintained, maintained or switch maintained) of every luminaire in a circuit without an additional dataline, and CG-Technology for automatic monitoring of every luminaire. Furthermore a disruption to a single LED can be detected with Eaton's integrated SLI-Technology (**S**ingle **L**ED monitoring **I**ntelligence).

Flexible applications – Cold stores are often parts of large facilities with complex layouts, therefore a wide variety of emergency lighting solutions are required. Eaton's LT-Series of emergency luminaires contains a complete set of escape signs for small and large viewing distances and safety luminaires for both low and high mounting heights, flexible to your facility's requirements. This includes large open facilities with high ceilings, as well as smaller areas with lower ceilings.

Regulation for Foodstuffs – Being fully HACCP certified, the LT-Series is suitable for use in areas of food storage and preparation. This ensures that hygiene levels are maintained.



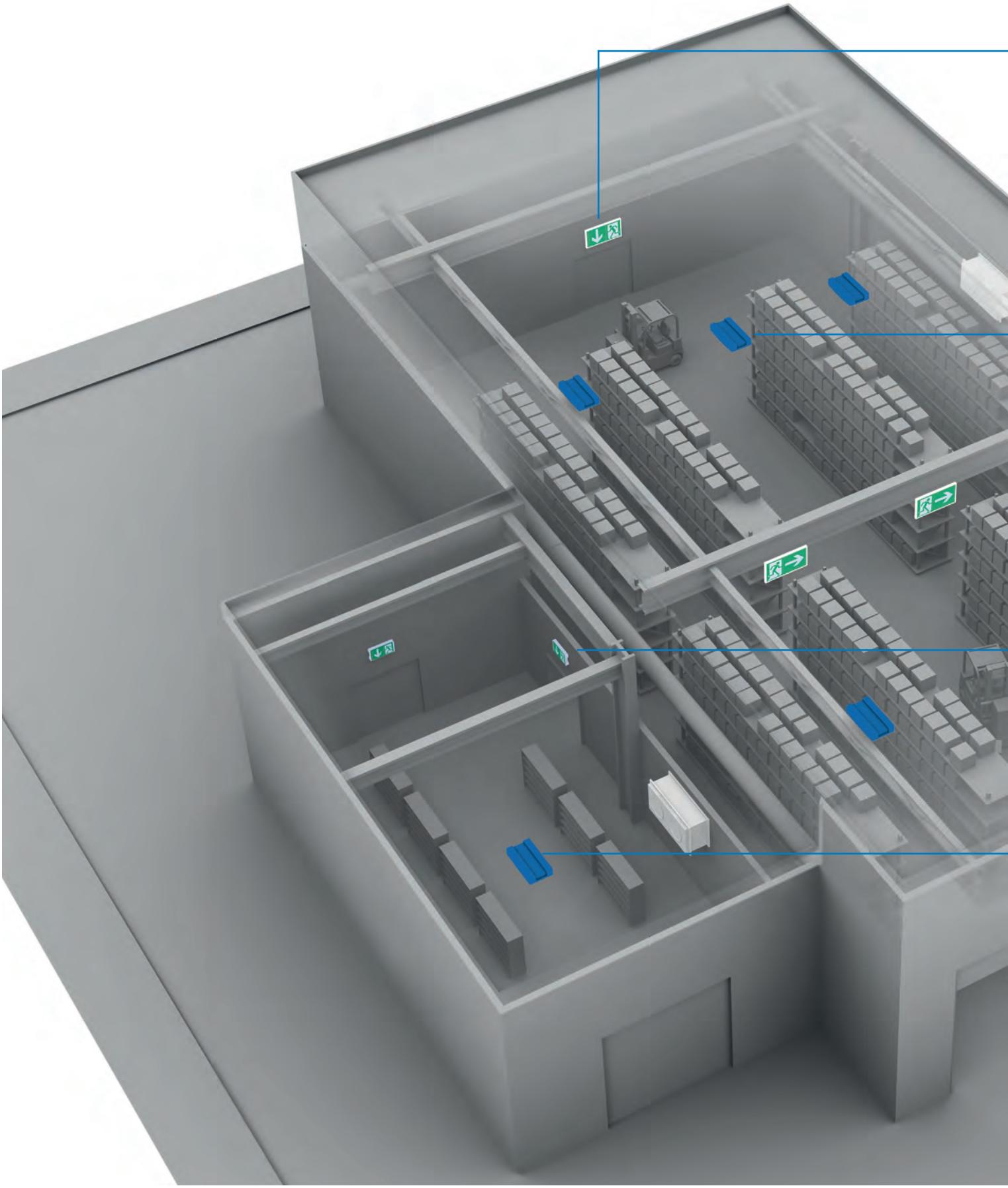
HACCP certifies that the luminaires of the LT-Series comply with the requirements of food-law, namely EC No 852/2004 (HACCP annex II chapter I paragraph 2a, b chapter II paragraph 1c in the field of ceiling lights).*

	Viewing Distance of Escape Signs luminaires		Mounting height of Escape Route luminaires	
Large warehouses:	Up to 60m	46011 LED LT CG-S	~ 10m	Atlantic LED II O HB LT CG-S: Symmetrical Atlantic LED II R HB LT CG-S: Asymmetrical
Smaller warehouses:	~ 24m	Atlantic LED S LT CG-S: Single sided Atlantic LED D LT CG-S: Double sided	~ 4m	Atlantic LED II O LT CG-S: Symmetrical Atlantic LED II R LT CG-S: Asymmetrical

*Please note: The luminaire range 'Atlantic LED II LT CG-S' is certified for all three hygienic areas below. The luminaire '46011 LED LT CG-S' is only certified for the hygienic area 'dry, non-humid and without dust'.
There are principally three hygienic applications to differentiate:
1. Dry, non-humid and without dust (for example, cold storage facility)
2. Dry and potentially dusty (for example, bakery)
3. Humid hygienic areas (for example, fish or meat processing)

Low temperature luminaires – Overview of Cold storage facility

Safety and Exit Sign Luminaires with High Ingress Protection





46011 LED LT CG-S

IP65 Escape Sign luminaire with 60 m viewing distance



Atlantic LED II HB LT CG-S

IP65 safety luminaires for high mounting heights of up to 30 m

Atlantic LED II LT CG-S

IP65 Escape Sign luminaires with 24 m viewing distance



Atlantic LED II LT CG-S

IP65 safety luminaires for mounting heights of up to 8 m



Atlantic LED II LT CG-S

- LED exit sign luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity Lmin/Lmax > 0.8
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours @ 40°C, lower temperature will increase the service time)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

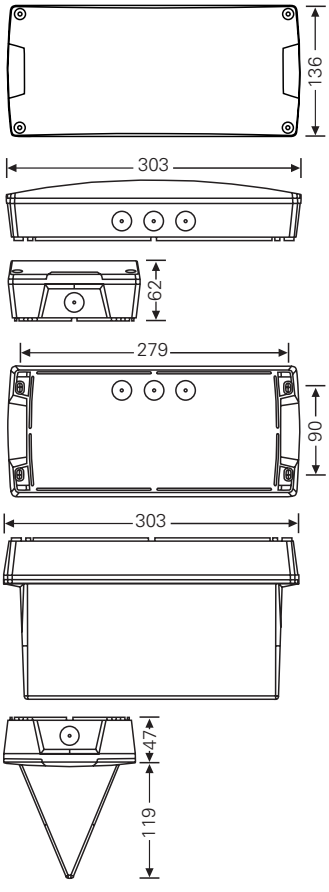
Atlantic LED II LT S CG-S



Atlantic LED II LT D CG-S



Dimensions in mm



Viewing distance	24 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 7001
Weight	Atlantic LED II LT S 1.4 kg Atlantic LED II LT D 1.8 kg
Type of mounting	Wall- and ceiling mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz; 176 – 275 V DC
Current consumption - battery operation (220 V)	21 mA
Power consumption mains operation (apparent power / effective power)	5.6 VA / 4.0 W
Power Factor	0.71
Inrush current	3 A
Permissible ambient temperature	-40 °C to +40 °C
Light source	1 x 2.2 W High Power LED

Ordering details

Type	Scope of supply	Order No.
Atlantic LED II LT S CG-S	Exit sign luminaire, single sided, IP66 / IK09 for low temperatures (to-40°C), single sided, without pictogram, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355609
Atlantic LED II LT D CG-S	Exit sign luminaire, double sided, IP66 / IK09 for low temperatures (to-40°C), double sided, without pictograms (2 required), incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355610

Accessories

Type	Scope of supply		Atlantic LED II S Order No.	Atlantic LED II D Order No.
				2 x required
Arrow right acc. ISO 7010	pictogram		155-000-011	155-000-211
Arrow left acc. ISO 7010	pictogram		155-000-012	155-000-212
Arrow down acc. ISO 7010	pictogram		155-000-013	155-000-213
Arrow up acc. ISO 7010	pictogram		40071355423	40071355453
Blind	Blind (white foil)			155-000-209

Atlantic LED II HB LT CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

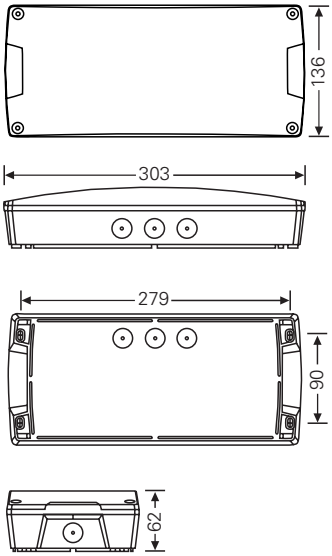
Atlantic LED II LT R HB CG-S



Atlantic LED II LT O HB CG-S



Dimensions in mm



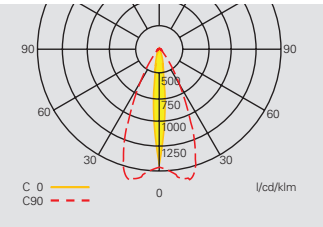
Atlantic LED II LT HB CG-S

- LED safety luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries
- Suitable for mounting heights up to 32 m by narrow beam optics and exceptionally efficient High Power LEDs
- Spacing up to 28 m from luminaire to luminaire with optics for escape route illumination
- Up to 15 m from luminaire to luminaire with optics for open area illumination.
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours @ 40°C, lower temperature will increase the service time)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

Luminous flux	380 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 7001
Weight	1.4 kg
Type of mounting	Ceiling mounting
Connection terminals	3 x 2 x 2.5 mm^2
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	26 mA
Power consumption mains operation (apparent power / effective power)	6.4 VA / 4.7 W
Power Factor	0.73
Inrush current	3 A
Permissible ambient temperature	-40 °C to +40 °C
Light source	2 x 1.6 W High Power LED (6000 K / CRI >= 70)

Ordering details

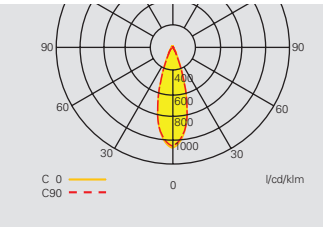
Type	Scope of supply	Order No.
Atlantic LED II LT R HB CG-S	Safety luminaire, IP66 / IK09 for low temperatures (to-40°C), with asymmetric narrow beam optics, for escape route illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355613
Atlantic LED II LT O HB CG-S	Safety luminaire, IP66 / IK09 for low temperatures (to-40°C), with symmetric narrow beam optics, for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355614



Light distribution curve
Atlantic LED II LT R HB CG-S
with asymmetric optics

Planning data for Atlantic LED II LT R HB – Asymmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
8.0	Ceiling mounting	16.4	6.1 (6.8)	13.6 (15.5)	2.8 (3.5)	6.9 (8.4)
10.0	Escape route	10.5	6.9 (8.0)	15.9 (17.9)	2.9 (3.8)	7.7 (9.1)
12.0	centre	7.3	7.7 (8.9)	17.8 (20.0)	2.9 (4.1)	8.1 (10.1)
14.0		5.4	8.3 (9.7)	19.4 (22.3)	2.6 (4.2)	8.3 (10.8)
16.0		4.1	8.9 (10.6)	21.1 (24.4)	2.6 (4.1)	8.2 (11.3)
18.0		3.2	9.3 (11.3)	22.5 (26.1)	2.7 (4.0)	7.9 (11.7)
20.0		2.6	9.7 (11.8)	23.6 (27.7)	2.6 (3.6)	7.3 (11.8)
22.0		2.2	9.9 (12.4)	24.7 (29.4)	2.4 (3.7)	7.4 (11.6)
24.0		1.8	10.1 (12.9)	25.8 (30.9)	2.1 (3.7)	7.5 (11.5)
26.0		1.6	10.1 (13.3)	26.6 (32.2)	1.8 (3.8)	7.5 (11.1)
28.0		1.3	10.0 (13.6)	27.2 (33.2)	1.4 (3.7)	7.4 (10.4)
30.0		1.2	9.5 (13.9)	27.7 (34.3)	0.9 (3.5)	7.1 (10.3)
32.0		1.0	8.8 (14.1)	28.2 (35.5)	0.2 (3.3)	6.7 (10.5)



Light distribution curve
Atlantic LED II LT O HB CG-S
with symmetric optics

Planning data for Atlantic LED II LT O HB – Symmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
8.0	Ceiling mounting	13,2	4.1 (4.9)	9.7 (11.8)	4.0 (4.7)	9.3 (11.1)
10.0	Escape route	8,5	4.5 (5.5)	10.9 (13.0)	4.5 (5.4)	10.7 (12.6)
12.0	centre	5,9	5.0 (6.0)	11.9 (14.0)	5.0 (5.9)	11.7 (13.7)
14.0		4,3	5.2 (6.4)	12.8 (15.3)	5.3 (6.3)	12.7 (15.0)
16.0		3,3	5.5 (6.9)	13.7 (16.4)	5.5 (6.8)	13.7 (16.1)
18.0		2,6	5.6 (7.2)	14.4 (17.2)	5.6 (7.2)	14.4 (16.9)
20.0		2,1	5.5 (7.4)	14.8 (18.2)	5.6 (7.5)	14.9 (18.0)
22.0		1,8	5.2 (7.6)	15.3 (19.1)	5.4 (7.7)	15.4 (19.1)
24.0		1,5	4.8 (7.8)	15.6 (19.9)	4.9 (7.9)	15.8 (19.9)
26.0		1,3	3.9 (7.9)	15.7 (20.5)	4.1 (8.0)	15.9 (20.6)
28.0		1,1	2.4 (7.8)	15.6 (20.9)	2.4 (7.9)	15.9 (21.0)
8.0	Ceiling mounting		2.9 (3.2)	7.9 (9.9)	3.2 (3.6)	7.8 (9.8)
10.0	Room illumination		3.3 (3.7)	8.8 (10.7)	3.6 (4.1)	8.7 (10.7)
12.0	Array of		3.4 (4.0)	9.5 (11.5)	3.9 (4.3)	9.5 (11.5)
14.0	2x2 luminaires		3.8 (4.5)	10.3 (12.4)	4.1 (4.8)	10.3 (12.3)
16.0			4.1 (4.7)	10.9 (13.0)	4.5 (5.2)	10.9 (13.0)
18.0			4.2 (4.8)	11.6 (14.0)	4.7 (5.3)	11.5 (13.9)
20.0			4.1 (5.3)	12.3 (14.7)	4.6 (5.7)	12.3 (14.6)
22.0			4.2 (5.6)	12.9 (15.4)	4.7 (6.0)	12.9 (15.2)
24.0			4.2 (5.9)	13.4 (15.8)	4.7 (6.3)	13.4 (15.7)
26.0			4.1 (5.6)	13.8 (16.6)	4.6 (6.4)	13.8 (16.6)
28.0			3.9 (5.5)	14.2 (17.4)	4.3 (6.3)	14.1 (17.3)

Atlantic LED II LT CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

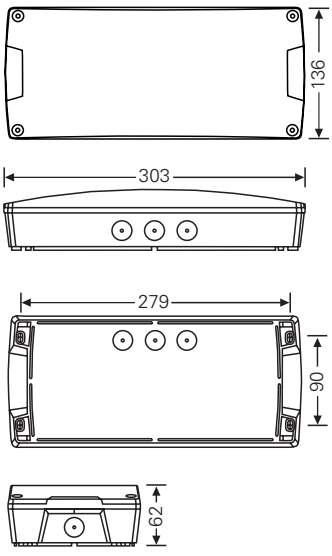
Atlantic LED II LT R CG-S



Atlantic LED II LT O CG-S



Dimensions in mm



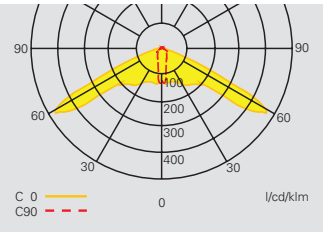
Atlantic LED II LT CG-S

- LED safety luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries
- High spacing by double optics technology and highly efficient HighPower LEDs
- Up to 28 m from luminaire to luminaire with optics for escape route illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours @ 40°C, lower temperature will increase the service time)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

Luminous flux	Atlantic LED R: 250 lm Atlantic LED O: 260 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 7001
Weight	1.4 kg
Type of mounting	Ceiling mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	21 mA
Power consumption mains operation (apparent power / effective power)	5.6 VA / 4.0 W
Power Factor	0.71
Inrush current	3.0 A
Permissible ambient temperature	-40 °C to +40 °C
Light source	1 x 2.2 W High Power LED (6000 K / CRI >= 70)

Ordering details

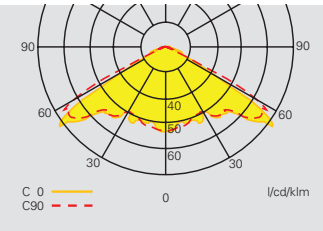
Type	Scope of supply	Order No.
Atlantic LED II LT R CG-S	Safety luminaire, IP66 / IK09 for low temperatures (to-40°C), with asymmetric optics, for escape route illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355611
Atlantic LED II LT O CG-S	Safety luminaire, IP66 / IK09 for low temperatures (to-40°C), with symmetric optics, for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355612



Light distribution curve
Atlantic LED II LT R CG-S
with asymmetric optics

Planning data for Atlantic LED II LT R CG-S – Asymmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
2.5	Ceiling mounting	15.3	6.0 (6.6)	13.1 (14.4)	2.5 (3.6)	7.1 (8.0)
3.0	Escape route	10.6	6.9 (7.6)	15.1 (16.3)	2.5 (3.8)	7.4 (9.1)
3.5	centre	7.8	7.6 (8.5)	17.0 (18.5)	2.5 (3.6)	7.2 (10.0)
4.0		6.0	8.3 (9.3)	18.7 (20.5)	2.5 (3.6)	7.2 (10.3)
4.5		4.7	9.1 (10.1)	20.2 (22.4)	2.4 (3.6)	7.2 (10.6)
5.0		3.8	9.7 (10.9)	21.7 (24.2)	2.3 (3.6)	7.1 (10.0)
5.5		3.2	10.3 (11.6)	23.2 (25.9)	2.0 (3.5)	7.0 (10.1)
6.0		2.7	10.9 (12.3)	24.6 (27.5)	1.9 (3.4)	6.8 (10.1)
6.5		2.3	11.4 (13.0)	26.0 (29.0)	1.8 (3.3)	6.7 (10.2)
7.0		2.0	8.3 (13.6)	27.3 (30.5)	1.7 (3.2)	6.4 (10.1)
7.5		1.7	7.5 (14.3)	28.0 (31.9)	1.5 (3.0)	6.0 (10.0)
8.0		1.5	7.0 (14.8)	27.7 (33.4)	1.4 (2.8)	5.6 (9.8)
8.5		1.3	6.5 (15.4)	27.8 (34.8)	1.3 (2.7)	5.4 (9.6)
9.0		1.2	5.7 (16.0)	28.0 (36.2)	1.2 (2.5)	5.1 (9.5)
9.5		1.1	3.9 (16.5)	28.4 (37.6)	1.1 (2.4)	4.9 (9.3)



Light distribution curve
Atlantic LED II LT O CG-S
with symmetric optics

Planning data for Atlantic LED II LT O CG-S – Symmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
2.5	Ceiling mounting	6.7	4.0 (4.3)	8.6 (9.6)	4.3 (4.7)	9.5 (10.1)
3.0	Escape route	4.7	4.5 (5.0)	9.9 (10.9)	4.6 (5.5)	10.9 (11.8)
3.5	centre	3.4	4.9 (5.6)	11.1 (12.1)	4.7 (6.1)	12.0 (13.3)
4.0		2.6	4.5 (6.1)	12.2 (13.5)	4.0 (6.4)	12.8 (14.8)
4.5		2.1	3.7 (6.6)	12.5 (14.7)	3.7 (6.6)	12.7 (16.1)
5.0		1.7	2.8 (6.9)	12.8 (15.9)	2.8 (6.6)	12.6 (17.1)
5.5		1.4	2.6 (6.7)	12.6 (17.0)	2.2 (6.3)	12.1 (17.9)
6.0		1.2	1.5 (5.5)	11.1 (18.0)	1.6 (5.4)	10.9 (17.8)
2.5	Ceiling mounting		4.4 (4.8)	8.6 (9.2)	4.5 (3.0)	8.9 (9.5)
3.0	Room illumination		4.8 (5.3)	9.9 (10.8)	5.0 (3.5)	10.3 (11.2)
3.5	Array of		5.1 (6.0)	11.1 (12.1)	5.2 (6.1)	11.5 (12.5)
4.0	2x2 luminaires		4.5 (6.4)	12.2 (13.4)	4.6 (6.6)	12.6 (13.9)
4.5			3.9 (6.9)	12.1 (14.7)	3.5 (7.0)	12.5 (15.2)
5.0			2.6 (7.2)	12.4 (15.8)	2.2 (7.1)	12.8 (16.3)
5.5			2.6 (7.0)	12.1 (16.9)	1.2 (6.6)	12.2 (17.5)
6.0			2.1 (5.4)	11.4 (17.7)	2.5 (3.7)	11.4 (18.0)

Atlantic LED II CG-S

- LED exit sign luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

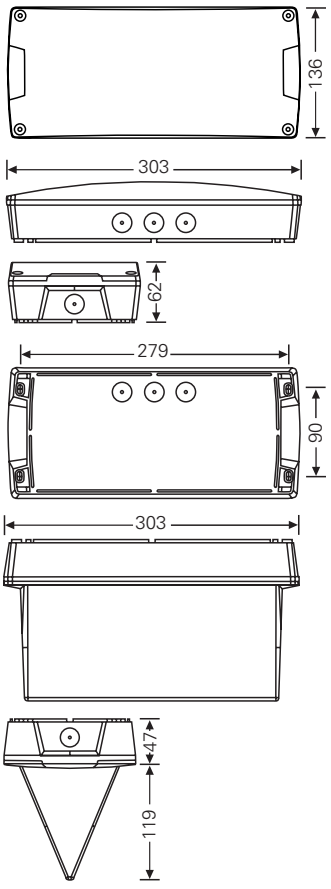
Atlantic LED II S CG-S



Atlantic LED II D CG-S



Dimensions in mm



Viewing distance	24 m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 7001
Weight	Atlantic LED II S CG-S: 1.4 kg Atlantic LED II D CG-S: 1.8 kg
Type of mounting	Wall- and ceiling mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	20.0 mA
Power consumption mains operation (apparent power / effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	1 x 2.2 W High Power LED

Ordering details

Type	Scope of supply	Order No.
Atlantic LED II S CG-S	Exit sign luminaire, single sided, IP66 / IK09, without pictogram, CG-S technology (20 addresses) incl. M20 cable gland	40071355601
Atlantic LED II D CG-S	Exit sign luminaire, double sided, IP66 / IK09, without pictograms (2 required), CG-S technology (20 addresses), incl. M20 cable gland	40071355602

Accessories

Type	Scope of supply		Atlantic LED II S Order No.	Atlantic LED II D Order No.
				2 x required
Arrow right acc. ISO 7010	pictogram		155-000-011	155-000-211
Arrow left acc. ISO 7010	pictogram		155-000-012	155-000-212
Arrow down acc. ISO 7010	pictogram		155-000-013	155-000-213
Arrow up acc. ISO 7010	pictogram		40071355423	40071355453
Blind	Blind (white foil)			155-000-209

Atlantic LED II HB CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

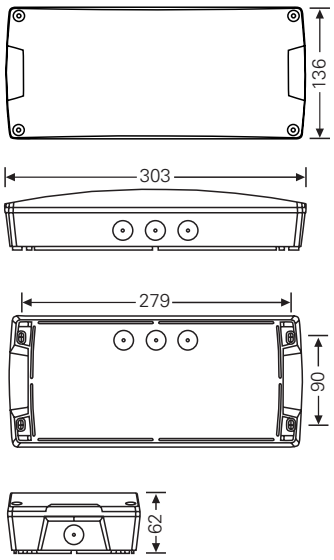
Atlantic LED II R HB CG-S



Atlantic LED II O HB CG-S



Dimensions in mm



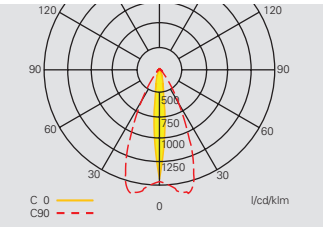
Atlantic LED II HB CG-S

- LED safety luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Suitable for mounting heights up to 32 m by narrow beam optics and exceptionally efficient High Power LEDs
- Spacing up to 28 m from luminaire to luminaire with optics for exit route illumination
- Up to 15 m from luminaire to luminaire with optics for open area illumination.
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Luminous flux	380 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 7001
Weight	1.4 kg
Type of mounting	Ceiling mounting
Connection terminals	3 x 2 x 2.5 mm^2
Connection voltage	220 – 240 V, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	27 mA
Power consumption mains operation (apparent power / effective power)	8.5 VA / 5.0 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 2 x 1.6 W (6000 K / CRI >= 70)

Ordering details

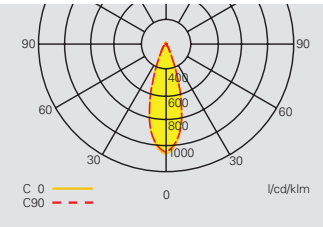
Type	Scope of supply	Order No.
Atlantic LED II R HB CG-S	Safety luminaire, IP66 / IK09, with asymmetric narrow beam optics for exit route illumination. incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355608
Atlantic LED II O HB CG-S	Safety luminaire, IP66 / IK09, with symmetric narrow beam optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355607



Light distribution curve
Atlantic LED II R HB CG-S
with asymmetric optics

Planning data for Atlantic LED II R HB – Asymmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
8.0	Ceiling mounting	16.4	6.1 (6.8)	13.6 (15.5)	2.8 (3.5)	6.9 (8.4)
10.0	Escape route	10.5	6.9 (8.0)	15.9 (17.9)	2.9 (3.8)	7.7 (9.1)
12.0	centre	7.3	7.7 (8.9)	17.8 (20.0)	2.9 (4.1)	8.1 (10.1)
14.0		5.4	8.3 (9.7)	19.4 (22.3)	2.6 (4.2)	8.3 (10.8)
16.0		4.1	8.9 (10.6)	21.1 (24.4)	2.6 (4.1)	8.2 (11.3)
18.0		3.2	9.3 (11.3)	22.5 (26.1)	2.7 (4.0)	7.9 (11.7)
20.0		2.6	9.7 (11.8)	23.6 (27.7)	2.6 (3.6)	7.3 (11.8)
22.0		2.2	9.9 (12.4)	24.7 (29.4)	2.4 (3.7)	7.4 (11.6)
24.0		1.8	10.1 (12.9)	25.8 (30.9)	2.1 (3.7)	7.5 (11.5)
26.0		1.6	10.1 (13.3)	26.6 (32.2)	1.8 (3.8)	7.5 (11.1)
28.0		1.3	10.0 (13.6)	27.2 (33.2)	1.4 (3.7)	7.4 (10.4)
30.0		1.2	9.5 (13.9)	27.7 (34.3)	0.9 (3.5)	7.1 (10.3)
32.0		1.0	8.8 (14.1)	28.2 (35.5)	0.2 (3.3)	6.7 (10.5)



Light distribution curve
Atlantic LED II O HB CG-S
with symmetric optics

Planning data for Atlantic LED II O HB – Symmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
8.0	Ceiling mounting	13,2	4.1 (4.9)	9.7 (11.8)	4.0 (4.7)	9.3 (11.1)
10.0	Escape route	8,5	4.5 (5.5)	10.9 (13.0)	4.5 (5.4)	10.7 (12.6)
12.0	centre	5,9	5.0 (6.0)	11.9 (14.0)	5.0 (5.9)	11.7 (13.7)
14.0		4,3	5.2 (6.4)	12.8 (15.3)	5.3 (6.3)	12.7 (15.0)
16.0		3,3	5.5 (6.9)	13.7 (16.4)	5.5 (6.8)	13.7 (16.1)
18.0		2,6	5.6 (7.2)	14.4 (17.2)	5.6 (7.2)	14.4 (16.9)
20.0		2,1	5.5 (7.4)	14.8 (18.2)	5.6 (7.5)	14.9 (18.0)
22.0		1,8	5.2 (7.6)	15.3 (19.1)	5.4 (7.7)	15.4 (19.1)
24.0		1,5	4.8 (7.8)	15.6 (19.9)	4.9 (7.9)	15.8 (19.9)
26.0		1,3	3.9 (7.9)	15.7 (20.5)	4.1 (8.0)	15.9 (20.6)
28.0		1,1	2.4 (7.8)	15.6 (20.9)	2.4 (7.9)	15.9 (21.0)
8.0	Ceiling mounting		2.9 (3.2)	7.9 (9.9)	3.2 (3.6)	7.8 (9.8)
10.0	Room illumination		3.3 (3.7)	8.8 (10.7)	3.6 (4.1)	8.7 (10.7)
12.0	Arry of		3.4 (4.0)	9.5 (11.5)	3.9 (4.3)	9.5 (11.5)
14.0	2x2 luminaires		3.8 (4.5)	10.3 (12.4)	4.1 (4.8)	10.3 (12.3)
16.0			4.1 (4.7)	10.9 (13.0)	4.5 (5.2)	10.9 (13.0)
18.0			4.2 (4.8)	11.6 (14.0)	4.7 (5.3)	11.5 (13.9)
20.0			4.1 (5.3)	12.3 (14.7)	4.6 (5.7)	12.3 (14.6)
22.0			4.2 (5.6)	12.9 (15.4)	4.7 (6.0)	12.9 (15.2)
24.0			4.2 (5.9)	13.4 (15.8)	4.7 (6.3)	13.4 (15.7)
26.0			4.1 (5.6)	13.8 (16.6)	4.6 (6.4)	13.8 (16.6)
28.0			3.9 (5.5)	14.2 (17.4)	4.3 (6.3)	14.1 (17.3)

Atlantic LED II, Outdoor Wall II CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

Atlantic LED II R CG-S



Atlantic LED II O CG-S



Outdoor Wall II CG-S



Atlantic LED II, Outdoor Wall II CG-S

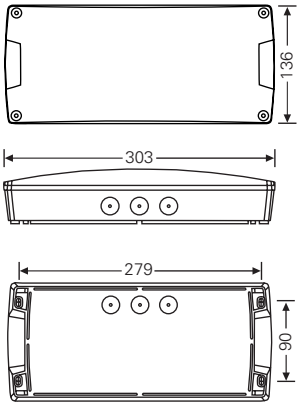
- LED safety luminaire with high protection class (IP66) for indoor and outdoor use
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry (not Outdoor Wall)
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring (Outdoor Wall only one cable entry)
- High spacing by double optics technology and highly efficient HighPower LEDs
- Up to 28 m from luminaire to luminaire with optics for exit route illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

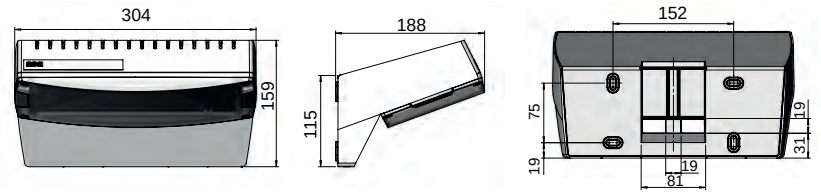
Luminous flux	Atlantic LED / Outdoor Wall R 250 lm Atlantic LED / Outdoor Wall O 260 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant))
Housing colour	RAL 7001
Weight	Atlantic LED II CG-S: 1.4 kg Outdoor Wall II CG-S: 2.7 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V, 50/60 Hz; 176 – 275 V DC
Current consumption - battery operation (220 V)	20 mA
Power consumption mains operation (apparent power / effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	1 x 2.2 W HighPower LED (6000 K / CRI >= 70)

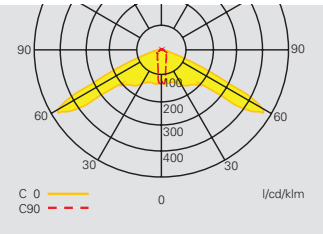
Ordering details

Type	Scope of supply	Order No.
Atlantic LED II R CG-S	Safety luminaire, IP66 / IK09, with asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355603
Atlantic LED II O CG-S	Safety luminaire, IP66 / IK09, with symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland	40071355604
Outdoor Wall II R CG-S	Safety luminaire, IP66 / IK09, with asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses)	40071355605
Outdoor Wall II O CG-S	Safety luminaire, IP66 / IK09, with symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses)	40071355606

Dimensions in mm



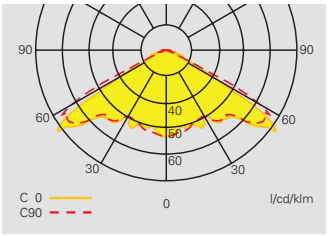




Light distribution curve
Atlantic LED II R CG-S
with asymmetric optics

Planning data for Atlantic LED II R CG-S – Asymmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

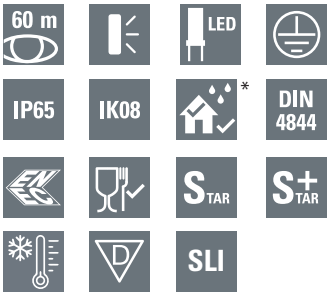
Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
2.5	Ceiling mounting	15.3	6.0 (6.6)	13.1 (14.4)	2.5 (3.6)	7.1 (8.0)
3.0	Escape route	10.6	6.9 (7.6)	15.1 (16.3)	2.5 (3.8)	7.4 (9.1)
3.5	centre	7.8	7.6 (8.5)	17.0 (18.5)	2.5 (3.6)	7.2 (10.0)
4.0		6.0	8.3 (9.3)	18.7 (20.5)	2.5 (3.6)	7.2 (10.3)
4.5		4.7	9.1 (10.1)	20.2 (22.4)	2.4 (3.6)	7.2 (10.6)
5.0		3.8	9.7 (10.9)	21.7 (24.2)	2.3 (3.6)	7.1 (10.0)
5.5		3.2	10.3 (11.6)	23.2 (25.9)	2.0 (3.5)	7.0 (10.1)
6.0		2.7	10.9 (12.3)	24.6 (27.5)	1.9 (3.4)	6.8 (10.1)
6.5		2.3	11.4 (13.0)	26.0 (29.0)	1.8 (3.3)	6.7 (10.2)
7.0		2.0	8.3 (13.6)	27.3 (30.5)	1.7 (3.2)	6.4 (10.1)
7.5		1.7	7.5 (14.3)	28.0 (31.9)	1.5 (3.0)	6.0 (10.0)
8.0		1.5	7.0 (14.8)	27.7 (33.4)	1.4 (2.8)	5.6 (9.8)
8.5		1.3	6.5 (15.4)	27.8 (34.8)	1.3 (2.7)	5.4 (9.6)
9.0		1.2	5.7 (16.0)	28.0 (36.2)	1.2 (2.5)	5.1 (9.5)
9.5		1.1	3.9 (16.5)	28.4 (37.6)	1.1 (2.4)	4.9 (9.3)



Light distribution curve
Atlantic LED II O CG-S
with symmetric optics

Planning data for Atlantic LED II O CG-S – Symmetric optics, for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

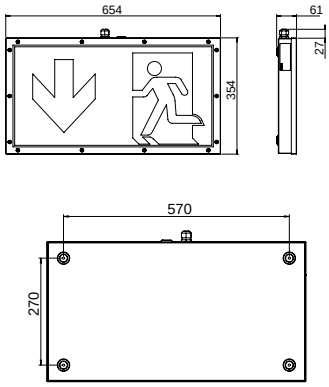
Mounting height [m]	Type of mounting	Lux level directly under	L1	L2	L3	L4
2.5	Ceiling mounting	6.7	4.0 (4.3)	8.6 (9.6)	4.3 (4.7)	9.5 (10.1)
3.0	Escape route	4.7	4.5 (5.0)	9.9 (10.9)	4.6 (5.5)	10.9 (11.8)
3.5	centre	3.4	4.9 (5.6)	11.1 (12.1)	4.7 (6.1)	12.0 (13.3)
4.0		2.6	4.5 (6.1)	12.2 (13.5)	4.0 (6.4)	12.8 (14.8)
4.5		2.1	3.7 (6.6)	12.5 (14.7)	3.7 (6.6)	12.7 (16.1)
5.0		1.7	2.8 (6.9)	12.8 (15.9)	2.8 (6.6)	12.6 (17.1)
5.5		1.4	2.6 (6.7)	12.6 (17.0)	2.2 (6.3)	12.1 (17.9)
6.0		1.2	1.5 (5.5)	11.1 (18.0)	1.6 (5.4)	10.9 (17.8)
2.5	Ceiling mounting		4.4 (4.8)	8.6 (9.2)	4.5 (3.0)	8.9 (9.5)
3.0	Room illumination		4.8 (5.3)	9.9 (10.8)	5.0 (3.5)	10.3 (11.2)
3.5	Array of		5.1 (6.0)	11.1 (12.1)	5.2 (6.1)	11.5 (12.5)
4.0	2x2 luminaires		4.5 (6.4)	12.2 (13.4)	4.6 (6.6)	12.6 (13.9)
4.5			3.9 (6.9)	12.1 (14.7)	3.5 (7.0)	12.5 (15.2)
5.0			2.6 (7.2)	12.4 (15.8)	2.2 (7.1)	12.8 (16.3)
5.5			2.6 (7.0)	12.1 (16.9)	1.2 (6.6)	12.2 (17.5)
6.0			2.1 (5.4)	11.4 (17.7)	2.5 (3.7)	11.4 (18.0)



46011 LED LT CG-S



Dimensions in mm



46011 LED LT CG-S

- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for use outside by using a screw gland with a ventilation membrane (see accessoires)
- Suitable for operation in food preparation facilities (dry, non-humid and without dust – for example a cold store) with requirements acc. HACCP
- Specialized electronics with components for reliable operation down to -40 °C
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity Lmin/Lmax > 0.8
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours) Service life is increased at -20 °C ambient temperature
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety with SLI-technology (**S**ingle **L**ED monitoring **I**ntelligence)

Viewing distance	60m
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Enclosure: Coated sheet metal; Panel: PC
Housing colour	White, similar RAL 9010
Weight	5.5 kg
Type of mounting	Wall mounting
Connection terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	50 mA
Power consumption mains operation (apparent power / effective power)	11.0 VA / 10.5 W
Power Factor	0.9
Inrush current	3 A
Permissible ambient temperature	-40 °C to +40 °C
Light source	8 x 1 W High Power LED

Ordering details

Type	Scope of supply	Order No.
46011 LED LT CG-S	Safety luminaire for low temperature (to-40 °C) applications, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram	40071351579

Accessories

Type	Scope of supply		Order No.
Cover with silkscreened pictogram			
Cover PR acc. ISO 7010	Cover with silkscreened pictogram		40071351588
Cover PL acc. ISO 7010	Cover with silkscreened pictogram		40071351587
Cover PU acc. ISO 7010	Cover with silkscreened pictogram		40071351589
Cover PO acc. ISO 7010	Cover with silkscreened pictogram		40071354210
Cable gland	Cable gland with ventilation membrane for outdoor areas		40071350005

46011 LED HYG CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

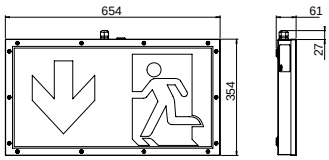
46011 LED HYG CG-S

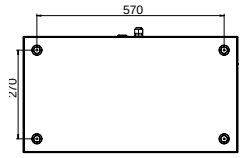
- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for operation in food preparation facilities (for dry areas with the presence of dust) with requirements acc. HACCP and IFS
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity Lmin/Lmax > 0.8
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety with SLI-technology (**S**ingle **L**ED monitoring **I**ntelligence)

46011 LED HYG CG-S



Dimensions in mm





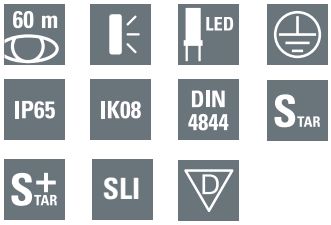
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Coated sheet metal, PC
Housing colour	White, similar RAL 9010
Weight	5.6 kg
Type of mounting	Wall mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	47 mA
Power consumption mains operation (apparent power / effective power)	17.1 VA / 10.3 W
Inrush current	3 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 8 x 1W

Ordering details

Type	Scope of supply	Order No.
46011 LED HYG CG-S	Escape sign luminaire for dusty, dry hygienic applications, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram	40071351578

Accessories

Type	Scope of supply	Order No.
Cover PL gem. ISO 7010	Cover with silkscreened pictogram	40071351587
Cover PR gem. ISO 7010	Cover with silkscreened pictogram	40071351588
Cover PU gem. ISO 7010	Cover with silkscreened pictogram	40071351589
Cover PO acc. ISO 7010	Cover with silkscreened pictogram	40071354210



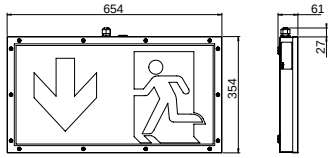
46011 LED CG-S

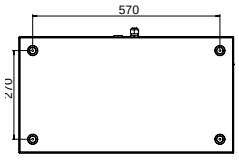
- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for use outside by using a screw gland with a ventilation membrane (see accessories)
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity Lmin/Lmax > 0.8
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety with SLI-technology (**S**ingle **L**ED monitoring **I**ntelligence)

46011 LED CG-S



Dimensions in mm





Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Coated sheet metal, PC
Housing colour	White, similar RAL 9010
Weight	5.5 kg
Type of mounting	Wall mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	47 mA
Power consumption mains operation (apparent power / effective power)	17.1 VA / 10.3 W
Inrush current	3 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 8 x 1W

Ordering details

Type	Scope of supply	Order No.
46011 LED CG-S	Escape sign luminaire, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram	40071351580

Accessories

Type	Scope of supply	Order No.
Cover PL gem. ISO 7010	Cover with silkscreened pictogram	40071351587
Cover PR gem. ISO 7010	Cover with silkscreened pictogram	40071351588
Cover PU gem. ISO 7010	Cover with silkscreened pictogram	40071351589
Cover PO acc. ISO 7010	Cover with silkscreened pictogram	40071354210
Cable gland	Cable gland with ventilation membrane for outdoor areas	40071350005

i-P65+ CG-S Aluminium enclosure

Safety and Exit Sign Luminaires with High Ingress Protection

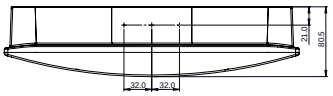
i-P65+ L CG-S

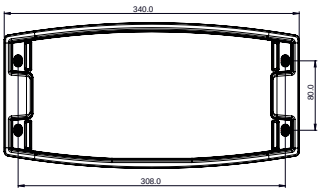


i-P65+ H CG-S



Dimensions in mm





Mounting bracket



i-P65+ CG-S Aluminium enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 18 m
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for exit route lighting with high spacing up to 30 m and mounting heights up to 26 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

Luminous flux Φ_N	i-P65+ L: 770 lm i-P65+ H: 590 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Aluminium, Polycarbonat (cover)
Housing colour	White
Weight	1,85 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation	40 mA
Power consumption mains operation (apparent power / effective power)	15.6 VA / 9.3 W
Inrush current	3 A
Permissible ambient temperature	-20°C to +40°C
Light source	COB LED 6.5 W

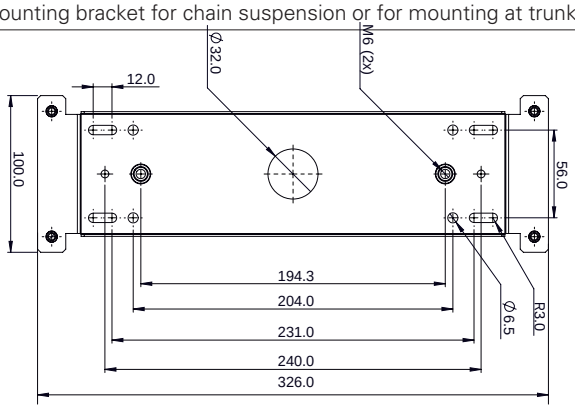
Ordering details

Type	Scope of supply	Order no.
i-P65+ L CG-S, Aluminium enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology (20 addresses)	IP65PLACGS
i-P65+ H CG-S, Aluminium enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology (20 addresses)	IP65PHACGS

1 x M20-cable gland included.

Ordering details - Accessories

Type	Order no.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB



i-P65+ CG-S Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 18 m
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for exit route lighting with high spacing up to 30 m and mounting heights up to 26 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

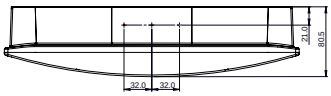
i-P65+ L CG-S

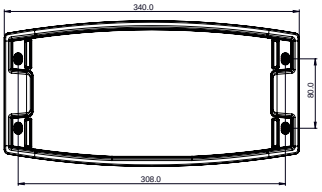


i-P65+ H CG-S



Dimensions in mm





Luminous flux Φ_N	i-P65+ L: 770 lm i-P65+ H: 590 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate
Housing colour	White
Weight	1,75 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation	40 mA
Power consumption mains operation (apparent power / effective power)	15.6 VA / 9.3 W
Inrush current	3 A
Permissible ambient temperature	-20°C to +30°C
Light source	COB LED 6.5 W

Ordering details

Type	Scope of supply	Order no.
i-P65+ L CG-S, Polycarbonate enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology (20 addresses)	IP65PLPCGS
i-P65+ H CG-S, Polycarbonate enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology (20 addresses)	IP65PHPCGS

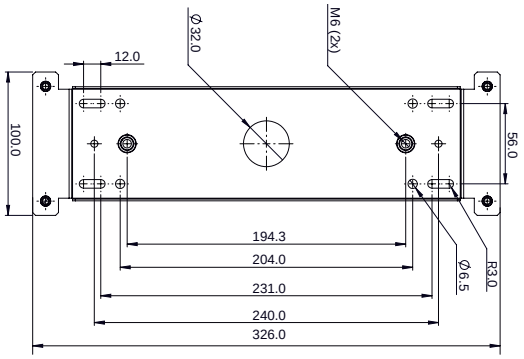
1 x M20-cable gland included.

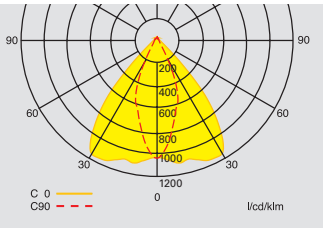
Ordering details - Accessories

Type	Order no.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB

Mounting bracket



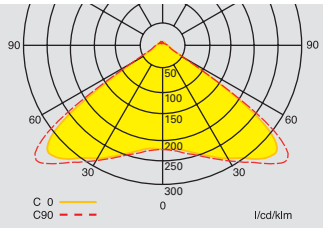




Light distribution curve
i-P65+ H CG-S
with asymmetric optics

Planning assistance for i-P65+ H CG-S - Asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
3	Ceiling mounting	3.2 (3.5)	7.0 (8.1)	2.3 (2.9)	5.8 (7.5)
4	Exit route center	4.2 (4.4)	8.7 (9.6)	2.6 (3.2)	6.5 (8.1)
5		5.1 (5.3)	10.6 (11.2)	3.0 (3.4)	6.9 (8.7)
6		6.0 (6.2)	12.4 (13.0)	3.4 (3.7)	7.5 (9.3)
7		6.8 (7.1)	14.3 (14.9)	3.8 (4.2)	8.4 (9.7)
8		7 .5 (8.0)	16.0 (16.7)	4.2 (4.6)	9.2 (10.3)
9		8.2 (8.9)	17.7 (18.5)	4.5 (5.0)	10.1 (11.1)
10		8.9 (9.7)	19.3 (20.3)	4.8 (5.4)	10.9 (11.9)
11		9.5 (10.4)	20.8 (22.1)	5.0 (5.8)	11.6 (12.8)
12		10.0 (11.1)	22.2 (23.8)	5.2 (6.2)	12.3 (13.7)
13		10.4 (11.8)	23.6 (25.5)	5.3 (6.5)	13.0 (14.5)
14		10.7 (12.5)	24.9 (27.1)	5.3 (6.8)	13.5 (15.3)
15		10.9 (13.1)	26.2 (28.6)	5.2 (7.0)	14.0 (16.1)
16		11.0 (13.6)	27.2 (30.1)	4.7 (7.2)	14.4 (16.8)
17		11.1 (14.1)	28.2 (31.5)	4.2 (7.4)	14.7 (17.5)
18		11.0 (14.5)	29.0 (32.9)	3.8 (7.5)	14.6 (18.1)
19		10.7 (14.9)	29.7 (34.2)	3.2 (7.5)	14.5 (18.7)
20		9.7 (15.1)	30.2 (35.5)	2.7 (7.5)	14.4 (19.3)
21		8.0 (15.3)	30.7 (36.7)	1.9 (7.4)	14.1 (19.7)
22		4.9 (15.5)	29.0 (37.9)	0.7 (7.1)	13.8 (20.2)
3	Ceiling mounting	1.7 (2.2)	5.6 (7.1)	2.5 (2.5)	5.6 (7.0)
4	Room illumination	2.7 (2.1)	7.5 (7.7)	2.9 (3.2)	5.7 (7.8)
5		3.4 (3.1)	9.4 (9.3)	3.1 (3.6)	6.2 (7.9)
6		3.9 (3.9)	11.1 (11.4)	3.4 (3.9)	7.1 (8.1)
7		5.9 (4.6)	12.7 (13.3)	3.7 (4.1)	7.9 (8.7)
8		4.8 (5.1)	14.2 (14.9)	4.0 (4.5)	8.8 (9.6)
9		5.2 (5.6)	15.6 (16.5)	4.2 (4.8)	9.6 (10.5)
10		6.6 (6.1)	17.1 (18.1)	4.3 (5.1)	10.2 (11.3)
11		7.1 (6.4)	18.5 (19.6)	4.4 (5.3)	10.8 (12.2)
12		7.5 (6.9)	19.8 (21.1)	4.5 (5.6)	11.4 (13.0)
13		7.9 (8.4)	21.2 (22.6)	4.4 (5.7)	11.9 (13.7)
14		7.8 (8.8)	22.3 (23.9)	4.4 (5.9)	12.5 (14.4)
15		8.0 (9.8)	23.6 (25.5)	4.2 (5.9)	12.9 (14.9)
16		7.5 (9.9)	24.6 (26.7)	4.1 (6.1)	13.4 (15.6)
17		7.8 (10.2)	25.9 (28.0)	3.6 (6.2)	13.6 (16.2)
18		8.0 (10.7)	27.2 (29.4)	3.1 (6.1)	13.6 (16.7)
19		8.1 (11.0)	28.4 (30.7)	2.5 (6.0)	13.5 (17.2)
20		8.0 (10.8)	29.6 (31.8)	1.8 (6.0)	13.4 (17.8)
21		7.5 (10.6)	30.5 (32.9)	1.4 (6.0)	13.3 (18.3)
22		6.7 (10.1)	31.7 (34.0)	0.5 (5.8)	12.9 (18.8)
23		4.0 (10.4)	29.8 (35.2)	0.5 (5.5)	13.0 (19.1)
24		3.7 (10.7)	30.6 (36.5)	0.5 (5.0)	12.1 (19.3)
25		4.1 (11.1)	31.7 (38.0)	0.5 (4.3)	11.2 (19.2)
26		4.7 (10.8)	33.1 (38.7)	0.5 (4.2)	10.2 (19.4)



Light distribution curve
i-P65+ L CG-S
with symmetric optics

Planning assistance for i-P65+ L CG-S - Symmetric optics for E = 1,0 lx (0,5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
3	Ceiling mounting	4.5 (4.7)	9.4 (10)	4.5 (4.8)	9.6 (10.3)
4	Exit route center	5.8 (6.1)	12.1 (12.6)	5.8 (6.1)	12.2 (12.9)
5		7.0 (7.4)	14.8 (15.4)	6.9 (7.4)	14.8 (15.6)
6		8.0 (8.6)	17.3 (18.1)	7.8 (8.6)	17.2 (18.2)
7		8.7 (9.8)	19.6 (20.7)	8.5 (9.7)	19.4 (20.7)
8		9.1 (10.9)	21.7 (23.3)	8.7 (10.7)	21.3 (23.2)
9		8.8 (11.7)	23.4 (25.7)	8.4 (11.4)	22.8 (25.4)
10		7.6 (12.4)	24.0 (28.0)	7.2 (12.0)	23.4 (27.6)
11		5.7 (12.8)	23.9 (30.1)	5.6 (12.3)	23.3 (29.6)
12		- (12.8)	20.7 (31.9)	- (12.2)	19.5 (31.2)
3	Ceiling mounting	4.2 (4.0)	8.4 (9.4)	4.2 (3.9)	8.4 (9.3)
4	Room illumination	5.3 (5.5)	10.8 (11.4)	5.3 (5.5)	10.8 (11.4)
5		6.3 (6.7)	13.2 (13.7)	6.2 (6.7)	13.1 (13.7)
6		7.1 (7.7)	15.4 (16.1)	7.1 (7.7)	15.4 (16.1)
7		7.6 (8.7)	17.6 (18.5)	7.5 (8.6)	17.6 (18.4)
8		8.1 (9.5)	19.6 (20.8)	8.0 (9.4)	19.6 (20.7)
9		8.3 (10.2)	21.5 (23.0)	8.3 (10.0)	21.5 (22.9)
10		6.0 (10.6)	22.6 (25.1)	6.3 (10.5)	22.5 (25.1)
11		4.3 (10.9)	22.4 (27.1)	4.4 (11.0)	22.4 (27.2)
12		0.8 (11.6)	21.5 (29.1)	0.7 (11.4)	21.5 (29.0)
13		0.5 (11.5)	19.0 (30.9)	0.5 (11.5)	19.0 (30.9)
14		0.5 (8.2)	19.2 (32.1)	0.5 (8.8)	19.2 (31.9)
15		0.5 (6.4)	19.4 (31.8)	0.5 (6.8)	19.4 (31.8)
16		0.5 (6.0)	19.6 (31.5)	0.5 (5.5)	19.6 (31.2)
17		0.5 (0.7)	19.6 (29.8)	0.5 (0.5)	19.6 (29.1)
18		0.5 (0.6)	19.4 (27.1)	0.5 (0.5)	19.3 (27.0)

i-P65+ EC 1.5 with Aluminium enclosure

Safety and Exit Sign Luminaires with High Ingress Protection

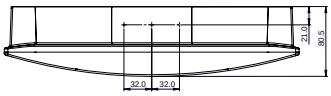
i-P65+ L EC 1.5

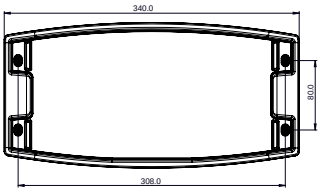


i-P65+ H EC 1.5



Dimensions in mm





Mounting bracket



i-P65+ EC 1.5 with Aluminium enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 30 m and mounting heights up to 12 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- High service life of LEDs (60,000 hours) minimize service requirements
- For EasiCheck 1.5 addressable test system

Luminous flux Φ_N	i-P65+ L: 900 lm i-P65+ H: 690 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Aluminium (cover)
Housing colour	White
Weight	1.75 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	21.7 VA / 10.7 W
Permissible ambient temperature	-20°C to +40°C
Light source	COB LED 6.5 W

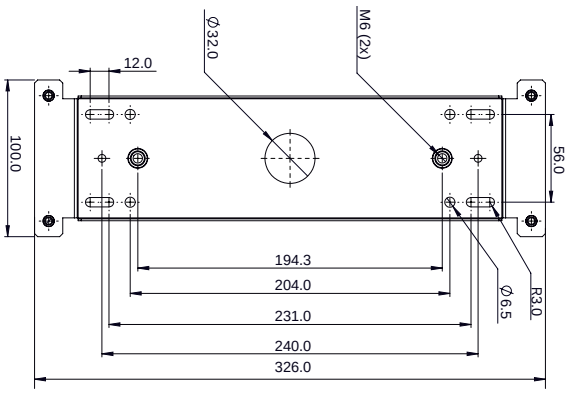
Ordering details

Type	Scope of supply	Order No.
i-P65+ L EC 1.5, Aluminium enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply and Easicheck 1.5 interface	IP65PLA230EC
i-P65+ H EC 1.5, Aluminium enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply and Easicheck 1.5 interface	IP65PHA230EC

1 x M20-cable gland included.

Ordering details - Accessories

Type	Order No.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB



i-P65+ with Aluminium enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 24 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 33m and mounting heights up to 28 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)

i-P65+ L

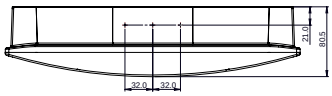


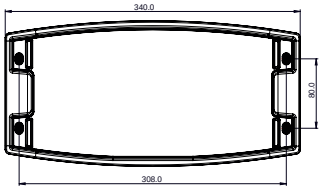
i-P65+ H



Luminous flux Φ_N	i-P65+ L: 900 lm i-P65+ H: 690 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Aluminium, Polycarbonat (cover)
Housing colour	White
Weight	1.85 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation	49 mA
Power consumption mains operation (apparent power / effective power)	21.7 VA / 10.7 W
Permissible ambient temperature	-20°C to +40°C
Light source	COB LED 6.5 W

Dimensions in mm





Ordering details

Type	Scope of supply	Order No.
i-P65+ L, Aluminium enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology	IP65PLA230
i-P65+ H, Aluminium enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology	IP65PHA230

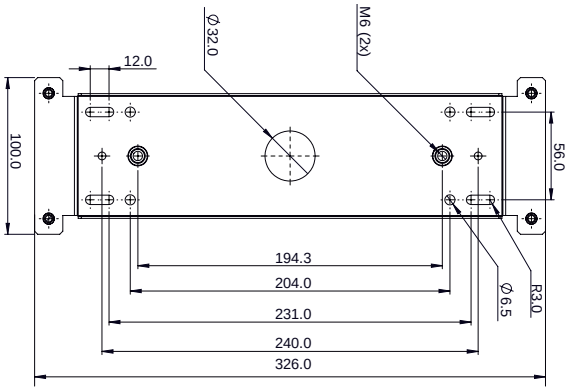
1 x M20-cable gland included.

Mounting bracket



Ordering details - Accessories

Type	Order No.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB



i-P65+ EC 1.5 with Polycarbonate enclosure

Safety and Exit Sign Luminaires with High Ingress Protection

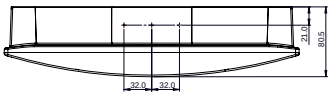
i-P65+ L EC 1.5

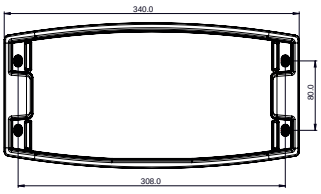


i-P65+ H EC 1.5



Dimensions in mm





Mounting bracket



i-P65+ EC 1.5 with Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 30 m and mounting heights up to 12 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- High service life of LEDs (60,000 hours) minimize service requirements
- For EasiCheck 1.5 addressable test system

Luminous flux Φ_N	i-P65+ L: 900 lm i-P65+ H: 690 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonat (cover)
Housing colour	White
Weight	1.75 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	21.7 VA / 10.7 W
Permissible ambient temperature	-20°C to +40°C
Light source	COB LED 6.5 W

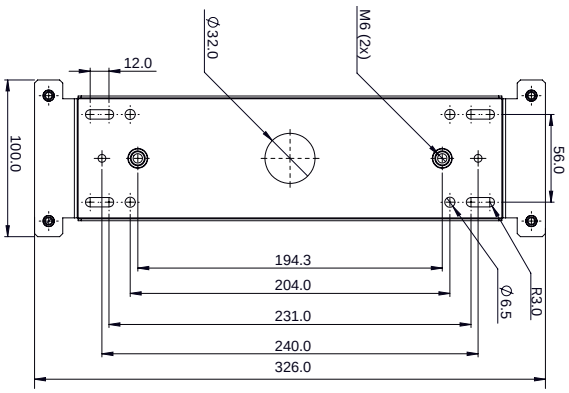
Ordering details

Type	Scope of supply	Order No.
i-P65+ L EC 1.5, Polycarbonate enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply and Easicheck 1.5 interface	IP65PLP230EC
i-P65+ H EC 1.5, Polycarbonate enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply and Easicheck 1.5 interface	IP65PHP230EC

1 x M20-cable gland included.

Ordering details - Accessories

Type	Order No.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB



i-P65+ with Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 24 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 33m and mounting heights up to 28 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)

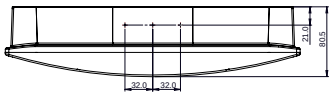
i-P65+ L

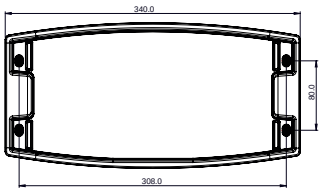


i-P65+ H



Dimensions in mm





Luminous flux Φ_N	i-P65+ L: 900 lm i-P65+ H: 690 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate
Housing colour	White
Weight	1.75 kg
Type of mounting	Ceiling mounting
Terminals	3 x 2 x 2,5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation	49 mA
Power consumption mains operation (apparent power / effective power)	21.7 VA / 10.7 W
Permissible ambient temperature	-20°C to +40°C
Light source	COB LED 6.5 W

Ordering details

Type	Scope of supply	Order No.
i-P65+ L, Polycarbonate enclosure	Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply	IP65PLP230
i-P65+ H, Polycarbonate enclosure	Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply	IP65PHP230

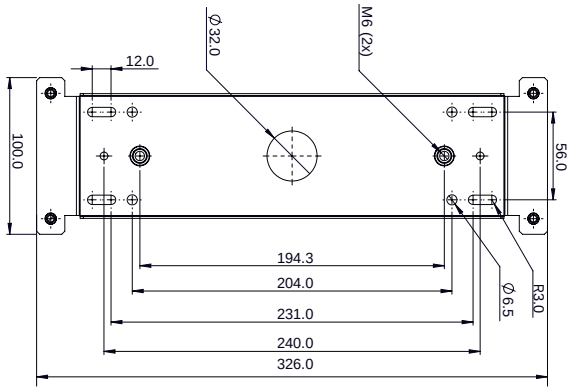
1 x M20-cable gland included.

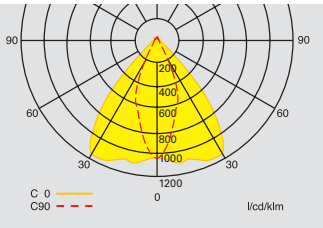
Mounting bracket



Ordering details - Accessories

Type	Order No.
Mounting bracket for chain suspension or for mounting at trunking systems or similar	IP65PSUSPB



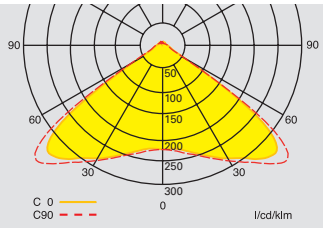


5

Light distribution curve
i-P65+ H
with asymmetric optics

Planning assistance for i-P65+ H - Asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

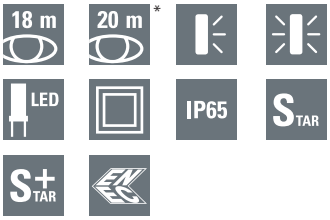
Mounting height [m]	Type of mounting	L1	L2	L3	L4
3	Ceiling mounting	3.3 (3.6)	7.2 (8.4)	2.4 (3.1)	6.2 (7.9)
4	Escape route center	4.2 (4.4)	8.8 (9.9)	2.7 (3.4)	6.8 (8.6)
5		5.1 (5.3)	10.7 (11.4)	3.0 (3.6)	7.3 (9.1)
6		6 (6.3)	12.6 (13.2)	3.5 (3.9)	7.7 (9.8)
7		6.9 (7.2)	14.4 (15.0)	3.9 (4.3)	8.6 (10.3)
8		7.7 (8.1)	16.2 (16.9)	4.3 (4.7)	9.4 (10.7)
9		8.4 (9)	17.9 (18.7)	4.7 (5.2)	10.3 (11.4)
10		9.1 (9.8)	19.6 (20.5)	5.0 (5.6)	11.1 (12.2)
11		9.7 (10.6)	21.2 (22.3)	5.3 (6.0)	11.9 (13.1)
12		10.3 (11.3)	22.6 (24.1)	5.5 (6.3)	12.7 (13.9)
13		10.8 (12)	24.1 (25.8)	5.6 (6.7)	13.4 (14.8)
14		11.2 (12.7)	25.4 (27.5)	5.7 (7.0)	14.0 (15.6)
15		11.5 (13.4)	26.8 (29.1)	5.7 (7.3)	14.6 (16.4)
16		11.7 (14)	28 (30.6)	5.6 (7.5)	15.1 (17.2)
17		11.9 (14.6)	29.1 (32.1)	5.3 (7.7)	15.5 (17.9)
18		12 (15.1)	30.2 (33.5)	4.7 (7.9)	15.8 (18.6)
19		12 (15.5)	31 (34.9)	4.3 (8.1)	15.8 (19.3)
20		11.8 (15.9)	31.8 (36.3)	3.8 (8.1)	15.7 (19.9)
21		11.2 (16.2)	32.4 (37.6)	3.3 (8.1)	15.6 (20.5)
22		10 (16.4)	32.9 (38.9)	2.6 (8.1)	15.4 (21.0)
23		7.6 (16.6)	33.3 (40.1)	1.8 (7.9)	15.2 (21.5)
24		- (16.8)	31.1 (41.2)	- (7.5)	14.8 (21.9)
3	Ceiling mounting	1.9 (2.2)	6.0 (7.5)	2.5 (2.5)	5.8 (7.4)
4	Room illumination	2.6 (2.4)	7.4 (8.2)	2.9 (3.2)	6.1 (8.1)
5		3.5 (3.1)	9.6 (9.6)	3.1 (3.7)	6.3 (8.3)
6		4.0 (3.8)	11.2 (11.3)	3.5 (4.1)	7.2 (8.6)
7		4.4 (4.7)	12.8 (13.4)	3.8 (4.2)	8.1 (8.9)
8		4.8 (5.3)	14.3 (15.2)	4.1 (4.5)	9.0 (9.7)
9		5.3 (5.7)	15.8 (16.7)	4.4 (4.9)	9.8 (10.7)
10		7.1 (6.1)	17.5 (18.3)	4.4 (5.2)	10.4 (11.6)
11		7.7 (6.6)	19.0 (19.9)	4.5 (5.5)	11.0 (12.4)
12		7.9 (7.0)	20.2 (21.3)	4.7 (5.8)	11.7 (13.3)
13		8.4 (7.4)	21.7 (22.8)	4.6 (6.0)	12.2 (14.1)
14		8.6 (8.8)	22.9 (24.3)	4.7 (6.2)	12.8 (14.8)
15		8.8 (9.2)	24.2 (25.6)	4.6 (6.4)	13.3 (15.5)
16		8.5 (10.7)	25.2 (27.4)	4.6 (6.2)	13.9 (15.9)
17		8.0 (10.8)	26.2 (28.6)	4.5 (6.4)	14.4 (16.6)
18		8.1 (11.5)	27.4 (30.1)	4.1 (6.4)	14.7 (17.1)
19		8.3 (11.4)	28.7 (31.2)	3.6 (6.6)	14.8 (17.8)
20		8.8 (11.5)	30.2 (32.4)	2.8 (6.6)	14.6 (18.4)
21		8.8 (10.9)	31.4 (33.3)	2.2 (6.8)	14.5 (19.1)
22		8.6 (11.7)	32.5 (34.9)	1.6 (6.4)	14.4 (19.4)
23		8.0 (11.5)	33.3 (36.0)	1.2 (6.3)	14.3 (19.9)
24		7.9 (11.0)	34.5 (37.0)	0.5 (6.2)	13.6 (20.4)
25		4.3 (11.2)	32.3 (38.2)	0.5 (5.8)	13.9 (20.7)
26		4.0 (11.4)	33.2 (39.5)	0.5 (5.4)	13.0 (20.9)
27		3.7 (11.9)	34.0 (41.0)	0.5 (4.7)	12.2 (20.8)
28		4.7 (11.8)	35.5 (41.9)	0.5 (4.4)	11.2 (20.9)



Light distribution curve
i-P65+ L
with symmetric optics

Planning assistance for i-P65+ L - Symmetric optics for E = 1,0 lx (0,5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
3	Ceiling mounting	4,6 (4,7)	9,5 (10,3)	4,6 (4,9)	9,7 (10,6)
4	Escape route center	5,9 (6,1)	12,2 (12,7)	5,9 (6,2)	12,4 (13,1)
5		7,1 (7,5)	14,9 (15,5)	7,0 (7,5)	15,0 (15,8)
6		8,2 (8,7)	17,5 (18,3)	8,0 (8,7)	17,4 (18,4)
7		9,1 (10,0)	19,9 (20,9)	8,8 (9,9)	19,7 (21,0)
8		9,6 (11,1)	22,1 (23,5)	9,3 (10,9)	21,8 (23,5)
9		9,8 (12,1)	24,1 (26,0)	9,4 (11,8)	23,6 (25,9)
10		9,2 (12,9)	25,5 (28,4)	8,8 (12,5)	24,9 (28,1)
11		7,9 (13,5)	25,9 (30,7)	7,5 (13,1)	25,3 (30,2)
12		5,9 (13,9)	25,8 (32,7)	5,7 (13,3)	25,1 (32,1)
3	Ceiling mounting	4,3 (3,9)	8,6 (9,7)	4,2 (3,8)	8,5 (9,6)
4	Room illumination	5,4 (5,4)	10,9 (11,6)	5,4 (5,4)	10,9 (11,6)
5		6,4 (6,7)	13,3 (13,9)	6,4 (6,7)	13,2 (13,8)
6		7,3 (7,8)	15,6 (16,3)	7,2 (7,8)	15,5 (16,2)
7		7,9 (8,8)	17,8 (18,6)	7,9 (8,8)	17,8 (18,6)
8		8,4 (9,7)	19,9 (21,0)	8,3 (9,6)	19,9 (20,9)
9		9,0 (10,4)	21,9 (23,2)	8,7 (10,4)	21,8 (23,2)
10		8,4 (11,0)	23,7 (25,4)	8,9 (11,0)	23,8 (25,4)
11		6,2 (11,5)	24,4 (27,6)	6,3 (11,3)	24,3 (27,5)
12		4,6 (12,0)	24,1 (29,6)	4,7 (11,8)	24,1 (29,5)
13		0,7 (12,4)	23,6 (31,5)	0,5 (12,3)	22,1 (31,5)
14		0,5 (12,2)	20,7 (33,3)	0,5 (12,5)	20,7 (33,4)
15		0,5 (8,6)	21,0 (34,8)	0,5 (9,4)	21,0 (34,6)
16		0,5 (7,4)	21,0 (34,4)	0,5 (7,7)	21,0 (34,4)
17		0,5 (6,3)	21,0 (34,1)	0,5 (6,4)	21,0 (34,1)
18		0,5 (4,4)	20,9 (33,6)	0,5 (3,9)	20,9 (33,6)



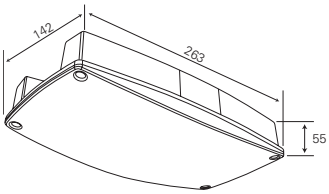
i-P65 CG-S

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

i-P65 S CG-S



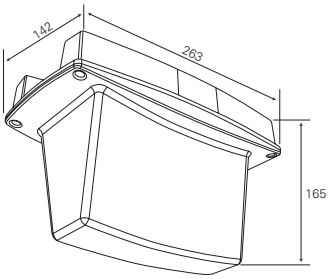
Dimensions in mm



i-P65 D CG-S



Dimensions in mm



Viewing distance	20 m single sided / 18 m double sided
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey
Weight	single sided 0.54 kg double sided 0.74 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	3 x 2.5 mm²
Connection voltage	230 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	16 mA
Power consumption mains operation (apparent power / effective power)	7.0 VA / 3.6 W
Inrush current	1.5 A
Permissible ambient temperature	-15 °C to +40 °C
Light source	HighPower LEDs 2 x 1.0 W

Ordering details

Type	Scope of supply	Order No.
Safety / Exit Sign luminaire i-P65 O CG-S	With symmetric optics for anti-panic / open area illumination or - with optional pictogram kit (not included)- for use as single sided Exit sign, incl. LED supply. LED supply and CG-S technology (20 addresses)	IP65LEDO230CG
Exit sign luminaire i-P65 D CG-S	Double sided, incl. LED supply and CG-S technology (20 addresses), without pictogram-kit	IP65LEDEX230CG

M20 gland is not included in delivery

Accessories

Type	Order No.
Pictogram kit for i-P65 S, single sided, ISO 7010*	IP65LEG7010
Pictogram kit for i-P65 D, double sided, ISO 7010	IP65DBLLEG7010

* Viewing distance 20 m; only single sided version

i-P65 CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

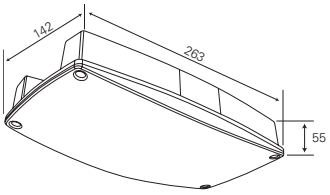
i-P65 E CG-S



i-P65 O CG-S



Dimensions in mm



i-P65 CG-S

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

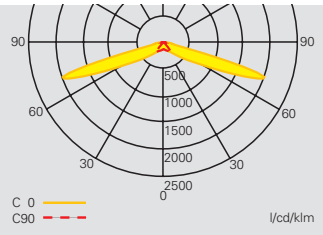
Luminous flux	225 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey
Weight	0.54 kg
Type of mounting	Ceiling mounting
Connection terminals	3 x 2.5 mm^2
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	16 mA
Power consumption mains operation (apparent power / effective power)	7.0 VA / 3.6 W
Inrush current	1.5 A
Permissible ambient temperature	-15 °C to +40 °C
Light source	HighPower LEDs 2 x 1.0 W

Ordering details

Type	Scope of supply	Order No.
Safety luminaire i-P65 E CG-S	With asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses)	IP65LEDE230CG
Safety luminaire i-P65 O CG-S	With symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses)	IP65LEDO230CG

M20 gland is not included in delivery.

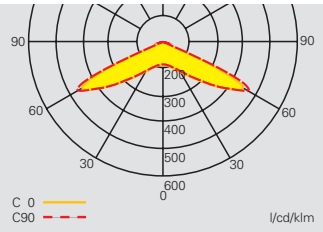
Planning help for i-P65 E CG-S – Asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



i-P65 E CG-S
with asymmetric optics

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	8.2 (8.9)	17.7 (18.7)	2.3 (2.4)	4.8 (5.1)
3.0	Exit route centre	9.3 (10.3)	20.5 (21.8)	2.6 (2.8)	5.6 (5.9)
3.5		10.2 (11.6)	23.1 (24.9)	3.0 (3.2)	6.4 (6.7)
4.0		10.3 (12.7)	25.4 (27.7)	3.2 (3.5)	7.1 (7.5)
4.5		7.1 (13.7)	27.3 (30.4)	3.2 (3.9)	7.8 (8.3)
2.5	Ceiling mounting	4.0 (8.5)	16.6 (17.7)	1.7 (1.9)	4.1 (4.5)
3.0	Room illumination	8.3 (9.6)	19.1 (20.7)	1.8 (2.0)	4.6 (5.1)
3.5		8.8 (10.5)	21.5 (23.4)	1.8 (2.2)	5.0 (5.7)
4.0		5.9 (5.9)	23.4 (25.8)	1.6 (2.4)	5.4 (6.3)
4.5		6.3 (6.5)	23.7 (28.2)	1.4 (2.5)	5.6 (6.8)
5.0		0.5 (12.1)	19.4 (30.5)	2.7 (2.4)	7.0 (7.2)

Planning help for i-P65 O CG-S – Symmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



i-P65 O CG-S
with symmetric optics

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.8 (5.3)	10.7 (11.2)	4.7 (5.3)	10.6 (11.3)
3.0	Exit route centre	4.8 (6.1)	12.2 (13.1)	4.8 (6.0)	12.0 (13.2)
3.5		4.1 (6.7)	12.7 (15.0)	4.0 (6.6)	12.6 (14.9)
2.5	Ceiling mounting	5.0 (5.7)	10.4 (10.9)	4.9 (5.7)	10.4 (11.0)
3.0	Room illumination	3.9 (6.3)	11.9 (12.9)	4.0 (4.1)	11.9 (12.9)
3.5		3.1 (4.7)	12.1 (14.6)	2.8 (6.8)	11.9 (14.7)
4.0		0.9 (4.7)	10.1 (16.3)	5.6 (4.7)	10.1 (16.3)

i-P65 / i-P65 EC 1.5

Safety and Exit Sign Luminaires with High Ingress Protection

i-P65

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- BESA box entry on rear
- Ease of installation, reducing installation time and cost

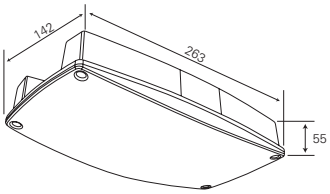
i-P65



Single sided exit sign



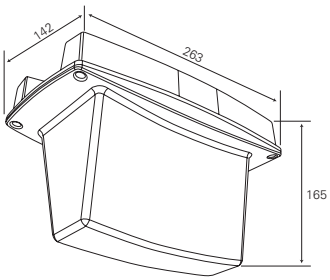
Dimensions in mm



Double sided exit sign



Dimensions in mm



Viewing distance	Single sided: 20 m Double sided: 18 m
Luminous flux	225 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey
Weight	Single sided: 0.54 kg Double sided: 0.74 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	3 x 2.5 mm²
Connection voltage	230 V AC, 50 Hz
Power consumption mains operation (apparent power / effective power)	4.3 VA / 3.0W
Permissible ambient temperature	0 °C to +40 °C
Light source	HighPower LEDs 2 x 1.0 W

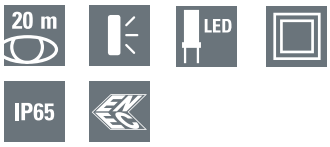
Ordering details

Type	Scope of supply	Order No.
i-P65 E	Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC connection	IP65LEDE230
i-P65 O	Safety Luminaire with symmetric optics for anti-panic/open area illumination, incl. LED supply for 230V AC connection	IP65LEDO230
i-P65 EX	Double side exit sign luminaire, incl. LED supply for 230V AC connection. Without pictogram-kit	IP65LEDEX230
i-P65 E EC 1.5	Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC connection and Easicheck 1.5 interface	IP65LEDE230EC
i-P65 O EC 1.5	Safety Luminaire with symmetric optics for ant-panic/open area illumination, incl. LED supply for 230V AC connection with Easicheck 1.5 interface	IP65LEDO230EC
i-P65 EX 1.5	Double side exit sign luminaire and incl. LED supply for 230V AC connection and Easicheck 1.5 interface. Without pictogram-kit	IP65LEDEX230EC

Accessories

Type		Order No.
ISO7010 single side legend kit*	Pictogram insert kit acc. to ISO7010 format for i-P65 O	IP65LEG7010
ISO7010 double side legend kit	Pictogram insert kit acc. to ISO 7010 format for i-P65 EX	IP65DBLLEG7010

* Viewing distance 20 m; only single sided version



i-P65

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- BESA box entry on rear
- Ease of installation, reducing installation time and cost

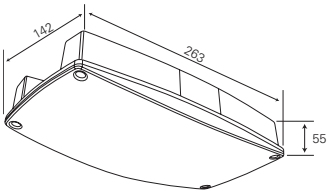
i-P65



Single sided exit sign



Dimensions in mm



Viewing distance	Single sided: 20 m
Luminous flux	225 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing colour	Light grey
Weight	Single sided: 0.54 kg Double sided: 0.74 kg
Type of mounting	Wall or ceiling mounting
Connection terminals	3 x 2.5 mm^2
Connection voltage	110 V AC
Power consumption mains operation (apparent power / effective power)	4.3 VA / 3.0W
Permissible ambient temperature	0 °C to +40 °C
Light source	HighPower LEDs 2 x 1.0 W

Ordering details

Type	Scope of supply	Order No.
i-P65 E 110 V	Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC Supply for for 110V AC connection	IP65LEDE110
i-P65 0 110V	Safety Luminaire with symmetric optics for ant-panic/open area illumination, incl. LED supply for 110V AC connection	IP65LEDO110

Accessories

Type		Order No.
ISO7010 single side legend kit	Pictogram insert kit acc. to ISO7010 format for IP65 LED O	IP65LEG7010

83022.1 LED CG-S

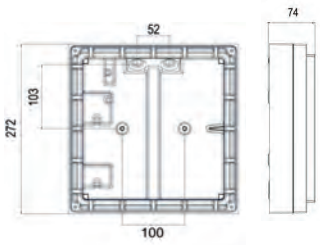
Safety and Exit Sign Luminaires with High Ingress Protection

83022.1 LED CG-S





Dimensions in mm



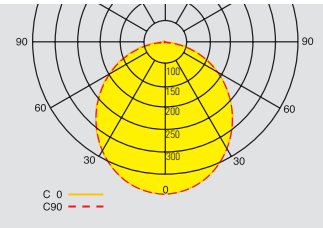
83022.1 LED CG-S

- Square safety and escape route luminaire with LED technology with high protection class (IP65) for indoor and outdoor use
- Robust construction from aluminium diecast with powder coating (UV stabilised)
- High impact resistant diffuser made of UV stabilised polycarbonate
- Two waterproof cable infeeds and double terminal for through-wiring
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Spacing up to 20 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Luminous flux Φ_N	820 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium diecast, PC
Housing colour	White sim. RAL 9010
Weight	2.36 kg
Type of mounting	Wall and ceiling mounting
Terminals	2 x 3 x 2.5 mm^2
Connection voltage	220 - 240 V AC, 50/60 Hz 176 - 275 V DC
Power consumption mains operation (apparent power/effective power)	10.7 VA / 9.3 W
Current consumption- battery operating (220 V)	47 mA
Permissable temperature range	-20 °C up to +40 °C
Light source	LED Array with 42 Lowpower LEDs (4000 K / CRI 80)

Ordering details

Type	Scope of supply	Order No
83022.1 LED CG-S	Square safety and escape route luminaire, including LED Supply and CG-S technology (20 addresses)	40071355750
Pictogram-set for 83022.1 acc. to ISO 7010	arrow left, right, down	40071351924



Light distribution curve 83022.1 LED CG-S

Engineering help for 83022.1 LED CG-S for E = 1.0 lx (0.5 lx)
Measuring level 0,02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	5.3 (6.4)	12.8 (15.5)	5.3 (6.4)	12.8 (15.5)
3.0	Escape route centre	5.7 (7.0)	13.9 (16.9)	5.7 (7.0)	13.9 (16.9)
3.5		6.0 (7.4)	14.9 (18.1)	6.0 (7.4)	14.9 (18.1)
4.0		6.3 (7.8)	15.7 (19.2)	6.3 (7.8)	15.7 (19.2)
4.5		6.5 (8.2)	16.4 (20.2)	6.5 (8.2)	16.4 (20.2)
5.0		6.7 (8.5)	17.1 (21.1)	6.7 (8.5)	17.1 (21.1)
5.5		6.9 (8.8)	17.6 (22.0)	6.9 (8.8)	17.6 (21.9)
6.0		7.0 (9.1)	18.1 (22.7)	7.0 (9.1)	18.1 (22.7)
6.5		7.1 (9.3)	18.6 (23.4)	7.1 (9.3)	18.6 (23.4)
7.0		7.1 (9.5)	19.0 (24.0)	7.1 (9.5)	19.0 (24.0)
7.5		7.2 (9.7)	19.3 (24.6)	7.2 (9.7)	19.3 (24.6)
8.0		7.2 (9.8)	19.6 (25.2)	7.2 (9.8)	19.6 (25.2)
9.0		7.0 (10.0)	20.0 (26.1)	7.0 (10.0)	20.0 (26.1)
10.0		6.8 (10.1)	20.2 (26.9)	6.8 (10.1)	20.2 (26.9)
11.0		6.4 (10.1)	20.3 (27.5)	6.4 (10.1)	20.2 (27.5)
12.0		5.8 (10.1)	20.1 (28.0)	5.8 (10.1)	20.1 (28.0)
13.0		5.0 (9.9)	19.8 (28.4)	5.0 (9.9)	19.8 (28.3)
14.0		3.8 (9.6)	19.3 (28.6)	3.8 (9.6)	19.3 (28.6)
15.0		1.3 (9.3)	18.6 (28.7)	1.3 (9.3)	18.5 (28.6)
2.2	Wall mounting	4.1	11.6	4.1	11.6
2.5		4.2	11.8	4.2	11.8
3.0		4.4	12.3	4.4	12.3
3.5		4.3	12.8	4.3	12.8
4.0		4.2	13.1	4.2	13.1
2.5	Ceiling mounting	3.9 (4.7)	11.0 (13.2)	3.9 (4.7)	11.0 (13.2)
3.0	Room illumination	4.3 (5.1)	12.0 (14.4)	4.2 (5.1)	11.9 (14.4)
3.5		4.4 (5.4)	12.8 (15.5)	4.4 (5.4)	12.8 (15.5)
4.0		4.6 (5.6)	13.6 (16.5)	4.6 (5.6)	13.6 (16.5)
4.5		4.7 (5.9)	14.3 (17.4)	4.7 (5.9)	14.3 (17.4)
5.0		4.8 (6.1)	14.9 (18.3)	4.9 (6.0)	15.0 (18.2)
5.5		5.0 (6.3)	15.5 (19.1)	5.0 (6.2)	15.5 (19.0)
6.0		5.1 (6.4)	16.1 (19.8)	5.0 (6.3)	16.0 (19.7)
6.5		5.1 (6.5)	16.6 (20.5)	5.0 (6.5)	16.5 (20.4)
7.0		5.1 (6.6)	17.0 (21.1)	5.1 (6.6)	17.0 (21.1)
7.5		5.1 (6.7)	17.4 (21.7)	5.1 (6.7)	17.4 (21.7)
8.0		5.1 (6.8)	17.8 (22.3)	5.1 (6.8)	17.8 (22.2)
9.0		5.1 (7.0)	18.5 (23.3)	5.0 (6.9)	18.4 (23.2)
10.0		4.8 (7.0)	19.0 (24.2)	4.9 (7.0)	19.0 (24.1)
11.0		4.6 (6.9)	19.5 (25.0)	4.5 (6.9)	19.4 (25.0)
12.0		4.2 (6.9)	19.8 (25.7)	4.2 (6.9)	19.8 (25.7)
13.0		3.8 (6.8)	20.0 (26.3)	3.9 (6.8)	20.0 (26.3)
14.0		3.4 (6.6)	20.2 (26.9)	3.3 (6.5)	20.1 (26.8)
15.0		2.6 (6.3)	20.3 (27.4)	2.5 (6.3)	20.2 (27.3)

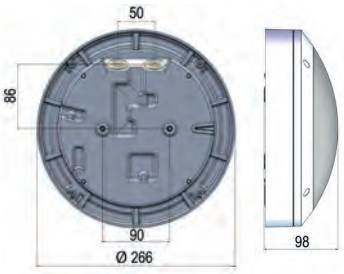
84022.1 LED CG-S

Safety and Exit Sign Luminaires with High Ingress Protection

84022.1 LED CG-S



Dimensions in mm



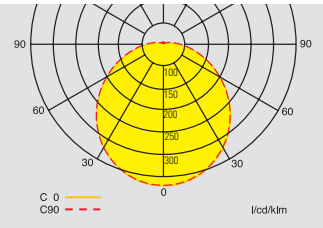
84022.1 LED CG-S

- Round safety luminaire with LED technology with high protection class (IP65) for indoor and outdoor use
- Robust construction from aluminium diecast with powder coating (UV stabilised)
- High impact resistant diffuser made of UV stabilised polycarbonate
- Two waterproof cable infeeds and double terminal for through-wiring
- An integrated pressure equalization membrane reduces the effects of condensation in changing weather conditions
- Spacing up to 20 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Luminous flux Φ_N	850 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Aluminium diecast, PC
Housing colour	White sim. RAL 9010
Weight	1.78 kg
Type of mounting	Wall and ceiling mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 - 275 V DC
Power consumption mains operation (apparent power/effective power)	10.7 VA / 9.3 W
Current consumption- battery operating (220 V)	47 mA
Permissable temperature range	-20 °C up to +40 °C
Light source	LED array with 42 Lowpower LEDs (4000 K / CRI 80)

Ordering details

Type	Scope of supply	Order No
84022.1 LED CG-S	Round safety luminaire, including LED Supply and CG-S technology (20 addresses)	40071355751



Light distribution curve 84022.1 LED CG-S

Engineering help for 84022.1 LED CG-S for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	5.3 (6.6)	13.1 (16.0)	5.4 (6.6)	13.1 (16.1)
3.0	Escape route centre	5.7 (7.1)	14.2 (17.3)	5.7 (7.1)	14.2 (17.4)
3.5		6.1 (7.5)	15.1 (18.5)	6.1 (7.5)	15.1 (18.5)
4.0		6.3 (7.9)	15.8 (19.6)	6.3 (7.9)	15.9 (19.6)
4.5		6.6 (8.3)	16.5 (20.5)	6.6 (8.3)	16.6 (20.5)
5.0		6.7 (8.6)	17.2 (21.4)	6.8 (8.6)	17.2 (21.4)
5.5		6.9 (8.9)	17.7 (22.2)	6.9 (8.9)	17.8 (22.2)
6.0		7.0 (9.1)	18.2 (22.9)	7.0 (9.1)	18.2 (23.0)
6.5		7.1 (9.3)	18.6 (23.6)	7.1 (9.3)	18.7 (23.6)
7.0		7.1 (9.5)	19.0 (24.2)	7.1 (9.5)	19.0 (24.2)
7.5		7.1 (9.7)	19.3 (24.8)	7.1 (9.7)	19.4 (24.8)
8.0		7.1 (9.8)	19.6 (25.3)	7.1 (9.8)	19.6 (25.3)
9.0		7.0 (10.0)	20.0 (26.2)	7.0 (10.0)	20.0 (26.3)
10.0		6.7 (10.1)	20.1 (26.9)	6.7 (10.1)	20.2 (27.0)
11.0		6.2 (10.1)	20.1 (27.5)	6.2 (10.1)	20.2 (27.6)
12.0		5.6 (10.0)	19.9 (28.0)	5.6 (10.0)	20.0 (28.0)
13.0		4.6 (9.8)	19.6 (28.3)	4.6 (9.8)	19.6 (28.3)
14.0		3.1 (9.5)	19.0 (28.5)	3.1 (9.5)	19.0 (28.5)
2.2	Wall mounting	4.6	12.7	4.6	12.7
2.5		4.8	12.9	4.8	12.9
3.0		5.0	13.6	5.0	13.6
3.5		5.1	14.1	5.1	14.1
4.0		5.3	14.4	5.3	14.4
2.5	Ceiling mounting	4.0 (4.8)	11.3 (13.8)	4.0 (4.7)	11.3 (13.8)
3.0	Room illumination	4.3 (5.0)	12.3 (14.9)	4.2 (5.1)	12.2 (15.0)
3.5		4.5 (5.4)	13.1 (16.0)	4.4 (5.3)	13.0 (15.9)
4.0		4.6 (5.7)	13.8 (16.9)	4.6 (5.6)	13.8 (16.9)
4.5		4.8 (5.9)	14.5 (17.8)	4.7 (5.8)	14.4 (17.7)
5.0		4.9 (6.1)	15.1 (18.6)	4.9 (6.0)	15.1 (18.6)
5.5		5.0 (6.3)	15.7 (19.4)	4.9 (6.2)	15.6 (19.3)
6.0		5.1 (6.4)	16.2 (20.1)	5.0 (6.3)	16.1 (20.0)
6.5		5.1 (6.5)	16.7 (20.7)	5.0 (6.5)	16.6 (20.7)
7.0		5.2 (6.6)	17.1 (21.3)	5.1 (6.6)	17.0 (21.3)
7.5		5.1 (6.7)	17.5 (21.9)	5.1 (6.7)	17.5 (21.9)
8.0		5.1 (6.8)	17.9 (22.4)	5.0 (6.8)	17.8 (22.4)
9.0		5.0 (6.9)	18.5 (23.4)	5.0 (6.9)	18.5 (23.4)
10.0		4.8 (7.0)	19.0 (24.3)	4.8 (6.9)	19.0 (24.3)
11.0		4.6 (7.0)	19.5 (25.1)	4.5 (6.9)	19.4 (25.0)
12.0		4.2 (6.9)	19.8 (25.8)	4.1 (6.8)	19.7 (25.7)
13.0		3.8 (6.7)	20.0 (26.3)	3.6 (6.8)	19.9 (26.4)
14.0		3.1 (6.5)	20.1 (26.9)	3.1 (6.5)	20.1 (26.9)

Tufflite LED

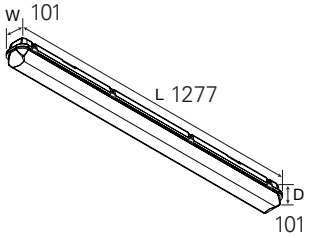
Safety and Exit Sign Luminaires with High Ingress Protection

Tufflite LED





Dimensions in mm



French market

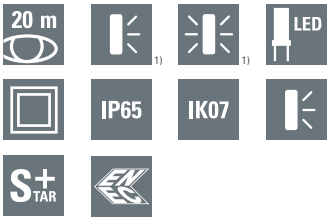
Tufflite LED

- Ideal for both new and retro fit applications
- Impact and heat resistant opal polycarbonate diffuser and GRP base housing construction, IK08 rated, and secured with anti-tamper diffuser clips
- Deep poured continuous polyurethane gasket to maintain IP66 rating
- Class leading LED luminaire performance and efficacy with lumen packages to match and exceed traditional fluorescent technology with reduced energy consumption
- Fast fix stainless steel mounting clips for rapid installation. (No need to drill the housing avoiding a potential ingress path)

Luminous flux	2500 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Body: GRP (glass reinforced polymer) Diffuser: UV stabilized fire retardant polycarbonate Gear tray: sheet steel
Housing colour	Grey RAL 7035
Weight	3.1 kg
Type of mounting	Ceiling mounting
Connection terminals	3 x 2.5 mm²
Connection voltage	176 – 280 AC/DC
Power consumption mains operation (apparent power / effective power)	22.5 VA / 20.1 W
Permissible ambient temperature	-25 °C to +25 °C
Light source	2 x 54 LEDs

Ordering details

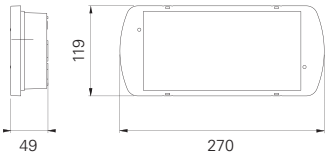
Type	Scope of supply	Order No.
Tufflite LED	Safety luminaire Tufflite LED, IP66 rated with GRP base and reeded opal polycarbonate luminaire controller , secured by tamper resistant hinged latches and removable geartray retained by tool free clips.	LUM22144



SafeLite



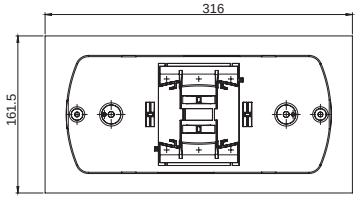
SafeLite - Dimensional drawings (mm)



Recessed base



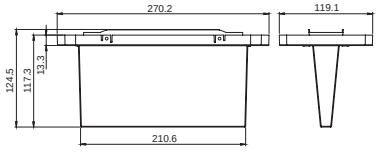
Recessed base - Dimensional drawings (mm)



Cone diffuser



Cone diffuser - Dimensional drawings (mm)



90° Wall bracket



SafeLite CG-S

- LED safety luminaire for all applications (Escape route, Anti-panic, Exit sign)
- First fix base for ease of installation
- High impact resistant (IK07) and high degree of protection (IP65)
- Recessed mounting optional
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	20 m
Luminous flux Φ_N	200 lm, 400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate, (850 °C glow wire resistant)
Housing colour	RAL9003
Weight	0.5 kg
Type of mounting	Wall or ceiling surface mounting, Option: Recessed base for ceiling
Connection Terminals	2×2.5 mm² (screwless connectors)
Connection voltage	220 – 240 V AC 50/60Hz, 176 – 275 V DC
Current consumption – battery operation (220 V)	11 mA (200 lm) 17 mA (400 lm)
Power consumption mains operation (apparent power / effective power)	5.6 VA / 2.8 W (200 lm) 7.6 VA / 4.3 W (400 lm)
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	LED strip

Ordering details

Type	Scope of supply	Order No.
SafeLite CG-S (200 lm)	Luminaire housing IP65, including LED-supply with CG-S technology and LED-circuit board, for exit route lighting or exit signage with optional pictograms *	SL2-M65F0FCGS
SafeLite CG-S (400 lm)	Luminaire housing IP65, including LED-supply with CG-S technology and LED-circuit board, for exit route lighting	SL2-M65J0JCGS

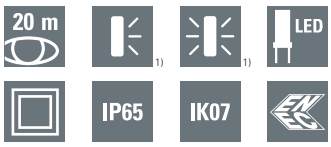
Accessories

Type	Order No.
Set of 3 adhesive pictograms (L, R, D) ISO format, 20 m	SL23A
Set of 3 pictogram foils to insert inside luminaire (L, R, D) ISO format, 20 m	SL23I
Cone diffuser*, 20 m	SL2CD
Recessed Base, Plastic, RAL 9003, 20 m	SL2RB
Wire guard, 20 m	SL2PG
90° Wall bracket	EL–BR1

1) optional
*Pictograms have to be ordered separately

SafeLite

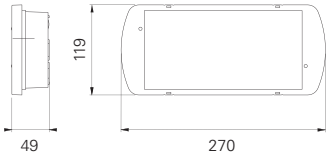
Safety and Exit Sign Luminaires with High Ingress Protection



SafeLite



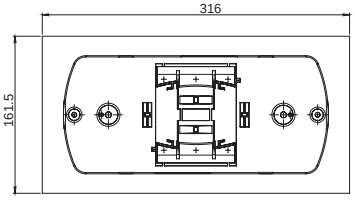
SafeLite - Dimensional drawings (mm)



Recessed base



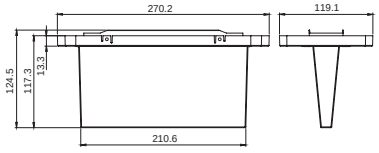
Recessed base - Dimensional drawings (mm)



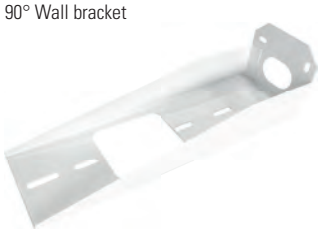
Cone diffuser



Cone diffuser - Dimensional drawings (mm)



90° Wall bracket



SafeLite

- LED safety luminaire for all applications (Escape route, Anti-panic, Exit sign)
- First fix base for ease of installation
- High impact resistant (IK07) and high degree of protection (IP65)
- Recessed mounting optional
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

Viewing distance	20 m	
Luminous flux Φ_N	200 lm, 400 lm	
Luminous flux Φ_E/Φ_N at end of rated operating time	100%	
Housing material	Polycarbonate, (850 °C glow wire resistant)	
Housing colour	RAL9003	
Weight	0.5 kg	
Type of mounting	Surface, Option: Recessed base for ceiling	
Connection Terminals	2 × 2.5 mm² (screwless connectors)	
Connection voltage	110 V, 220 – 240 V AC 50/60Hz, 110 V, 176 – 275 V DC	
Current consumption – battery operation	200 lm 110 V: 22.0 mA 220 V: 10.4 mA	400 lm 110 V: 33 mA 220 V: 16 mA
Power consumption mains operation (apparent power / effective power)	5.7 VA / 2.9 W (200 lm) 7.8 VA / 4.0 W (400 lm)	
Inrush current	1.5 A	
Permissible ambient temperature	-20°C to +40°C	
Light source	LED strip	

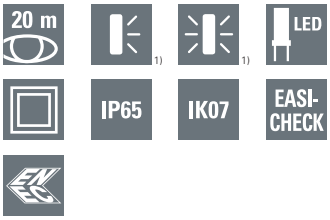
Ordering details

Type	Scope of supply	Order No.
SafeLite (200 lm)	Luminaire housing IP65, including LED-supply and LED-circuit board, for exit route lighting or exit signage with optional pictograms *	SL2-M65F0FMT
SafeLite (400 lm)	Luminaire housing IP65, including LED-supply and LED-circuit board, for exit route lighting	SL2-M65J0JMT

Accessories

Type	Order No.
Set of 3 adhesive pictograms (L, R, D) ISO format, 20 m	SL23A
Set of 3 pictogram foils to insert inside luminaire (L, R, D) ISO format, 20 m	SL23I
Cone diffuser*, 20 m	SL2CD
Recessed Base, Plastic, RAL 9003, 20 m	SL2RB
Wire guard, 20 m	SL2PG
90° Wall bracket	EL–BR1

1) optional
*Pictograms have to be ordered separately



SafeLite EC 1.5

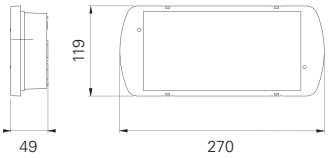
- LED safety luminaire for all applications (Escape route, Anti-panic, Exit sign)
- First fix base for ease of installation
- High impact resistant (IK07) and high degree of protection (IP65)
- Recessed mounting optional
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- EasiCheck 1.5 compatible

5

SafeLite



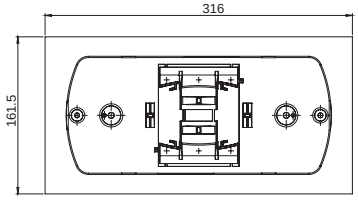
SafeLite - Dimensional drawings (mm)



Recessed base



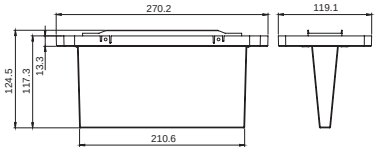
Recessed base - Dimensional drawings (mm)



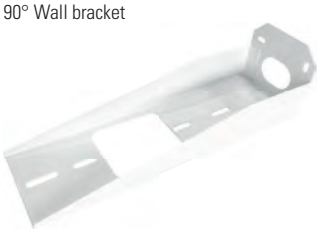
Cone diffuser



Cone diffuser - Dimensional drawings (mm)



90° Wall bracket



Viewing distance	20 m
Luminous flux Φ_N	200 lm, 400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate, (850 °C glow wire resistant)
Housing colour	RAL9003
Weight	0.5 kg
Type of mounting	Surface, Option: Recessed base for ceiling
Connection Terminals	2 × 2.5 mm² (screwless connectors)
Connection voltage	220 – 240 V AC 50/60Hz
Power consumption mains operation (apparent power / effective power)	5.9 VA / 3.0 W (200 lm) 7.7 VA / 4.3 W (400 lm)
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	LED strip

Ordering details

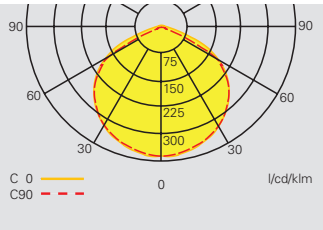
Type	Scope of supply	Order No.
SafeLite EasiCheck 1.5 (200 lm)	Luminaire housing IP65, including LED-supply and LED-circuit board, for exit route lighting or exit signage with optional pictograms *	SL2-M65F0FEC
SafeLite EasiCheck 1.5 (400 lm)	Luminaire housing IP65, including LED-supply and LED-circuit board, for exit route lighting	SL2-M65J0JEC

Accessories

Type	Order No.
Set of 3 adhesive pictograms (L, R, D) ISO format, 20 m	SL23A
Set of 3 pictogram foils to to insert inside luminaire (L, R, D) ISO format, 20 m	SL23I
Cone diffuser*, 20 m	SL2CD
Recessed Base, Plastic, RAL 9003, 20 m	SL2RB
Wire guard, 20 m	SL2PG
90° Wall bracekt	EL–BR1

1) optional
*Pictograms have to be ordered separately

SafeLite

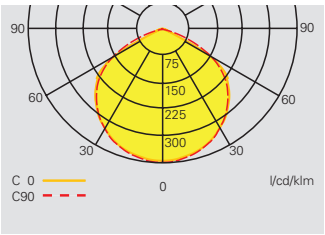


Light distribution curve

Planning assistance for SafeLite 200 lm for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.6 (4.5)	8.9 (10.1)	3.6 (4.5)	9.0 (10.8)
3.0	Escape route center	3.8 (4.8)	9.7 (11.4)	3.8 (4.8)	9.6 (11.8)
3.5		3.9 (5.1)	10.2 (12.5)	3.9 (5.1)	10.2 (12.6)
4.0		3.9 (5.3)	10.6 (13.4)	3.9 (5.3)	10.5 (13.3)
4.5		3.8 (5.4)	10.8 (14.0)	3.8 (5.4)	10.8 (13.9)
5.0		3.7 (5.5)	11.0 (14.4)	3.7 (5.5)	11.0 (14.4)
5.5		3.5 (5.5)	11.0 (14.8)	3.5 (5.5)	11.0 (14.8)
6.0		3.2 (5.5)	11.0 (15.1)	3.2 (5.5)	10.9 (15.1)
6.5		2.8 (5.4)	10.8 (15.4)	2.8 (5.4)	10.8 (15.3)
7.0		2.1 (5.3)	10.5 (15.5)	2.2 (5.3)	10.5 (15.5)
7.5		1.0 (5.1)	10.2 (15.6)	1.2 (5.1)	10.2 (15.5)
2.5	Ceiling mounting	3.2 (3.5)	6.9 (7.7)	3.0 (3.4)	6.8 (7.6)
3.0	Room illumination	3.2 (3.8)	7.6 (8.6)	3.2 (3.8)	7.9 (8.8)
3.5		2.8 (4.2)	8.0 (9.7)	3.6 (4.0)	9.1 (9.6)
4.0		2.9 (3.9)	8.9 (9.9)	3.4 (4.6)	9.4 (11.3)
4.5		2.9 (4.2)	9.7 (11.1)	3.0 (4.5)	9.7 (11.7)
5.0		2.7 (4.1)	10.2 (11.8)	2.7 (4.6)	10.1 (12.5)
5.5		2.4 (3.7)	10.5 (12.2)	2.5 (4.8)	10.5 (13.4)
6.0		2.2 (3.9)	10.7 (13.2)	2.2 (4.3)	10.7 (13.5)
6.5		2.0 (3.2)	10.9 (13.3)	1.9 (4.5)	10.8 (14.5)
7.0		1.7 (3.6)	11.0 (14.3)	1.7 (3.7)	10.9 (14.3)
7.5		1.3 (3.3)	11.0 (14.7)	1.5 (3.4)	11.0 (14.7)
8.0		1.0 (3.0)	11.0 (14.9)	1.1 (3.2)	11.0 (15.0)
8.5		0.7 (2.9)	10.9 (15.2)	0.7 (2.8)	10.9 (15.1)
9.0		0.8 (2.5)	10.6 (15.4)	0.7 (2.5)	10.6 (15.3)
9.5		0.6 (2.2)	9.8 (15.5)	0.7 (2.3)	10.4 (15.4)
10.0		0,6 (1,9)	10,3 (15,6)	0,6 (2,0)	8,6 (15,5)

SafeLite



Light distribution curve

Planning assistance for SafeLite 400 lm for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.4 (5.2)	10.4 (12.2)	4.3 (4.7)	9.5 (10.1)
3.0	Escape route center	4.7 (5.7)	11.5 (13.5)	4.7 (5.4)	10.9 (11.8)
3.5		5.0 (6.2)	12.4 (14.7)	5.1 (6.1)	12.1 (13.3)
4.0		5.2 (6.5)	13.1 (15.8)	5.3 (6.5)	13.0 (14.7)
4.5		5.3 (6.8)	13.7 (16.7)	5.4 (6.9)	13.8 (16.0)
5.0		5.4 (7.1)	14.2 (17.6)	5.5 (7.2)	14.4 (17.2)
5.5		5.4 (7.3)	14.6 (18.3)	5.5 (7.4)	14.9 (18.1)
6.0		5.4 (7.5)	14.9 (18.9)	5.5 (7.6)	15.1 (18.9)
6.5		5.4 (7.6)	15.2 (19.5)	5.4 (7.7)	15.4 (19.7)
7.0		5.3 (7.7)	15.3 (20.0)	5.3 (7.8)	15.5 (20.4)
7.5		5.1 (7.7)	15.4 (20.4)	5.1 (7.8)	15.6 (20.9)
8.0		4.9 (7.7)	15.4 (20.8)	4.9 (7.8)	15.6 (21.2)
8.5		4.6 (7.7)	15.3 (21.1)	4.6 (7.8)	15.5 (21.4)
9.0		4.2 (7.6)	15.2 (21.4)	4.2 (7.7)	15.4 (21.6)
9.5		3.7 (7.5)	15.0 (21.5)	3.8 (7.6)	15.2 (21.8)
10.0		3.1 (7.4)	14.8 (21.7)	3.1 (7.5)	14.9 (21.9)
2.5	Ceiling mounting	3.9 (4.9)	9.2 (11.3)	3.2 (3.1)	8.0 (8.2)
3.0	Room illumination	3.2 (5.3)	9.7 (12.2)	3.7 (3.7)	9.6 (9.7)
3.5		3.6 (5.2)	10.6 (12.9)	3.8 (4.3)	10.6 (11.3)
4.0		3.9 (4.9)	11.4 (13.8)	3.8 (4.6)	11.4 (12.6)
4.5		4.1 (4.6)	12.1 (14.2)	3.7 (5.1)	12.0 (14.2)
5.0		4.1 (4.9)	12.6 (15.1)	3.8 (5.1)	12.5 (15.1)
5.5		4.1 (5.4)	13.1 (16.2)	3.7 (4.9)	13.0 (15.7)
6.0		4.0 (5.7)	13.5 (17.1)	3.7 (4.7)	13.5 (16.2)
6.5		4.0 (5.5)	13.9 (17.2)	3.6 (5.2)	13.9 (17.2)
7.0		3.9 (5.5)	14.3 (17.8)	3.3 (5.1)	14.2 (17.7)
7.5		3.7 (5.6)	14.5 (18.3)	3.2 (5.1)	14.5 (18.2)
8.0		3.6 (5.5)	14.8 (18.7)	2.9 (5.1)	14.7 (18.7)
8.5		3.4 (5.5)	14.9 (19.2)	2.7 (4.9)	15.0 (19.1)
9.0		3.2 (5.4)	15.2 (19.5)	2.3 (4.9)	15.1 (19.6)
9.5		2.9 (5.3)	15.2 (19.9)	2.3 (4.7)	15.3 (19.9)
10.0		2.7 (5.2)	15.4 (20.3)	2.2 (4.4)	15.3 (20.2)





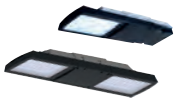
Safety and Exit Sign Luminaires - Explosion protected

Linear luminaire ExLin 172
Linear luminaire eLLK 178
EXIT LED V-CG-S..... 182
dKLK 23 V-CG-S 183

Safety and Exit sign Luminaires - Explosion protected

Overview

6

	Performance	Global Features					Voltage					Technology	
		Aesthetic	Low consumption / Eco-friendly	Protection Degree	Viewing distance	Luminous flux	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
5.1 Linear luminaire ExLin 	★★★		●	66		2750 - 8120 lm				●	●	●	
5.2 Linear luminaire eLLK 	★★		●	66		2700 lm 5350 lm				●	●	●	
5.3 EXIT LED 	★★		●	66	25					●	●	●	
5.4 dKLK23 	★			65	20	640 lm (lamp)				●	●	●	

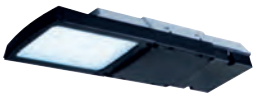
Installation				Applications							
Wall	Ceiling	Recessed	Suspended	Healthcare	Hotels	Cinemas / Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
	●									●	●
	●									●	●
●										●	●
	●									●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Linear luminaire ExLin

Safety and Exit Sign Luminaires - Explosion protected

ExLin 3L-1 and 5L-1 models



ExLin 5L-2 and 7L-2 models



ExLin V-CG-S

- Completely monitored explosion protected LED luminaire
- Long LED module lifetime (L90 = 100.000 h at 25°C and L85=75.000h at 55°C) and durable enclosures for long-term use
- Colour temperature 5000 K and CRI > 70 as standard with the option of CRI >80 and/or colour temperature 4000 K on request
- Up to 120 lm/W provides up to 40% energy efficiency compared to traditional flourescent fixtures
- Drop-in mounting compatibility to eLLK fluorescent – same fixing point as eLLK 2x18W and a mounting kit available for easy replacement of 2x36W and 2x58W without changing cable
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Standard, narrow and wide beam optics optimise light distribution, providing light where the customer needs it with the potential to reduce the number of fixtures required (narrow and wide beam options on request)

Marking acc. to 2014/34/EU	Ex II 2G Ex eb ib op is q IIC T4/T5 Gb Ex II 2D Ex tb op is IIIC T80/110°C Db
EC-Type Examination Certificate	BVS 18 ATEX E 037 X
IECEx-inspection certificate	IECEx BVS 18.0028X
Marking acc. to IECEx	Ex eb ib op is q IIC T4 Gb Ex tb op is IIIC T80/110°C Db
Housing material	Glass fibre reinforced polyester
Protective cover	Toughened glass clear (opaque or plastic laminated glass on request)
Rated voltage	110 up to 277 V AC/DC
Rated current	96 mA (ExLin 3L-1) 191 mA (ExLin 5L-1, ExLin 5L-2*) 291 mA (ExLin 7L-2)
Power factor cos φ	≥ 0.92 (ExLin 3L-1) ≥ 0.95 (ExLin 5L-1, ExLin5L-2*, ExLin 7L-2)
Permissible ambient temperature	- 45 °C up to + 55 °C
Cable infeeds	Thread size M20 Cable sealing range min. 2.8/4.5/7.6/10.0 Cable sealing range max. 5.5/8.5/12.0/16.0
Connection terminals	T1 type 2410-4 max 6mm²
Light source	LED array
Weight	6.7 kg ExLin 3L-1 and 5L-1 8.0 kg ExLin 5L-2* and 7L-2

Models

			Current (mA) in DC operation				
Type	**colour temperature**	**Lumens**	**Dimming level 100%**	**Dimming level 50%**	**Dimming level 25%**	**Cos φ**	**Order-No.**
ExLin 3L-1	5000 K	2750	96	62	43	0.92	see table below
ExLin 5L-1	5000 K	5300	191	115	73	0.95	see table below
ExLin 5L-2*	5000 K	5480	191	115	73	0.95	see table below
ExLin 7L-2	5000 K	8120	291	169	102	0.95	see table below

* Available on request
Delivery without mounting accessories!

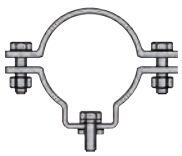
Ordering details

Type	Scope of supply	Order No.
ExLin 3L-1 V-CG-S GCS 750 T1 1/6 M25K CRI 70	ExLin V-CG-S 3L-1 2750 lm single sided, glass clear standard, 1/6 M25K- single ended through wiring with M25 plastic glands	12310120101
ExLin 3L-1 V-CG-S GCS 750 T1 2/6 M25K CRI 70	ExLin V-CG-S 3L–1 2750 lm single sided, glass clear standard, 2/6 M25K- double ended through wiring with M25 plastic glands	12310120103
ExLin 3L-1 V-CG-S GCS 750 T1 1/6 M20M CRI 70	ExLin V-CG-S 3L-1 2750 lm single sided, glass clear standard, 1/6 M20M- single ended through wiring with M20 metalic threads	12310120109
ExLin 3L-1 V-CG-S GCS 750 T1 2/6 M20M CRI 70	ExLin V-CG-S 3L-1 2750 lm single sided, glass clear standard, 2/6 M20M- double ended through wiring with M20 metalic threads	12310120111
ExLin 5L-1 V-CG-S GCS 750 T1 1/6 M25K CRI 70	ExLin V-CG-S 5L-1 5300 lm single sided, glass clear standard, 1/6 M25K- single ended through wiring with M25 plastic glands	12310140101
ExLin 5L-1 V-CG-S GCS 750 T1 2/6 M25K CRI 70	ExLin V-CG-S 5L-1 5300 lm single sided, glass clear standard, 2/6 M25K- double ended through wiring with M25 plastic glands	12310140103
ExLin 5L-1 V-CG-S GCS 750 T1 1/6 M20M CRI 70	ExLin V-CG-S 5L-1 5300 lm single sided, glass clear standard, 1/6 M20M- single ended through wiring with M20 metalic threads	12310140109
ExLin 5L-1 V-CG-S GCS 750 T1 2/6 M20M CRI 70	ExLin V-CG-S 5L-1 5300 lm single sided, glass clear standard, 2/6 M20M- double ended through wiring with M20 metalic threads	12310140111
ExLin 7L-2 V-CG-S GCS 750 T1 1/6 M25K CRI 70	ExLin V-CG-S 7L-2 8120 lm double sided, glass clear standard, 1/6 M25K- single ended through wiring with M25 plastic glands	12310170101
ExLin 7L-2 V-CG-S GCS 750 T1 2/6 M25K CRI 70	ExLin V-CG-S 7L-2 8120 lm double sided, glass clear standard, 2/6 M25K- double ended through wiring with M25 plastic glands	12310170103
ExLin 7L-2 V-CG-S GCS 750 T1 1/6 M20M CRI 70	ExLin V-CG-S 7L-2 8120 lm double sided, glass clear standard, 1/6 M20M- single ended through wiring with M20 metalic threads	12310170109
ExLin 7L-2 V-CG-S GCS 750 T1 2/6 M20M CRI 70	ExLin V-CG-S 7L-2 8120 lm double sided, glass clear standard, 2/6 M20M- double ended through wiring with M20 metalic threads	12310170111

Ordering details Pipe clamps

Scope of supply	Order No.
2 pcs. R12 (1 1/4"), Ø 38- 42 mm with screws and polyamide washer, hot-dip galvanized	2 2480 462 000 *
2 pcs. R22 (1 1/2"), Ø 47- 51 mm with screws and polyamide washer, hot-dip galvanized	2 2480 472 000 *
2 pcs. R32 (2''), Ø 56- 60 mm with screws and polyamide washer, hot-dip galvanized	2 2480 482 000 *
1 pcs. A8 (1 1/2") D 47- 51 mm for AB 12.. with screws and polyamide washer, hot-dip galvanized	NOR 000 005 009 211
1 pcs. A9 (2") D 56- 60 mm for AB 12.. with screws and polyamide washer, hot-dip galvanized	NOR 000 005 009 229
2 pcs. Two-part, for pipe mounting LB 48- FT with screws and polyamide washer, hot-dip galvanized	2 2480 550 010

Pipe clamps





Ordering details fixing accessories

Scope of supply	Order No.
2 pcs. luminaire mounting bracket with 30° angle, wall mounting LH 30- FT, hot-dip galvanized	2 2480 550 013
2 pcs. luminaire mounting bracket with 45° angle, wall mounting LH 45- FT, hot-dip galvanized	2 2480 550 014
2 pcs. wall mounting bracket with 30° angle, with screws and polyamide washer, hot-dip galvanized	2 2480 000 122
1 pcs. wall bracket 45° with screws and polyamide washer, hot-dip galvanized	NOR 000 005 009 196
1 pcs. wall bracket W 27, 15°, for pole-mounting fitting Ø 42 mm, hot-dip galvanized	2 2483 027 000
2 pcs. ceiling mounting bracket D 92 with screws and polyamide washer, stainless steel	2 2480 092 000
1 pcs. ceiling mounting bracket A5 with screws and polyamide washer, hot-dip galvanized	NOR 000 005 009 162
2 pcs. C-bracket for luminaire mounting LAB-C50- ER, stainless steel	2 2480 550 011
2 pcs. hexagon screw M8 x 20 for luminaire mounting, with polyamide washer	2 2480 054 000
2 pcs. eye bolt M8 for luminaire mounting, hot-dip galvanized	2 2480 002 000 *
1 pcs. eye bolt M8- A1 for luminaire mounting, hot-dip galvanized	NOR 000 005 009 261
Pole mounting adapter- 42-49 mm diameter, stainless steel	22480600001
Pole mounting adapter- 52-62 mm diameter, stainless steel	22480600002
2 pcs. wall mounting bracket with adjustable angle (15° step)	2 2480 550 022 *

Ordering details metallic cable glands (order separately)

ADE-1F2



ADE-1F2

Metric Thread Size	Cable Types	Cable sealing range - Min	Cable seaing range - Max	Order No.
M20	Non-armoured, Marine shipboard, Type P, Tray cable (armoured)	2.8	5.5	ADE1M200NPN
M20		4.5	8.5	ADE1M201NPN
M20		7.0	12.0	ADE1M202NPN
M20		10.0	16.0	ADE1M203NPN

ADE-4F

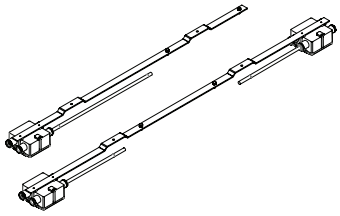


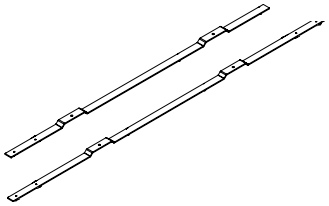
ADE-4F

		Cable sealing range inner sheath		Cable sealing range outer sheath		Armor		
Metric Thread Size	Cable Types	Min.	Max.	Min.	Max.	Min.	Max.	Order No.
M20	SWA, SWB, STA, Braided marine shipboard, Type P; Lead sheathed cable (with addition of earthing washer)	2.8	5.5	4.5	8.5	0.2	0.9	ADE4M200NPN
M20		4.5	8.0	7.0	12.0	0.2	0.9	ADE4M201NPN
M20		7.0	12.0	10.0	16.0	0.2	1.3	ADE4M202NPN
M20		10.0	15.5	13.5	21.0	0.2	1.3	ADE4M203NPN

ADE-1F2 and ADE-4F catalog numbers are for nickel-plated brass; For other material options, refer to our cable glands section within www.crouse-hinds.de/en/

Ordering details Adapter Kits for eLLK Retrofits (order separately)



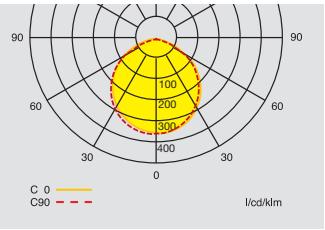


Scope of supply	Order No.
2 pcs. ExLin adapter kit for retrofitting to eLLK 2x36W fixture- includes metal bar, junction box, plastic glands and connection cable between box and fixture	2 2300 500 001
1 pcs. ExLin adapter kit for retrofitting to eLLK 2x58W fixture- includes metal bar, two junction boxes, plastic glands and connection cable between boxes and fixture	2 2300 500 002
1 pcs. ExLin mounting metal bar for retrofitting to eLLK 2x36W fixture- without junction box and connection cable	3 2300 500 001
1 pcs. ExLin mounting metal bar for retrofitting to eLLK 2x58W fixture- without junction box and connection cable- without junction box and connection cable	3 2300 500 002

See for yourself how easy it is to upgrade your eLLK lighting installation to our state-of-the-art ExLin LED solution!

Visit eaton.com/ellk-to-exlin to watch the fast and simple retrofit process using our adapter kit

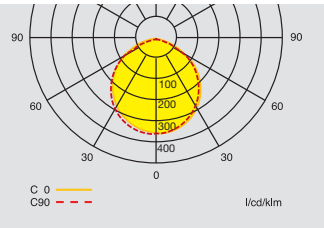




Light distribution curve ExLin 3L-1 2750 lm
ExLin standard beam with clear cover

Planning help for ExLin 3L-1 2750 lm V-CG-S for E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

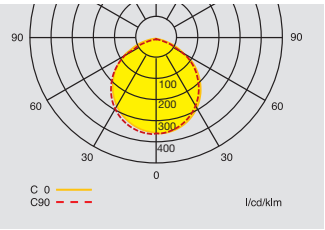
Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	5.5 (6.7)	13.3 (15.9)	5.6 (6.4)	12.7 (15.1)
4.0	Exit route centre	6.3 (7.6)	15.1 (18.3)	6.2 (7.7)	15.3 (17.4)
5.0		6.7 (8.3)	16.7 (20.3)	6.7 (8.4)	16.9 (20.0)
6.0	Dim level 25%	6.9 (9.0)	18.0 (21.9)	6.9 (9.0)	18.0 (22.2)
7.0		7.0 (9.4)	18.9 (23.5)	7.0 (9.4)	18.8 (23.8)
8.0		7.0 (9.7)	19.4 (25.0)	7.0 (9.7)	19.4 (25.0)
9.0		6.7 (9.9)	19.8 (26.0)	6.7 (9.9)	19.8 (25.9)
10.0		6.3 (10.0)	19.9 (26.7)	6.4 (9.9)	19.9 (26.7)
4.0	Ceiling mounting	7.6 (9.2)	18.3 (21.9)	7.7 (8.7)	17.4 (20.7)
5.0	Exit route centre	8.3 (10.1)	20.3 (24.4)	8.4 (10.0)	20.0 (23.2)
6.0		9.0 (11.0)	21.9 (26.7)	9.0 (11.1)	22.2 (25.5)
7.0	Dim level 50%	9.4 (11.7)	23.5 (28.6)	9.4 (11.9)	23.8 (28.2)
8.0		9.7 (12.5)	25.0 (30.3)	9.7 (12.5)	25.0 (30.5)
9.0		9.9 (13.0)	26.0 (31.7)	9.9 (13.0)	25.9 (32.3)
10.0		10.0 (13.4)	26.7 (33.4)	9.9 (13.4)	26.7 (33.8)
11.0		9.9 (13.7)	27.3 (34.9)	9.9 (13.7)	27.3 (35.0)
5.0	Ceiling mounting	10.1 (12.2)	24.4 (28.9)	10.0 (11.6)	23.2 (27.5)
6.0	Exit route centre	11.0 (13.3)	26.7 (31.9)	11.1 (12.7)	25.5 (30.2)
7.0		11.7 (14.3)	28.6 (34.4)	11.9 (14.1)	28.2 (32.7)
8.0	Dim level 100%	12.5 (15.1)	30.3 (36.7)	12.5 (15.3)	30.5 (34.9)
9.0		13.0 (15.9)	31.7 (38.7)	13.0 (16.2)	32.3 (37.5)
10.0		13.4 (16.7)	33.4 (40.6)	13.4 (16.9)	33.8 (40.1)
11.0		13.7 (17.5)	34.9 (42.3)	13.7 (17.5)	35.0 (42.5)
12.0		13.9 (18.0)	36.1 (43.9)	13.9 (18.0)	36.0 (44.5)
3.0	Ceiling mounting	4.2 (5.0)	11.0 (13.2)	4.2 (4.8)	11.0 (12.6)
4.0	Room illumination	4.7 (5.6)	12.9 (15.1)	4.6 (5.6)	12.9 (15.1)
5.0		4.9 (6.1)	14.5 (17.1)	4.8 (6.0)	14.4 (17.1)
6.0	Dim level 25%	5.0 (6.6)	15.7 (18.9)	5.0 (6.3)	15.7 (18.8)
7.0		5.0 (6.7)	16.7 (20.4)	5.0 (6.6)	16.7 (20.4)
8.0		5.0 (6.8)	17.5 (21.7)	4.9 (6.7)	17.5 (21.7)
9.0		4.8 (6.8)	18.2 (22.8)	4.7 (6.8)	18.2 (22.8)
10.0		4.6 (6.9)	18.7 (23.8)	4.5 (6.8)	18.7 (23.7)
4.0	Ceiling mounting	5.7 (6.9)	15.3 (18.6)	5.5 (6.1)	14.9 (16.8)
5.0	Room illumination	6.2 (7.7)	17.1 (20.7)	6.1 (6.9)	17.1 (19.3)
6.0		6.6 (7.9)	18.9 (22.1)	6.4 (7.9)	18.8 (22.1)
7.0	Dim level 50%	6.8 (8.4)	20.4 (24.1)	6.7 (8.3)	20.3 (24.1)
8.0		6.8 (8.9)	21.7 (25.9)	6.8 (8.6)	21.7 (25.9)
9.0		6.9 (9.1)	22.8 (27.6)	6.8 (8.9)	22.8 (27.5)
10.0		6.9 (9.3)	23.8 (29.0)	6.8 (9.2)	23.7 (29.0)
11.0		6.9 (9.3)	24.6 (30.3)	6.8 (9.3)	24.5 (30.4)
5.0	Ceiling mounting	8.0 (8.6)	21.1 (23.9)	6.6 (8.4)	18.9 (22.6)
6.0	Room illumination	7.9 (10.3)	22.1 (27.6)	8.0 (8.4)	22.1 (24.2)
7.0		8.5 (10.7)	24.1 (29.2)	8.3 (9.5)	24.1 (27.1)
8.0	Dim level 100%	9.0 (11.5)	25.9 (31.4)	8.7 (9.9)	25.8 (29.2)
9.0		9.2 (11.3)	27.5 (32.3)	9.0 (11.3)	27.5 (32.4)
10.0		9.4 (11.8)	29.0 (34.3)	9.2 (11.6)	28.9 (34.3)
11.0		9.4 (12.3)	30.3 (36.1)	9.4 (11.9)	30.3 (36.1)
12.0		9.5 (12.6)	31.5 (37.8)	9.4 (12.2)	31.5 (37.8)



Light distribution curve ExLin 5L-1 5300 lm
ExLin standard beam with clear cover

Planning help for ExLin 5L-1 5300 lm V-CG-S for E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
4.0	Ceiling mounting	6.6 (7.9)	15.7 (18.6)	6.5 (7.6)	15.2 (17.9)
5.0	Exit route centre	7.5 (9.1)	18.1 (21.6)	7.6 (8.9)	17.9 (20.8)
6.0		8.3 (10.1)	20.1 (24.1)	8.3 (10.1)	20.2 (23.5)
7.0	Dim level 25%	8.8 (10.9)	21.9 (26.4)	8.8 (11.0)	22.0 (26.2)
8.0		9.2 (11.7)	23.4 (28.4)	9.2 (11.7)	23.4 (28.4)
9.0		9.5 (12.3)	24.5 (30.1)	9.5 (12.3)	24.5 (30.3)
10.0		9.7 (12.7)	25.4 (31.8)	9.6 (12.7)	25.4 (31.8)
11.0		9.7 (13.1)	26.2 (33.2)	9.7 (13.1)	26.2 (33.2)
5.0	Ceiling mounting	10.1 (12.1)	24.1 (28.7)	10.1 (11.7)	23.5 (27.7)
6.0	Exit route centre	10.9 (13.2)	26.4 (31.5)	11.0 (13.1)	26.2 (30.4)
7.0		11.7 (14.2)	28.4 (33.9)	11.7 (14.2)	28.4 (33.0)
8.0	Dim level 50%	12.3 (15.1)	30.1 (36.3)	12.3 (15.2)	30.3 (35.8)
9.0		12.7 (15.9)	31.8 (38.4)	12.7 (15.9)	31.8 (38.3)
10.0		13.1 (16.6)	33.2 (40.3)	13.1 (16.6)	33.2 (40.4)
11.0		13.4 (17.2)	34.4 (42.0)	13.3 (17.2)	34.3 (42.3)
12.0		13.6 (17.7)	35.3 (43.8)	13.5 (17.7)	35.3 (44.0)
7.0	Ceiling mounting	14.2 (17.0)	33.9 (40.3)	14.2 (16.5)	33.0 (39.0)
8.0	Exit route centre	15.1 (18.2)	36.3 (43.2)	15.2 (17.9)	35.8 (41.7)
9.0		15.9 (19.2)	38.4 (45.8)	15.9 (19.1)	38.3 (44.3)
10.0	Dim level 100%	16.6 (20.1)	40.3 (48.2)	16.6 (20.2)	40.4 (47.0)
11.0		17.2 (21.0)	42.0 (50.6)	17.2 (21.2)	42.3 (49.8)
12.0		17.7 (21.9)	43.8 (52.9)	17.7 (22.0)	44.0 (52.4)
13.0		18.1 (22.7)	45.4 (54.9)	18.1 (22.7)	45.4 (54.8)
14.0		18.5 (23.4)	46.8 (56.7)	18.5 (23.4)	46.7 (56.9)
4.0	Ceiling mounting	4.8 (5.7)	12.9 (14.9)	4.8 (5.7)	12.8 (14.9)
5.0	Room illumination	5.4 (6.4)	14.9 (17.7)	5.6 (6.4)	15.0 (17.6)
6.0		6.4 (7.0)	17.3 (19.9)	5.7 (7.2)	16.3 (19.9)
7.0	Dim level 25%	6.6 (7.8)	18.5 (21.9)	6.4 (7.8)	18.4 (21.8)
8.0		6.8 (8.5)	20.0 (23.9)	6.5 (8.2)	19.9 (23.4)
9.0		6.7 (9.0)	21.3 (25.7)	6.7 (8.4)	21.3 (25.1)
10.0		6.7 (9.1)	22.4 (27.0)	6.7 (8.8)	22.5 (26.9)
11.0		6.7 (9.2)	23.4 (28.5)	6.6 (9.0)	23.4 (28.4)
5.0	Ceiling mounting	7.0 (8.4)	19.9 (23.3)	7.2 (8.4)	19.9 (23.3)
6.0	Room illumination	7.8 (9.1)	21.9 (25.8)	7.9 (9.2)	21.8 (25.8)
7.0		9.0 (9.7)	24.5 (28.1)	7.8 (9.9)	22.8 (28.0)
8.0	Dim level 50%	8.9 (10.4)	25.4 (30.1)	8.7 (10.6)	25.3 (30.0)
9.0		9.2 (11.3)	27.0 (32.3)	8.9 (10.9)	26.9 (31.5)
10.0		9.3 (12.0)	28.4 (34.1)	9.1 (11.4)	28.4 (33.2)
11.0		9.4 (12.3)	29.8 (35.6)	9.2 (11.9)	29.7 (35.2)
12.0		9.4 (12.7)	31.0 (37.3)	9.2 (12.0)	30.9 (36.8)
7.0	Ceiling mounting	9.7 (11.7)	28.0 (32.8)	10.0 (11.7)	28.0 (32.7)
8.0	Room illumination	10.4 (12.3)	30.0 (35.4)	10.7 (12.4)	30.0 (35.4)
9.0		11.1 (13.0)	31.8 (37.7)	11.3 (13.3)	31.9 (37.7)
10.0	Dim level 100%	11.8 (13.6)	33.6 (39.8)	11.8 (14.0)	33.6 (39.9)
11.0		12.2 (15.7)	35.3 (39.9)	12.1 (15.9)	35.4 (40.0)
12.0		12.6 (17.6)	37.0 (39.9)	12.3 (17.7)	37.0 (40.0)
13.0		12.8 (19.3)	38.6 (39.9)	12.4 (19.3)	38.5 (40.0)
14.0		12.9 (17.4)	39.9 (39.9)	12.7 (17.5)	40.0 (40.0)



Light distribution curve ExLin 7L-1 8120 lm
ExLin standard beam with clear cover

Planning help for ExLin 7L-2 8120 lm V-CG-S for E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
4.0	Ceiling mounting	8.5 (10.2)	20.4 (24.1)	8.2 (9.6)	19.2 (22.7)
5.0	Exit route centre	9.4 (11.3)	22.7 (27.1)	9.4 (10.7)	21.4 (25.5)
6.0		10.1 (12.3)	24.6 (29.7)	10.1 (12.1)	24.2 (28.0)
7.0	Dim level 25%	10.8 (13.2)	26.3 (31.9)	10.7 (13.3)	26.5 (30.2)
8.0		11.2 (14.0)	27.9 (33.9)	11.2 (14.0)	28.1 (32.9)
9.0		11.5 (14.7)	29.3 (35.8)	11.5 (14.7)	29.3 (35.5)
10.0		11.8 (15.3)	30.5 (37.4)	11.8 (15.2)	30.4 (37.7)
11.0		11.9 (15.7)	31.4 (39.0)	11.9 (15.7)	31.4 (39.2)
6.0	Ceiling mounting	12.3 (14.9)	29.7 (35.2)	12.1 (14.0)	28.0 (33.2)
7.0	Exit route centre	13.2 (16.0)	31.9 (38.2)	13.3 (15.1)	30.2 (35.9)
8.0		14.0 (17.0)	33.9 (40.8)	14.0 (16.5)	32.9 (38.4)
9.0	Dim level 50%	14.7 (17.9)	35.8 (43.2)	14.7 (17.8)	35.5 (40.7)
10.0		15.3 (18.7)	37.4 (45.4)	15.2 (18.9)	37.7 (42.9)
11.0		15.7 (19.5)	39.0 (47.4)	15.7 (19.6)	39.2 (45.7)
12.0		16.1 (20.2)	40.5 (49.3)	16.1 (20.3)	40.6 (48.4)
13.0		16.4 (20.9)	41.9 (51.0)	16.4 (20.9)	41.8 (51.0)
8.0	Ceiling mounting	17.1 (20.5)	40.8 (48.3)	16.5 (19.2)	38.4 (45.6)
9.0	Exit route centre	18.0 (21.7)	43.2 (51.4)	17.8 (20.4)	40.8 (48.5)
10.0		18.8 (22.8)	45.4 (54.3)	18.9 (21.5)	43.0 (51.2)
11.0	Dim level 100%	19.5 (23.7)	47.4 (57.0)	19.6 (22.9)	45.7 (53.5)
12.0		20.2 (24.6)	49.3 (59.4)	20.3 (24.2)	48.4 (55.9)
13.0		20.9 (25.5)	51.0 (61.7)	20.9 (25.5)	51.0 (58.2)
14.0		21.5 (26.4)	52.7 (63.9)	21.5 (26.6)	53.0 (60.4)
15.0		22.0 (27.2)	54.3 (66.0)	21.9 (27.4)	54.7 (63.1)
4.0	Ceiling mounting	7.0 (7.4)	18.0 (20.1)	5.3 (7.0)	15.3 (18.5)
5.0	Room illumination	6.8 (8.6)	18.8 (23.4)	6.9 (7.3)	18.7 (20.7)
6.0		7.3 (9.4)	20.8 (25.4)	7.2 (8.1)	20.8 (23.2)
7.0	Dim level 25%	7.7 (9.4)	22.6 (26.5)	7.5 (9.5)	22.5 (26.3)
8.0		7.9 (10.1)	24.1 (28.9)	7.8 (9.6)	24.1 (28.2)
9.0		8.0 (10.3)	25.5 (30.5)	7.9 (10.1)	25.4 (30.4)
10.0		8.2 (10.5)	26.6 (32.1)	8.1 (10.4)	26.6 (32.2)
11.0		8.2 (10.8)	27.6 (33.7)	8.2 (10.6)	27.7 (33.7)
6.0	Ceiling mounting	9.8 (10.4)	25.9 (29.3)	7.8 (10.0)	22.7 (27.3)
7.0	Room illumination	9.8 (11.5)	27.0 (32.3)	9.1 (10.5)	25.8 (29.7)
8.0		9.9 (12.9)	28.5 (35.3)	9.9 (10.7)	28.5 (31.4)
9.0	Dim level 50%	10.3 (13.4)	30.5 (36.8)	10.1 (11.8)	30.4 (34.1)
10.0		10.7 (13.5)	32.1 (38.2)	10.4 (12.9)	32.1 (37.0)
11.0		10.8 (13.7)	33.6 (39.7)	10.7 (13.7)	33.7 (39.7)
12.0		11.1 (15.3)	35.1 (39.9)	10.9 (15.3)	35.0 (40.0)
13.0		11.1 (16.9)	36.3 (39.9)	11.1 (16.8)	36.4 (40.0)
8.0	Ceiling mounting	12.9 (13.8)	34.9 (39.3)	11.0 (14.0)	31.7 (37.9)
9.0	Room illumination	14.0 (15.1)	37.4 (39.9)	11.3 (16.0)	33.5 (40.0)
10.0		14.5 (18.0)	39.2 (39.9)	12.1 (18.2)	36.0 (40.0)
11.0	Dim level 100%	13.8 (17.4)	39.8 (39.9)	13.7 (17.5)	39.6 (40.0)
12.0		15.4 (18.4)	39.9 (39.9)	15.3 (18.5)	40.0 (40.0)
13.0		17.0 (18.4)	39.9 (39.9)	16.9 (19.5)	40.0 (40.0)
14.0		18.3 (19.4)	39.9 (39.9)	18.2 (19.5)	40.0 (40.0)
15.0		19.5 (19.4)	39.9 (39.9)	19.4 (20.5)	40.0 (40.0)

Linear luminaire eLLK

Safety and Exit Sign Luminaires - Explosion protected

eLLK 92 LED 400A V-CG-S (2 x 13 W)



eLLK 92 LED 800A V-CG-S (2 x 26 W)



eLLK 92 LED V-CG-S

- Completely monitored explosion-protected LED luminaire
- Life time of LED module L 70 = 110.000 h @ ta=25 °C
- Colour temperature 5700 K as standard and 4000 K available on request
- Single lamp operation during DC power supply (emergency operation)
- Enclosure made of reinforced polyester
- Double ended through-wiring with Ex-e cable infeeds for double-ended cable connection
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Marking acc. to 94/9/EG	Ex II 2G Ex de mb II T4 Gb Ex II 2D Ex tb IIIC T80 °C Db IP66
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEx-inspection certificate	IECEX BVS 09.0033
Marking acc. to IECEx	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db
Housing material	Glass fibre reinforced polyester
Protective bowl	Polycarbonate
Rated voltage	AC: 220 – 254 V DC: 195 – 250 V
Circuit	EVG / CG-S
Rated current	0.15 A / 0.08 A (eLLK 92 LED 400A V-CG-S) 0.25 A / 0.13 A (eLLK 92 LED 800A V-CG-S)
Power consumption	29 W (eLLK 92 LED 400A V-CG-S) 57 W (eLLK 92 LED 800A V-CG-S)
Power factor cos φ	≥ 0.95
Permissible ambient temperature	–25 °C up to + 50 °C
Cable infeeds	Ex-e-cable glands M25 x 1.5 (plastic) for cables Ø 8- 17 mm, Option: M20 x 1.5 metal thread*
Connection terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal
Light source	LED module 400A - 2 x 13 W LED module 800A- 2 x 26 W
Weight	7.4 kg (eLLK 92 LED 400A V-CG-S) 11.1 kg (eLLK 92 LED 800A V-CG-S)

*With dust cover for unlocked entering/metal thread

Ordering details

Type	Colour temperature	Circuit	Luminous flux mains operation	Luminous flux emergency operation*	Order-No.
eLLK 92 LED 400A V-CG-S 2 x M25, plastic gland	5700 K	EVG/CG-S	2700lm	1350lm	12265516103
eLLK 92 LED 400A V-CG-S 4 x M20, metal thread	5700 K	EVG/CG-S	2700lm	1350lm	12265516111
eLLK 92 LED 800A V-CG-S 2 x M25, plastic gland	5700 K	EVG/CG-S	5350lm	2675lm	12266516103
eLLK 92 LED 800A V-CG-S 4 x M20, metal thread	5700 K	EVG/CG-S	5350lm	2675lm	12266516111

[1] Only 1 light source active during DC-operation
Delivery without mounting accessories!

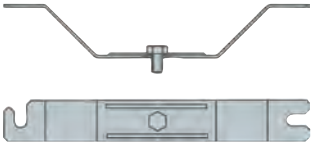
Permissible number of luminaires per output circuit

Connection with	eLLK 92 LED 400A CG-S	eLLK 92 LED 800A CG-S
SKU 4 x 1 A	6	4
SKU 2 x 3 A, SKU CG 2 x 3 A	12	12
SKU CG-S 2 x 3 A	19	12
SKU 1 x 6 A, SKU CG 1 x 6 A	18	18
SKU CG-S 1 x 6 A	20	20
SKU CG-S 4 x 1.5 A	6	6

Ordering details fixing materials eLLK 92

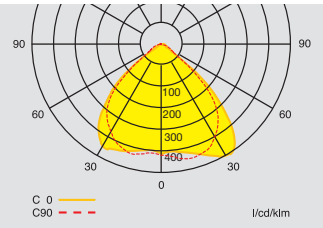
Type/ code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	22480002000
Hexagon screw S4	stainless steel	2	22480054000
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	22480092000

Ceiling mounting bracket



Ordering details fixing materials

Type/ code	Corrosion protectiong	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp R12	hot galvanized	11/4"	38- 42	2	22480462000
Pipe clamp R14	CrNi	11/4"	38- 42	2	22480464000
Pipe clamp R22	hot galvanized	11/2"	47- 51	2	22480472000
Pipe clamp R24	CrNi	11/2"	47- 51	2	22480474000
Pipe clamp R32	hot galvanized	2"	56- 60	2	22480482000
Pipe clamp R34	CrNi	2"	56- 60	2	22480484000
Wall bracket W27	hot galvanized		42.4	1	22480302700
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	22480000122

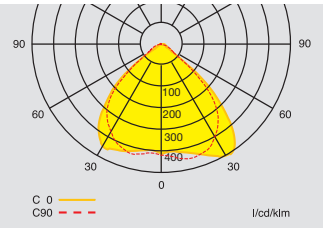


Light distribution curve
eLLK 92 LED 400A V-CG-S

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Planning help for eLLK 92 LED 400A (5700 K) V-CG-S for E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.4 (5.3)	10.6 (12.8)	4.2 (4.8)	9.6 (11.3)
3.0	Exit route centre	4.8 (5.7)	11.5 (13.9)	4.7 (5.3)	10.6 (12.3)
3.5		5.3 (6.1)	12.3 (14.9)	5.2 (5.9)	11.7 (13.5)
4.0		5.7 (6.6)	13.2 (15.8)	5.7 (6.4)	12.9 (14.5)
4.5		6.2 (7.1)	14.1 (16.7)	6.3 (7.0)	13.9 (15.5)
5.0		6.6 (7.5)	14.9 (17.4)	6.8 (7.4)	14.9 (16.7)
5.5		7.1 (7.8)	15.7 (18.4)	7.3 (7.9)	15.7 (17.9)
6.0		7.5 (8.4)	16.7 (19.3)	7.8 (8.4)	16.9 (18.9)
6.5		7.9 (8.9)	17.7 (20.2)	8.3 (9.0)	18.0 (19.9)
7.0		8.2 (9.3)	18.7 (21.0)	8.7 (9.6)	19.1 (20.9)
7.5		8.6 (9.8)	19.6 (21.8)	9.1 (10.1)	20.2 (21.8)
8.0		8.9 (10.2)	20.4 (22.6)	9.5 (10.6)	21.2 (22.7)
8.5		9.2 (10.6)	21.2 (23.7)	9.9 (11.1)	22.2 (23.9)
9.0		9.4 (11.0)	22.0 (24.7)	10.2 (11.5)	23.1 (25.1)
9.5		9.7 (11.3)	22.7 (25.7)	10.5 (12.0)	24.0 (26.2)
10.0		9.9 (11.7)	23.4 (26.6)	10.7 (12.4)	24.9 (27.3)
10.5		10.0 (12.0)	24.1 (27.5)	11.0 (12.8)	25.7 (28.3)
11.0		10.2 (12.4)	24.7 (28.3)	11.2 (13.2)	26.5 (29.3)
11.5		10.3 (12.7)	25.3 (29.2)	11.4 (13.6)	27.2 (30.3)
12.0		10.3 (12.9)	25.9 (30.0)	11.6 (13.9)	27.9 (31.3)
2.5	Ceiling mounting	3.3 (3.6)	8.7 (10.2)	3.4 (4.1)	8.1 (10.1)
3.0	Room illumination	4.0 (4.2)	9.9 (11.6)	3.4 (4.1)	8.4 (10.5)
3.5		3.9 (4.4)	10.0 (12.2)	4.2 (4.6)	9.8 (11.5)
4.0		4.6 (5.0)	10.9 (13.2)	4.5 (4.8)	10.4 (12.0)
4.5		5.1 (5.4)	11.3 (14.1)	5.2 (5.0)	11.3 (12.6)
5.0		5.6 (6.0)	12.1 (15.2)	5.6 (5.0)	12.0 (13.1)
5.5		5.9 (6.1)	13.0 (15.0)	5.8 (6.1)	13.0 (14.7)
6.0		6.1 (6.7)	13.9 (15.8)	6.0 (6.6)	13.9 (15.3)
6.5		6.4 (7.3)	14.8 (16.5)	6.1 (7.1)	14.7 (15.9)
7.0		6.7 (7.6)	15.6 (17.0)	6.4 (7.7)	15.5 (16.9)
7.5		6.7 (7.9)	15.9 (17.9)	7.1 (7.9)	16.8 (17.9)
8.0		6.8 (8.2)	16.3 (18.8)	7.6 (8.2)	17.9 (18.8)
8.5		7.1 (8.5)	17.1 (19.7)	7.8 (8.3)	18.5 (19.7)
9.0		7.0 (8.8)	17.1 (20.6)	8.5 (8.4)	19.9 (20.5)
9.5		7.3 (8.9)	17.8 (21.3)	8.7 (8.7)	20.5 (21.5)
10.0		7.8 (9.2)	19.0 (22.0)	8.6 (9.1)	20.7 (22.4)
10.5		8.0 (9.6)	19.8 (23.0)	8.7 (9.3)	21.3 (22.9)
11.0		8.6 (9.2)	21.1 (22.6)	8.3 (10.4)	21.3 (24.9)
11.5		8.0 (9.9)	20.7 (23.9)	9.1 (10.3)	23.1 (25.0)
12.0		8.7 (10.2)	22.4 (24.6)	8.3 (10.5)	22.6 (25.7)



Light distribution curve
eLLK 92 LED 800A V-CG-S

Planning help for eLLK 92 LED 800A (5700 K) V-CG-S for E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	5.3 (6.4)	12.8 (15.2)	4.8 (5.7)	11.3 (14.4)
3.0	Exit route centre	5.7 (7.0)	13.9 (16.7)	5.3 (6.2)	12.3 (15.2)
3.5		6.1 (7.5)	14.9 (18.0)	5.9 (6.7)	13.5 (16.0)
4.0		6.6 (7.9)	15.8 (19.2)	6.4 (7.3)	14.5 (16.9)
4.5		7.1 (8.3)	16.7 (20.2)	7.0 (7.7)	15.5 (18.1)
5.0		7.5 (8.7)	17.4 (21.2)	7.4 (8.4)	16.7 (19.2)
5.5		7.8 (9.2)	18.4 (22.1)	7.9 (8.9)	17.9 (20.2)
6.0		8.4 (9.7)	19.3 (23.0)	8.4 (9.5)	18.9 (21.2)
6.5		8.9 (10.1)	20.2 (23.8)	9.0 (10.0)	19.9 (22.3)
7.0		9.3 (10.5)	21.0 (24.6)	9.6 (10.5)	20.9 (23.5)
7.5		9.8 (10.9)	21.8 (25.5)	10.1 (10.9)	21.8 (24.6)
8.0		10.2 (11.3)	22.6 (26.4)	10.6 (11.4)	22.7 (25.8)
8.5		10.6 (11.8)	23.7 (27.4)	11.1 (12.0)	23.9 (26.8)
9.0		11.0 (12.3)	24.7 (28.3)	11.5 (12.5)	25.1 (27.8)
9.5		11.3 (12.8)	25.7 (29.1)	12.0 (13.1)	26.2 (28.8)
10.0		11.7 (13.3)	26.6 (29.9)	12.4 (13.6)	27.3 (29.7)
10.5		12.1 (13.8)	27.6 (30.8)	12.9 (14.2)	28.4 (30.8)
11.0		12.4 (14.2)	28.5 (31.5)	13.3 (14.7)	29.4 (31.7)
11.5		12.7 (14.6)	29.3 (32.5)	13.7 (15.2)	30.4 (32.7)
12.0		13.0 (15.1)	30.1 (33.6)	14.0 (15.7)	31.4 (33.9)
2.5	Ceiling mounting	3.6 (4.0)	10.2 (12.3)	4.1 (4.6)	10.1 (12.7)
3.0	Room illumination	3.9 (4.5)	11.0 (13.5)	4.5 (5.0)	11.0 (13.4)
3.5		4.6 (5.1)	12.4 (14.8)	4.5 (5.3)	11.3 (13.9)
4.0		5.2 (5.3)	13.4 (15.5)	4.7 (5.8)	11.8 (14.9)
4.5		5.7 (5.7)	14.5 (16.4)	4.8 (6.1)	12.2 (15.7)
5.0		5.5 (6.7)	14.3 (18.2)	5.7 (5.8)	13.9 (15.6)
5.5		6.2 (7.1)	15.2 (19.0)	5.9 (6.1)	14.5 (16.3)
6.0		7.0 (7.5)	16.3 (19.8)	6.2 (6.4)	14.8 (16.9)
6.5		7.2 (7.4)	16.2 (20.0)	7.3 (7.1)	16.1 (18.2)
7.0		7.7 (7.9)	17.0 (20.9)	7.7 (7.2)	16.9 (18.9)
7.5		7.9 (8.5)	17.9 (21.6)	7.9 (7.5)	17.9 (19.7)
8.0		8.2 (8.9)	18.8 (21.9)	8.2 (8.4)	18.8 (20.8)
8.5		8.5 (9.2)	19.7 (22.0)	8.3 (9.4)	19.7 (22.0)
9.0		8.8 (9.8)	20.6 (22.7)	8.5 (9.9)	20.5 (22.6)
9.5		8.7 (10.3)	20.9 (23.3)	9.1 (10.4)	21.9 (23.3)
10.0		8.9 (10.6)	21.6 (24.2)	9.4 (10.7)	22.8 (24.2)
10.5		9.4 (11.0)	22.6 (25.2)	9.7 (11.1)	23.5 (25.2)
11.0		9.7 (11.3)	23.3 (26.1)	10.0 (11.3)	24.3 (26.2)
11.5		9.7 (11.6)	23.6 (27.1)	10.6 (11.4)	25.5 (27.0)
12.0		10.1 (11.9)	24.5 (28.0)	10.7 (11.6)	26.0 (27.9)

EXIT LED V-CG-S

Safety and Exit Sign Luminaires - Explosion protected

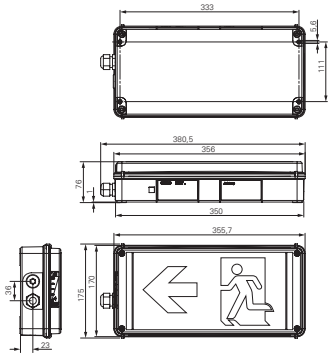
EXIT LED V-CG-S



EXIT LED V-CG-S without pictogramm



Dimensions in mm



EXIT LED V-CG-S/EXIT LED 2 V-CG-S

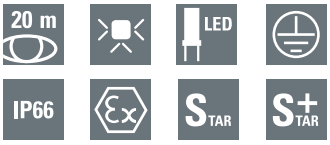
- Explosion protected safety luminaire with white high power LEDs
- Minimum maintenance effort with high LED service life via optimised power output control of LED regulation
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Viewing distance	25 m (gem. DIN EN 1838)	
Marking acc. to 2014/34/EU	EXIT V-CG-S	II 2 G Ex e ib mb IIC T6/T5 Gb II 2 D Ex tb IIIC T80°C Db
	EXIT 2 V-CG-S	II 3 G Ex e ic mc IIC T6/T5 Gc II 3 D Ex tc IIIC T80°C Dc
EC-type examination certificate	EXIT V-CG-S	BVS 09 ATEX E 029
	EXIT 2 V-CG-S	BVS 15 ATEX E 074
IECEx-inspection certificate	EXIT V-CG-S	IECEx BVS 13.0017
	EXIT 2 V-CG-S	IECEx BVS 15.0065
Marking acc. to IECEx	EXIT V-CG-S	Ex e ib mb IIC T6/T5 Gb Ex tb IIIC T80°C Db
	EXIT 2 V-CG-S	Ex e ic mc IIC T6/T5 Gc Ex tc IIIC T80°C Dc
Housing material	Polycarbonate (850 °C glow wire resistant)	
Housing colour	Grey, RAL 7035	
Protective cover	Polycarbonate	
Rated voltage EXIT CG-S admissible tolerances acc. to EN 60079-0	AC: 220 – 254 V, 50/60 Hz DC: 195 – 250 V	
Current consumption - battery operation (220 V)	20 mA	
Rated power	approx. 6 VA	
Permissible temperature range	– 20 °C to + 40/50 °C (T6/T5)	
Cable infeeds	1 x Ex e-cable entry M20 x 1.5 (Plastic) 1 x Ex e-blanking plug M20 x 1.5	
Connection terminals	3 x Loop terminals 2.5 mm²	
Type of mounting	Wall mounting	
Light source	High-power LEDs, white	

Ordering details

Type	Scope of supply	Order No.
EXIT LED V-CG-S	including cover with silk-screened pictogram PR	12191020021
	including cover with silk-screened pictogram PL	12191020022
	including cover with silk-screened pictogram PU	12191020023
	including cover, clear, without pictogram	12191020004
EXIT LED 2 V-CG-S	including cover with silk-screened pictogram PR	12193020021
for Zone 2	including cover with silk-screened pictogram PL	12193020022
for Zone 22	including cover with silk-screened pictogram PU	12193020023
	including cover, clear, without pictogram	12193020004

Other pictograms on request



dKLK 23 V-CG-S

- Explosion protected safety and exit sign luminaire
- Enclosure made of reinforced polyester
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

dKLK 23 V-CG-S with eXLink



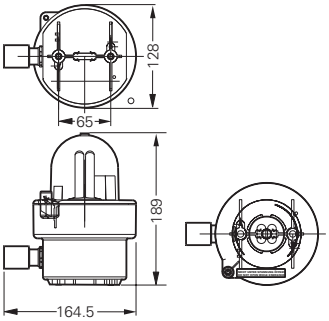
dKLK 23 V-CG-S

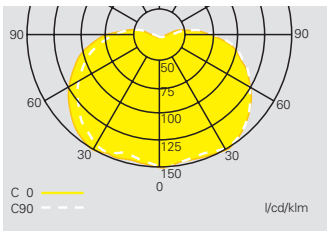


Exit sign cube for dKLK 23 V-CG-S



Dimensions in mm





Light distribution curve
dKLK 23 V-CG-S

Viewing distance	20 m (with cube 40071352757)
Marking acc. to RL 2014/34/EU	Ⓔx II 2G Ex d IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db IP66
EU-type inspection certificate	BVS 10 ATEX E003
Housing material	glass-fibre reinforced polyester
Protective cover	Polycarbonate (850 °C glow wire resistant)
Rated voltage	AC: 230 V +/– 10 %, 50-60 Hz DC: 220 V + 25 %/– 20 %
Rated current	ca. 76 mA
Permissible ambient temperature	–20 °C to +45 °C (depends on lamp wattage and mounting position)
Power connection	pressure-resistant connector plug eXLink, 3pole Ex d cable entry M20 x 1.5 for cables Ø 7-12 mm
Coupler (enclosed) (type: exLink)	2 + PE cage clamp terminal for power Ø 8-11 mm and max. 1.5 mm² (rigid)
Connection terminals (Ex-d-Verschluss)	L, N, PE, max. 2.5 mm² terminals
Light source	LLED 8G 6027 LmKW 8W SPP1 (640 lm)
Weight	approx. 1.7 kg

Ordering details

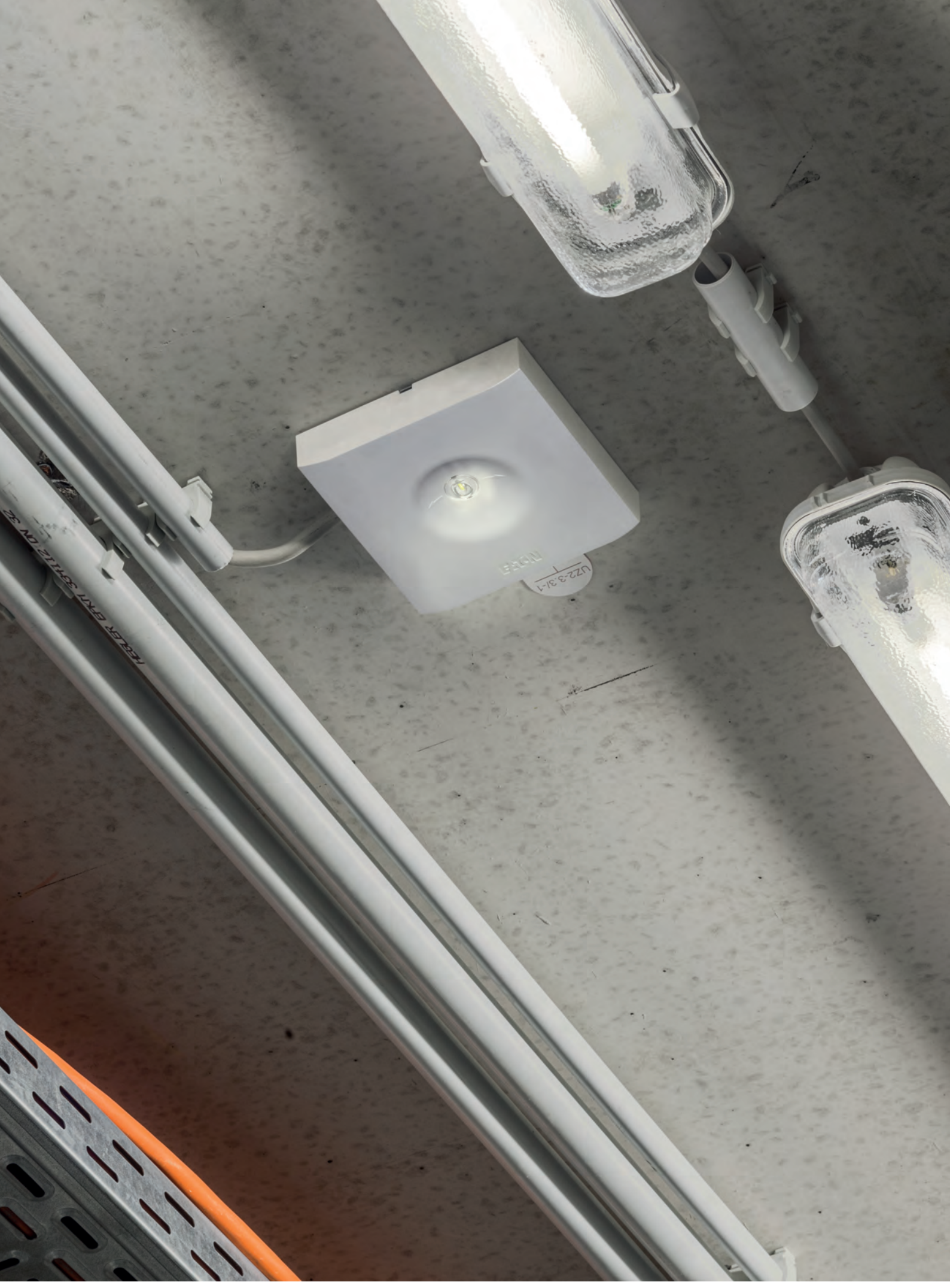
Type	Scope of supply	Order No.
dKLK 23 V-CG-S with eXLink	Luminaire with CG monitoring and 20-digit address switch, without light source, with eXLink	GHG8712001R0001
dKLK 23 V-CG-S with Ex d screw	Luminaire with CG monitoring and 20-digit address switch, without light source, with pressure-resistant cable entry	GHG8712001R0101

Accessories

Type		Order No.
Lamp	LLED 8G 6027 LmKW 8W SPP1 (640 lm)	GHG 8701914 R0005
Cube	Exit sign (242 x 227 x 242) Viewing distance 20 m acc. to ISO 7010	40071354680

Planning help for dKLK V-CG-S for E = 1.0 lx (0.5 lx) - Light source LLED 8G/640 lm
Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

Mounting height [m]	Types of mounting	L1	L2
2.5	Ceiling mounting	4.3 (5.6)	11.2 (14.3)
3.0	Exit route centre	4.4 (5.9)	11.8 (15.2)
3.5		4.5 (6.1)	12.2 (15.8)
4.0		4.5 (6.2)	12.5 (16.4)
4.5		4.4 (6.3)	12.7 (16.9)
2.5	Ceiling mounting	3.4 (4.1)	10.3 (13.0)
3.0	Room illumination	3.4 (4.3)	10.8 (13.8)
3.5		3.4 (4.4)	11.3 (14.4)
4.0		3.4 (4.5)	11.7 (15.1)
4.5		3.4 (4.6)	12.1 (15.6)


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UZ2-3/4-1

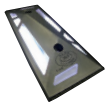
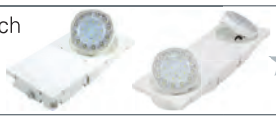


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Safety Luminaires for Escape Route Lighting

Overview

		Performance	Aesthetic	Low consumption / Eco-friendly	Protection Degree	Luminous flux	24 V	48 V	110 V	220 V DC	230 V AC	Monitored CG-S	Monitored EC 1.5
			Global Features				Voltage					Technology	
7.1	GuideLed SL 	★★★	●	●	20 41	250 lm 288 lm 335 lm				●	●	●	
7.2	GuideLed FSL 	★★★	●	●	40	240 lm 220 lm				●	●	●	
7.3	Micropoint 2 	★★★	●	●	20 44	142 lm 290 lm				●	●	●	●
7.4	3503.1 ... 3604.1 LED 	★★★	●		20	470 lm 620 lm				●	●	●	
7.5	3514 LED 	★★★			20	512 lm				●	●	●	
7.6	Planete 400 Disc 	★★★	●	●	41	360 lm 400 lm	●	●		●	●	●	
7.7	HandRail 	★★★	●	●	66	118 lm 164 lm 235 lm				●	●	●	
7.8	Step Light 	★★★			65	33 lm				●	●		
7.9	BXP NF ground Light 	★★★	●	●	66	45 lm	●	●		●	●		
7.10	Crompack LED 	★★			20	2500 lm				●	●		
7.11	FlexiTech SE 	★★★			43 65	400 lm				●	●	●	
7.12	BeamTech 	★★	●	●	65	400 lm				●	●	●	
7.13	BeamLiteII 	★		●	65	2x 400 lm				●	●	●	

Installation				Applications							
Wall	Ceiling surface	Ceiling recessed	Ceiling Suspended	Healthcare	Hotels	Cinemas / Theaters	Commercial centers	Stadia / Arenas	Offices	Industrial	Warehouse
	●	●		●	●	●	●		●		
	●	●		●	●	●	●		●		
	●	●		●	●	●	●		●		
		●		●	●	●	●		●		
	●			●	●	●	●		●		
●	●	●		●	●	●	●		●		
				●	●	●	●	●	●	●	●
				●	●	●	●	●	●	●	●
	●						●	●		●	●
●	●	●		●	●	●	●	●	●		
●	●	●				●	●	●		●	●
●	●					●	●	●		●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Safety luminaires

Safety Luminaires for Escape Route Lighting



Three design variants

There are three safety luminaires suitable for the design concept of the GuideLed exit luminaires:

With its 1.5 mm high frame, the GuideLed built-in variant is almost flush with the ceiling.

On account to the radii oriented to the main direction, the surface mounted variant GuideLed SL is inconspicuous with its 32 mm in height.

Both the recessed and the surface mounted version are available with especially narrow beam optics. They allow mounting hights of up to 30 m.

The extremely flat GuideLed FSL stands out for its lightguide technology, highly precise micro-prism optics and an especially uniform anti-glare shielded light exit surface.

Special refractive optics

GuideLed SL comes in two light distributions harmonised precisely to the requirements of safety illumination. The refractive optics guide the light either longitudinally along the escape route or uniformly across the surface.

High optical power

Despite their small structural shapes. the CEAG LED safety luminaires are on one level with the fluorescent lamps with a much higher wattage. At a mounting height of 3 m. luminaire spacings of up to 16 m and/or maximum mounting heights up to 10 m can be realised.



GuideLed SL 13021.1 CG-S



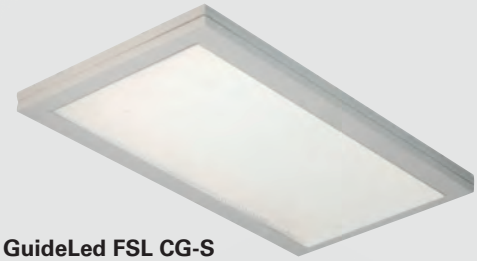
GuideLed SL 13031 CG-S



GuideLed SL 13012.1 CG-S

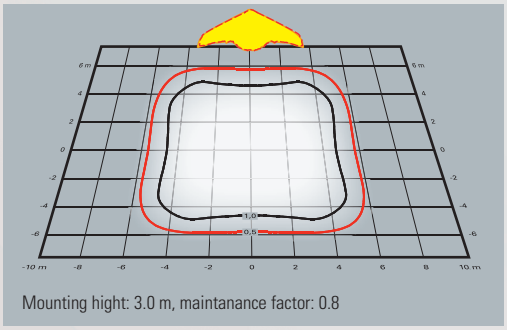


GuideLed SL 13032 CG-S



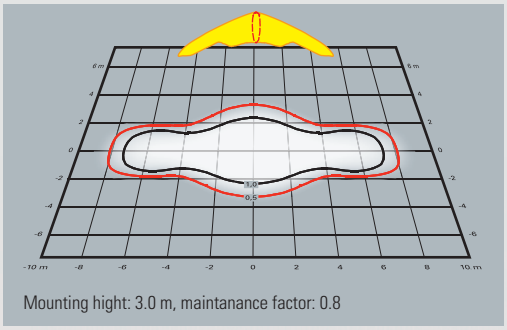
GuideLed FSL CG-S

Light distribution for open area illumination



Mounting hight: 3.0 m, maintanance factor: 0.8

Light distribution for escape route illumination



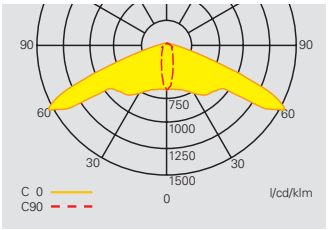
Mounting hight: 3.0 m, maintanance factor: 0.8

GuideLed SL 13011.1, 13021.1 CG-S

Safety Luminaires for Escape Route Lighting

GuideLed SL 13011.1 CG-S

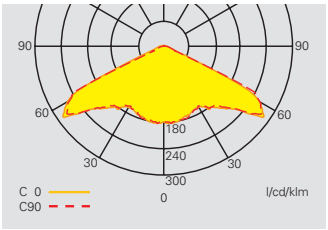




Light distribution curve
GuideLed SL 13011.1 CG-S recessed with asymmetric optics

GuideLed SL 13021.1 CG-S





Light distribution curve
GuideLed SL 13021.1 CG-S recessed with symmetric optics

Sqare bezel for
GuideLed SL 130x1.1 CG-S



GuideLed SL 13011.1, 13021.1 CG-S

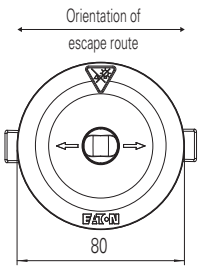
- Safety luminaire with LED technology for recessed mounting
- Unobtrusive, discrete appearance with round design and low installation depth of only 40 mm
- Conversion to square design with optional bezel to fit to the ceiling plan if necessary
- Special LED optics ensure especially efficient escape route illumination or uniform anti-panic illumination
- High Spacing by exact light direction and highly-efficient HighPowerLEDs
- Up to 27 m from luminaire to luminaire with optics for escape route illumination
- Up to 12 m from luminaire to luminaire with optics for antipanic illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

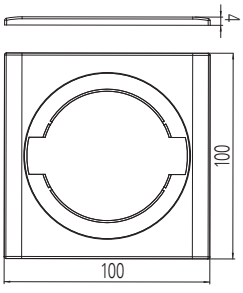
Luminous flux Φ_N	Asymmetric optics 250 lm Symmetric optics 250 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	PC, aluminium
Housing colour	White RAL 9016
Weight	0.25 kg
Type of mounting	Recessed mounting
Terminals	Clamp terminal 2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power/effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	HighPower LED 1 x 2 W

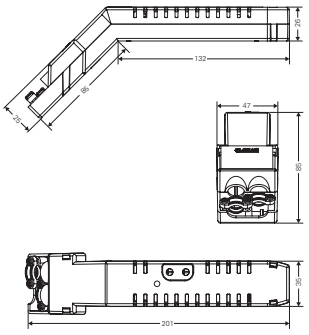
Ordering details

Type	Scope of supply	Order No.
GuideLed SL 13011.1 CG-S	GuideLed SL 13011.1 CG-S, recessed mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071354480
GuideLed SL 13021.1 CG-S	GuideLed SL 13021.1 CG-S, recessed mounting with symmetric optics for anti-panic or open space illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071354481
Sqare bezel	Sqare bezel GuideLed SL 130x1.1 CG-S	40071354488
Plastic enclosure	Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S	40071353169

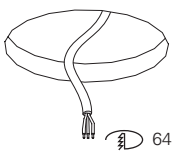
Dimensions in mm

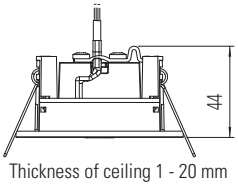






Module housing





Thickness of ceiling 1 - 20 mm

* Degree of protection of the luminaire: IP41 (Once installed in the ceiling, the luminaire face is rated IP41)
Degree of protection of module enclosure: IP20

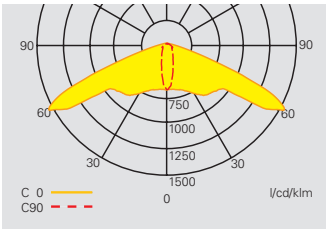
GuideLed SL 13012.1, 13022.1 CG-S

- Safety luminaire with LED technology for surface mounting
- Slender, discrete design with low height of 32 mm
- Special LED optics ensure especially efficient escape route illumination or uniform anti-panic illumination
- High spacing by exact light direction and highly-efficient HighPowerLEDs
- Up to 27 m from luminaire to luminaire with optics for escape route illumination
- Up to 12 m from luminaire to luminaire with optics for antipanic illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

Luminous flux Φ_N	Asymmetric optics 250 lm Symmetric optics 250 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	PC, Aluminium
Housing colour	White RAL 9016
Weight	0.33 kg
Type of mounting	Surface mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power/effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	HighPower LED 1 x 2 W

GuideLed SL 13012.1 CG-S

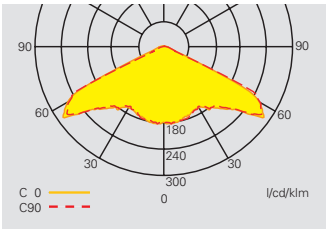




Light distribution curve
GuideLed SL 13012.1 CG-S surface with asymmetric optics

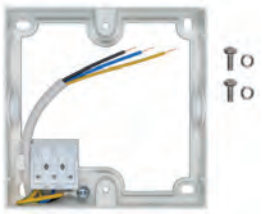
GuideLed SL 13022.1 CG-S





Light distribution curve
GuideLed SL 13022.1 CG-S surface with symmetric optics

Additional enclosure

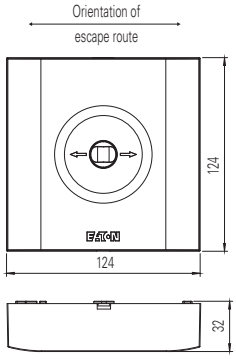


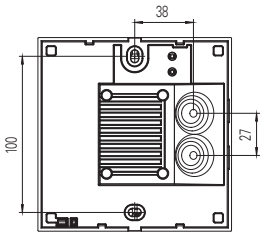


Ordering details

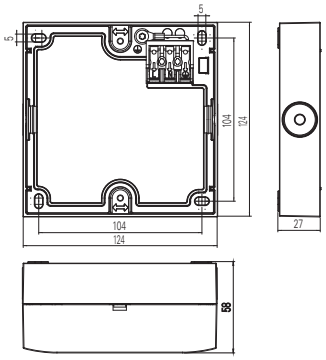
	Scope of supply	Order No.
GuideLed SL 13012.1 CG-S	GuideLed SL 13012.1 CG-S surface mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses)	40071354482
GuideLed SL 13022.1 CG-S	GuideLed SL 13022.1 CG-S surface mounting with symmetric optics for anti-panic or open space illumination, LED supply and CG-S technology (20 addresses)	40071354483
Additional enclosure for GuideLed SL 130x2.1	Additional enclosure for GuideLed SL 130x2.1, for more space for wiring and cable entry, including through-wiring terminal and connection cable to luminaire	40071354489

Dimensions in mm



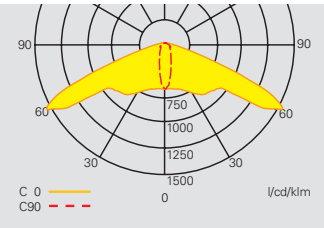


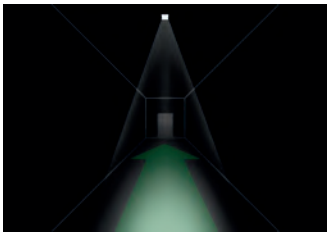
Additional enclosure



GuideLed SL 13011.1, 13021.1, 13012.1, 13022.1 CG-S

Safety Luminaires for Escape Route Lighting

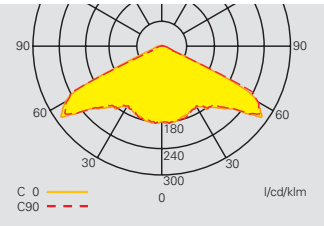


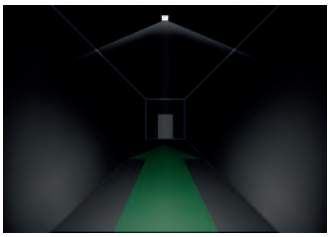


Escape route illumination
with asymmetric optics

Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.3 (3.4)	6.8 (8.3)	6.4 (7.1)	14.1 (15.6)
3.0	Escape route	2.3 (3.2)	6.4 (9.2)	7.3 (8.1)	16.1 (17.8)
3.5	centre	2.3 (3.2)	6.5 (9.7)	8.1 (9.0)	17.9 (19.9)
4.0		2.3 (3.3)	6.5 (9.4)	8.8 (9.9)	19.7 (21.9)
4.5		2.3 (3.3)	6.6 (9.1)	9.5 (10.7)	21.4 (23.7)
5.0		2.2 (3.3)	6.6 (9.2)	10.0 (11.5)	23.0 (25.6)
5.5		2.1 (3.3)	6.6 (9.2)	10.4 (12.2)	24.4 (27.4)
6.0		2.0 (3.3)	6.5 (9.3)	10.7 (12.9)	25.8 (29.1)
6.5		1.9 (3.2)	6.4 (9.4)	7.9 (13.5)	27.0 (30.8)
7.0		1.8 (3.1)	6.2 (9.4)	7.6 (14.0)	26.0 (32.3)
7.5		1.7 (3.1)	6.1 (9.3)	7.3 (14.5)	25.9 (33.7)
8.0		1.6 (2.9)	5.8 (9.3)	7.0 (14.8)	26.2 (35.2)
8.5		1.4 (2.8)	5.7 (9.3)	6.7 (15.1)	26.4 (36.6)
9.0		1.2 (2.8)	5.5 (9.1)	6.1 (14.9)	26.1 (37.8)
9.5		1.0 (2.7)	5.3 (9.0)	4.7 (10.9)	21.9 (37.6)
10.0		0.6 (2.5)	5.0 (8.8)	2.5 (10.7)	21.4 (36.7)





Escape route illumination
with symmetric optics



Room illumination
with symmetric optics

Planning assistance for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

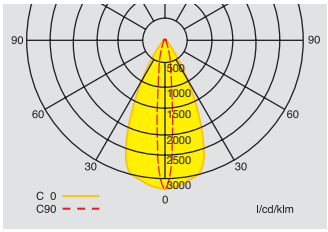
Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.4 (5.0)	9.9 (10.4)	4.4 (4.9)	9.8 (10.4)
3.0	Escape route	4.6 (5.9)	11.2 (12.3)	4.6 (5.7)	11.2 (12.1)
3.5	centre	4.5 (6.2)	12.3 (14.0)	4.6 (6.2)	12.3 (13.8)
4.0		3.5 (6.4)	12.5 (15.2)	3.8 (6.4)	12.5 (15.2)
4.5		2.9 (6.6)	13.0 (16.4)	3.2 (6.6)	12.7 (16.4)
5.0		2.4 (6.2)	12.3 (17.4)	2.4 (6.4)	12.4 (17.4)
5.5		1.9 (5.3)	10.6 (17.5)	1.8 (5.5)	11.0 (17.6)
6.0		0.7 (4.7)	9.4 (17.8)	0.9 (4.8)	9.6 (17.9)
2.5	Ceiling mounting	4.1 (4.6)	9.6 (10.3)	4.3 (4.7)	9.6 (10.3)
3.0	Room illumination	4.5 (5.2)	11.1 (12.0)	4.6 (5.2)	11.0 (11.9)
3.5		4.8 (5.6)	12.1 (13.6)	5.1 (5.8)	12.2 (13.5)
4.0		3.2 (5.9)	12.1 (15.0)	3.1 (6.3)	12.3 (15.0)
4.5		2.7 (6.2)	12.6 (16.3)	2.6 (6.5)	12.5 (16.3)
5.0		2.5 (6.5)	12.1 (17.2)	2.5 (6.8)	12.4 (17.4)
5.5		0.7 (4.3)	11.6 (17.2)	0.6 (4.5)	11.7 (17.6)
6.0		0.6 (3.5)	11.9 (17.4)	0.5 (3.7)	11.8 (17.5)
6.5		0.6 (2.8)	12.0 (17.8)	0.5 (1.1)	11.9 (18.0)
7.0		0.6 (3.1)	11.7 (17.3)	0.6 (0.7)	11.8 (17.7)
7.5		0.5 (3.5)	11.3 (16.6)	0.6 (0.6)	11.4 (16.6)
8.0		0.5 (0.8)	10.9 (16.6)	0.6 (0.5)	10.9 (16.6)
8.5		1.0 (1.0)	9.3 (16.7)	1.0 (0.5)	9.3 (16.8)
9.0		0.9 (1.2)	8.3 (16.9)	1.0 (0.5)	8.3 (16.9)
9.5		0.6 (1.5)	7.0 (16.9)	0.6 (0.5)	7.1 (16.8)
10.0		0.6 (1.5)	5.8 (16.6)	0.6 (0.5)	5.8 (16.6)

GuideLed SL 13031, 13041 CG-S

- Safety luminaire in LED technology for recessed mounting
- Low installation depth of only 38 mm
- Almost flush appearance on the ceiling ensured by optics integrated in the luminaire
- Suitable for mounting heights up to 28 m by narrow beam optics and exceptionally efficient HighPower LEDs
- Spacing up to 24 m from luminaire to luminaire with optics for escape route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

GuideLed SL 13031 CG-S

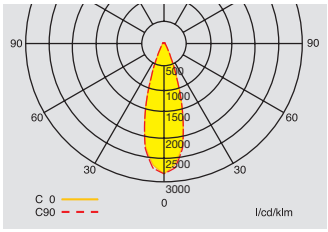




Light distribution curve
GuideLed SL 13031 CG-S surface mounting with asymmetric optics

GuideLed SL 13041 CG-S





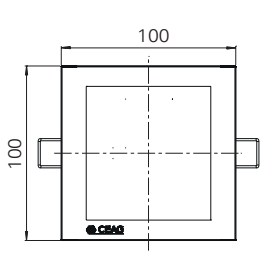
Light distribution curve
GuideLed SL 13041 CG-S surface mounting with symmetric optics

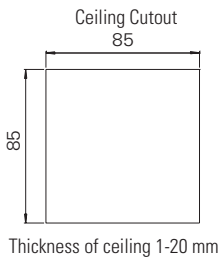
Luminous flux Φ_N	335 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	PC. aluminium
Housing colour	White RAL 9010
Weight	0.44 kg
Type of mounting	Recessed mounting
Connection terminal	Clamp terminal 2.5 mm²
Voltage ranges	220 – 240 V AC. 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	21.5 mA
Power consumption mains operation (apparent power / effective power)	8.5 VA / 5.0 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 2 x 1.5 W

Ordering details

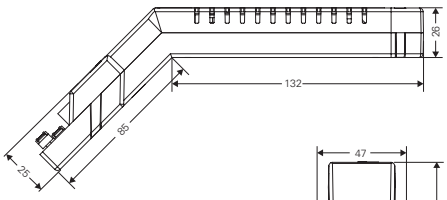
Type	Scope of supply	Order No.
GuideLed SL 13031 CG-S	GuideLed SL 13031 CG-S recessed mounting with asymmetric narrow beam optics for escape route illumination. LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071353481
GuideLed SL 13041 CG-S	GuideLed SL 13041 CG-S recessed mounting with symmetric narrow beam optics for anti-panic / open area illumination. LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071353480

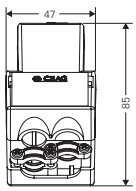
Dimensions in mm

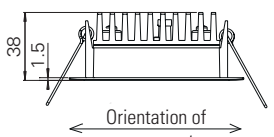




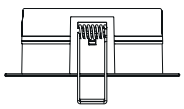
Thickness of ceiling 1-20 mm

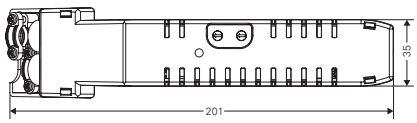






Orientation of escape route





Module housing

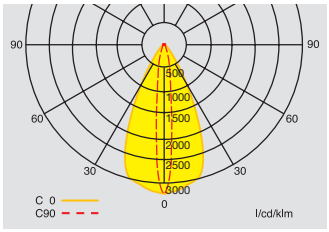
* Degree of protection of the luminaire: IP41 (Once installed in the ceiling, the luminaire face is rated IP41)
Degree of protection of the module housing: IP20

GuideLed SL 13032, 13042 CG-S

Safety Luminaires for Escape Route Lighting

GuideLed SL 13032 CG-S

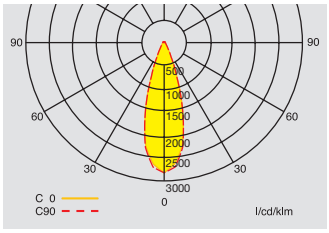




Light distribution curve
GuideLed SL 13032 CG-S surface mounting with asymmetric optics

GuideLed SL 13042 CG-S





Light distribution curve
GuideLed SL 13042 CG-S surface mounting with symmetric optics

GuideLed SL 13032, 13042 CG-S

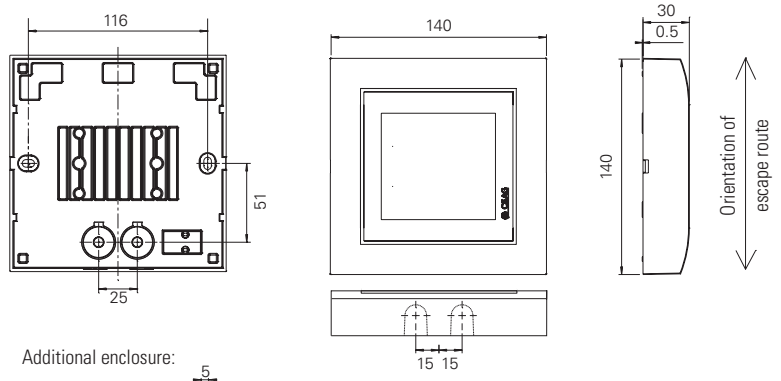
- Safety luminaire in LED technology for surface mounting
- Low profile of only 30 mm
- Unobtrusive appearance ensured by optics integrated in the luminaire
- Suitable for mounting heights up to 30 m by narrow beam optics and exceptionally efficient HighPower LEDs
- Spacing up to 24 m from luminaire to luminaire with optics for escape route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

Luminous flux Φ_N	335 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	PC, aluminium
Housing colour	White RAL 9010
Weight	0.43 kg
Type of mounting	Surface mounting
Connection terminal	2 x 3 x 2.5 mm²
Voltage ranges	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	21.5 mA
Power consumption mains operation (apparent power / effective power)	8.5 VA / 5.0 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 2 x 1.5 W

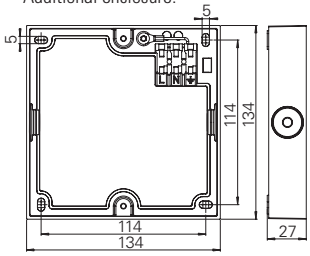
Ordering details

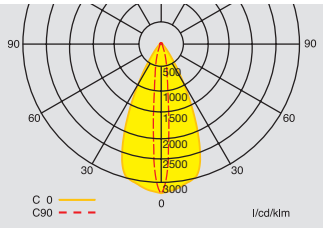
Scope of supply	Order No.
GuideLed SL 13032 CG-S surface mounting with asymmetric narrow beam optics for escape route illumination incl. LED supply and CG-S technology (20 addresses)	40071353483
GuideLed SL 13042 CG-S surface mounting with symmetric narrow beam optics for anti-panic / open area illumination incl. LED supply and CG-S technology (20 addresses)	40071353482
Additional enclosure for more space for wiring and cable entry, very large opening from above, two-sided cable entry for surface-mounted wiring incl. through-wiring terminal and connection cable to luminaire, degree of protection: IP31	40071353585

Dimensions in mm



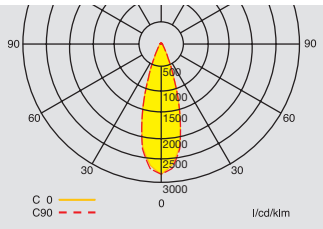
Additional enclosure:





Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80%, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
8	Ceiling mounting	2.6 (3.2)	6.7 (9.1)	5.7 (6.5)	13.2 (15.0)
10	Escape route centre	2.8 (3.4)	7.2 (9.4)	6.6 (7.4)	15.1 (17.2)
12		2.7 (3.7)	7.8 (9.4)	7.2 (8.2)	16.8 (19.2)
14		2.5 (3.8)	8.0 (9.9)	7.7 (9.1)	18.5 (21.1)
16		2.4 (3.7)	8.0 (10.6)	8.2 (9.7)	19.9 (22.7)
18		2.3 (3.6)	7.8 (11.1)	8.5 (10.3)	21.2 (24.6)
20		2.1 (3.4)	7.4 (11.1)	8.7 (10.9)	22.2 (26.2)
22		1.9 (3.2)	7.1 (11.1)	8.7 (11.2)	23.1 (27.5)
24		1.7 (3.1)	6.8 (11.0)	8.5 (11.6)	23.8 (28.8)
26		1.4 (2.9)	6.6 (10.6)	8.0 (11.8)	24.4 (29.9)
28		0.9 (2.7)	6.3 (10.2)	6.0 (11.9)	24.7 (30.9)
30		0.3 (2.5)	6.0 (9.9)	2.4 (12.0)	24.9 (31.9)



Planning assistance for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80%, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
8	Ceiling mounting	3.9 (4.6)	9.2 (11.1)	3.8 (4.8)	9.5 (11.5)
9	Escape route centre	4.1 (4.9)	9.7 (11.7)	4.0 (5.0)	10.0 (12.1)
10		4.3 (5.1)	10.3 (12.3)	4.3 (5.2)	10.5 (12.7)
12		4.7 (5.6)	11.3 (13.4)	4.6 (5.6)	11.2 (13.8)
14		5.0 (6.1)	12.2 (14.5)	4.9 (6.0)	12.0 (14.7)
16		5.2 (6.5)	13.0 (15.4)	5.1 (6.4)	12.7 (15.4)
18		5.2 (6.8)	13.7 (16.4)	5.1 (6.7)	13.4 (16.1)
20		5.1 (7.1)	14.2 (17.3)	5.1 (7.0)	14.0 (17.0)
22		4.8 (7.3)	14.5 (18.1)	4.7 (7.2)	14.4 (17.7)
24		4.2 (7.4)	14.7 (18.8)	4.2 (7.3)	14.6 (18.5)
26		2.9 (7.4)	14.7 (19.5)	3.1 (7.3)	14.5 (19.2)
8	Ceiling mounting	3.0 (3.5)	7.8 (9.8)	2.8 (3.2)	7.9 (9.8)
9	Room illumination	3.3 (3.7)	8.2 (10.2)	2.9 (3.4)	8.2 (10.2)
10		3.4 (3.9)	8.5 (10.6)	3.1 (3.5)	8.6 (10.6)
12		3.7 (4.3)	9.2 (11.4)	3.4 (3.8)	9.3 (11.3)
14		4.0 (4.6)	9.9 (12.1)	3.6 (4.1)	9.9 (12.1)
16		4.2 (4.8)	10.6 (12.7)	3.7 (4.5)	10.5 (12.9)
18		4.3 (5.2)	11.1 (13.4)	3.9 (4.7)	11.2 (13.5)
20		4.4 (5.4)	11.7 (14.1)	4.0 (4.9)	11.7 (14.1)
22		4.4 (5.6)	12.3 (14.7)	3.9 (5.1)	12.2 (14.8)
24		4.3 (5.8)	12.8 (15.3)	3.8 (5.3)	12.7 (15.4)
26		4.1 (6.0)	13.2 (16.0)	3.6 (5.3)	13.1 (15.9)
28		3.5 (6.0)	13.6 (16.5)	3.2 (5.4)	13.5 (16.5)
30		1.9 (6.1)	13.8 (17.0)	2.2 (5.4)	13.8 (17.0)

Requirements of EN 1838: illuminance of 5 lx for safety equipment

The aim of emergency lighting is to enable people to exit a room or building safely. It must also ensure that fire fighting and safety equipment can be easily found and operated when needed. This equipment includes (but not exclusively):

- First aid stations
- All fire fighting equipment and all alarm devices

Lighting is required near each first aid kit, near each alarm and piece of fire fighting equipment, as well as each sign indicating a fire alarm system. In accordance with EN 1838. „near“ generally means a distance of no greater than 2 metres, measured horizontally (this corresponds with distance a in the diagram below).

The required level of illuminance on the equipment is 5 lx measured vertically – i.e. perpendicular to the usual horizontal illuminance measurements on one level.

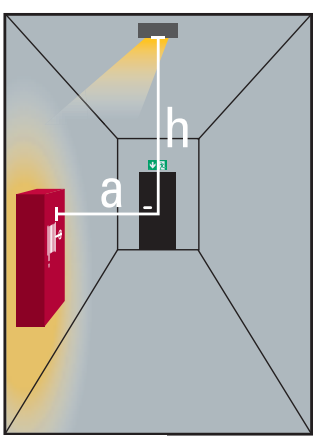
In comparison to the escape route requirement for 1 lx horizontally, different requirements apply in this situation for the light distribution from the safety luminaires due to the flatter light angle of incidence.

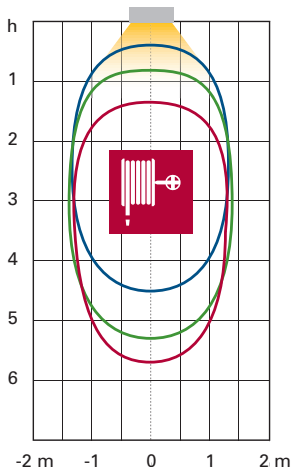


GuideLed SL 13051.1 and 13052.1 CG-S meet the specific requirements of EN 1838

In order to meet the requirements of EN 1838, the new GuideLed SL 13051.1 and 13052.1 CG-S have special optics to guarantee the required illuminance of 5 lx vertically over a wide area. Hence mounting at heights of up to 5.6 m and a breadth of illumination of up to 2.8 m are possible.

Engineering help, GuideLed SL 13051.1 and 13052.1 CG-S





Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved, depending on distance a and the rated operating time:

a = 1.0 m a = 1.5 m a = 2.0 m

GuideLed SL 13051.1, 13052.1 CG-S

- Safety luminaire in LED technology for recessed and ceiling surface-mounting
- Unobtrusive design through optics integrated in the luminaire
- Special asymmetric optics for illumination of 5 lx vertically for first aid stations, fire fighting equipment and safety equipment acc. to EN 1838
- Suitable for mounting heights up to 5.6 m above the illuminated equipment
- The illuminated area has a width of up to 2.8 m.
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

GuideLed SL 13051.1 CG-S



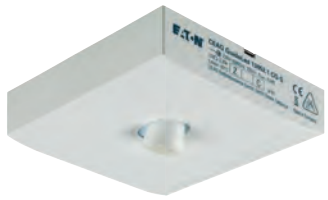


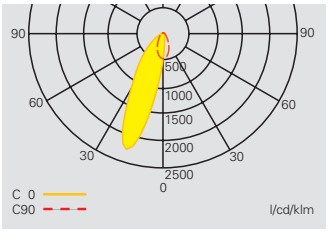
with optional sqare bezel

Luminous flux Φ_N	288 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate, aluminium
Housing colour	White, similar to RAL 9010
Weight	0.43 kg
Type of mounting	Ceiling recessing, ceiling surface-mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC. 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power/effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	HighPower LEDs 1 x 2 W

GuideLed SL 13052.1 CG-S





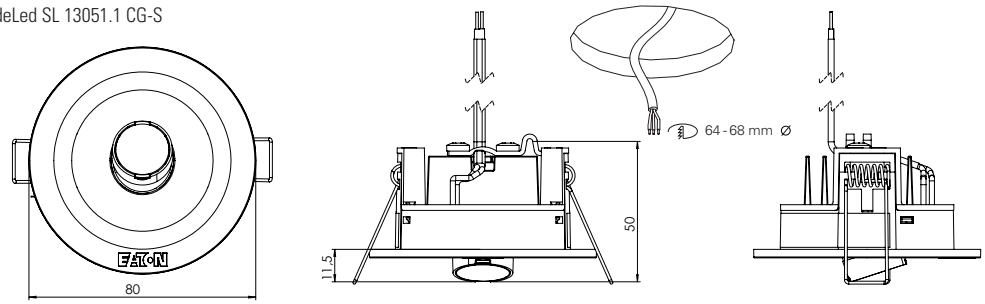


Light distribution curve
GuideLed SL 13051.1. 13052.1

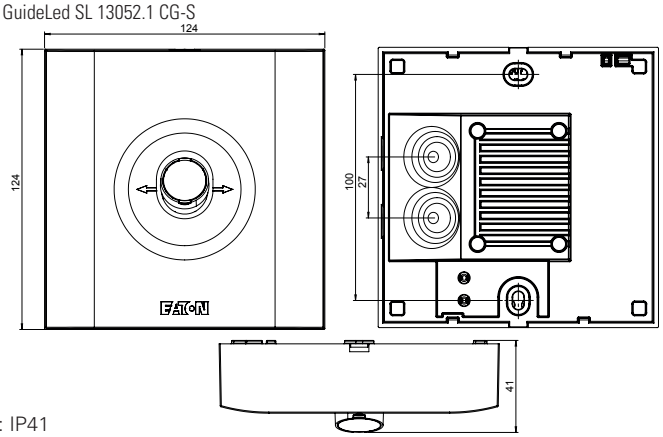
Ordering details

Type	Scope of supply	Order No.
GuideLed SL 13051.1 CG-S	GuideLed SL 13051.1 CG-S, recessed mounting with asymmetric optics for illuminance of 5 lx vertically, incl. LED supply and CG-S Technology (20 addresses)	40071354477
GuideLed SL 13052.1 CG-S	GuideLed SL 13052.1 CG-S, surface mounting with asymmetric optics for illuminance of 5 lx vertically, incl. LED supply and CG-S Technology (20 addresses)	40071354478
Sqare bezel	Sqare bezel GuideLed SL	40071654488

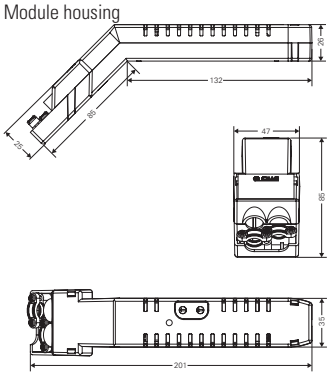
GuideLed SL 13051.1 CG-S



GuideLed SL 13052.1 CG-S



Module housing



*1 GuideLed SL 13052.1 CG-S

*2 GuideLed SL 13051.1 CG-S

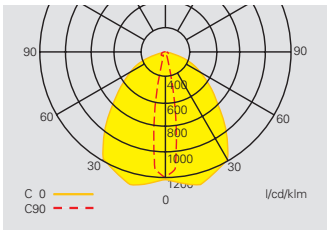
*3 GuideLed SL 13051.1 CG-S:
Degree of protection of the luminaire: IP41
(Once installed in the ceiling, the luminaire face is rated IP41)
Degree of protection of the module housing: IP20

GuideLed SL 13091.1 CG-S

Safety Luminaires for Escape Route Lighting

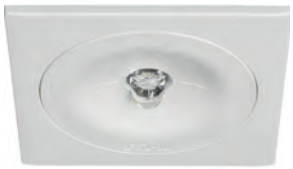
GuideLed SL 13091.1 CG-S





Light distribution curve
GuideLed SL 13091.1 CG-S

Square bezel for
GuideLed SL 130x1.1 CG-S



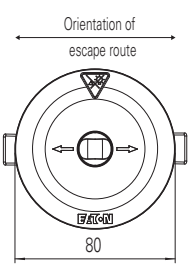
GuideLed SL 13091.1 CG-S

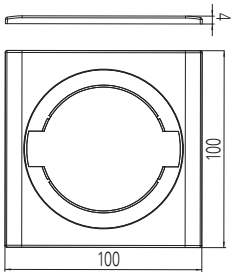
- Safety luminaire with LED technology for recessed mounting
- Unobtrusive, discrete appearance with round design and low installation depth of only 40 mm
- Conversion to square design with optional bezel to fit to the ceiling plan if necessary
- Special LED optics ensure especially efficient escape route illumination of 1lx for mounting hights of up to 15 m or for applications with increased illuminance requirements e.g. according to NFPA 101 with 10.8 lx
- Suitable for illumination of 5 lx vertically for ´points of emphasis´ acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

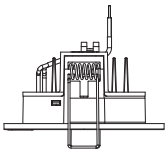
Luminous flux Φ_N	250 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	PC, Aluminium
Housing colour	White RAL 9016
Weight	0.25 kg
Type of mounting	Recessed mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power / effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	HighPower LED 1 x 2 W

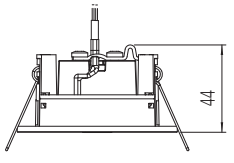
Ordering details

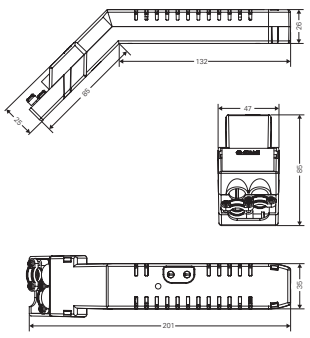
Type	Scope of supply	Order No.
GuideLed SL 13091.1 CG-S	GuideLed SL 13091.1 CG-S, recessed mounting with asymmetric optics for escape route illumination of 1 lx for mounting heights up to 15 m and increased illuminance requirements e.g. acc. to NFPA 101 with 10.8 lx, incl. LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071354484
Square bezel	Square bezel GuideLed SL 130x1.1 CG-S	40071354488
Plastic enclosure	Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S	40071353169











Module housing

64 - 68 mm ⌀

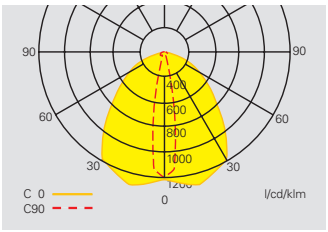
* Degree of protection of the luminaire: IP41 (Once installed in the ceiling, the luminaire face is rated IP41)
Degree of protection of the module enclosure: IP20

GuideLed SL 13092.1 CG-S

- Safety luminaire with LED technology for surface mounting
- Slender, discrete design with low height of 32 mm
- Special LED optics ensure especially efficient escape route illumination of 1lx for mounting hights of up to 15 m or for applications with increased illuminance requirements e.g. acc. NFPA 101 with 10.8 lx
- Suitable for illumination of 5 lx vertically for ´points of emphasis´ acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

GuideLed SL 13092.1 CG-S



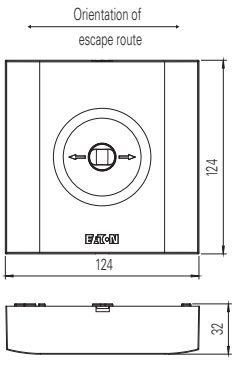


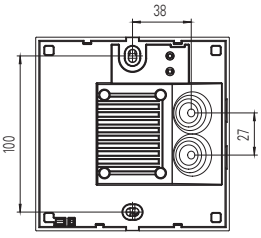
Light distribution curve
GuideLed SL GuideLed SL 13092.1

Luminous flux Φ_N	250 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	PC, Aluminium
Housing colour	White RAL 9016
Weight	0.33 kg
Type of mounting	Surface mounting
Terminals	2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	20 mA
Power consumption mains operation (apparent power / effective power)	8.0 VA / 3.9 W
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	HighPower LED 1 x 2 W

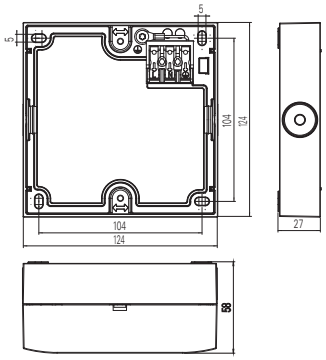
Ordering details

Type	Scope of supply	Order-No.
GuideLed SL 13092.1 CG-S	GuideLed SL 13092.1 CG-S, surface mounting with asymmetric optics for escape route illumination of 1 lx for mounting heights up to 15 m and increased illuminance requirements e.g. acc. to NFPA 101 with 10.8 lx, incl. LED supply and CG-S technology (20 addresses) in housing* with strain relief	40071354485
Additional enclosure for GuideLed SL 130x2.1	Additional enclosure for GuideLed SL 130x2.1, for more space for wiring and cable entry, including through-wiring terminal and connection cable to luminaire	40071354489



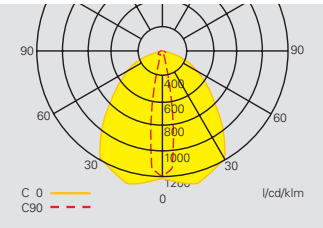


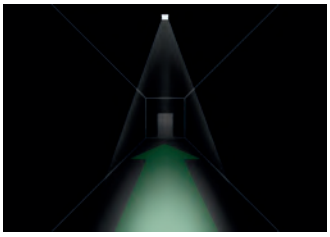
Additional enclosure



GuideLed SL 13091.1, 13092.1 CG-S

Safety Luminaires for Escape Route Lighting



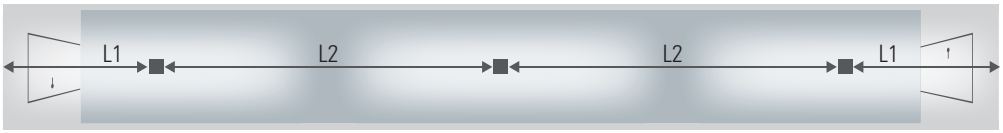


Escape route illumination with asymmetric optics

Planning assistance for GuideLed SL 13091.1 13092.1 CG-S for E_{min} = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

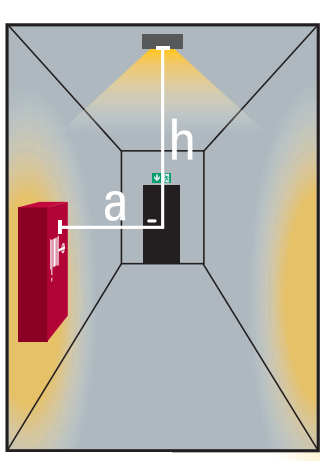
Mounting height [m]	Type of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	1.1 (2.7)	5.4 (8.1)	5.3 (6.4)	12.9 (15.2)
4.0	Escape route centre	1.3 (1.6)	3.2 (7.9)	5.9 (7.3)	14.6 (17.7)
5.0		1.4 (1.7)	3.4 (6.5)	6.4 (8.0)	15.9 (19.6)
6.0		1.6 (1.9)	3.8 (4.3)	6.8 (8.5)	17.1 (21.1)
7.0		1.7 (2.0)	4.1 (4.8)	7.0 (9.0)	18.1 (22.5)
8.0		1.8 (2.1)	4.2 (5.2)	7.3 (9.4)	18.9 (23.6)
9.0		1.9 (2.3)	4.6 (5.5)	7.4 (9.7)	19.5 (24.7)
10.0		1.9 (2.4)	4.9 (5.7)	7.5 (10.0)	19.9 (25.7)
11.0		1.8 (2.5)	5.1 (5.9)	7.4 (10.2)	20.5 (26.5)
12.0		1.8 (2.6)	5.2 (6.2)	7.2 (10.4)	20.8 (27.1)
13.0		1.7 (2.6)	5.3 (6.6)	6.7 (10.5)	21.0 (27.7)
14.0		1.5 (2.6)	5.3 (6.8)	5.7 (10.5)	21.1 (28.1)
15.0		1.2 (2.6)	5.2 (7.1)	4.6 (10.5)	21.0 (28.7)

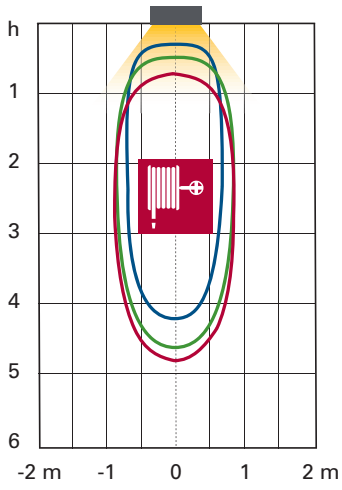
Planning assistance for GuideLed SL 13091.1, 13092.1 CG-S for E_m = 10.8 lx
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation
Escape route width 2 m, reflectance ceiling/wall/floor: 70 % / 50 % / 20 %, ceiling height = mounting height



Mounting height [m]	Type of mounting	L1	L2	E_m	E_{min}	E_{max}
3.0	Ceiling mounting	3.2	8.2	11.0	2.9	30
4.0		2.7	7.2	11.0	4.9	18
5.0		1	6.1	10.9	5.5	13

Planning assistance for GuideLed SL 13091.1, 13092.1 CG-S for vertical illuminance E_{min} = 5 lx
Maintenance factor MF = 80 %, battery operation





Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved, depending on distance a and the rated operating time:

a = 1.0 m

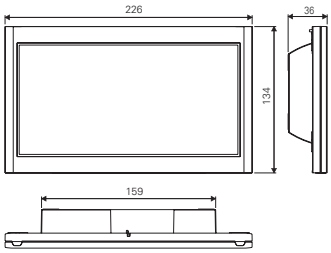
a = 1.5 m

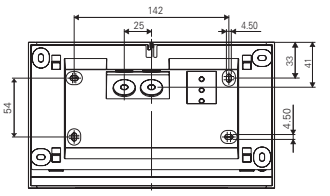
a = 2.0 m

GuideLed FSL CG-S

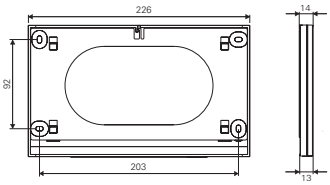


Dimensions in mm

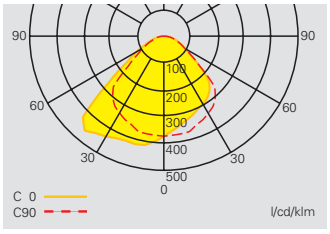




FSL 10011 CG-S



FSL 10012/10013 CG-S



Light distribution curve
GuideLed FSL CG-S

Planning aid for GuideLed FSL O on request.

* Installation of the LED supply in a not included device. For further information about the LED supply please visit www.ceag.de.

GuideLed FSL 10011, 10012, 10013 CG-S

- Safety luminaire in LED technology for surface mounting or semi-recessed mounting
- Low height of only 36 mm or 14 mm
- Anti-glare illumination ensured by precise micro-prism optics, optional with white opaque cover for wall mount application
- Suitable for mounting height of up to 8.5 m
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)
- Installation of safety luminaire without the use of tools at the mounting set

Luminous flux Φ_N	240 lm with prismatic cover 220 lm with opaque cover
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC. PMMA
Housing colour	Light grey RAL 7035
Weight	0.49 kg (10011 FSL CG-S) 0.45 kg (10012. 10013 FSL CG-S)
Type of mounting	Ceiling installation / semi-recessed installation
Connection terminal	Clamp terminal 2.5 mm²
Voltage ranges	220 – 240 V AC. 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	18 mA
Power consumption mains operation (apparent power / effective power)	7.2 VA / 4.0 W
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED stripe

Ordering details fastening set and safety luminaire module

Type	Scope of supply	Order No.
Mounting set for 10011 CG-S	Mounting set for GuideLed (FSL) 10011 CG-S. surface installation. incl. LED supply and CG-S technology (20 addresses)	40071353641
Mounting set for 10012 CG-S	Mounting set for GuideLed (FSL) 10012 CG-S. recessed installation of the V-CG-SLS28 supply provided and CG-S technology (20 addresses) *	40071353642
Mounting set for 10013 CG-S	Mounting set for GuideLed (FSL) 10013 CG-S. recessed installation of the V-CG-SLR28 supply provided and CG-S technology (20 addresses) *	40071353644
GuideLed FSL 10011 / 10012 CG-S	LED safety luminaire GuideLed FSL 10011 / 10012 CG-S with special micro-prism optics (without mounting set)	40071353590
GuideLed FSL O 10011 / 10012 CG-S	LED safety luminaire GuideLed FSL 10011 / 10012 CG-S with opaque cover (without mounting set)	40071353591

Planning assistance for GuideLed FSL

Measuring height 0.02 m. maintenance factor MF = 80%. battery operation

Mounting height [m]	Types of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.2 (3.9)	7.7 (9.3)	3.2 (3.8)	7.6 (9.3)
3.0	Escape route centre	3.5 (4.2)	8.4 (10.1)	3.5 (4.1)	8.2 (10.0)
3.5		3.8 (4.6)	9.1 (10.9)	3.7 (4.5)	8.9 (10.7)
4.0		4.1 (4.8)	9.7 (11.5)	3.9 (4.8)	9.5 (11.3)
5.0		4.4 (5.5)	10.9 (12.9)	4.0 (5.3)	10.6 (12.7)
6.0		4.2 (6.0)	12.0 (14.1)	3.7 (5.6)	11.3 (13.9)
2.5	Ceiling mounting	2.6 (3.0)	6.6 (8.0)	2.8 (3.2)	6.6 (7.9)
3.0	Room illumination	2.9 (3.2)	7.2 (8.7)	3.0 (3.4)	7.1 (8.6)
3.5		3.0 (3.4)	7.7 (9.3)	3.3 (3.7)	7.8 (9.3)
4.0		3.2 (3.7)	8.3 (9.9)	3.4 (4.0)	8.2 (9.8)
5.0		3.6 (4.1)	9.3 (11.0)	3.8 (4.4)	9.2 (11.0)
6.0		3.9 (4.5)	10.1 (12.1)	4.3 (4.8)	10.0 (12.0)

Micropoint 2 CG-S

Safety Luminaires for Escape Route Lighting

LED | IP44* | EN 1838 | S TAR | S+ TAR

Micropoint 2 CG-S

- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)

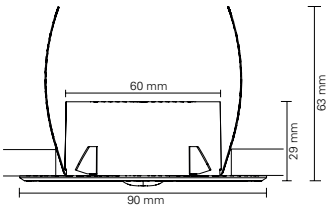
Micropoint 2 E CG-S recessed installation with asymmetric optics

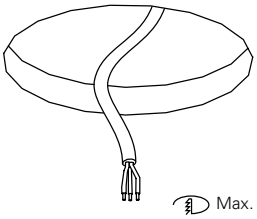


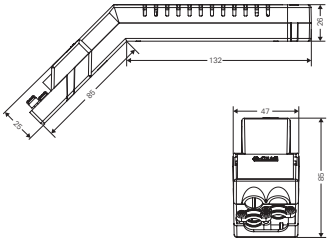
Micropoint 2 O CG-S recessed installation with symmetric optics

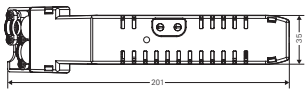


Dimensions in mm









Recessed ceiling housing

Luminous flux	142 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	Polycarbonate
Housing colour	White RAL 9016
Weight	0.24 kg
Type of mounting	Recessed mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	13 mA
Power consumption mains operation (apparent power / effective power)	6.1 VA / 2.9 W
Inrush current	1.5 A
Permissible ambient temperature	-15°C to +40°C
Light source	HighPower LED 1 x 1.6 W

Ordering details

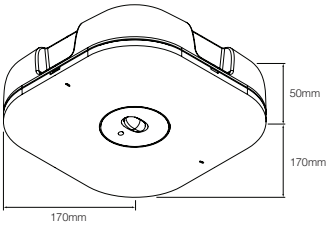
Type	Scope of supply	Order No.
Micropoint 2 E CG-S	Recessed mounting with asymmetric optics for escape route illumination. LED supply and CG-S technology (20 addresses) in housing with strain relief	40071352191
Micropoint 2 O CG-S	Recessed mounting with symmetric optics for anti-panic / open area illumination. LED supply and CG-S technology (20 addresses) in housing with strain relief	40071352192
Plastic enclosure for installation in concrete	suitable from 160 mm ceiling depth	40071353169

* Degree of protection of the luminaire: IP44 (Once installed in the ceiling the luminaire face is rated IP44)
Degree of protection of the module housing: IP20

Micropoint 2 CG-S Surface



Dimensions in mm



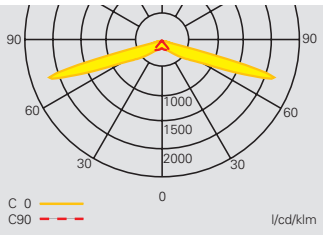
Micropoint 2 CG-S Surface

- First fix base for ease of installation
- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)
- 20 mm conduit entry on all four sides
- BESA box entry on base

Luminous flux	142 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing color	White RAL 9016
Weight	0.25 kg
Type of mounting	Surface mounting
Connection terminals	2 x 2.5 mm^2
Connection voltage	220 – 240 V AC. 50/60 Hz 176 – 275 V DC
Current consumption - battery operation (220 V)	13 mA
Power consumption mains operation (apparent power / effective power)	6.1 VA / 2.9 W
Inrush current	1.5 A
Permissible ambient temperature	-15 °C to +40 °C
Light source	HighPower LED 1 x 1.6 W

Ordering details

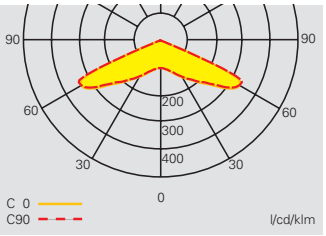
Type	Scope of supply	Order No.
Micropoint 2 SO CG-S	Surface mounting with symmetric optics for anti-panic / open area illumination. LED supply and CG-S technology (20 adresses) in housing with strain relief	MP2SOS230CGS
Micropoint 2 SE CG-S	Surface mounting with asymmetric optics for escape route illumination. LED supply and CG-S technology (20 adresses) in housing with strain relief	MP2SES230CGS



Light distribution curve
Micropoint 2 E CG-S
with asymmetric optics

Engineering help for Micropoint 2 E CG-S – Asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	2.2 (2.4)	4.8 (4.9)	7.7 (8.8)	17.6 (18.7)
3.0	Escape route centre	2.5 (2.8)	5.6 (5.8)	7.9 (10.1)	19.8 (21.8)
3.5		2.6 (3.2)	6.3 (6.7)	5.0 (11.1)	19.3 (24.8)
2.5	Ceiling mounting	1.5 (1.8)	3.8 (4.2)	7.0 (8.3)	16.3 (17.7)
3.0	Room illumination	1.2 (2.0)	4.2 (4.9)	6.3 (9.0)	18.6 (20.4)
3.5		1.4 (2.0)	4.6 (5.4)	5.1 (9.6)	18.4 (22.8)
4.0		1.9 (1.8)	5.7 (5.8)	0.5 (10.0)	16.1 (25.2)



Light distribution curve
Micropoint 2 O CG-S
with symmetric optics

Engineering help for Micropoint 2 O CG-S – Symmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.6 (5.1)	10.1 (11.3)	3.7 (5.1)	9.9 (11.3)
3.0	Escape route centre	2.9 (5.3)	10.6 (13.0)	3.0 (5.3)	10.5 (12.9)
3.5		-5.2	8.9 (14.2)	-5.3	8.4 (14.0)
4.0		-4.4	8.7 (14.8)	-4.6	7.0 (14.8)
2.5	Ceiling mounting	3.5 (4.6)	8.9 (9.6)	3.7 (4.6)	9.0 (9.6)
3.0	Room illumination	2.7 (5.1)	10.1 (11.2)	2.4 (5.1)	10.0 (11.1)
3.5		2.3 (4.8)	8.7 (12.6)	2.5 (5.0)	8.8 (12.6)
4.0		0.6 (3.8)	8.6 (14.0)	0.6 (3.6)	8.7 (13.9)
4.5		0.7 (2.9)	8.4 (14.4)	0.6 (2.8)	8.4 (14.7)
5.0		0.6 (0.5)	8.1 (12.2)	0.6 (0.5)	8.2 (12.5)
5.5		0.7 (0.5)	7.2 (12.3)	0.7 (0.5)	7.2 (12.3)
6.0		0.7 (0.6)	5.8 (12.2)	0.7 (0.5)	5.8 (12.2)

Micropoint 2 Recessed

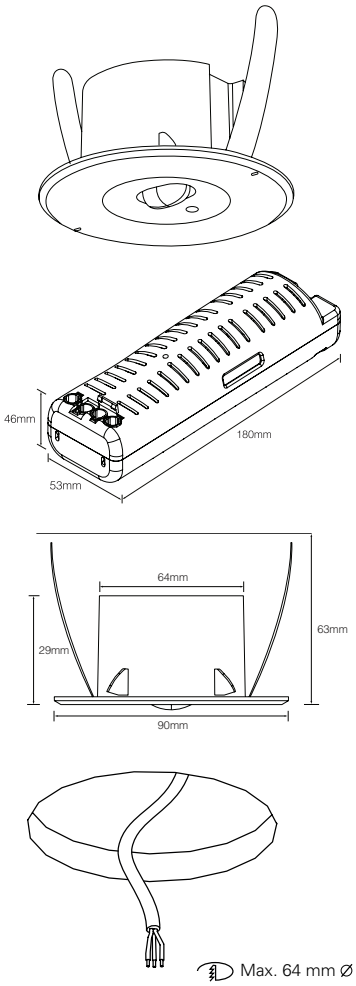
- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)

Micropoint 2 Recessed



Luminous flux	142 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	Polycarbonate
Housing colour	White RAL 9016
Weight	0.25 kg
Type of mounting	Recessed mounting
Connection terminals	3 x 2 x 2.5 mm²
Connection voltage	230V, 50Hz
Power consumption mains operation (apparent power / effective power)	4.5 VA / 3.2 W
Permissible ambient temperature	0°C to +40°C
Light source	HighPower LED 1 x 1.6 W

Dimensions in mm



Ordering details

Type	Scope of supply	Order No.
Micropoint 2 O	Recessed mounting with symmetric optics for anti-panic / open area illumination, LED supply un-monitored in housing with strain relief	MP2OS230
Micropoint 2 E	Recessed mounting with asymmetric optics for escape route illumination, LED supply un-monitored in housing with strain relief	MP2ES230
Micropoint 2 O EC 1.5	Recessed mounting with symmetric optics for anti-panic / open illumination, LED supply and EasiCheck 1.5 in housing with strain relief	MP2OS230EC
Micropoint 2 E EC 1.5	Recessed mounting with asymmetric optics for escape route illumination, LED supply and EasiCheck 1.5 in housing with strain relief	MP2ES230EC

* Degree of protection of the luminaire: IP44 (Once installed in the ceiling the luminaire face is rated IP44)
Degree of protection of the module housing: IP20

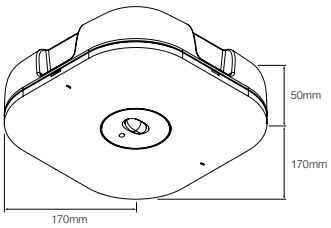
Micropoint 2 / Micropoint 2 EC 1.5 Surface

Safety Luminaires for Escape Route Lighting

Micropoint 2 Surface



Dimensions in mm



Micropoint 2

- First fix base for ease of installation
- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)
- 20 mm conduit entry on all four sides
- BESA box entry on base

Luminous flux	142 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	Polycarbonate
Housing color	White RAL 9016
Weight	0.25 kg
Type of mounting	Surface mounting
Connection terminals	2 x 2.5 mm^2
Connection voltage	230 V, 50Hz
Current consumption - battery operation (220 V)	13 mA
Power consumption mains operation (apparent power / effective power)	4.5 VA / 3.2 W
Permissible ambient temperature	0 °C to +40 °C
Light source	HighPower LED 1 x 1.6 W

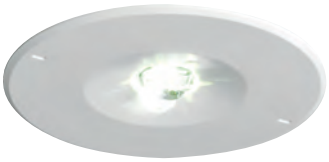
Ordering details

Type	Scope of supply	Order No.
Micropoint 2 SO	Surface mounting with symmetric optics for anti-panic / open area illumination. LED supply un-monitored 230VAC	MP2SOS230
Micropoint 2 SE	Surface mounting with asymmetric optics for escape route illumination. LED supply un-monitored 230VAC	MP2SES230
Micropoint 2 SO EC 1.5	Surface mounting with symmetric optics for anti-panic / open area illumination. LED supply EasiCheck 1.5	MP2SOS230EC
Micropoint 2 SE EC 1.5	Surface mounting with asymmetric optics for escape route illumination. LED supply EasiCheck 1.5	MP2SES230EC

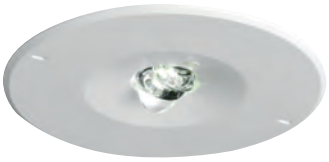
Micropoint 2 CG-S High Output

- Versatile multi-functional use (high ceiling. NFPA 101 escape route and specific locations as stated within BS 5266-1:2011)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 50.000 hour life LED for reduced maintenance

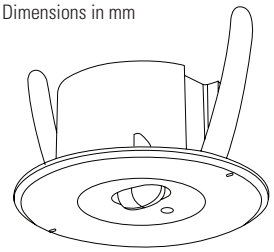
Micropoint 2 High Output

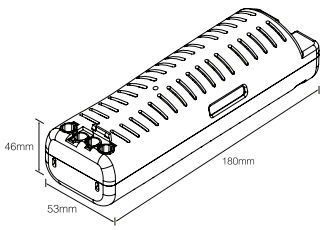


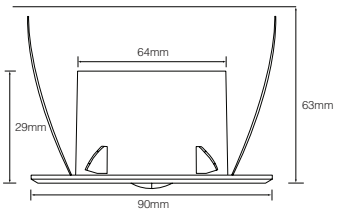
Micropoint 2 High Output

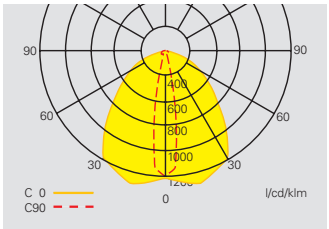


Dimensions in mm









Luminous flux	290 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Polycarbonate
Housing color	White RAL 9016
Weight	0.24 kg
Type of mounting	Recessed mounting
Connection terminals	2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power / effective power)	7.6 VA / 4.4 W
Inrush current	1.5 A
Permissible ambient temperature	-15 °C to +40 °C
Light source	1 x High power LED

Ordering details

Type	Scope of supply	Order No.
Micropoint 2 High Output CG-S	Recessed mounting with high output for escape route illumination. LED supply and CG-S technology (20 adresses)	MP2HI230CGS

Engineering help for Micropoint 2 CG-S High Output – Symmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
5	Ceiling mounting	6.3 (7.9)	15.8 (19.5)	1.9 (2.2)	4.3 (7.9)
6	Escape route centre	6.6 (8.4)	16.9 (21.1)	2.1 (2.4)	4.7 (6.5)
7		6.9 (8.9)	17.7 (22.3)	2.2 (2.6)	5.2 (6.1)
8		7.2 (9.2)	18.4 (23.4)	2.3 (2.8)	5.7 (6.4)
9		7.3 (9.5)	19.0 (24.3)	2.3 (3.0)	6.0 (6.9)
10		7.3 (9.8)	19.6 (25.1)	2.2 (3.1)	6.3 (7.4)
11		7.1 (10.1)	20.1 (25.8)	2.1 (3.2)	6.4 (7.9)
12		6.7 (10.2)	20.5 (26.4)	1.9 (3.2)	6.4 (8.3)
13		5.5 (10.3)	20.6 (27.1)	1.6 (3.2)	6.4 (8.6)
14		4.1 (10.3)	20.6 (27.7)	0.9 (3.1)	6.2 (8.8)

* Degree of protection of the luminaire: IP44 (Once installed in the ceiling the luminaire face is rated IP44)
Degree of protection of the module housing: IP20

Micropoint 2 High Output / Micropoint 2 High Output EC 1.5

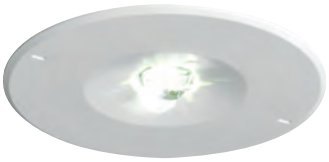
Safety Luminaires for Escape Route Lighting

LED | IP44 * | EASI-CHECK

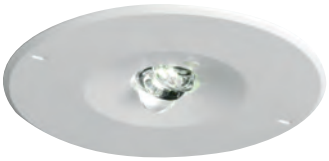
Micropoint 2 High Output / Micropoint 2 High Output EC 1.5

- Versatile multi-functional use (high ceiling, NFPA 101 escape route and specific locations as stated within BS 5266-1:2011)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 50.000 hour life LED for reduced maintenance

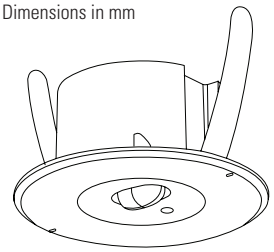
Micropoint 2 High Output

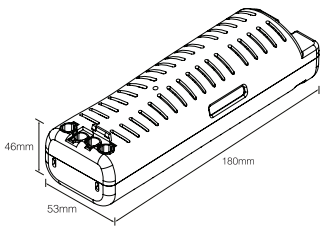


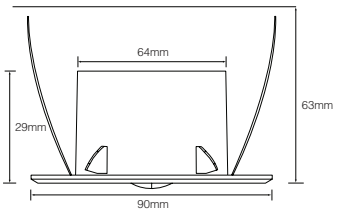
Micropoint 2 High Output

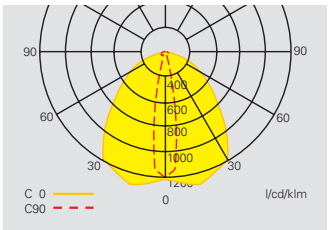


Dimensions in mm









Luminous flux	290 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100%
Housing material	Polycarbonate
Housing color	White RAL 9016
Weight	0.24 kg
Type of mounting	Recessed mounting
Connection terminals	2 x 2.5 mm²
Connection voltage	230 V, 50Hz
Power consumption mains operation (apparent power / effective power)	7.6 VA / 4.4 W
Inrush current	1.5 A
Permissible ambient temperature	0 °C to +40 °C
Light source	1 x High power LED

Ordering details

Type	Scope of supply	Order No.
Micropoint 2 High Output	Recessed mounting with high output for escape route illumination, LED supply un-monitored 230VAC	MP2HI230
Micropoint 2 High Output EC 1.5	Recessed mounting with high output for escape route illumination, LED supply and EasiCheck 1.5	MP2HI230EC

Engineering help for Micropoint 2 CG-S High Output – Symmetric optics for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation. distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
5	Ceiling mounting	6.3 (7.9)	15.8 (19.5)	1.9 (2.2)	4.3 (7.9)
6	Escape route centre	6.6 (8.4)	16.9 (21.1)	2.1 (2.4)	4.7 (6.5)
7		6.9 (8.9)	17.7 (22.3)	2.2 (2.6)	5.2 (6.1)
8		7.2 (9.2)	18.4 (23.4)	2.3 (2.8)	5.7 (6.4)
9		7.3 (9.5)	19.0 (24.3)	2.3 (3.0)	6.0 (6.9)
10		7.3 (9.8)	19.6 (25.1)	2.2 (3.1)	6.3 (7.4)
11		7.1 (10.1)	20.1 (25.8)	2.1 (3.2)	6.4 (7.9)
12		6.7 (10.2)	20.5 (26.4)	1.9 (3.2)	6.4 (8.3)
13		5.5 (10.3)	20.6 (27.1)	1.6 (3.2)	6.4 (8.6)
14		4.1 (10.3)	20.6 (27.7)	0.9 (3.1)	6.2 (8.8)

* Degree of protection of the luminaire: IP44 (Once installed in the ceiling the luminaire face is rated IP44)
Degree of protection of the module housing: IP20

3503.1 ... 3604.1 LED CG-S

- Safety luminaire with LED technology for recessed mounting with round or quadratic bezel
- Typical ceiling cut-out diameter of 68 mm and low profile of only 30 mm
- Compact housing for LED supply (required height for entering the ceiling only 100 mm) including through-wiring clamp and strain relief
- Wide light point spacing due to wide light distribution optics and high power LEDs
- Up to 18 m from luminaire to luminaire for escape route illumination and wide area illumination (3x03.1)
- Up to 20 m from luminaire to luminaire for escape route illumination and wide area illumination (3x04.1)
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)

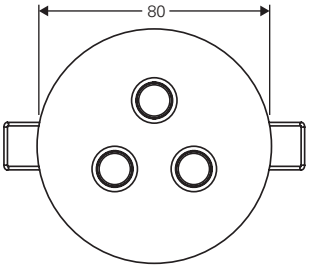
3503.1 LED CG-S stainless steel



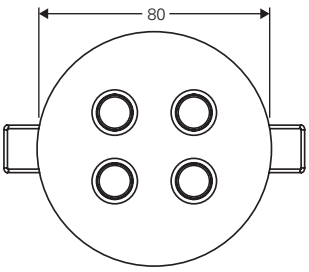
3503.1 LED CG-S white



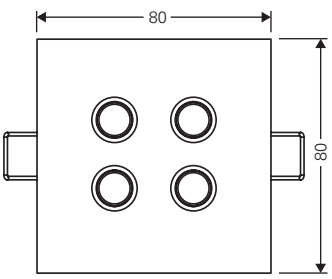
Dimensions in mm



3503.1 LED CG-S



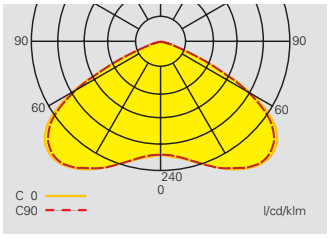
3504.1 LED CG-S



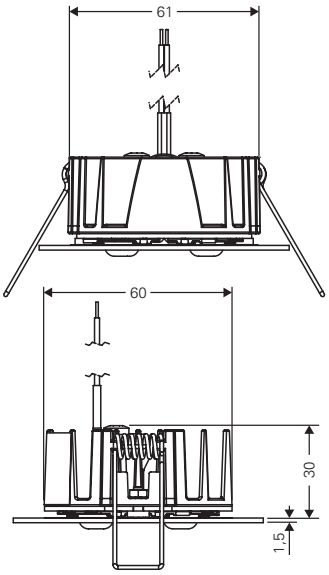
Luminous flux		3503.1: 470 lm 3x04.1: 620 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time		100 %
Housing material	Bezel	Stainless steel brushed / sheet steel, white (sim. RAL 9010)
	Module	Polycarbonate
Weight	Luminaire Module	0.13 kg 0.12 kg (incl. enclosure)
Type of mounting		Recessed ceiling mounting
Connection terminals		Loop terminals 3 x 2.5 mm²
Connection voltage		220 – 240 V. 50/60 Hz 176 V – 275 V DC
Current consumption - battery operation (220 V)		3503.1: 19 mA 3x04.1: 25 mA
Power consumption mains operation (apparent power / effective power)		3503.1: 7.6 VA / 4.4 W 3x04.1: 9.5 VA / 5.8 W
Inrush current		1.5 A
Permissible ambient temperature		-10 °C to +40 °C
Light source		3503.1: HighPower LEDs 3 x 1.1 W 3x04.1: HighPower LEDs 4 x 1.1 W

Ordering details

Type	Scope of supply	Order No.
3503.1 stainless steel	Round LED recessed luminaire with wide beam optics, 3 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed	40071352900
3503.1 white	Round LED recessed luminaire with wide beam optics, 3 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white	40071352901
3504.1 stainless steel	Round LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed	40071352904
3504.1 white	Round LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white	40071352905
3604.1 stainless steel	Quadratic LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed	40071352908
3604.1 white	Quadratic LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white	40071352909
	Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S	40071353169



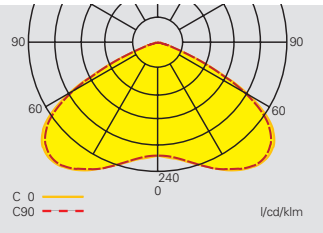
Dimensions in mm



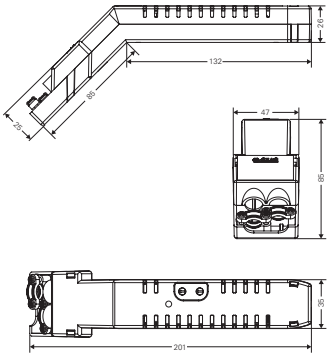
Ceiling cut out: D = 68 mm
Slab thickness 1-20 mm

Planning help for 3503.1 LED CG-S for E = 1.0 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.7 (5.4)	10.7 (12.2)	4.7 (5.4)	10.8 (12.2)
3.0	Escape route centre	5.2 (6.0)	12.0 (13.7)	5.2 (6.1)	12.1 (13.8)
3.5		5.6 (6.6)	13.2 (15.1)	5.6 (6.7)	13.3 (15.2)
4.0		5.9 (7.1)	14.2 (16.4)	6.0 (7.2)	14.4 (16.5)
4.5		6.1 (7.6)	15.1 (17.6)	6.2 (7.7)	15.3 (17.8)
5.0		6.3 (7.9)	15.8 (18.8)	6.3 (8.0)	16.0 (18.9)
5.5		6.3 (8.2)	16.5 (19.8)	6.4 (8.3)	16.7 (20.0)
6.0		6.3 (8.5)	17.1 (20.8)	6.4 (8.6)	17.3 (21.0)
6.5		6.2 (8.7)	17.4 (21.6)	6.3 (8.8)	17.6 (21.8)
7.0		6.1 (8.8)	17.7 (22.3)	6.1 (9.0)	17.9 (22.6)
7.5		5.7 (9.0)	17.9 (23.0)	5.8 (9.1)	18.1 (23.2)
8.0		5.2 (9.0)	17.9 (23.6)	5.3 (9.1)	18.2 (23.9)
8.5		4.4 (8.9)	17.9 (24.1)	4.4 (9.0)	18.1 (24.4)
9.0		2.1 (8.9)	17.7 (24.5)	2.4 (9.0)	17.9 (24.8)
9.5		- (8.7)	17.4 (24.8)	- (8.7)	16.8 (25.1)
10.0		- (8.7)	17.0 (25.0)	- (8.7)	14.3 (25.4)
2.5	Ceiling mounting	3.7 (4.3)	8.7 (9.6)	3.7 (4.3)	8.6 (9.6)
3.0	Room illumination	4.1 (4.7)	9.8 (11.0)	4.0 (4.6)	9.7 (10.9)
3.5		4.4 (5.0)	10.7 (12.2)	4.4 (5.0)	10.7 (12.2)
4.0		4.7 (5.4)	11.7 (13.3)	4.6 (5.4)	11.6 (13.3)
4.5		4.8 (5.7)	12.5 (14.4)	4.8 (5.7)	12.5 (14.3)
5.0		4.9 (6.0)	13.3 (15.3)	4.9 (6.0)	13.3 (15.3)
5.5		5.0 (6.3)	14.1 (16.2)	4.9 (6.3)	14.0 (16.2)
6.0		5.0 (6.5)	14.8 (17.1)	4.8 (6.5)	14.7 (17.1)
6.5		4.9 (6.7)	15.3 (18.0)	4.8 (6.5)	15.3 (17.9)
7.0		4.7 (6.7)	15.8 (18.8)	4.7 (6.6)	15.8 (18.7)
7.5		4.6 (6.7)	16.3 (19.5)	4.4 (6.7)	16.3 (19.5)
8.0		4.3 (6.8)	16.7 (20.3)	4.1 (6.6)	16.7 (20.2)
8.5		3.9 (6.7)	17.1 (20.9)	3.6 (6.7)	17.1 (20.9)
9.0		3.4 (6.7)	17.3 (21.5)	3.3 (6.6)	17.5 (21.5)
9.5		3.0 (6.6)	17.6 (22.1)	2.5 (6.4)	17.6 (22.0)
10.0		0.9 (6.4)	17.9 (22.5)	1.0 (6.3)	17.3 (22.5)



Dimensions in mm



Module housing

Planning help for 3504.1/3604.1 LED CG-S for E = 1.0 lx (0. 5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	5.0 (5.7)	11.3 (12.7)	5.0 (5.7)	11.4 (12.7)
3.0	Escape route centre	5.5 (6.3)	12.7 (14.4)	5.6 (6.4)	12.7 (14.5)
3.5		6.0 (7.0)	14.0 (15.9)	6.1 (7.0)	14.0 (16.0)
4.0		6.4 (7.6)	15.1 (17.3)	6.5 (7.6)	15.2 (17.4)
4.5		6.7 (8.1)	16.2 (18.6)	6.8 (8.2)	16.3 (18.7)
5.0		7.0 (8.6)	17.1 (19.9)	7.1 (8.7)	17.3 (20.0)
5.5		7.1 (8.9)	17.9 (21.0)	7.2 (9.0)	18.1 (21.2)
6.0		7.3 (9.3)	18.5 (22.1)	7.3 (9.4)	18.8 (22.3)
6.5		7.3 (9.6)	19.2 (23.1)	7.4 (9.7)	19.4 (23.4)
7.0		7.3 (9.8)	19.7 (24.1)	7.3 (10.0)	19.9 (24.3)
7.5		7.1 (10.0)	20.0 (24.9)	7.2 (10.1)	20.3 (25.1)
8.0		7.0 (10.1)	20.3 (25.6)	7.0 (10.3)	20.5 (25.9)
8.5		6.7 (10.3)	20.5 (26.2)	6.7 (10.4)	20.8 (26.5)
9.0		6.2 (10.3)	20.6 (26.9)	6.3 (10.4)	20.9 (27.2)
9.5		5.5 (10.3)	20.6 (27.5)	5.6 (10.4)	20.8 (27.8)
10.0		4.4 (10.2)	20.5 (27.9)	4.5 (10.4)	20.7 (28.3)
2.5	Ceiling mounting	4.0 (4.4)	9.1 (10.2)	3.9 (4.4)	9.0 (10.1)
3.0	Room illumination	4.3 (5.0)	10.3 (11.4)	4.2 (5.0)	10.2 (11.4)
3.5		4.6 (5.4)	11.3 (12.8)	4.6 (5.3)	11.3 (12.7)
4.0		5.0 (5.7)	12.3 (14.0)	4.9 (5.6)	12.3 (13.9)
4.5		5.2 (6.0)	13.2 (15.1)	5.2 (6.0)	13.2 (15.1)
5.0		5.4 (6.4)	14.1 (16.2)	5.4 (6.3)	14.1 (16.1)
5.5		5.5 (6.7)	14.9 (17.1)	5.5 (6.7)	15.0 (17.1)
6.0		5.6 (7.0)	15.7 (18.1)	5.5 (6.9)	15.7 (18.0)
6.5		5.6 (7.2)	16.4 (19.0)	5.6 (7.2)	16.4 (19.0)
7.0		5.6 (7.5)	17.1 (19.9)	5.5 (7.4)	17.1 (19.8)
7.5		5.5 (7.5)	17.7 (20.7)	5.4 (7.5)	17.6 (20.7)
8.0		5.4 (7.6)	18.2 (21.5)	5.2 (7.5)	18.1 (21.5)
8.5		5.2 (7.7)	18.6 (22.3)	5.1 (7.5)	18.6 (22.2)
9.0		5.0 (7.7)	19.1 (23.0)	4.7 (7.6)	19.0 (23.0)
9.5		4.6 (7.7)	19.5 (23.7)	4.3 (7.6)	19.4 (23.7)
10.0		4.2 (7.7)	19.8 (24.3)	3.9 (7.6)	19.8 (24.3)

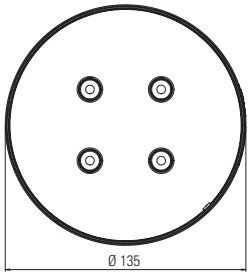
3514 LED CG-S

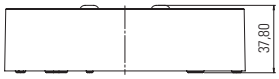
Safety Luminaires for Escape Route Lighting

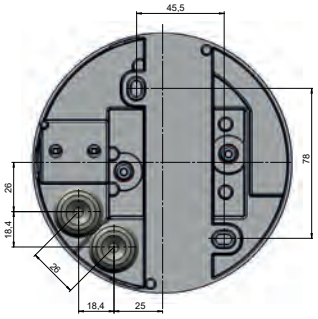
3514 LED CG-S



Dimensions in mm







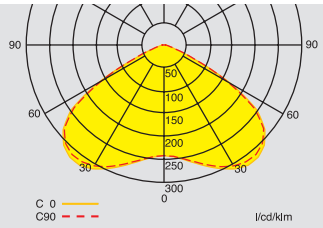
3514 LED CG-S

- Safety luminaire with LED technology for surface mounting with round enclosure
- A screw-less design and special snapping mechanism allows the Luminaire to be opened and closed easily and safely
- Unobtrusive appearance with 135 mm diameter and low profile of only 38 mm
- Up to 18 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Luminous flux Φ_N	512 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	Bezel: Sheet steel
Housing colour	White sim, RAL 9016
Weight	0.45 kg
Type of mounting	Surface ceiling mounting
Connection terminals	Loop terminals 3 x 2.5 mm^2
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption with battery operating	25 mA
Power consumption mains opteration (apparent power / effective power)	9.5 VA / 5.8 W
Inrush current	1.5 A
Permissible temperature range	-10 °C to +40 °C
Light source	HighPower LEDs 4 x 1 W

Ordering details

Type	Scope of supply	Order No
3514 LED CG-S	Round LED surface ceiling-mounted luminaire with 4 x HighPower LEDs, including LED Supply and CG-S technology (20 addresses) in enclosure with stainless steel bezel	40071350381



Light distribution curve 3514 LED CG-S

Engineering help for 3514 LED CG-S for E = 1.0 Lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.6 (5.3)	10.6 (12.1)	4.6 (5.3)	10.6 (12.1)
3.0	Escape route centre	5.1 (6.0)	11.9 (13.6)	5.2 (6.0)	11.9 (13.6)
3.5		5.5 (6.5)	13.0 (14.9)	5.6 (6.5)	13.0 (14.9)
4.0		5.9 (7.0)	14.0 (16.2)	5.9 (7.1)	14.1 (16.2)
4.5		6.1 (7.5)	14.9 (17.4)	6.1 (7.5)	14.9 (17.4)
5.0		6.3 (7.9)	15.7 (18.5)	6.3 (7.9)	15.7 (18.5)
5.5		6.4 (8.2)	16.3 (19.5)	6.5 (8.2)	16.4 (19.6)
6.0		6.5 (8.5)	16.9 (20.5)	6.5 (8.5)	17.0 (20.5)
6.5		6.5 (8.7)	17.3 (21.3)	6.5 (8.7)	17.4 (21.3)
7.0		6.4 (8.9)	17.7 (22.0)	6.5 (8.9)	17.8 (22.1)
7.5		6.4 (9.0)	18.0 (22.7)	6.4 (9.1)	18.1 (22.8)
8.0		6.2 (9.1)	18.1 (23.4)	6.2 (9.1)	18.2 (23.5)
8.5		5.9 (9.1)	18.2 (23.9)	5.9 (9.2)	18.3 (24.0)
9.0		5.5 (9.2)	18.3 (24.3)	5.5 (9.2)	18.3 (24.4)
9.5		4.9 (9.1)	18.2 (24.7)	4.9 (9.2)	18.3 (24.8)
10.0		3.9 (9.1)	18.1 (25.1)	3.9 (9.1)	18.1 (25.2)
2.5	Ceiling mounting	3.6 (4.2)	8.5 (9.5)	3.6 (4.2)	8.5 (9.5)
3.0	Room illumination	4.0 (4.5)	9.6 (10.8)	3.9 (4.5)	9.5 (10.8)
3.5		4.3 (4.9)	10.5 (12.0)	4.3 (4.8)	10.5 (11.9)
4.0		4.6 (5.3)	11.4 (13.1)	4.6 (5.2)	11.4 (13.0)
4.5		4.7 (5.7)	12.3 (14.0)	4.7 (5.6)	12.3 (14.0)
5.0		4.8 (5.9)	13.1 (14.9)	4.8 (6.0)	13.1 (15.0)
5.5		4.9 (6.2)	13.8 (15.9)	4.9 (6.2)	13.8 (15.9)
6.0		5.0 (6.4)	14.5 (16.8)	4.9 (6.3)	14.5 (16.8)
6.5		4.9 (6.5)	15.1 (17.6)	4.8 (6.5)	15.1 (17.7)
7.0		4.9 (6.6)	15.7 (18.4)	4.7 (6.6)	15.6 (18.4)
7.5		4.7 (6.8)	16.2 (19.2)	4.5 (6.6)	16.1 (19.1)
8.0		4.5 (6.8)	16.6 (19.9)	4.4 (6.7)	16.6 (19.8)
8.5		4.2 (6.8)	17.0 (20.6)	4.1 (6.7)	17.0 (20.5)
9.0		4.0 (6.8)	17.4 (21.1)	3.7 (6.7)	17.3 (21.1)
9.5		3.6 (6.7)	17.7 (21.7)	3.4 (6.6)	17.6 (21.7)
10.0		3.0 (6.6)	17.9 (22.2)	3.0 (6.5)	17.9 (22.2)

Planet 400 Disc CG-S

Safety Luminaires for Escape Route Lighting

Planet 400 Disc CG-S





Planet 400 Disc CG-S

- Round LED safety luminaire for ceiling and wall mounting
- Light guide technology for slender design with only 25 mm depth and high uniformity of the light output area
- The LEDs are covered and not visible therefore glare is highly reduced
- Light output of 360 lm with fully symmetrical light distribution enables the universal use in several applications with high efficiency
- Suitable for up to 10 m mounting height (ceiling mounting)
- Also suitable for illuminance with 5 lx vertically for mounting heights up to 2.5 m above 'Points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

Luminous flux Φ_N	360 lm
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %
Housing material	PC, Aluminium
Housing colour	White RAL 9010, Aluminium
Weight	0.45 kg
Type of mounting	Ceiling and wall surface or recessed mounting
Connection terminals	2 x 2 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	24 mA
Power consumption mains operation (apparent power / effective power)	8.0 VA / 5 W
Permissible ambient temperature	-20°C to +40°C
Light source	LED 8 x 0.5 W

Recessing kit

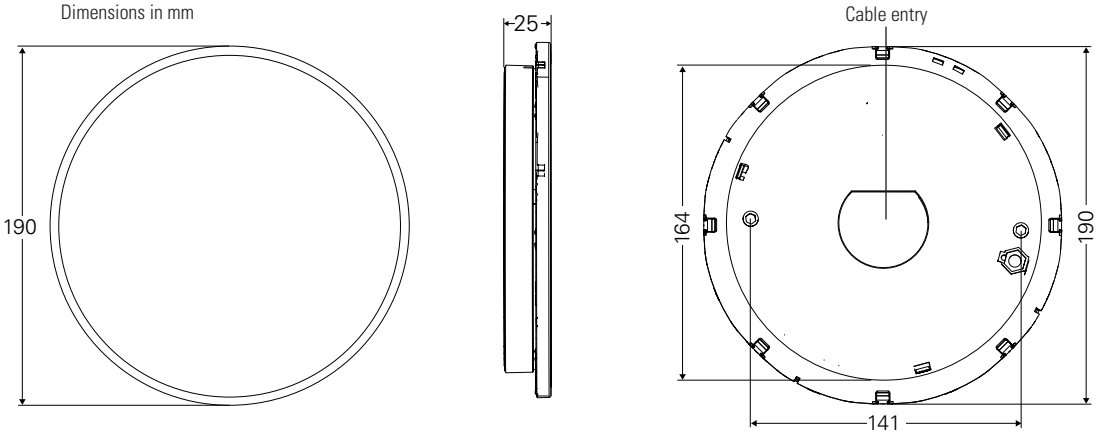
for Planet 400 Disc CG-S

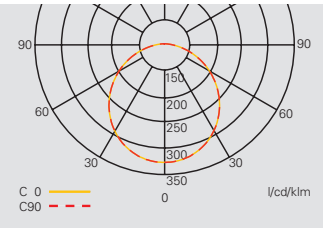


Ordering details

Type	Scope of supply	Order No.
Planet 400 Disc CG-S	Planet 400 Disc CG-S, for wall and ceiling mounting, including LED-supply and CG-S technology (20 addresses)	LUM22136
Recessing kit	Recessing kit for Planet 400 Disc CG-S, for false walls or ceilings with up to 55 mm wall thickness, recessing depth: 45 mm + wall thickness, cut-out ø = 200 mm	LUM10541

Dimensions in mm

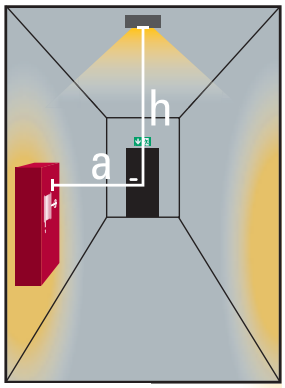




Light distribution curve
Planet 400 Disc CG-S

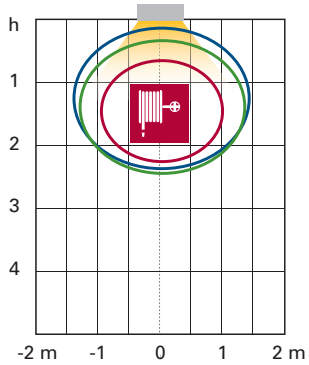
Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	4.1 (5.1)	10.2 (12.4)	4.2 (5.1)	10.2 (12.4)
3.0	Escape route centre	4.4 (5.5)	11.0 (13.5)	4.4 (5.5)	11.0 (13.5)
3.5		4.6 (5.8)	11.7 (14.4)	4.6 (5.9)	11.7 (14.4)
4.0		4.8 (6.1)	12.2 (15.2)	4.8 (6.1)	12.2 (15.2)
4.5		4.8 (6.3)	12.7 (16.0)	4.8 (6.4)	12.7 (16.0)
5.0		4.9 (6.5)	13.1 (16.6)	4.9 (6.5)	13.1 (16.6)
5.5		4.9 (6.7)	13.4 (17.1)	4.9 (6.7)	13.3 (17.1)
6.0		4.8 (6.8)	13.6 (17.6)	4.8 (6.8)	13.6 (17.6)
6.5		4.7 (6.9)	13.7 (18.1)	4.7 (6.9)	13.7 (18.1)
7.0		4.6 (6.9)	13.8 (18.4)	4.5 (6.9)	13.8 (18.4)
7.5		4.3 (6.9)	13.8 (18.7)	4.3 (6.9)	13.8 (18.7)
8.0		4.0 (6.9)	13.7 (19.0)	4.0 (6.9)	13.7 (19.0)
8.5		3.6 (6.8)	13.6 (19.2)	3.6 (6.8)	13.6 (19.2)
9.0		3.1 (6.7)	13.4 (19.3)	3.1 (6.7)	13.4 (19.3)
9.5		2.4 (6.6)	13.1 (19.5)	2.4 (6.6)	13.1 (19.4)
10.0		1.2 (6.4)	12.8 (19.5)	1.1 (6.4)	12.7 (19.5)



Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved. depending on distance a and the rated operating time:

a = 1.0 m
a = 1.5 m
a = 2.0 m

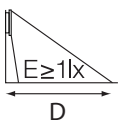


Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3	L4
2.5	Ceiling mounting	3.4 (4.4)	8.8 (10.6)	3.5 (4.5)	8.7 (10.5)
3.0	Room illumination	3.4 (4.4)	9.6 (11.5)	4.5 (4.5)	9.5 (11.5)
3.5		3.4 (4.4)	10.2 (12.4)	4.5 (5.5)	10.2 (12.3)
4.0		3.4 (4.4)	10.8 (13.2)	4.5 (5.5)	10.7 (13.1)
4.5		3.4 (5.0)	11.3 (13.9)	4.5 (4.9)	11.2 (13.8)
5.0		3.4 (5.4)	11.7 (14.5)	4.5 (5.5)	11.7 (14.5)
5.5		3.4 (5.4)	12.1 (15.3)	4.5 (5.5)	12.1 (14.9)
6.0		3.4 (5.4)	12.5 (15.6)	4.5 (5.5)	12.4 (15.6)
6.5		3.4 (5.4)	12.8 (16.1)	4.5 (5.5)	12.7 (16.1)
7.0		3.4 (5.4)	13.0 (16.6)	4.5 (5.5)	13.0 (16.5)
7.5		3.4 (5.4)	13.3 (17.0)	4.5 (5.5)	13.2 (16.9)
8.0		3.4 (5.4)	13.4 (17.3)	3.5 (5.5)	13.4 (17.3)
8.5		3.4 (5.4)	13.6 (17.7)	3.5 (5.5)	13.5 (17.6)
9.0		2.4 (5.4)	13.7 (18.0)	3.5 (5.5)	13.6 (17.9)
9.5		2.4 (5.4)	13.8 (18.2)	2.5 (5.5)	13.7 (18.2)
10.0		1.3 (5.0)	13.8 (18.5)	1.3 (5.0)	13.7 (18.4)

Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	D
2.2	Wall mounting	2.4	6.0	4.9
2.4	Escape route illumination	2.3	6.2	5.0
2.6		2.2	6.0	5.3
2.8		2.1	5.9	5.4
3.0		1.8	5.7	5.7



Planète 24-48/400 Disc and Planète 220/400 Disc

Safety Luminaires for Escape Route Lighting

LED | IP41 | IK07 | EN 1838 | NF

Planète 24-48/400 Disc and Planète 220/400 Disc





Recessing kit



French market

Planète 24-48/400 Disc and Planète 220/400 Disc

- NF EN 60598.2.22/NFC 71802 certified
- Round LED safety luminaire for ceiling and wall mounting
- Light guide technology for slender design with only 25 mm depth and high uniformity of the light output area
- The LEDs are covered and not visible therefore glare is highly reduced
- Light output of 400 lm with fully symmetrical light distribution enables the universal use in several applications with high efficiency
- Suitable for up to 10 m mounting height (ceiling mounting)
- Also suitable for illuminance with 5 lx vertically for mounting heights up to 2.5 m above 'Points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

Luminous flux	400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	PC, Aluminium
Housing colour	White frame RAL 9010, Aluminium
Weight	0.45 kg
Type of mounting	Ceiling and wall surface or recessed mounting
Terminals	2 x 2 x 2.5 mm^2
Connection voltage	LUM22132: 24 – 48VDC LUM22133: 230 V AC, 50 Hz, 220 V DC
Power consumption mains operation (apparent power/effective power)	LUM22132: 6 W LUM22133: 14VA / 6.5 W
Permissible ambient temperature	0 °C to +40 °C
Light source	LED 8 x 0.5 W

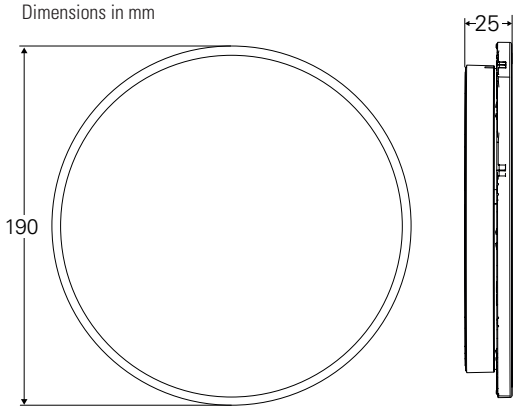
Ordering details

Type	Scope of supply	Order No.
Planète 24-48 / 400 Disc	Planet 400 Disc, for wall and ceiling mounting, including LED-supply, 24 – 48 V DC	LUM22132
Planète 220/400 Disc	Planet 400 Disc, for wall and ceiling mounting, including LED-supply, 230 V AC / 220 V DC	LUM22133

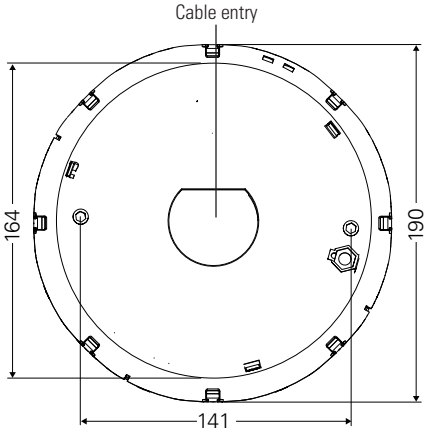
Accessories

Type	Scope of supply	Order No.
Recessing kit	Recessing kit for Planet 400 Disc CG-S, for false walls or ceilings with up to 55 mm wall thickness, recessing depth: 45 mm + wall thickness. cut-out ø = 200 mm	LUM10541

Dimensions in mm



Cable entry



HandRail 930XX LED

Safety Luminaires for Escape Route Lighting



When confronted with emergency lighting applications where a ceiling or post top mounting is not possible, Eaton offers a broad innovative low power hand hail mounted emergency luminaire. The hand rail luminaire has an outstanding performance with superior photometric and spacing.

The flexible hand rail luminaire mounts within a tube, options for 42 mm or 51 mm (outer diameter) to provide a compact, slim and unobtrusive design with smooth edging to eliminate finger trap hazards.

Available with a fully monitored CG-S solution and suitable for use with third party drivers as a un-monitored solution.
It is ideally suited as a compensation measure for escape route/safe egress lighting and architectural decorative lighting.

Features

- Selection of special optics for a variety of applications
- Selection of drivers to optimise performance requirements minimising energy consumption
- Monitored and un-monitored options for design flexibility
- High IP and IK rating for indoor and outdoor applications

HandRail 930XX LED

- Safety luminaire in LED technology for mounting into handrail
- Can be mounted in stainless steel, galvanized steel or plastic handrail
- Discrete mounting for improved aesthetics
- Superior spacing due to optics technology and highly efficient HighPower LEDs
- Suitable for indoor and outdoor applications
- Up to 11 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

HandRail 93011 LED





HandRail 93012 LED





HandRail 93015 LED



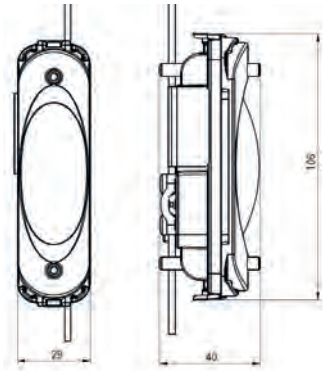


Luminous flux Φ_N	350 mA: 118 lm 490 mA: 164 lm 700 mA: 235 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate, Aluminium
Housing colour	Aluminium
Weight	0.068 kg
Type of mounting	Recessed mounting into handrail
Power supply	approx. 3V DC. max 700 mA (constant current)
Permissible ambient temperature	-20°C to +50°C
Light source	1 x High Power LED (U_F= 2.8 V ... 3.15 V)

Ordering details

Type	Scope of supply	Order No.
HandRail LED 93011 LED	HandRail LED 93011 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 42mm diameter handrail (does not include driver)	40071355046
HandRail LED 93012 LED	HandRail LED 93012 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications. for installation into 42mm diameter handrail (does not include driver)	40071355051
HandRail LED 93015 LED	HandRail LED 93015 LED handrail mounting for escape route illumination with opal lens, indoor applications only, for installation into 42mm diameter handrail (does not include driver)	40071355049
HandRail LED 93021 LED	HandRail LED 93021 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (does not include driver)	40071355050
HandRail LED 93022 LED	HandRail LED 93022 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (does not include driver)	40071355047
HandRail LED 93025 LED	HandRail LED 93025 LED handrail mounting for escape route illumination with opal lens. indoor applications only, for installation into 51mm diameter handrail (does not include driver)	40071355048

Dimensions in mm





* Degree of protection of the luminaire: IP66
Degree of protection of the Eaton driver housing: IP20

** Only with Eaton Emergency Lighting LED driver

V-CG-SLS xxx



V-CG-SLU xxx



Ordering details modules

		Number of HandRail Luminaires		
LED Driver*	**Constant current**	**Minimum**	**Maximum**	**Order No.**
V-CG-SLS 701	700 mA	1	1	40071352399
V-CG-SLS 501	500 mA	1	1	40071352369
V-CG-SLS 500	500 mA	2	2	40071352418
V-CG-SLS 350	350 mA	2	4	40071352417
V-CG-SLR 350	350 mA	2	4	40071352420
V-CG-SLU 700	700 mA	2	4	40071352917
V-CG-SLU 490	490 mA	2	4	40071352916
V-CG-SLU 350	350 mA	2	4	40071352915
Optional				
IP66 rated installation box suitable for 2 x V-CG-SLU xxx				40071355090

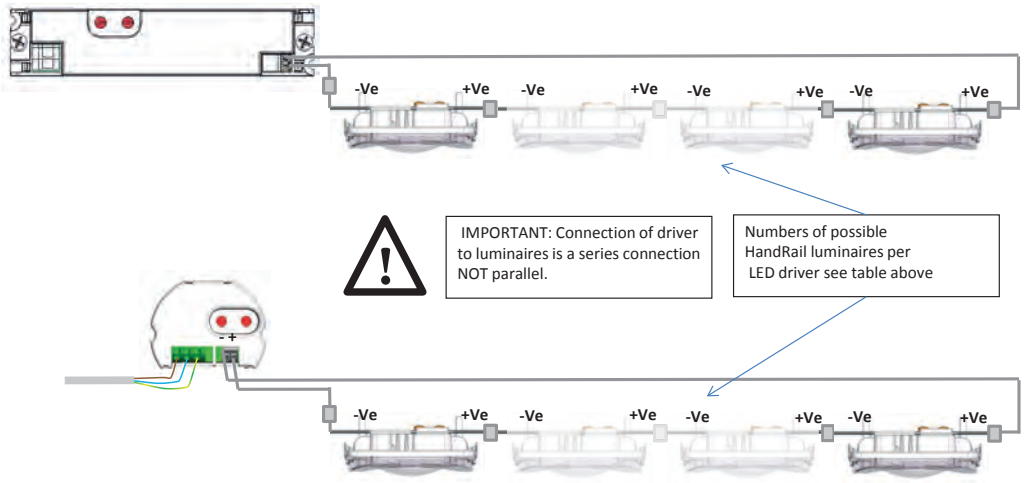
* Detailed LED drived data- see catalogue pages „Monitoring and Lamp Control Gear Modules“

Attention: V-CG-SLI is not suitable

V-CG-SLR 350



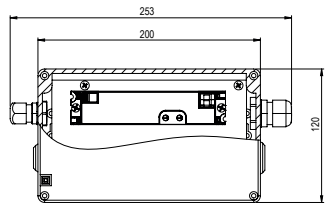
Schematic drawing of driver and luminaire/s

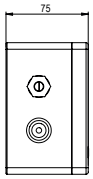


Installations Box. Dimensions in mm



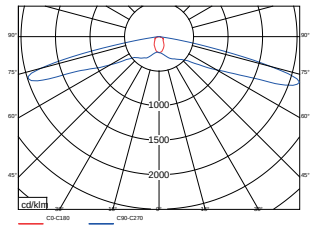






Type	Suitable HandRail/ Pipe diameter	Optic	Recommended application
93011 LED	42.4 x 2.0	70° Lens	Trackside and walkways handrails (level surface)
93012 LED	42.4 x 2.0	45° Lens	Walkways and stair handrails
93015 LED	42.4 x 2.0	No optic. Opal diffuser	Walkways and stair handrails (low glare)
93021 LED	51.0 x 3.8	70° Lens	Trackside and walkways handrails (level surface)
93022 LED	51.0 x 3.8	45° Lens	Walkways and stair handrails
93025 LED	51.0 x 3.8	No optic. Opal diffuser	Walkways and stair handrails (low glare)

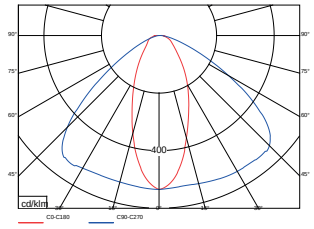
LED driver 700 mA



Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

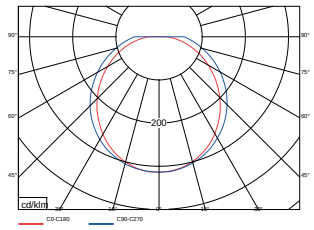
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	4.2 (1.6)	9.2 (5.6)	0.5 (0.5)
0.9	Escape route center	4.6 (1.9)	10.1 (7.1)	0.5 (0.5)
1		5.0 (2.6)	11.0 (8.1)	0.5 (0.5)



Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

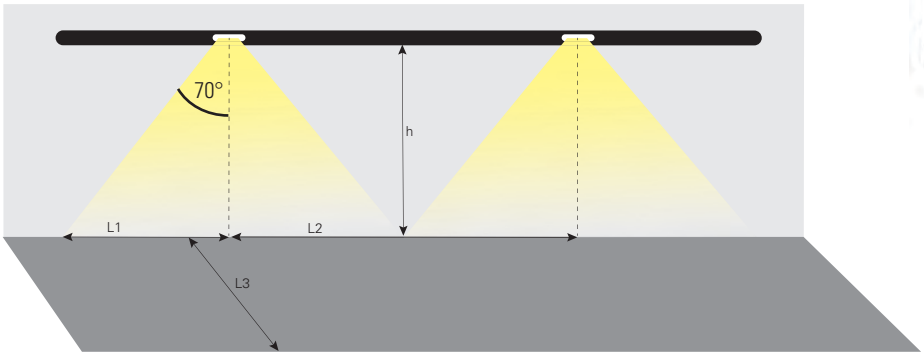
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.35 (1.75)	5.05 (3.6)	0.5 (0.5)
0.9	Escape route center	2.5 (1.85)	5.4 (3.85)	0.5 (0.5)
1		2.6 (1.95)	5.7 (4.1)	0.5 (0.5)



Light distribution curve
HandRail 930x5 LED

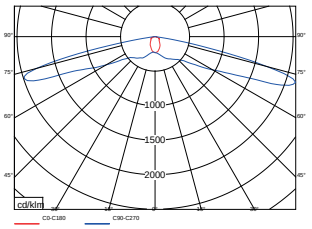
Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.4 (1.7)	6.0 (4.25)	0.5 (0.5)
0.9	Escape route center	2.5 (1.8)	6.3 (4.45)	0.5 (0.5)
1		2.6 (1.8)	6.55 (4.65)	0.5 (0.5)





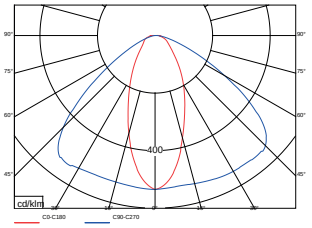
LED driver 490 mA / 500 mA



Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

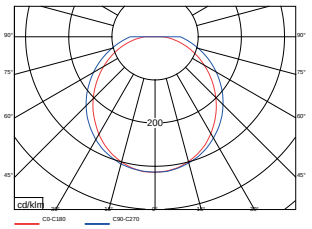
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	4.05 (1.4)	8.9 (3.3)	0.5 (0.5)
0.9	Escape route center	4.4 (1.6)	9.75 (6.0)	0.5 (0.5)
1		4.75 (1.8)	10.55 (6.9)	0.5 (0.5)



Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

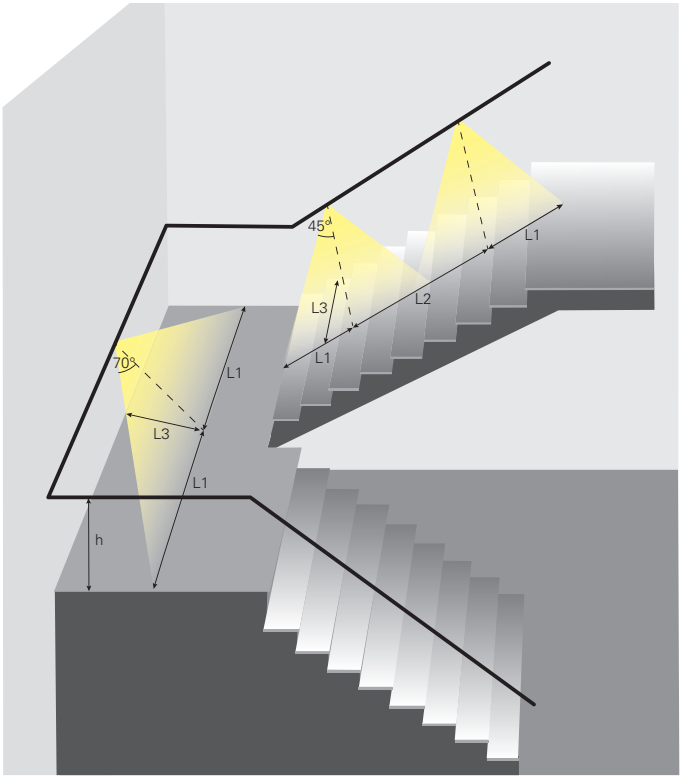
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.2 (1.6)	4.7 (3.3)	0.5 (0.5)
0.9	Escape route center	2.3 (1.7)	5.0 (3.6)	0.5 (0.5)
1		2.45 (1.8)	5.25 (3.8)	0.5 (0.5)



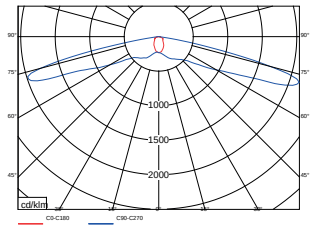
Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.15 (1.4)	5.4 (3.7)	0.5 (0.5)
0.9	Escape route center	2.25 (1.5)	5.6 (3.9)	0.5 (0.5)
1		2.35 (1.55)	5.85 (4.1)	0.5 (0.5)



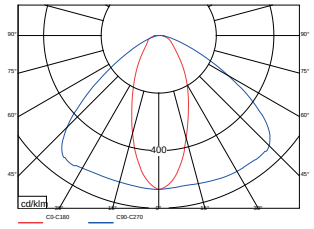
LED driver 350 mA



Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

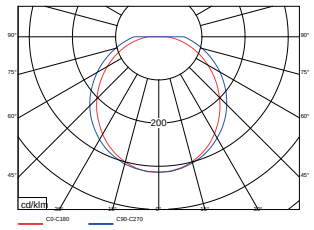
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	3.9	8.55	0.5 (0.5)
0.9	Escape route center	4.2	9.35	0.5 (0.5)
1		4.55	10.1	0.5 (0.5)



Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

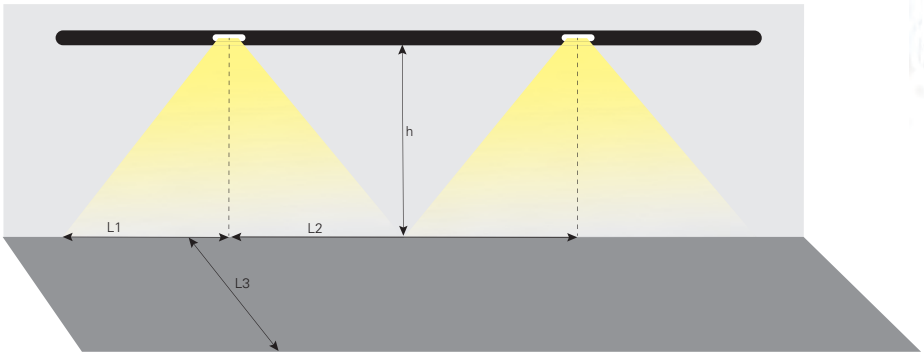
Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.05	4.53	0.5 (0.5)
0.9	Escape route center	2.15	4.65	0.5 (0.5)
1		2.3	4.9	0.5 (0.5)



Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	1.95	4.85	0.5 (0.5)
0.9	Escape route center	2.0	5.05	0.5 (0.5)
1		2.1	5.25	0.5 (0.5)

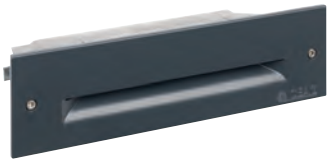


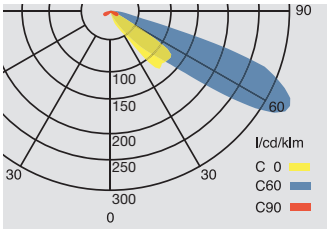


91011 LED CG-S

Safety Luminaires for Escape Route Lighting

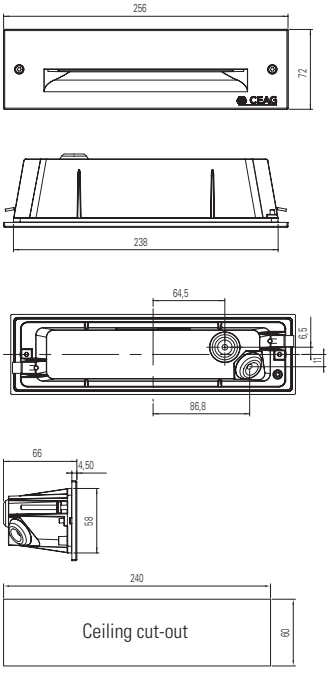
91011 LED CG-S





Light distribution curve 91011 LED CG-S

Dimensions in mm



91011 LED CG-S

- Aluminum LED Step light for safety lighting, suitable for recessed mounting
- High IP65 protection class
- Optimised step illumination achieved through integrated lens optic in the cover
- Developed for applications where people are situated in deeper positions for example lecture halls, a special optical arrangement avoids blinding those facing the audience.
- Four adjustable levels of brightness (100%, 80%, 60%, 40%) to adapt to the ambient brightness
- Side mounting claw-fastening for easy installation in hollow walls or wooden steps (clamping range 3-30 mm)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

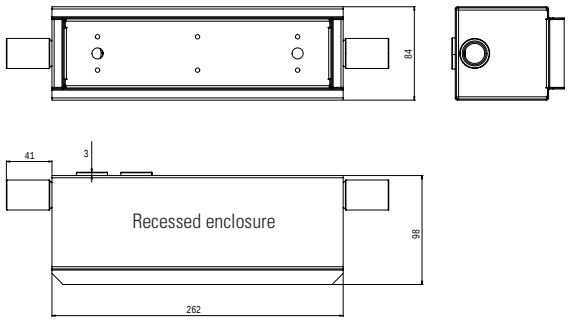
Luminous flux	33 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	Aluminium diecast
Housing colour	Anthracite RAL 7016 (Bezel)
Weight	0.57 kg
Type of mounting	Wall or step recessed
Terminals	Clamp terminal 2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	4.6 VA / 2.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Current consumption, battery operation (220 V)	10 mA
Light source	7 x 0.2 W LED / 4000 K

Ordering details

Type	Scope of supply	Order No.
91011 LED CG-S	Step light IP65 with LED supply, CG-S technology and LED PCB (4000 K), including fixing claw-fastening for installation in hollow walls	40071352091

Accessories

Type	Order No.
Recessed enclosure for Luminaire 91011 LED CG-S. for plastering or for installation in concrete	40071354961

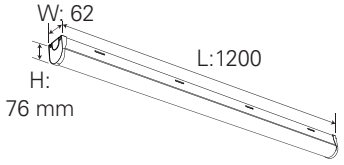


LED IK07 IP20 NF

Crompack LED



Dimensions in mm



French market

Crompack LED 220/2500

- Certified to NF EN 60598.2.22 / NFC 71802
- Excellent light transmission and LED source obscurity from the reeded opal diffuser
- High efficiency LED strip technology and driver combinations with purpose designed optics and thermal management, maximise the LED and control gear life and performance
- Long LED life and no lamps to change particularly in 24/7 operations and inaccessible areas
- First fix base and plug and socket housing connection for rapid installation

Luminous flux	2500 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	Powder coated steel with ABS end caps
Housing colour	White RAL 9016
Weight	1.9 kg
Type of mounting	Ceiling Surface
Terminals	2 x 3 x 2.5 mm^2
Connection voltage	220 – 240 V AC, 50 Hz 176 – 275 V DC
Power consumption mains operation (apparent power/effective power)	22.5 VA / 20.1 W
Permissible ambient temperature	-10 °C to +40 °C
Light source	2 x 54 LEDs

Ordering details

Type	Scope of supply	Order No.
Crompack LED 220 / 2500	Safety Luminaire with high Lumen output (2500 lm), 230 V AC / 220 V DC	LUM22143

Accessories

Type	Scope of supply	Order No.
WireGuard		LUM21404

BXP NF ground luminaire

Safety Luminaires for Escape Route Lighting

LED IP66 IP67* IK10 NF

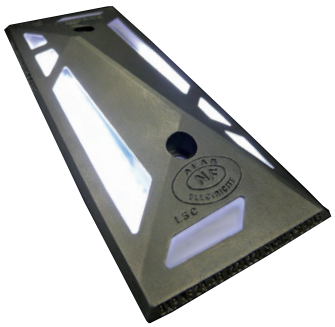
French market

BXP NF ground luminaire

- Certified to NF EN 60598.2.22/NF EN60598.2.13/NFC 71802.
- The very first NF approved LED ground luminaire
- Innovative, ultra-flat design blends in effortlessly
- Eligible for NF AES (safe electricity supply) mark
- Installation every 15 meters
- No risk of contact with dangerous voltages
- BXP NF ground luminaire 230 V AC model with SELV supply (48 V DC) via separate converter
- High pull-out strength
- Very wide fixing spacing (128 mm) for enhanced drive-over strength
- Hight less than 21 mm
- Setting in slabs

7

BXP NF ground light





- Escape Route Lighting for column-free car parks.

Luminous flux	45 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	stainless steel body, polycarbonate sandblast tile
Housing colour	Stainless steel
Weight	1.50 kg
Type of mounting	Ground mounting on a rigid support such as concrete or slab
Terminals	2.5 mm^2 screwless terminal
Connection voltage	LUM22122: 24 – 48 V DC LUM22123: 220 V DC or 230 V AC
Power consumption mains operation (apparent power/effective power)	LUM22122: 2.5 W LUM22123: 7 VA / 3.5 W
Permissible ambient temperature	-5 °C to +60 °C
Light source	White LEDs

Ordering details

Type	Scope of supply	Order No.
BXP NF 24-48	BXP ground mounting emergency luminaire, 3rd party NF certified, 45 lm light output, in IK10 and IP66/IP67 (30 minutes immersion) aluminum housing supplied with 1.5m cable,24-48 V DC. Class III	LUM22122
BXP NF 220	BXP ground mounting emergency luminaire, 3rd party NF certified, 45lm light output, in IK10 and IP66/IP67 (30 minutes immersion) aluminum housing supplied with 1.5m cable, 220 V DC / 230 V AC, Class I	LUM22123

Converter dimensions (220 V model): Length/Width/Depth = 130 x 80 x 60 mm

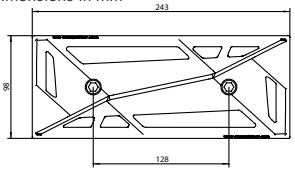
BXP NF 24-48

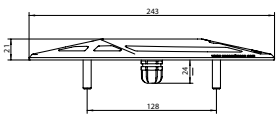


BXP NF 220



Dimensions in mm



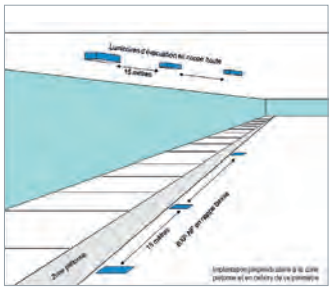


Accessories

Type	Scope of supply	Order No.
M8 screws	Set of 10 M8 stainless steel screws and anchor pins	LUM11077

* 30 minutes immersion

NF model:
spaced 15 metres apart

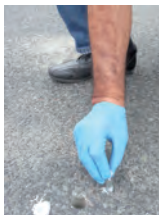


Drilling
Centring template available on request



Sealing





CAP859610



CAP710129



CAP309195



French market

Regulations

- BXP NF ground lights have been designed with a bevelled 21 mm low profile to minimise any potential obstructions in the event of an evacuation
- Strict compliance with the requirements of the UTEC 71 802 standard confirmed by NF AEAS approval and the 45 lumen rating allow for spacing of over 10 metres between emergency light sources split into upper and lower layers, as stipulated by the regulations (see Article PS22)
- Spacing of BXP NF ground luminaires for installation: 15 m
- BXP NF 220 ground luminaires are approved for use with their supply unit. The use of any other converter on the market is not permitted

Safety

- BXP NF 230 V AC ground luminaires have a safety extra-low voltage (SELV) supply (48 V DC) via a separate converter (230 V AC- 48 V DC converter, see picture BXP NF 220).
  As a result, if an electrical fault occurs on the luminaire body, there is no risk of contact with dangerous voltages.

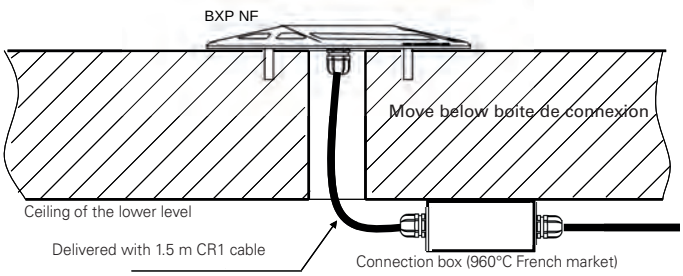
Installation

- Particular care should be taken when installing products. This is essential for the correct functioning and durability of the equipment.
- Avoid installing fixtures on soft surfaces, e.g. tarred or asphalted areas.
- BXP NF ground luminaires are designed to withstand light vehicles driving over them. Areas with high levels of traffic should be avoided as far as possible.
- BXP NF ground luminaires are set in the ground using 2 M8 screws and chemical anchors. These items are not supplied with the equipment (please see options below).
- A centring template can be provided to help the installer.

Connection and installation in paved surfaces

With our CAPRI range of accessories, we can offer quick and simple ways to set fixtures in concrete slabs (please contact us).

Reference	Description	Qty
CAP859610	Extherm – Cut-to-size root mounting sleeve for setting in concrete	1
CAP710129	J17 – Lower cover cap	100
CAP309195	Automatic connectors for soft wire and hard wire	100



- Products are connected on the ceiling of the level below, either onto the separate converter for 220 V DC/AC models or into an additional connection box (960°C for French market).
- For the lowest level of the car park, a sealed connection method (e.g. box) must be used; this item is not supplied with the luminaire.

FlexiTech SE CG-S

Safety Luminaires for Escape Route Lighting

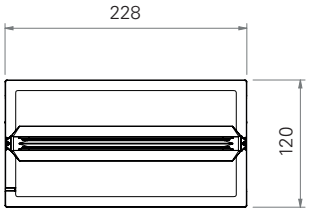
FlexiTech SE CG-S

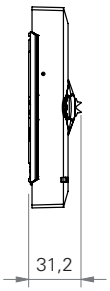
- Safety luminaire, light distribution optimized for escape route applications
- Unobstrusive design and slim housing (31 mm)
- High output of 400 lm and high spacing in a compact housing
- Possibility to modify the light distribution by changing the optical lens (option)
- Same aesthetic in IP43 and IP65 versions
- Large working space, cable entries in flexible material and spirit level for easy and fast installation
- Transparent base plate with honeycomb footprint for easy replacement of existing products (IP43 use only)
- Complete range of accessories (recessed kit for ceiling, recessed box for plaster and brick wall, wire guard)

FlexiTech SE



Dimensions in mm





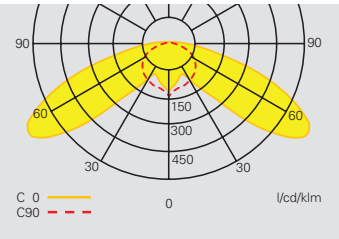
Luminous flux Φ_N	400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate
Housing colour	White RAL 9003
Weight	0.4 kg
Type of mounting	Wall and ceiling mounting
Terminals	Clamp terminal 2 x 3 x 2.5 mm²
Connection voltage	220 – 240 V AC, 50/60 Hz 176 – 275 V DC
Current consumption- battery operation (220 V)	23 mA
Power consumption mains operation (apparent power/effective power)	9.1 VA / 5.4 W
Inrush current	1.5 A
Permissible ambient temperature	-20°C to +40°C
Light source	LED stripe 3.5 W (6500K / CRI > 70)

Ordering details

Type	Scope of supply	Order-No.
FlexiTech SE 400 CG-S, IP43	FlexiTech SL lens optic 400lm CG-S, IP43	FT2SE400CGS
FlexiTech SE 400 CG-S, IP65	FlexiTech SL lens optic 400lm CG-S, IP65	FT2SE400CGSIP

Ordering details Accessories

Type	Order-No.
Recess Kit for Ceiling, compatible with FlexiTech SE and FlexiTech ED (ceiling position)	FT2-RKC
Wire Guard, compatible with FlexiTech SE and FlexiTech ED	FT2-WG
Recessed Box for plaster and brick wall compatible with FlexiTech SE	FT2SE-RB
Opaque lens for open area lighting and wall mounting, for FlexiTech SE	FT2SE-LO



Light distribution curve
FlexiTech SE 400 CG-S



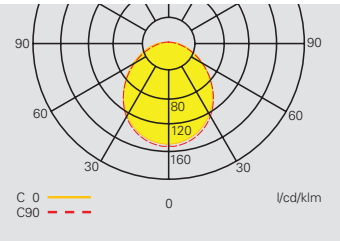
FlexiTech SE 400 CG-S, clear lens (standard configuration), for E = 1 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Ceiling mounting - Escape route center

Mounting height [m]	Lux level directly under				
2.5	7.7	3.2 (4.0)	8.1 (9.9)	6.0 (7.2)	14.5 (17.3)
3.0	5.4	3.3 (4.3)	8.6 (10.8)	6.5 (7.9)	15.8 (18.9)
3.5	3.9	3.3 (4.5)	8.9 (11.4)	6.9 (8.5)	16.9 (20.4)
4.0	3.0	3.2 (4.6)	9.2 (11.9)	7.2 (9.0)	18.0 (21.7)
4.5	2.4	3.0 (4.7)	9.3 (12.3)	7.4 (9.4)	18.9 (22.9)
5.0	1.9	2.7 (4.7)	9.3 (12.7)	1.9 (9.8)	18.3 (24.1)
5.5	1.6	2.3 (4.6)	9.1 (12.9)	1.5 (10.1)	15.2 (25.1)
6.0	1.3	1.7 (4.4)	8.7 (13.1)	1.0 (10.4)	14.3 (26.1)
6.5	1.1	0.8 (4.1)	8.3 (13.2)	0.4 (10.5)	13.9 (26.9)

Ceiling mounting - room illumination (array of 2x2 luminaires)

Mounting height [m]				
2,5	0.8 (0.8)	8.2 (10.0)	6.2 (7.3)	15.0 (17.9)
3,0	0.9 (1.2)	8.7 (10.9)	6.8 (7.9)	16.4 (19.5)
3,5	0.9 (0.7)	9.0 (11.5)	7.3 (8.6)	17.7 (21.2)
4,0	0.8 (0.8)	9.3 (12.1)	7.7 (9.1)	18.9 (22.6)
4,5	0.9 (0.6)	9.5 (12.5)	1.2 (9.6)	20.0 (24.0)
5,0	0.8 (0.8)	9.5 (12.9)	1.4 (1.4)	21.1 (25.2)
5,5	1.1 (0.5)	9.7 (13.1)	1.0 (10.6)	18.5 (26.5)
6,0	1.1 (0.6)	10.0 (13.3)	0.8 (2.4)	16.7 (27.6)
6,5	0.9 (0.6)	10.1 (13.5)	0.7 (1.1)	16.1 (28.7)



Light distribution curve
FlexiTech SE 400 CG-S,
with optional lens FT2SE-LO

Planning help for FlexiTech SE 400 CG-S, with optional lens FT2SE-LO, for E = 1 lx (0.5 lx)
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Ceiling mounting - Escape route center

Mounting height [m]	Lux level directly under				
2.5	19.5	4.1 (5.1)	10.1 (12.2)	4.2 (5.2)	10.4 (12.7)
3.0	13.5	4.4 (5.5)	10.9 (13.3)	4.5 (5.6)	11.2 (13.8)
3.5	10.0	4.7 (5.8)	11.7 (14.3)	4.7 (6.0)	11.9 (14.7)
4.0	7.6	4.9 (6.1)	12.3 (15.1)	4.9 (6.3)	12.5 (15.5)
4.5	6.0	5.0 (6.4)	12.8 (15.9)	5.0 (6.5)	13.0 (16.3)
5.0	4.9	5.1 (6.6)	13.2 (16.6)	5.1 (6.7)	13.4 (16.9)
5.5	4.0	5.1 (6.8)	13.6 (17.2)	5.1 (6.9)	13.8 (17.5)
6.0	3.4	5.1 (7.0)	13.9 (17.7)	5.1 (7.0)	14.1 (18.0)
6.5	2.9	5.1 (7.1)	14.1 (18.2)	5.1 (7.1)	14.3 (18.5)
7.0	2.5	5.0 (7.2)	14.3 (18.7)	5.0 (7.2)	14.4 (18.9)
7.5	2.2	4.9 (7.2)	14.4 (19.0)	4.9 (7.3)	14.5 (19.3)
8.0	1.9	4.7 (7.2)	14.5 (19.4)	4.7 (7.3)	14.5 (19.6)
8.5	1.7	4.4 (7.2)	14.5 (19.7)	4.4 (7.3)	14.5 (19.9)
9.0	1.5	4.1 (7.2)	14.4 (19.9)	4.1 (7.2)	14.4 (20.1)
9.5	1.4	3.7 (7.1)	14.3 (20.1)	3.6 (7.2)	14.3 (20.3)
10.0	1.2	3.2 (7.0)	14.1 (20.2)	3.1 (7.0)	14.1 (20.4)
10.5	1.1	2.4 (6.9)	13.8 (20.4)	2.3 (6.9)	13.8 (20.5)
11.0	1.0	1.0 (6.7)	13.5 (20.4)	0.7 (6.7)	13.4 (20.6)

Ceiling mounting - room illumination (array of 2x2 luminaires)

Mounting height [m]				
2.5	3.3 (3.9)	8.8 (10.7)	3.1 (3.7)	8.8 (10.6)
3.0	3.5 (4.2)	9.6 (11.6)	3.3 (4.0)	9.5 (11.5)
3.5	3.6 (4.4)	10.2 (12.4)	3.5 (4.2)	10.2 (12.4)
4.0	3.7 (4.5)	10.8 (13.1)	3.6 (4.5)	10.8 (13.3)
4.5	3.8 (4.6)	11.3 (13.7)	3.7 (4.7)	11.3 (14.1)
5.0	3.9 (4.9)	11.8 (14.5)	3.7 (4.7)	11.7 (14.5)
5.5	3.8 (5.0)	12.2 (15.1)	3.8 (4.8)	12.2 (15.1)
6.0	3.9 (5.1)	12.6 (15.7)	3.7 (4.9)	12.5 (15.6)
6.5	3.8 (5.2)	12.9 (16.2)	3.7 (5.0)	12.9 (16.1)
7.0	3.7 (5.2)	13.2 (16.6)	3.7 (5.1)	13.2 (16.6)
7.5	3.7 (5.2)	13.5 (17.1)	3.5 (5.0)	13.4 (17.0)
8.0	3.5 (5.2)	13.7 (17.4)	3.4 (5.1)	13.7 (17.5)
8.5	3.4 (5.1)	13.9 (17.8)	3.3 (5.1)	13.9 (17.9)
9.0	3.3 (5.2)	14.1 (18.2)	3.1 (5.0)	14.0 (18.1)
9.5	3.1 (5.1)	14.2 (18.5)	2.9 (4.9)	14.1 (18.5)
10.0	2.8 (5.1)	14.3 (18.8)	2.7 (4.9)	14.2 (18.7)
10.5	2.5 (4.9)	14.4 (19.1)	2.4 (4.7)	14.3 (19.0)
11.0	2.3 (4.6)	14.4 (19.1)	2.1 (4.8)	14.3 (19.5)

BeamTech CG-S

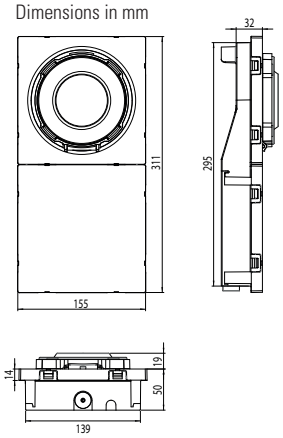
Safety Luminaires for Escape Route Lighting



BeamTech, 1 Light Head



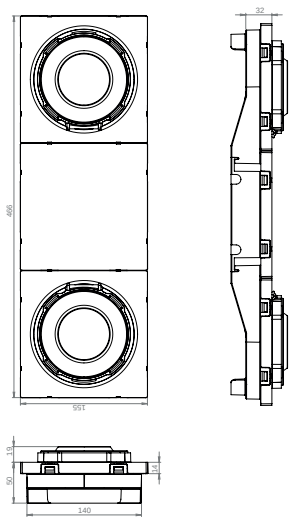
Dimensions in mm



BeamTech, 2 Light Heads



Dimensions in mm



BeamTech

- LED safety luminaire with high ingress protection class (IP65) with one or two adjustable light heads with 400 lm each
- Light heads are rotatable in two axes in 15° steps and are equipped with a locking mechanism preventing accidental change of light head configuration
- Narrow or wide beam option can be configured individually per light head via jumper switches
- For better aesthetics of the product the two IP65 cable glands are integrated in the power supply unit so that they are invisible after installation
- One product applicable for escape route illumination, open area illumination or for illuminating points of emphasis in accordance with EN 1838
- Narrow beam option enables escape illumination from up to 30 m height and gives a maximum spacing between luminaires up to 29 m (with 2 light heads)
- Wide beam option for wide area lighting with up to 16 m height and up to 20 m spacing (with 2 light heads)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

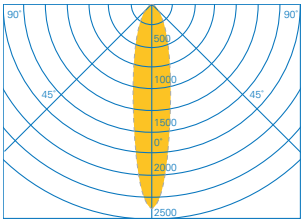
Luminous flux Φ_N	BT1S-CCGS: 1 x 400 lm BT2S-ECGS: 2 x 400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100%
Housing material	Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 9003
Weight	BT1S-CCGS: 0.75 kg BT2S-ECGS: 1.2 kg
Type of mounting	Wall or ceiling surface mounting, recessed with optional base
Supply terminals	3 x 2 x 2.5 mm² (max. 2 A)
Power input	220- 240 V AC, 50/60 Hz // 176-275 V DC
Current consumption- battery operation (220 V)	BT1S-CCGS: 20 mA BT2S-ECGS: 42 mA
Power consumption mains operation (apparent power/effective power)	BT1S-CCGS: 7.5 VA / 4.4 W BT2S-ECGS: 10.5 VA / 8.7 W
Inrush current	BT1S-CCGS: 1.1 A BT2S-ECGS: 1.4 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	1 (2) x 12 LEDs Wide / 1 (2) x 12 LEDs Narrow

Ordering details

Type	Scope of supply	Order No.
BeamTech 1 x Light head CG-S	BeamTech CG-S, 1 x 400 lm, IP65	BT1S-CCGS
BeamTech 2 x Light head CG-S	BeamTech CG-S, 2 x 400 lm, IP65	BT2S-ECGS

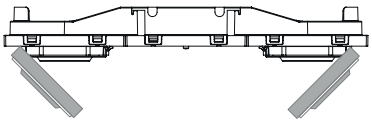
Accessories

Type	Order No.
BeamTech recessed base for 1x light head	BT1SRB
BeamTech recessed base for 2 x light head	BT2SRB
BeamTech protection grid	BTSGRID

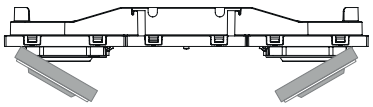


Light distribution curve
BeamTech narrow beam

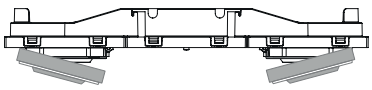
Planning help for BeamTech 2 x 400 lm, narrow beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



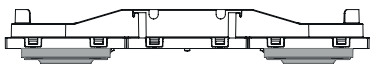
Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	7.2 (8.7)	17.4 (21.0)	3.4 (4.5)	9.0 (11.7)
4.0	Exit route centre	8.3 (9.9)	19.8 (23.9)	3.6 (4.8)	9.5 (12.6)
5.0	Inclination angle 45°	9.2 (11.0)	22.0 (26.5)	3.6 (5.0)	10.0 (13.2)
6.0		10.1 (12.0)	24.0 (28.9)	3.5 (5.1)	10.3 (13.7)
7.0		11.0 (13.0)	25.9 (31.0)	3.3 (5.1)	10.1 (14.2)
8.0		11.8 (13.8)	27.6 (33.0)	2.9 (5.0)	10.0 (14.5)
9.0		12.5 (14.7)	29.5 (35.0)	2.0 (4.9)	9.8 (14.5)



3.0	Ceiling mounting	5.8 (7.0)	14.0 (16.9)	3.9 (4.9)	9.7 (12.2)
4.0	Exit route centre	6.6 (8.0)	15.9 (19.2)	4.3 (5.4)	10.8 (13.4)
5.0	Inclination angle 30°	7.2 (8.8)	17.6 (21.3)	4.7 (5.8)	11.6 (14.6)
6.0		7.9 (9.6)	19.1 (23.2)	5.0 (6.2)	12.4 (15.6)
8.0		8.9 (10.8)	21.7 (26.3)	5.1 (6.9)	13.8 (17.2)
10.0		9.8 (11.9)	23.8 (29.0)	4.7 (7.2)	14.3 (18.7)
12.0		10.7 (13.0)	25.9 (31.5)	3.8 (7.1)	14.2 (19.8)
14.0		11.5 (13.8)	27.6 (33.5)	1.8 (6.7)	13.4 (20.3)

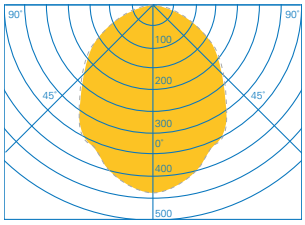


8.0	Ceiling mounting	7.0 (8.9)	17.7 (21.9)	6.1 (7.8)	15.6 (19.0)
10.0	Exit route centre	7.5 (9.6)	19.1 (23.8)	6.2 (8.3)	16.7 (21.1)
12.0	Inclination angle 15°	7.9 (10.1)	20.1 (25.6)	6.1 (8.7)	17.3 (22.6)
14.0		8.1 (10.6)	21.2 (26.9)	5.8 (8.8)	17.6 (23.5)
16.0		8.4 (10.9)	21.9 (28.0)	5.3 (8.7)	17.5 (24.3)
18.0		8.5 (11.3)	22.5 (29.0)	4.6 (8.5)	17.0 (24.6)
20.0		8.6 (11.4)	22.9 (30.0)	3.5 (8.2)	16.4 (24.9)
22.0		8.6 (11.8)	23.5 (30.7)	1.3 (7.7)	15.3 (24.8)

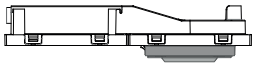


16.0	Ceiling mounting	6.5 (9.5)	19.1 (25.5)	6.5 (9.5)	19.1 (25.5)
18.0	Exit route centre	6.3 (9.5)	19.0 (26.2)	6.3 (9.5)	19.0 (26.2)
20.0	Inclination angle 0°	6.0 (9.4)	18.9 (26.7)	6.0 (9.4)	18.9 (26.7)
22.0		5.6 (9.3)	18.6 (26.9)	5.6 (9.3)	18.6 (26.9)
24.0		5.3 (9.1)	18.2 (27.0)	5.3 (9.1)	18.2 (27.0)
26.0		5.0 (8.8)	17.6 (26.9)	5.0 (8.8)	17.6 (26.9)
28.0		4.6 (8.5)	17.0 (26.7)	4.6 (8.5)	17.0 (26.7)
30.0		4.2 (8.1)	16.2 (26.5)	4.2 (8.1)	16.2 (26.5)

Due to the variaty of possible rotation and inclination combinations the tables can only be examples for basic configurations. For more detailed lighting design photometric files (Eulumdat) are available. For the lighting design please consider the fixed rotating and inclinations steps of 15°.

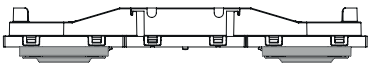


Light distribution curve
BeamTech wide beam



Planning help for BeamTech 1 x 400 lm, wide beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	4.5 (5.5)	11.1 (13.3)	4.5 (5.5)	11.1 (13.3)
4.0	Exit route centre	4.9 (6.2)	12.4 (15.3)	4.9 (6.2)	12.4 (15.3)
5.0	Inclination angle 0°	5.1 (6.8)	13.5 (16.7)	5.1 (6.8)	13.5 (16.7)
6.0		5.2 (7.1)	14.1 (18.0)	5.2 (7.1)	14.1 (18.0)
7.0		5.1 (7.2)	14.4 (19.1)	5.1 (7.2)	14.4 (19.1)
8.0		5.0 (7.3)	14.6 (19.8)	5.0 (7.3)	14.6 (19.8)
9.0		4.5 (7.3)	14.5 (20.2)	4.5 (7.3)	14.5 (20.2)
10.0		3.5 (7.2)	14.3 (20.4)	3.5 (7.2)	14.3 (20.4)
11.0		2.4 (7.1)	14.1 (20.6)	2.4 (7.1)	14.1 (20.6)
3.0	Ceiling mounting	3.5 (4.2)	9.3 (11.0)	3.5 (4.2)	9.4 (11.1)
4.0	Room illumination	3.6 (4.6)	10.7 (12.8)	3.7 (4.7)	10.8 (12.9)
5.0	Inclination angle 0°	3.9 (4.8)	11.8 (14.4)	3.9 (4.8)	11.8 (14.4)
6.0		3.8 (5.0)	12.7 (15.6)	3.8 (5.1)	12.7 (15.7)
7.0		3.5 (5.3)	13.4 (16.6)	3.6 (5.4)	13.5 (16.7)
8.0		3.2 (5.3)	13.9 (17.5)	3.3 (5.4)	14.0 (17.6)
9.0		3.2 (4.9)	14.2 (18.4)	3.2 (5.0)	14.2 (18.5)
10.0		2.8 (4.6)	14.4 (19.1)	2.8 (4.7)	14.4 (19.2)
11.0		2.6 (4.4)	14.5 (19.6)	2.6 (4.5)	14.5 (19.7)
12.0		2.5 (4.2)	14.5 (19.9)	2.5 (4.3)	14.5 (20.0)

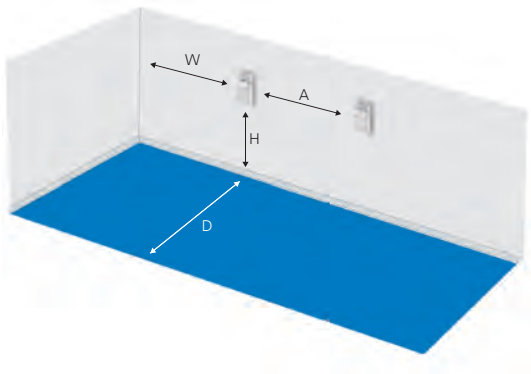


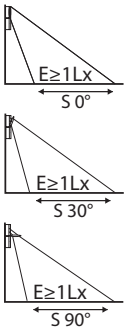
Planning help for BeamTech 2 x 400 lm, wide beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	5.5 (6.6)	13.3 (15.7)	5.5 (6.6)	13.3 (15.7)
4.0	Exit route centre	6.2 (7.7)	15.3 (18.2)	6.2 (7.7)	15.3 (18.2)
5.0	Inclination angle 0°	6.8 (8.4)	16.7 (20.4)	6.8 (8.4)	16.7 (20.4)
6.0		7.1 (9.0)	18.0 (22.2)	7.1 (9.0)	18.0 (22.2)
7.0		7.2 (9.6)	19.1 (23.6)	7.2 (9.6)	19.1 (23.6)
8.0		7.3 (9.9)	19.8 (24.9)	7.3 (9.9)	19.8 (24.9)
9.0		7.3 (10.1)	20.2 (26.1)	7.3 (10.1)	20.2 (26.1)
10.0		7.2 (10.2)	20.4 (27.1)	7.2 (10.2)	20.4 (27.1)
11.0		7.1 (10.3)	20.6 (27.8)	7.1 (10.3)	20.6 (27.8)
12.0		6.8 (10.3)	20.6 (28.3)	6.8 (10.3)	20.6 (28.3)
13.0		6.1 (10.2)	20.5 (28.6)	6.1 (10.2)	20.5 (28.6)
14.0		5.1 (10.2)	20.3 (28.8)	5.1 (10.2)	20.3 (28.8)
15.0		4.1 (10.1)	20.1 (29.0)	4.1 (10.1)	20.1 (29.0)
16.0		2.5 (9.9)	19.8 (29.1)	2.5 (9.9)	19.8 (29.1)

Planning help for BeamTech 2 x 400 lm, wide beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	4.2 (5.0)	11.0 (13.0)	4.2 (4.9)	11.1 (12.9)
4.0	Room illumination	4.7 (5.6)	12.8 (15.2)	4.7 (5.6)	12.9 (15.2)
5.0	Inclination angle 0°	4.8 (6.1)	14.4 (17.1)	4.8 (6.1)	14.4 (17.1)
6.0		5.0 (6.5)	15.6 (18.7)	5.1 (6.5)	15.7 (18.8)
7.0		5.4 (6.6)	16.6 (20.3)	5.4 (6.6)	16.6 (20.3)
8.0		5.3 (6.8)	17.5 (21.6)	5.4 (6.8)	17.6 (21.6)
9.0		5.1 (7.1)	18.4 (22.7)	5.1 (7.1)	18.4 (22.7)
10.0		4.7 (7.3)	19.1 (23.6)	4.7 (7.4)	19.1 (23.7)
11.0		4.5 (7.4)	19.6 (24.5)	4.5 (7.4)	19.6 (24.6)
12.0		4.3 (7.1)	19.9 (25.5)	4.4 (7.1)	20.0 (25.5)
13.0		4.1 (6.8)	20.1 (26.3)	4.2 (6.8)	20.2 (26.3)
14.0		3.9 (6.4)	20.3 (27.0)	3.9 (6.4)	20.3 (27.0)
15.0		3.6 (6.1)	20.4 (27.5)	3.7 (6.2)	20.5 (27.6)
16.0		3.5 (5.9)	20.5 (27.9)	3.5 (6.0)	20.5 (28.0)





How to read below table?

Example:

BeamTech 1 x 400 lm wall mounted

Given:
H = 2.0 m
D = 1.0 m
Results:
Distance from wall should be: W = 3.5 m and area A = 8.5 m
when inclinasion of the head (Slope) S = 75°
and beam configured as wide (W)

Planning help for BeamTech 1 x 400 lm
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

D →	1 m				2 m				3 m				4 m				5 m				6 m				7 m			
H (m) ↓	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam	Wall	Area	Slope	Beam
2.00	3.5	8.5	75°	W	3.5	9.3	60°	W	3.3	9.5	30°	W	2.8	8.8	30°	W	1.5	7.5	15°	W	1.8	6.3	30°	N	0.8	4.5	30°	N
2.25	4.0	9.3	75°	W	3.8	9.8	60°	W	3.3	9.5	30°	W	3.0	9.3	30°	W	1.8	8.0	30°	W	2.0	6.5	30°	N	1.3	5.5	30°	N
2.50	4.0	9.8	75°	W	4.0	10.3	60°	W	3.5	10.0	45°	W	3.0	9.5	30°	W	1.8	8.0	45°	W	2.5	7.0	30°	N	1.5	6.3	30°	N
2.75	4.0	10.5	75°	W	4.0	10.5	60°	W	4.0	10.5	45°	W	3.3	10.0	30°	W	2.0	8.5	45°	W	2.5	7.5	30°	N	2.0	7.0	30°	N
3.00	4.3	10.5	75°	W	4.3	11.0	60°	W	4.0	10.8	45°	W	3.5	10.0	30°	W	2.0	9.0	45°	W	2.8	8.0	30°	N	2.3	7.3	30°	N
4.00	4.8	12.0	75°	W	4.5	12.0	60°	W	4.3	11.0	45°	W	3.8	11.5	45°	W	3.0	10.0	30°	W	3.0	9.0	30°	N	3.0	8.8	30°	N
5.00	5.0	13.0	75°	W	4.5	12.5	60°	W	4.3	12.0	45°	W	4.0	12.0	60°	W	3.8	10.5	45°	N	3.3	9.5	30°	N	3.3	9.5	30°	N
7.50	5.0	14.0	75°	W	4.5	13.5	60°	W	4.3	13.0	60°	W	3.5	12.5	60°	W	4.0	11.0	60°	N	4.0	11.0	45°	N	3.8	11.0	45°	N
10.00	3.5	13.5	75°	W	3.5	13.5	75°	W	2.5	13.0	75°	W	2.0	12.0	60°	W	4.0	12.0	60°	N	4.0	11.5	60°	N	3.3	11.0	45°	N

** Spacing tables above are examples of performance of certain models with specific lumen output, installed on specific heights at few headlamps direction options. Complete performance characteristics for all models, all installation heights and all headlamp direction options can be derived by the use of the LDT files available on request.*

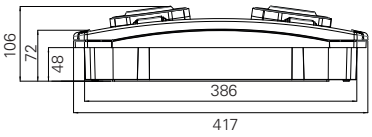
BeamLite II CG-S

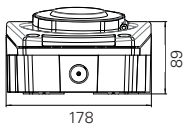
Safety Luminaires for Escape Route Lighting

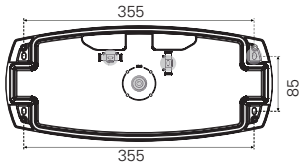
BeamLite II



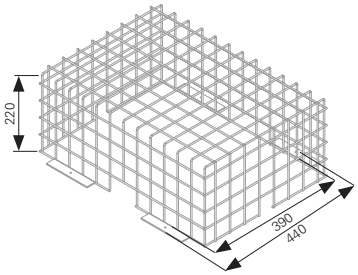
Dimensions in mm







Protection grid



BeamLite II

- LED safety luminaire with high ingress protection class (IP65) with two adjustable light heads with 400 lm each
- Light heads are rotatable in two axes in 15° steps and are equipped with a locking mechanism preventing accidental change of light head configuration
- Narrow or wide beam option can be configured individually per light head via jumper switches
- One product applicable for escape route illumination, open area illumination or for illuminating points of emphasis in accordance with EN 1838
- Narrow beam option enables escape illumination from up to 30 m height and gives a maximum spacing between luminaires up to 29 m
- Wide beam option for wide area lighting with up to 16 m height and up to 20 m spacing
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit
- EC1.5 monitoring option available

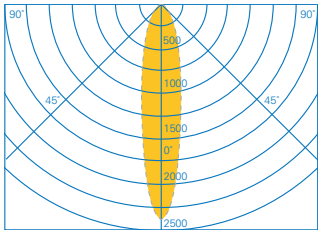
Luminous flux Φ_N	2 x 400 lm
Luminous flux Φ_E/Φ_N at end of rated operating time	100 %
Housing material	Polycarbonate (850 °C glow wire resistant)
Housing colour	RAL 9003
Weight	BL2M-ECGS: 1.6 kg BL2M-EEC: 1.7 kg
Type of mounting	Wall or ceiling surface mounting
Supply terminals	3 x 2 x 2.5 mm2 (max. 2 A)
Power input	BL2M-ECGS: 220- 240 V AC, 50/60 Hz // 176-275 V DC BL2M-EEC: 220- 240 V AC, 50/60 Hz
Current consumption- battery operation (220 V)	BL2M-ECGS: 42 mA
Power consumption mains operation (apparent power/effective power)	BL2M-ECGS: 10.5 VA / 8.7 W BL2M-EEC: 10.9 VA / 8.3 W
Inrush current	BL2M-ECGS: 1.4 A BL2M-EEC: 2.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	2 x 12 LEDs Wide / 2 x 12 LEDs Narrow

Ordering details

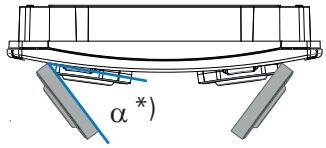
Type	Scope of supply	Order No.
BeamLite II CG-S	BeamLite II CG-S, 2 x 400 lm, IP65, including one cable gland	BL2M-ECGS
BeamLite II EC	BeamLite II EC 1.5, 2 x 400 lm, IP65, including one cable gland	BL2M-EEC

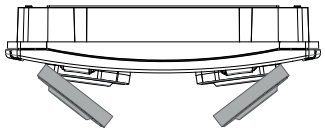
Accessories

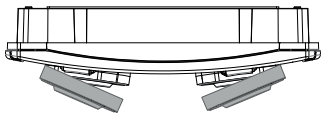
Type	Order No.
Protection grid for BeamLite II	BTLGRID

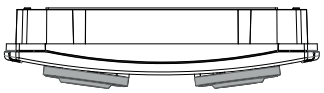


Light distribution curve
BeamLite II narrow beam





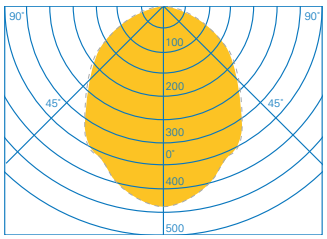




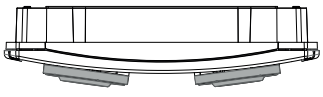
Planning help for BeamLite II 2 x 400 lm, narrow beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	8.1 (9.7)	19.4 (23.4)	3.2 (4.3)	8.6 (10.9)
4.0	Exit route centre	9.3 (11.1)	22.2 (26.8)	3.2 (4.5)	9.0 (12.0)
5.0	Inclination angle 45°	10.5 (12.4)	24.9 (29.7)	3.0 (4.5)	9.1 (12.6)
6.0		11.6 (13.6)	27.2 (32.3)	2.5 (4.5)	8.9 (12.8)
7.0		12.6 (14.7)	29.4 (35.0)	1.5 (4.2)	8.5 (12.8)
4.0	Ceiling mounting	7.3 (8.8)	17.7 (21.4)	4.0 (5.2)	10.3 (13.1)
5.0	Exit route centre	8.1 (9.8)	19.6 (23.7)	4.2 (5.5)	11.0 (14.0)
6.0	Inclination angle 30°	8.8 (10.6)	21.2 (25.6)	4.4 (5.7)	11.5 (14.8)
7.0		9.5 (11.4)	22.9 (27.6)	4.4 (6.0)	11.9 (15.5)
8.0		10.1 (12.2)	24.3 (29.3)	4.2 (6.1)	12.2 (16.0)
9.0		10.7 (12.8)	25.6 (30.9)	3.9 (6.2)	12.4 (16.5)
10.0		11.4 (13.5)	27.0 (32.5)	3.3 (6.2)	12.3 (16.9)
11.0		12.0 (14.2)	28.3 (34.0)	2.4 (6.0)	12.0 (17.2)
10.0	Ceiling mounting	8.5 (10.6)	21.3 (26.3)	5.6 (7.9)	15.8 (20.1)
11.0	Exit route centre	8.8 (11.0)	22.0 (27.3)	5.5 (8.0)	15.9 (20.9)
12.0	Inclination angle 15°	9.1 (11.4)	22.7 (28.3)	5.3 (8.0)	16.0 (21.4)
13.0		9.3 (11.7)	23.4 (29.2)	5.0 (8.0)	16.0 (21.9)
14.0		9.6 (12.0)	23.9 (30.0)	4.5 (8.0)	15.9 (22.2)
15.0		9.9 (12.3)	24.5 (30.7)	4.0 (7.9)	15.7 (22.5)
16.0		10.1 (12.6)	25.1 (31.4)	3.3 (7.7)	15.3 (22.6)
17.0		10.3 (12.8)	25.7 (32.2)	2.2 (7.4)	14.9 (22.7)
16.0	Ceiling mounting	7.1 (9.9)	19.8 (26.2)	6.3 (9.3)	18.7 (25.2)
18.0	Exit route centre	6.9 (10.0)	20.0 (27.0)	5.9 (9.3)	18.7 (25.8)
20.0	Inclination angle 0°	6.8 (10.0)	20.1 (27.5)	5.5 (9.2)	18.3 (26.3)
22.0		6.7 (10.0)	19.9 (28.0)	5.0 (9.0)	17.9 (26.4)
24.0		6.4 (9.9)	19.8 (28.1)	4.4 (8.6)	17.2 (26.5)
26.0		6.1 (9.7)	19.4 (28.4)	3.7 (8.3)	16.6 (26.3)
28.0		5.6 (9.7)	19.3 (28.4)	2.9 (7.8)	15.6 (25.9)
30.0		4.5 (9.6)	19.2 (28.2)	1.3 (7.4)	14.7 (25.6)

*) Inclination angle α describes the inclination per light head in addition to the inclination of 7.5° given by the luminaire's form.



Light distribution curve
BeamLite II wide beam



Planning help for BeamLite II 2 x 400 lm, wide beam E = 1.0 lx (0.5 lx)
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m]	Types of mounting	L1	L2	L3	L4
3.0	Ceiling mounting	4.2 (5.0)	11.1 (13.5)	4.2 (4.6)	11.0 (12.8)
4.0	Room illumination	4.7 (5.6)	12.8 (15.2)	4.7 (5.6)	12.8 (15.2)
5.0	Inclination angle 0°	5.0 (6.1)	14.3 (17.1)	5.0 (6.0)	14.3 (17.0)
6.0		5.1 (6.5)	15.6 (18.7)	5.1 (6.5)	15.6 (18.7)
7.0		5.3 (6.8)	16.7 (20.2)	5.1 (6.8)	16.6 (20.2)
8.0		5.3 (6.9)	17.5 (21.5)	5.2 (6.9)	17.5 (21.5)
9.0		5.2 (7.1)	18.3 (22.7)	5.1 (7.0)	18.2 (22.6)
10.0		4.9 (7.1)	18.9 (23.7)	5.0 (7.0)	18.9 (23.7)
12.0		4.4 (7.2)	19.8 (25.4)	4.7 (6.9)	19.8 (25.3)
14.0		3.8 (6.7)	20.4 (26.6)	4.1 (6.9)	20.3 (26.7)
16.0		3.1 (6.2)	20.6 (27.6)	3.1 (6.6)	20.5 (27.7)

In case of the wide beam option an inclination of the light head doesn't have a significant influence on the spacing values. Thus, the above table shows the value for one configuration only.

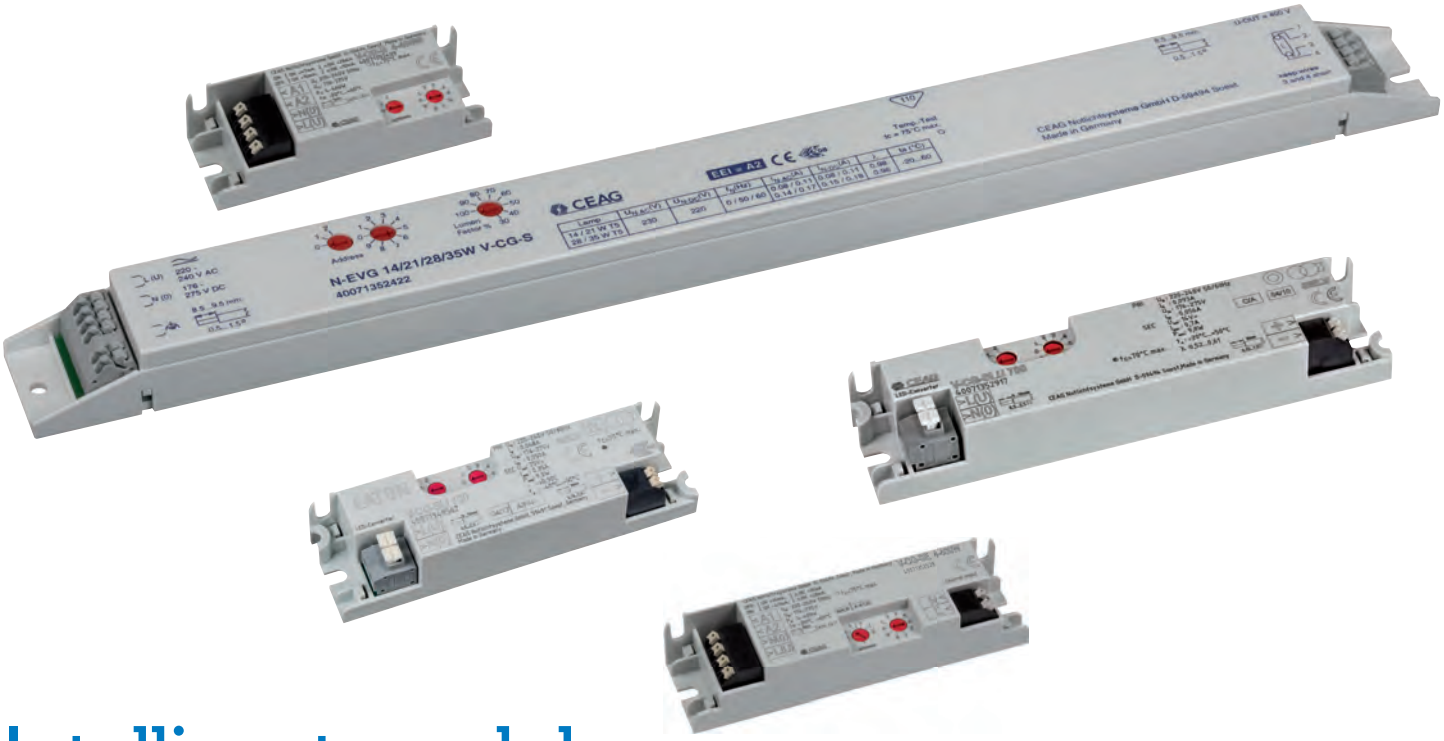
Due to the variaty of possible rotation and inclination combinations the above can only be examplary. For more detailed lighting design photometric files (Eulumdat) are available. For the lighting design please consider the rotating and inclinations steps of 15°.


CEAG
N-EVG 14/21/28/35W V-CG-S
40071352422



Monitoring and Lamp control gear modules

N-EVG ... V-CG-S 244
EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S 246
V-CG-S 4-400 W 248
V-CG-S2 1,5-30 W 249
V-CG-SE 4-400 W 250
V-CG-SB.1 251
V-CG-SUW 252
CG-K 4-400 W 253
V-CG-SLI 350 254
V-CG-SLI 500 255
V-CG-SLI 700 256
V-CG-SLI 1000 257
V-CG-SLP 350 258
V-CG-SLP 500 259
V-CG-SLP 700 260
V-CG-SLS 28 262
V-CG-SLS 350 263
V-CG-SLS 500 264
V-CG-SLS 501 265
V-CG-SLS 701 266
V-CG-SLR 350 267
V-CG-SLR 28 268



Intelligent modules ensure greater safety

With CEAG monitoring modules, electronic ballasts or LED supply modules, luminaires for general lighting systems from any manufacturer can be connected to central battery systems and thus integrated into the building emergency lighting concept.

The modules matched to the requirements of central battery systems installations make it possible to monitor and control up to 20 luminaires in only one circuit. Using the ballasts, luminaires on one circuit can be operated in different switching modes such as maintained light, non-maintained light or switched maintained light. Here in the case of the N-EVGs (electronic ballasts), the emergency lighting level of each lamp can be individually set for battery operation from 30 to 100 % of the nominal luminous flux.

Addressing and adjustment of the luminous flux is performed, as usual, via easy to access coding switches.

Please observe our electronic control gear requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/en/products/centrally-supplied-luminaires/interfaces-ballasts.

Features:

- Reduced battery capacity / costs due to settable luminous flux ratio
- Low operating costs due to decreased standby losses
- Shortened inspection effort due to CEWA GUARD technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Increased safety through SLI technology: Monitoring of up to 8 individual LEDs in series connection
- Avoidance of installation failures due to mains connection being protected against polarity reversal
- Minimised dimensions
- Greater ambient temperature ranges
- With ENEC symbol, certified by independent test centre

Monitoring modules, electronic ballasts, LED supply modules

Shortened inspection effort due to CEWA GUARD technology. Automatic function monitoring of up to 20 luminaires per circuit.

When an emergency lighting system is put into operation, it is in perfect condition. What, however, counts more, is its reliable functioning in case of emergency, regardless of whether this happens after 4 weeks or 5 years.

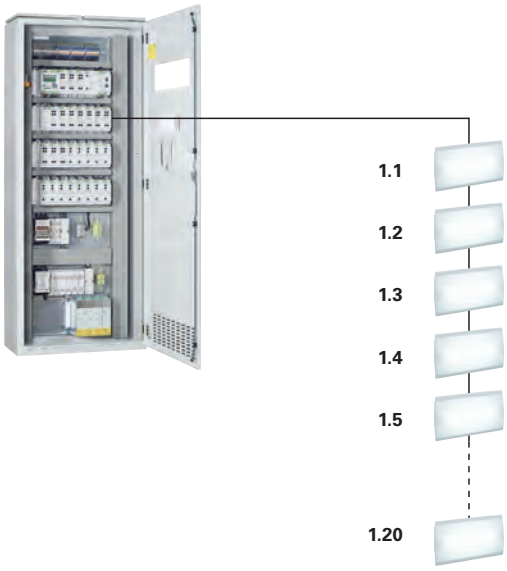
Maintenance, service and inspection are the prerequisite for such reliability. Apart from regular visual checks, all luminaires must be submitted to function and duration tests. Test data and system-related information must be documented in a log book.

CEAG emergency lighting systems with CEWA GUARD functions considerably simplify inspection effort and thereby provide for a distinct reduction of costs and reliable inspection.

CEWA GUARD is an automatic testing and monitoring system that inspects the functioning of the connected luminaires at individually set periods, saving the results to an electronic log book and also forwarding these to a higherlevel display system.

In order to design this system as efficiently as possible and to keep installation costs to a minimum, only one cable for power supply and data transfer is required for the CG technology. As such, no additional shielded data cables to the luminaires are needed for operating the system.

A polarity reversal-protected mains connection to the monitoring modules makes installation simpler and prevents annoying installation errors.



Reduced installation expenditures by STAR technology. Freely programmable mixed operation of the switching modes per luminaire in one circuit.

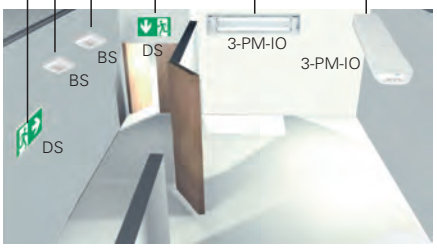
The **STAR Technology** allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

The number of outgoing circuits needed can be sharply reduced, since maintained, non-maintained and switched maintained light can be realised in one common circuit. This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – without encroachment in the lighting installation. This enables simple project planning without having to take all possible types of operation into account.

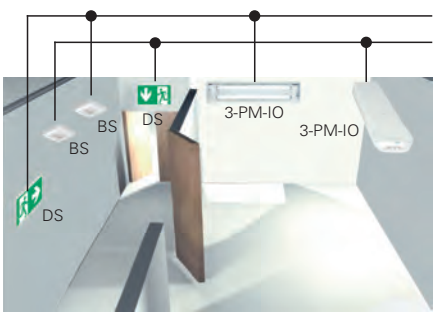
As a result, this technology offers not just the proven CEWA GUARD safety when it comes to operating an emergency lighting system, it also gives planners the confidence of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.

As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.

Conventional Installation:
Maintained light 1 (DS)
Non-maintained light 1 (BS)
Non-maintained light 2 (BS)
Maintained light 2 (DS)
Switched maintained light 1 (3-PM-IO)
Switched maintained light 2 (3-PM-IO)



ZB-S Installation with STAR-Technology:
All types of switching modes
All types of switching modes



S+-Technologie

Automatic function monitoring of up to 20 luminaires, freely programmable mixed operation of switching modes per luminaire in one circuit also **for AC safety power sources.**

Monitoring and Lamp control gear modules

Monitoring modules, electronic ballasts, LED supply modules

Increased safety through intelligent individual LED monitoring

SLI

The new SLI technology (Single LED monitoring Intelligence) enables a safe error message even if a single LED fails. Up to 8 LEDs in series connection can thus be individually monitored. Combined with an automatic function test, this signals a reduced luminaire luminous flux emission due to a defective LED and necessary repair work can be initiated immediately by the operating personnel. Maintaining building security by complying with the required lighting parameters for safety lighting is significantly improved by this procedure.



1 8

Safe fault identification even if only one LED fails

8

Use even under extreme temperature conditions

In addition, the new SLI LED power supply modules can be used under extreme temperature conditions in the range of -40° C to +50° C. The possible applications of these new power supply modules thus cover a huge applications.

Module V-CG-SLI

- SLI-Technology: reliable fault identification down to a single LED
- Suitable for operation at extreme ambient conditions down to -40°C
- Free switching mode programming and automatic function monitoring of up to 20 luminaires per circuit

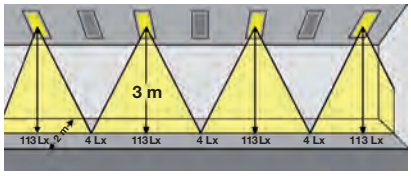
Reduced battery capacity costs with settable luminous flux ratio.

CEAG offers a wide range of special ballasts for emergency lighting for installation into existing light fittings. The ballasts include a monitoring module which signals the luminaire's current status to the central emergency lighting system.

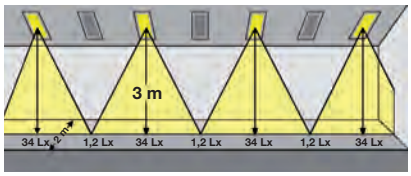
This means that only one ballast must be installed into the luminaire, safe operation in the DC voltage range of 186- 275 V is ensured, and the danger of specifying the wrong ballast is minimised.

By the use of efficient electronic ballasts with automatically reduced luminous flux in battery operation, a considerable reduction of energy is achieved. This saves costs and adds to environmental protection since it provides equal safety with smaller batteries.

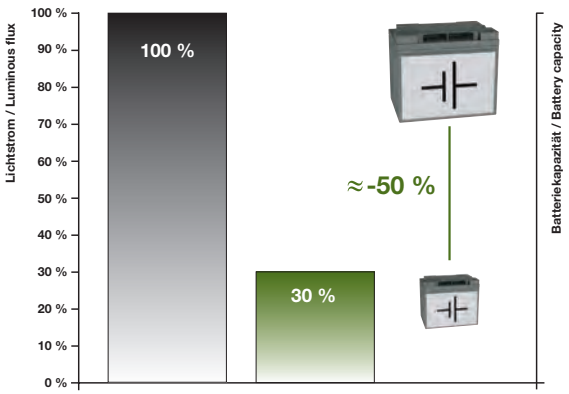
Standard EVG 58 W/100 % luminous flux



N-EVG 58 W/30 % luminous flux









ENEC symbol, certified by an independent test centre.

The ENEC symbol (European Norms Electrical Certification) is a European examination symbol created by CENELEC (European Committee for Electrical Standardisation) which confirms that the device on which this symbol is fixed to automatically complies with all requirements of the European testing laboratory.

All CEAG modules must be subjected to these stringent tests and are then allowed to display this symbol.

N-EVG ... V-CG-S

Electronic ballasts

N-EVG ... V-CG-S

- Reduced battery capacity /-costs by adjustable luminous flux of 30 – 100% in DC-operation
- Minimized dimensions of conventional T5 ECG cross section (H x W: 21 x 30 mm)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to CEWA GUARD and S+-Technology:
  Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
  Freely programmable mixed operation of switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed
- With automatic lamp wattage detection and optimal operation of the lamp acc. to IEC-standard
- Safety by automatic switchoff at lamp failures or at end of lamp life
- Automatic re-engagement after lamp exchanging

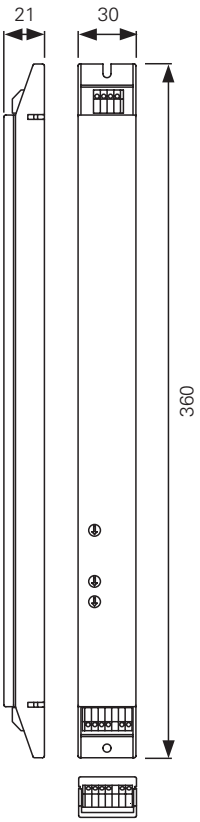
N-EVG 24/39 W V-CG-S



8

Rated voltage ranges	220 – 240V, 50/60 Hz / 176 – 275 V DC
Energy-Efficiency-Index	EEI = A2
Lamp start	< 1 s with optimum pre-heating
Standby power loss	≤ 1 W (230V / 50 Hz)
Lamp load	See table on next page
Maximum line length	1 m (ECG – lamp)
Type of mounting	To be mounted in luminaires with protection category I or II Attention: Functional earth necessary!
Degree of protection	IP20
Permissible temperature range	t_a =-20 °C to +60 °C
Maximal permissible test point temperature	t_c = 75 °C
Connection terminals	Plug in terminals 1.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	21 x 360 x 30
Housing material / colour	Flame retardant polycarbonate / grey
Weight	35/39/36 W = 0.166 kg 49 W = 0.174 kg 54/58/80 W = 0.185 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	In DC-operation acc. setting 30- 100 % (10 %-steps)

Dimensions in mm



Depending on the luminous flux (30% ... 100%) the correspondend battery current has to be projected.

Dim operation permitted by 30% up to 10°C, 60% up to 0°C only.
For outdoor use set 100 % only!

Ordering details

Type	Without individual packaging Order No.	Individual packaging Order No.
T5 / G5 lamp cap		
N-EVG 14/21/28/35W V-CG-S	40071352422	40071352452
N-EVG 24/39W V-CG-S	40071352423	40071352453
N-EVG 49W V-CG-S	40071352424	40071352454
N-EVG 54W V-CG-S	40071352425	40071352455
N-EVG 80W V-CG-S	40071352426	40071352456
T8 / G13 lamp cap		
N-EVG 36W V-CG-S	40071352427	40071352457
N-EVG 58W V-CG-S	40071352428	40071352458

Attention: Discontinued products! Available only while stocks last.

N-EVG 54 W V-CG-S



Rated value N-EVG ... V-CG-S for mains and battery operation

Term	T5	T5	T5	T5	T5	T5
Lamp cap	**G5**	**G5**	**G5**	**G5**	**G5**	**G5**
Type N-EVG ... V-CG-S	**14 / 21 / 28 / 35 W**	**14 / 21 / 28 / 35 W**	**14 / 21 / 28 / 35 W**	**14 / 21 / 28 / 35 W**	**24/39 W**	**24/39 W**
Lamp load [W]	**14**	**21**	**28**	**35**	**24**	**39**
Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %)						
100 %	0.08	0.11	0.15	0.18	0.13	0.19
90 %	0.07	0.10	0.13	0.16	0.12	0.17
80 %	0.064	0.09	0.12	0.14	0.10	0.15
70 %	0.057	0.08	0.11	0.13	0.09	0.13
60 %	0.051	0.07	0.10	0.11	0.08	0.12
50 %	0.045	0.062	0.09	0.10	0.07	0.11
40 %	0.040	0.055	0.08	0.09	0.066	0.10
30 %	0.036	0.050	0.07	0.08	0.059	0.09
Power consumption [A] at 230 V mains operation	0.08	0.11	0.14	0.17	0.12	0.18
Power factor λ	0.94	0.94	0.98	0.98	0.95	0.98
Inrush current [A]	10					
System power lamp + ECG acc. to EN 50294 [W]	16	23	30	37	25	41

N-EVG 58 W V-CG-S



Term	T5	T5	T5	T8	T8
Lamp cap	**G5**	**G5**	**G5**	**G13**	**G13**
Type N-EVG ... V-CG-S	**49W**	**54W**	**80W**	**36W**	**58W**
Lamp load [W]	**49**	**54**	**80**	**36**	**58**
Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %)					
100 %	0.24	0.26	0.38	0.17	0.25
90 %	0.21	0.23	0.34	0.15	0.22
80 %	0.19	0.21	0.30	0.14	0.20
70 %	0.17	0.18	0.27	0.12	0.18
60 %	0.15	0.16	0.24	0.11	0.16
50 %	0.14	0.15	0.21	0.10	0.14
40 %	0.12	0.13	0.19	0.09	0.13
30 %	0.11	0.12	0.17	0.08	0.11
Power consumption [A] at 230 V mains operation	0.24	0.25	0.37	0.16	0.24
Power factor λ	0.98	0.98	0.98	0.98	0.98
Inrush current [A]	10	10	12	10	10
System power lamp + ECG acc. to EN 50294 [W]	52	57	84	34	53

Attention: Discontinued products! Available only while stocks last.

EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S

Electronic ballasts

EVG 13.3 V-CG-S



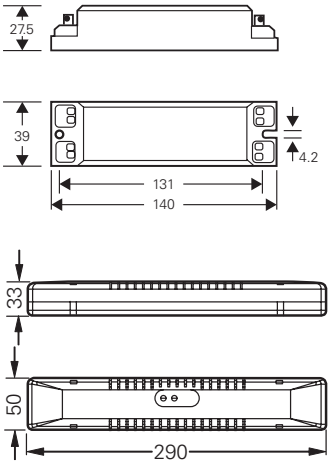
EVG 18 V-CG-S



EVG 18C V-CG-S



Dimensions in mm



EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S

- Low operating costs due to decreased standby losses < 0.5 W
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD and S+-Technology:
  Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
  Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range

Rated voltage ranges	220 - 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Lamp load	EVG 13.3 13W (see schedule n. page) EVG 18 18W (see schedule n. page)
Maximum line length	1 m (ECG- lamp)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 75 °C
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	27.5 x 140 x 39
Housing material / colour	Flame retardant polycarbonate / grey
Weight	0.07 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	75 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
EVG 13.3 V-CG-S	40071352401	40071352431
EVG 18 V-CG-S	40071352402	40071352432
EVG 18C V-CG-S	40071352403	40071352433
Housing with strain relief		40071352851

EVG 13.3 V-CG-S



EVG 18 V-CG-S



EVG 18C V-CG-S



Rated value of EVG 13.3 V-CG-S, EVG 18 V-CG-S and EVG 18C V-CG-S for mains and battery operation

International term	Lamp cap	EVG-type EVG...	Lamp load in [W]	Power consumption at battery operation [A][1]	Power consumption in [VA]	Inrush current [A]	power factor λ
T16 / T5	G 5	13.3 V-CG-S	4	0.020	8	3	0.6
		13.3 V-CG-S	6	0.025	12	3	0.6
		13.3 V-CG-S	8	0.030	16	3	0.6
		13.3 V-CG-S	13	0.050	23	3	0.6
TC-SEL	2 G 7	13.3 V-CG-S	5	0.020	10	3	0.6
		13.3 V-CG-S	7	0.025	13	3	0.6
		13.3 V-CG-S	9	0.030	16	3	0.6
		13.3 V-CG-S	11	0.040	18	3	0.6
TC-DEL	G 24 q-1	13.3 V-CG-S	10	0.035	16	3	0.6
		13.3 V-CG-S	13	0.050	23	3	0.6
	G 24 q-2	18C V-CG-S	18	0.070	30	8	0.6
TC-TEL	GX 24 q-1	13.3 V-CG-S	13	0.050	23	3	0.6
	GX 24 q-2	18C V-CG-S	18	0.070	30	8	0.6
T 26 / T8	G 13	18 V-CG-S	18	0.070	30	8	0.6
TC-F	2 G 10	18 V-CG-S	18	0.070	30	8	0.6
TC-L	2 G 11	18 V-CG-S	18	0.070	30	8	0.6

[1] Luminous flux Φ_E/Φ_N = 75 %

V-CG-S 4-400 W

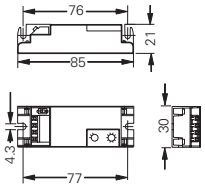
Monitoring module

V-CG-S 4-400 W



8

Dimensions in mm

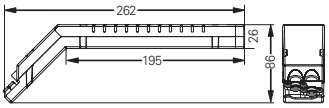


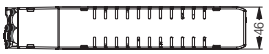
Module housing

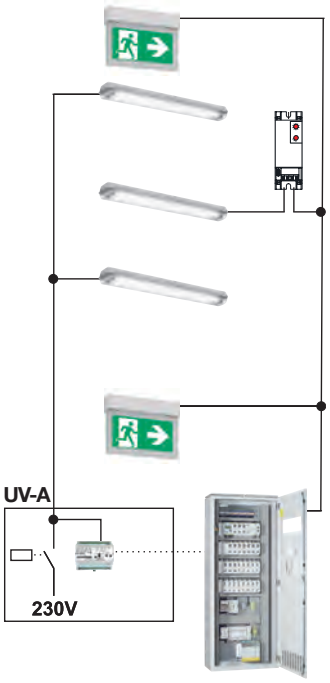




Dimensions in mm







V-CG-S 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range

Rated voltage ranges	220 - 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Power input	4 W - 400 W
Max. permitted inrush current	30 A
Maximum line length	50 m (module- luminaire)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 75 °C
Connection terminals	Plug in terminals 1.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	21 x 85 x 30
Housing material / colour	Flame retardant polycarbonate / grey
Weight	0.035 kg

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-S 4-400 W	40071352409	40071352439
Module housing with strain relief		40071352765

Attention! The following parameter must be observed.

slidingswitch	I_{OK}	$\hat{I}_{n.OK*}$
ON	> 47 mA	< 28 mA
OFF	> 16 mA	< 10 mA

* If the lamp is faulty the charging rate of the control gear must be smaller tha $\hat{I}_{n.OK*}$.

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

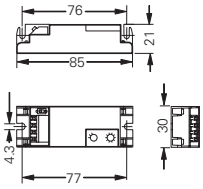
The current consumption of the ballast must be sinusoidal for AT-S+-systems.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete.

V-CG-S2 1.5-30 W



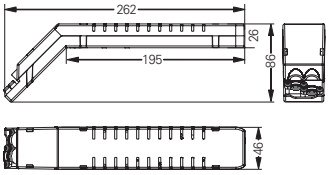
Dimensions in mm

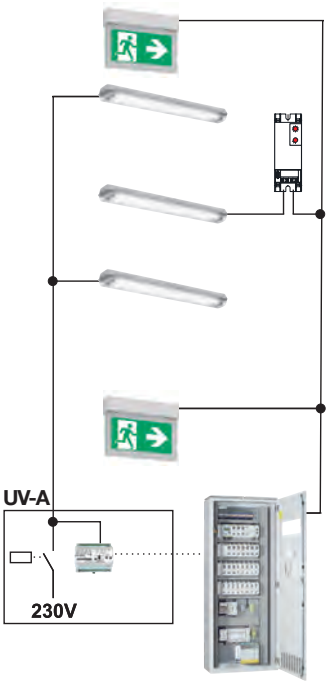


Module housing



Dimensions in mm





V-CG-S2 1,5-30 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for loads 1.5 – 30 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed
- Enlarged ambient temperature range

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Connection voltage	220 - 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Power input	1.5 W- 30 W
Maximum inrush current	30 A
Maximum line length	50 m (module- luminaire)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of proection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximum permissible test point temperature	tc = 75 °C
Connection terminals	Plug in terminals 1.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	21 x 85 x 30
Housing material / colour	flame retardant polycarbonate / grey
Weight	0.035 kg

Ordering details

	Without individual packaging	Individual packaging
Scope of supply	**Order No.**	**Order No.**
V-CG-S2 1.5-30 W	40071352410	40071352440
Module enclosure with cable relief		40071352765

Attention! The following parameter must be observed.

slidingswitch	I_{OK}	$\hat{I}_{n.OK*}$
ON	> 12.7 mA	< 7.9 mA
OFF	> 9.4 mA	< 5.8 mA

* If the lamp is faulty the charging rate of the control gear must be smaller tha $\hat{I}_{n.OK*}$.

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The current consumption of the ballast must be sinusoidal for AT-S+-systems.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete.

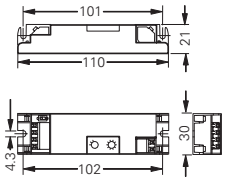
V-CG-SE 4-400 W

Monitoring module with control input

V-CG-SE 4-400 W



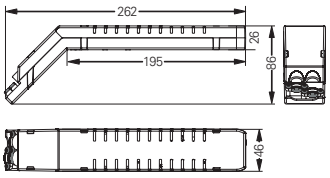
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SE 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Separate control input for a parallel switching on-site with positive or inverted logic

Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Power input	4 W - 400 W
Max. permitted inrush current	30 A
Maximum line length	50 m (module – luminaires)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 75 °C
Connection terminals	Plug in terminals 1.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	21 x 110 x 30
Housing material / colour	Flame retardant polycarbonate / grey
Weight	0.040 kg
Control input	220 - 240 V, 50 Hz (switching threshold acc. EN 60598-2-22)

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SE 4-400 W	40071352528	40071352526
Module housing with strain relief		40071352765

Function A = L'N (positive logic)

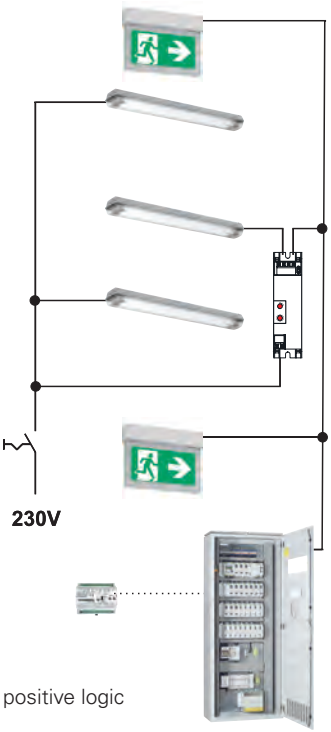
L(U) / N(0)	Address	STAR command	L´/ N	A1 / A2
0 V	1 - 20	-	0 / 230V AC	0 V
230 V AC	1 - 20	OFF	0 V	0 V
230 V AC	1 - 20	OFF	230 V AC	230 V AC
230 V AC	1 - 20	ON	0 / 230 V AC	230 V AC
230 V AC	1 - 20	Emergency mode	0 / 230 V AC	230 V AC
220 V DC	0 - 20	-	0 / 230 V AC	220 V DC

Function A ≠ L'N (inverted logic)

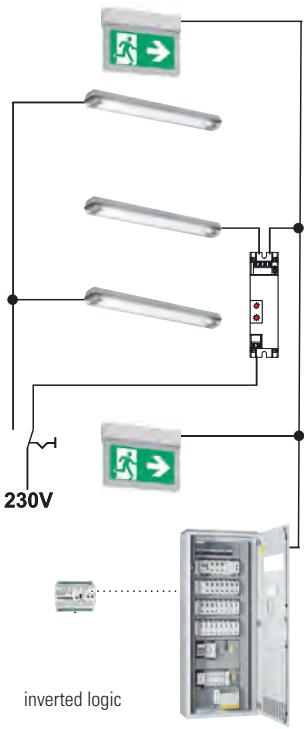
L(U) / N(0)	Address	STAR command	L´/ N	A1 / A2
0 V	1 - 20	-	0 / 230V AC	0 V
230 V AC	1 - 20	OFF	0 V	230 V AC
230 V AC	1 - 20	OFF	230 V AC	0 V
230 V AC	1 - 20	ON	0 / 230 V AC	230 V AC
230 V AC	1 - 20	Emergency mode	0 / 230 V AC	230 V AC
220 V DC	0 - 20	-	0 / 230 V AC	220 V DC

The module may only be used for final circuits with STAR- or STAR+ technology.

For more information see V-CG-S monitoring module.



positive logic

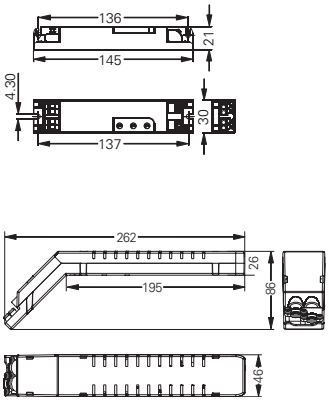


inverted logic

V-CG-SB.1



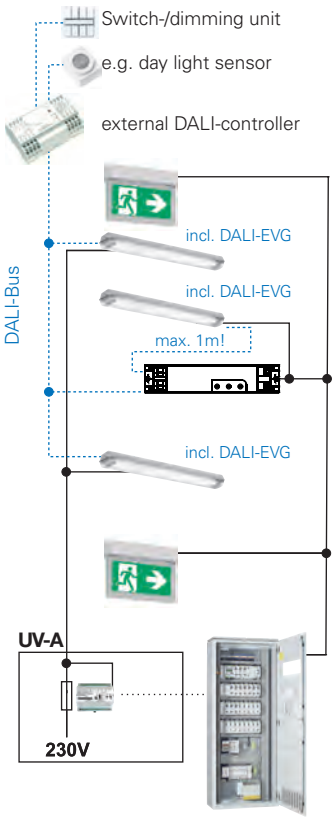
Dimensions in mm



V-CG-SB.1

- Low operating costs due to decreased standby losses < 1 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for all single lamp DALI electronic control gears
- Shortened inspection effort due to the CEWA GUARD and S⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Safe galvanic isolation of the bus systems (emergency lighting / mains lighting during emergency operation)
- Adjustable luminous flux relation in DC mode in steps between 10 % and 100 %

Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 1 W (230 V / 50 Hz)
Connection	DALI electronic control gear for max. one single lamp
Maximum distance	1 m (module- DALI-ECG / LED driver)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 65 °C
Connection terminals mains	Plug in terminals 2.5 mm² / reserve-polarity protected
Connection terminals DALI-BUS	Plug in terminals 1.5 mm² / reserve-polarity protected
Dimensions in mm (H x L x W)	21 x 145 x 30
Enclosure materail / colour	Flame retardant polycarbonate / grey
Weight	0.047 kg
Adjustable luminous flux relation in DC mode	10 % - 100 % (in 10 % steps)



Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SB.1	40071352008	40071355259
Module housing with strain relief		40071352765

Attention! The following parameter must be observed.

For the use of DALI control gears make sure that a correct funtion of the control gear is guaranteed as well in the DC voltage range of 186 V to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gear in case of lamp failure after the switch to emergency mode (DC) must occur within 1.6 seconds.

The module may only be used for final circuits with STAR- or STAR⁺ technology.
The functional earth must be connected without fail.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete.

V-CG-SUW

Monitoring module with change over unit

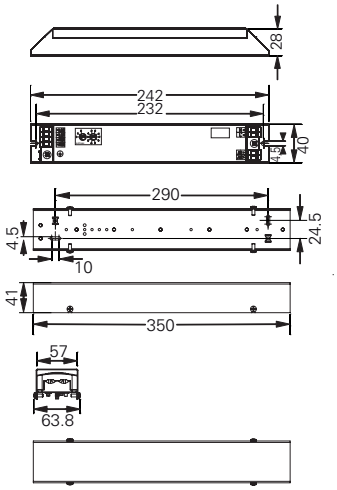
V-CG-SUW



V-CG-SUW

- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 13 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology:
  Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
  Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Integrated change over unit for parallel connection of an external power source

Dimensions in mm



Rated voltage ranges	220 - 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.8 W (230 V / 50 Hz)
Power input	13 W - 400 W
Max. inrush current	80 A/ms
Maximum line length	50 m (module – luminaires)
Type of mounting	To be mounted in luminaires with protection category I
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 75 °C
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	28 x 242 x 40
Housing material / colour	Sheet steel / white
Weight	0.14 kg
Control input	0- 240 V, 50 Hz

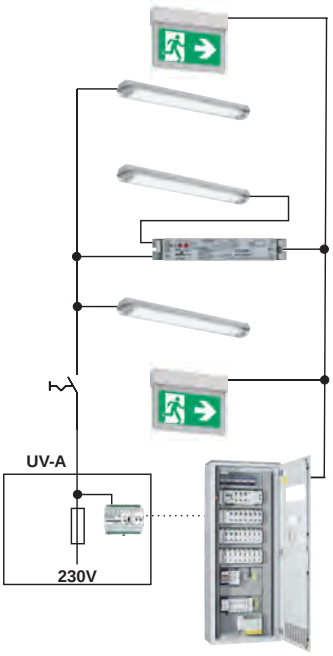
Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SUW	40071352413	40071352443
Module housing with strain relief, sheet steel		40071349514

Function

L(U) / N(0)	Adress	STAR command	L´/ N	A1 / A2
0 V	0- 20	-	0 / 240V AC	wie L´/ N
230 V AC	0- 20	-	0 / 240V AC	230 V AC
230 V AC	1- 20	AUS / OFF	0 / 240V AC	wie L´/ N
230 V AC	1- 20	EIN / ON	0 / 240V AC	230 V AC
230 V AC	1- 20	Notbetrieb/Emergency	0 / 240V AC	230 V AC
220 V DC	0- 20	-	0 / 240V AC	220 V DC

STAR command:
STAR command of the system to a V-CG-SUW with a defined address



Achtung! Folgende technische Parameter müssen eingehalten werden.

I_{OK}	$\hat{I}_{n.OK*}$
> 47 mA	< 28 mA

* If the lamp is faulty the charging rate of the control gear must be smaller tha $\hat{I}_{n.OK*}$.

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

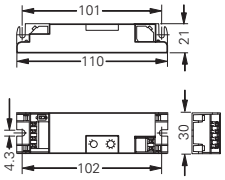
The current consumption of the ballast must be sinusoidal for AT-S⁺-systems.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete.

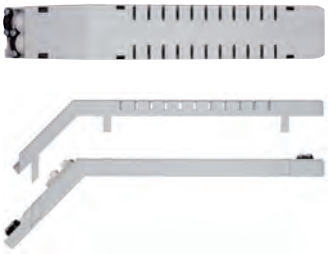
CG-K 4-400 W



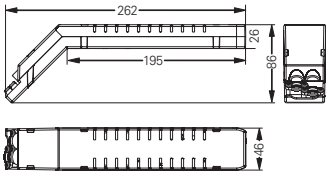
Dimensions in mm

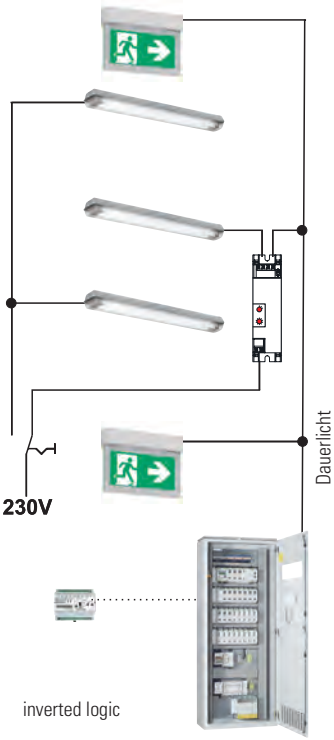


Modulgehäuse



Dimensions in mm





CG-K 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD technology: Automatic function monitoring of up to 20 luminaires per circuit
- Enlarged ambient temperature range
- Separate control input for a parallel switching on-site with inverted logic

8

Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Power input	4 W - 400 W
Max. permitted inrush current	30 A
Maximum line length	50 m (module – luminaires)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible temperature range	ta =-20 °C to +60 °C
Maximal permissible test point temperature	tc = 75 °C
Connection terminals	Plug-in terminals 1.5 mm² / reverse-polarity protected
Dimensions in mm (H x L x W)	21 x 110 x 30
Housing material / colour	Flame retardant polycarbonate / grey
Weight	0.040 kg
Control input	220 - 240 V, 50 Hz (switching threshold acc. EN 60598-2-22)

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
CG-K 4-400 W	40071352529	40071352527
Module housing with strain relief		40071352765

Function A ≠ L'N (inverted logic)

L(U) / N(0)	Address	L´/ N	A1 / A2
0 V	1- 20	0 / 230V AC	0 V
230 V AC	1- 20	0 V	230 V AC
230 V AC	1- 20	230 V AC	0 V
220 V DC	0- 20	0 / 230 V AC	220 V DC

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The module may not be used for final circuits with STAR or STAR+ technology.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete.

V-CG-SLI 350

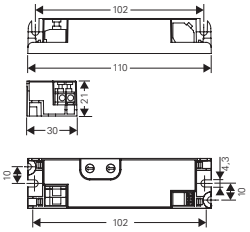
LED supply- and monitoring module

V-CG-SLI 350





Dimensions in mm



V-CG-SLI 350

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 8 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	11.6 VA / 10.7 W
Power factor λ	0.9
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected

Secondary side	
Output current	350 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	25 V +/- 10% (8 LEDs)
Lamp load	1-8 LEDs (rated current 350 mA), series connection (UF = 2.85 ... 3.12 V)
Output power (max.)	8.75 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLI 350	40071349560	40071355260

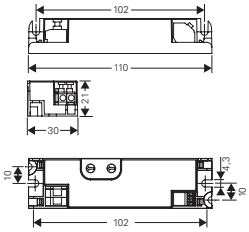
*SLI-Technology = **S**ingle **L**ED monitoring **I**ntelligence

V-CG-SLI 500





Dimensions in mm



V-CG-SLI 500

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilitiesLow operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

8

Primary side (data valid for full load with 5 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	11,5 VA / 11,3 W
Power factor λ	0.9
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	500 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	16,5 V +/- 10% (5 LEDs)
Lamp load	1-5 LEDs (rated current 500 mA), series connection (UF = 2.85 ... 3.3 V)
Output power (max.)	8.5 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLI 500	40071349561	40071355261

*SLI-Technology = **S**ingle **L**ED monitoring **I**ntelligence

V-CG-SLI 700

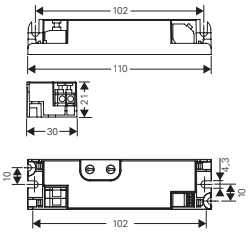
LED supply- and monitoring module

V-CG-SLI 700





Dimensions in mm



V-CG-SLI 700

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 3 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	10.9 VA / 9.5 W
Power factor λ	0.88
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	700 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	11.0 V +/- 10% (3 LEDs)
Lamp load	1-3 LEDs (rated current 700 mA), series connection (UF = 2.85 ... 3.67 V)
Output power (max.)	8.05 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLI 700	40071349562	40071355262

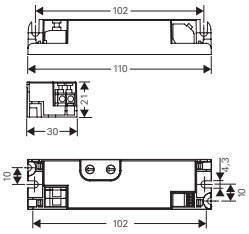
*SLI-Technology = **S**ingle **L**ED monitoring **I**ntelligence

V-CG-SLI 1000





Dimensions in mm



V-CG-SLI 1000

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

8

Primary side (data valid for full load with 2 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	38 mA
Power input	9.5 VA / 7.8 W
Power factor λ	0.8
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	1000 mA (1 LED) / 880 mA (2 LEDs) +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	8 V +/- 10% (2 LEDs)
Lamp load	1-2 LEDs (rated current 1000 mA), series connection (UF = 2.85 ... 4.0 V)
Output power (max.)	7.04 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

	Without individual packaging
Scope of supply	**Order No.**
V-CG-SLI 1000	40071349563

*SLI-Technology = **S**ingle **L**ED monitoring **I**ntelligence

V-CG-SLP 350

LED supply- and monitoring module

V-CG-SLP 350

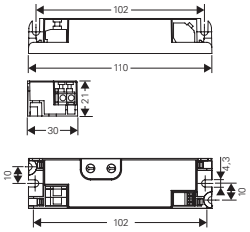
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

V-CG-SLP 350





Dimensions in mm

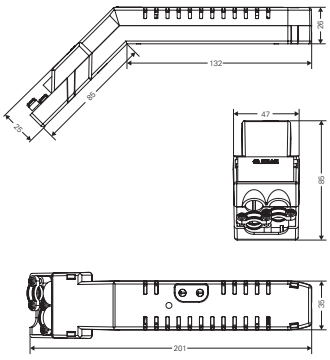


Module housing





Dimensions in mm



Primary side (data valid for full load with 8 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	11.6 VA / 10.7 W
Power factor λ	0.9
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	350 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	25 V +/- 10% (8 LEDs)
Lamp load	1-8 LEDs (rated current 350 mA), series connection (UF = 2.85 ... 3.12 V)
Output power (max.)	8.75 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

Scope of supply	Order No.
V-CG-SLP 350	40071355020
Module housing with strain relief	40071352765

V-CG-SLP 500

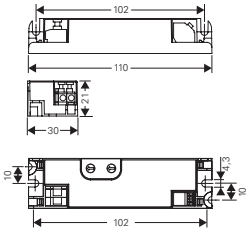
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilitiesLow operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

V-CG-SLP 500





Dimensions in mm



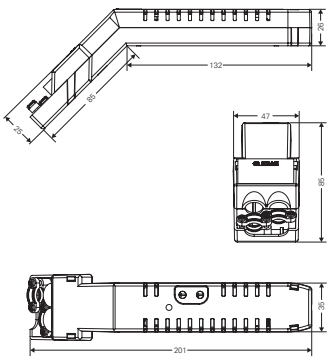
Module housing





Primary side (data valid for full load with 5 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	11,5 VA / 11,3 W
Power factor λ	0.9
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	500 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	16,5 V +/- 10% (5 LEDs)
Lamp load	1-5 LEDs (rated current 500 mA), series connection (UF = 2.85 ... 3.3 V)
Output power (max.)	8.5 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Dimensions in mm



Ordering details

Scope of supply	Order No.
V-CG-SLP 500	40071355021
Module housing with strain relief	40071352765

V-CG-SLP 700

LED supply- and monitoring module

V-CG-SLP 700

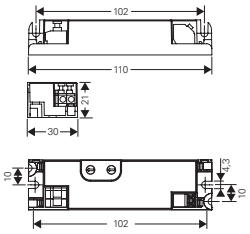
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

V-CG-SLP 700





Dimensions in mm

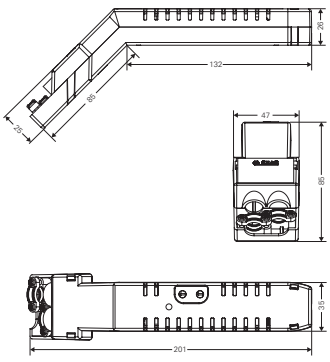


Module housing





Dimensions in mm



Primary side (data valid for full load with 3 LEDs)	
Rated voltage ranges	220- 240 V, 50/60 Hz / 176- 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption 220 V DC	43 mA
Power input	10.9 VA / 9.5 W
Power factor λ	0.88
Inrush current	≤ 3.0 A
Operating frequency	30 kHz- 450 kHz
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected

Secondary side	
Output current	700 mA +/- 10%
Output voltage	30 V DC (open-circuit operation) +/- 10%
Output voltage in operation	11.0 V +/- 10% (3 LEDs)
Lamp load	1-3 LEDs (rated current 700 mA), series connection (UF = 2.85 ... 3.67 V)
Output power (max.)	8.05 W
Connection terminals	1.5 mm² / not reverse-polarity protected
Maximum line length	0.5 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –40 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (L x H x W)	110 x 30 x 21
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %

Ordering details

Scope of supply	Order No.
V-CG-SLP 700	40071355022
Module housing with strain relief	40071352765

V-CG-SLS 28

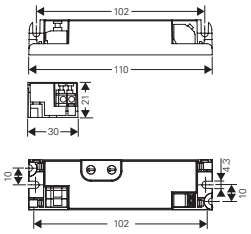
LED supply- and monitoring module

V-CG-SLS 28





Dimensions in mm

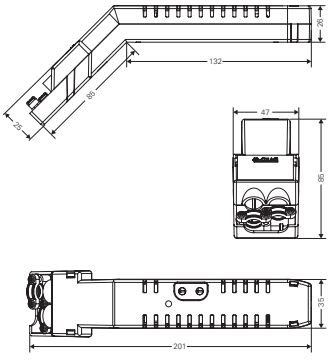


Module housing





Dimensions in mm



V-CG-SLS 28

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	35 mA (230 V AC) / 20 mA (220 V DC)
Power input	8.1 VA (230 V AC)
Power factor λ	0.45 ... 0.60
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	110 mA (Maximum current)
Output voltage	28 V DC (Constant voltage)
Lamp load	LED strip with own current control for 28 V DC and max. 110 mA
Output power (max.)	3.1 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	21 x 110 x 30
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

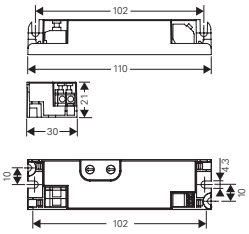
Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLS 28	40071352419	40071352449
Module housing with strain relief		40071351928

V-CG-SLS 350





Dimensions in mm

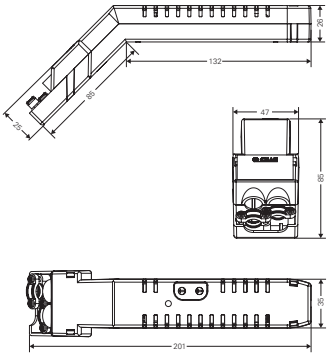


Module housing





Dimensions in mm



V-CG-SLS 350

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

8

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	41 mA (230 V AC) / 26 mA (220 V DC)
Power input	9.4 VA (230 V AC)
Power factor λ	0.60...0.70
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Clamp terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	350 mA (constant current)
Output voltage	14.5 V DC (open-circuit operation)
Lamp load	1-4 LEDs (rated current 350 mA, UF = 3.0 ... 3.3 V), series connection
Output power (max.)	4.62 W
Connection terminals	Clamp terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 60 °C
Dimensions in mm (H x L x B)	21 x 110 x 30
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLS 350	40071352417	40071352447
Module housing with strain relief		40071351928

V-CG-SLS 500

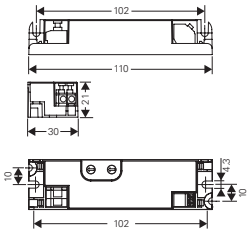
LED supply- and monitoring module

V-CG-SLS 500





Dimensions in mm

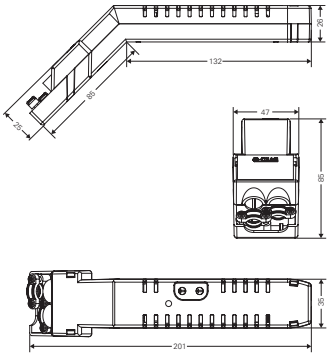


Module housing





Dimensions in mm



V-CG-SLS 500

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	36 mA (230 V AC) / 21 mA (220 V DC)
Power input	8.2 VA (230 V AC)
Power factor λ	0.55
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected

Secondary side	
Output current	500 mA (constant current)
Output voltage	8.3 V DC (open-circuit operation)
Lamp load	2 x LED (rated current 500 mA, UF = 2.5 ... 3.5 V), series connection
Output power (max.)	3.2 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	To be mounted in luminaires with protection category I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	21 x 110 x 30
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

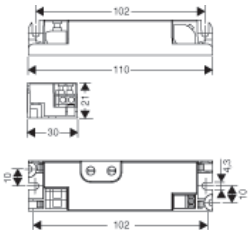
Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLS 500	40071352418	40071352448
Module housing with strain relief		40071351928

V-CG-SLS 501





Dimensions in mm

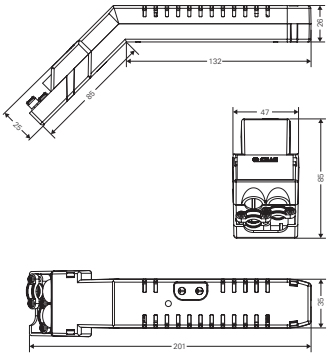


Module housing





Dimensions in mm



V-CG-SLS 501

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 ECG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with protection class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed

8

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	24 mA (230 V AC) / 15 mA (220 V DC)
Power input	6.0 VA (230 V AC)
Power factor λ	0.57
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	500 mA (constant current)
Output voltage	4.2 V DC (open-circuit operation)
Lamp load	1 x LED (rated-current 500 mA), (UF = 2.5...3.85 V)
Output power (max.)	2.0 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	To be mounted in luminaires with protection class I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	21 x 110 x 30
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLS 501	40071352369	40071355264
Module housing with strain relief		40071351928

V-CG-SLS 701

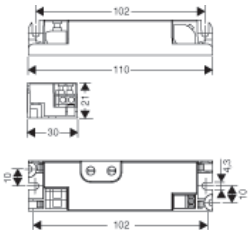
LED supply- and monitoring module

V-CG-SLS 701





Dimensions in mm

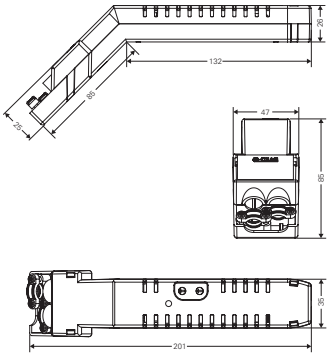


Module housing





Dimensions in mm



V-CG-SLS 701

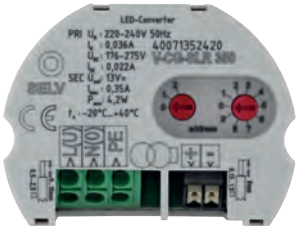
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with protection class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	33 mA (230 V AC) / 21 mA (220 V DC)
Power input	7.3 VA (230 V AC)
Power factor λ	0.59
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected
Secondary side	
Output current	700 mA (constant current)
Output voltage	4.0 V DC (open-circuit operation)
Lamp load	1 x LED (rated-current 700 mA), (UF = 2.5...3.85 V)
Output power (max.)	2.7 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	To be mounted in luminaires with protection class I or II
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	21 x 110 x 30
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.042 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

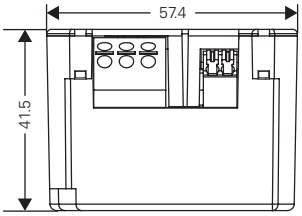
Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLS 701	40071352399	40071355265
Module housing with strain relief		40071351928

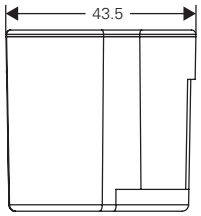
V-CG-SLR 350





Dimensions in mm







V-CG-SLR 350

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized height of the luminaire due to flush-mounted installation of the module
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD Technology:
  Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
  Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	36 mA (230 V AC) / 22 mA (220 V DC)
Power input	8.2 VA (230 V AC)
Power factor λ	0.60 ... 0.70
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected

Secondary side	
Output current	350 mA (constant current)
Output voltage	13 V DC (open-circuit operation)
Lamp load	1-3 LED (rated current 350 mA, UF = 3.0 ... 4.0 V), series connection
Output power (max.)	4.2 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	For installation in a flush-mounted switch box. According German standard DIN 49073 (Ø 60 mm, height min. 61 mm!)
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +40 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	41.5 x 57.4 x 43.5
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.05 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

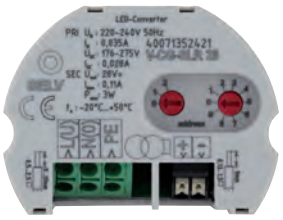
Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLR 350	40071352420	40071352450

V-CG-SLR 28

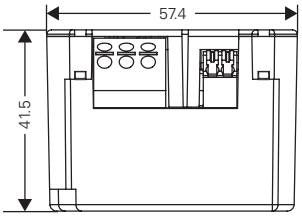
LED supply- and monitoring module

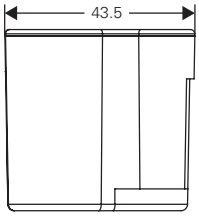
V-CG-SLR 28





Dimensions in mm







V-CG-SLR 28

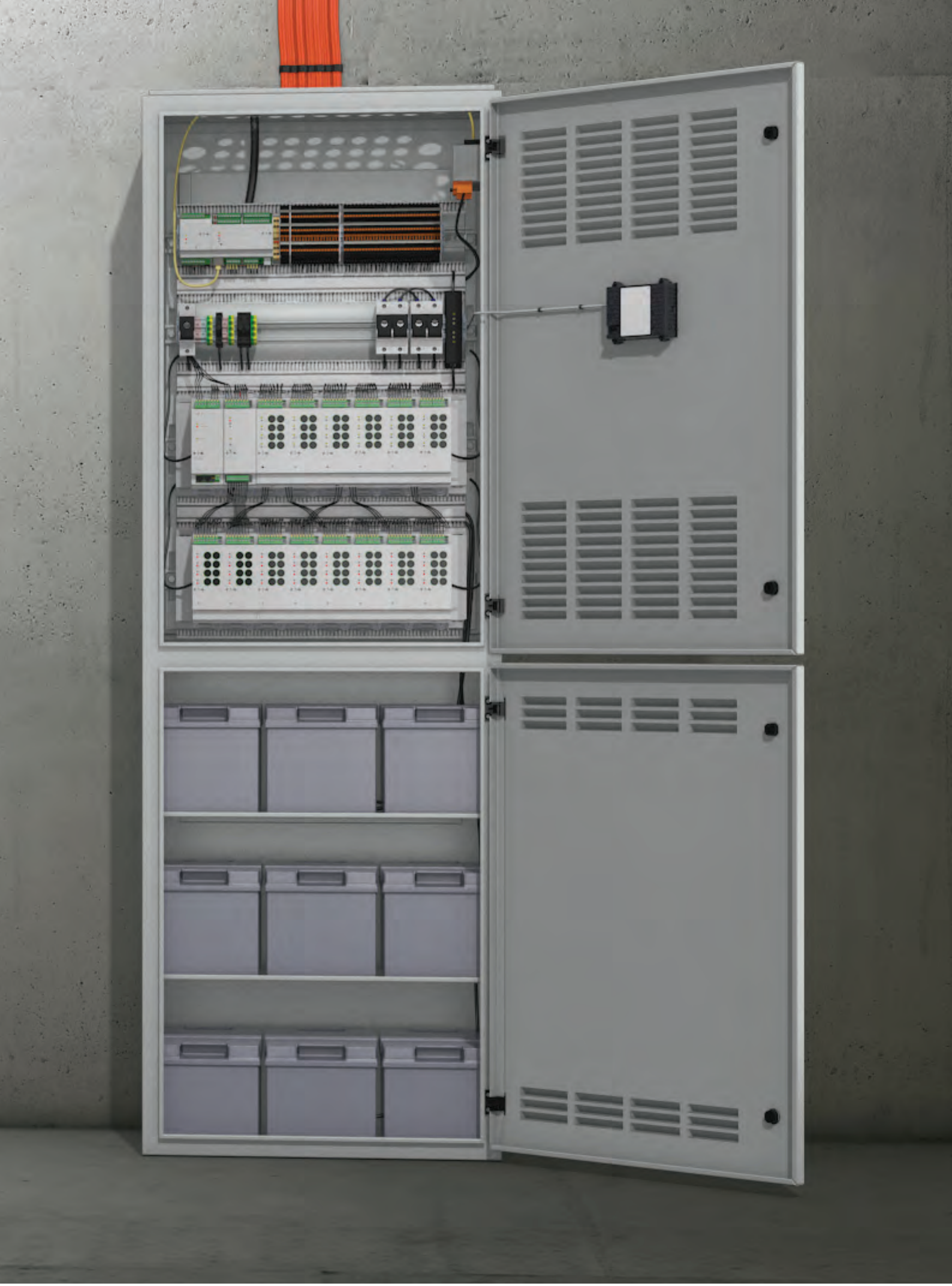
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized height of the luminaire due to flush-mounted installation of the module
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD Technology:
  Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
  Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side	
Rated voltage ranges	220 - 240 V, 50/60 Hz / 176 - 275 V DC
Standby power loss	< 0.5 W (230 V / 50 Hz)
Current consumption	35 mA (230 V AC) / 20 mA (220 V DC)
Power input	8.1 VA (230 V AC)
Power factor λ	0.45 ... 0.60
Inrush current	≤ 1.5 A
Operating frequency	132 kHz
EEI	A2
Connection terminals	Plug-in terminals 2.5 mm² / reverse-polarity protected

Secondary side	
Output current	110 mA (Maximum current)
Output voltage	28 V DC (Constant voltage)
Lamp load	LED strip with own current control for 28 V DC and max. 110 mA
Output power (max.)	3.1 W
Connection terminals	Plug-in terminals 1.5 mm² / not reverse-polarity protected
Maximum line length	1 m (module – LED)
Type of mounting	For installation in a flush-mounted switch box. According German standard DIN 49073 (Ø 60 mm, height min. 61 mm!)
Degree of protection	IP20
Permissible ambient temperature	ta = –20 °C to +50 °C
Maximal permissible test point temperature	tc = 70 °C
Dimensions in mm (H x L x B)	41.5 x 57.4 x 43.5
Housing material / Colour	Flame retardant polycarbonate / grey
Weight	0.05 kg
Luminous flux Φ_E/Φ_N at the end of rated operating time	100 %

Ordering details

Scope of supply	Without individual packaging Order No.	Individual packaging Order No.
V-CG-SLR 28	40071352421	40071352451



Central battery systems AC/DC



DualGuard-S

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LP-STAR 325

Central battery systems AC/DC

Overview

	Central Power System	Low Power System	AC/AC power source	AC/DC power source	DC/DC power source
9.1 DualGuard-S 	●		●		
9.2 LP-STAR 		●		●	

Circuit Monitoring	CEWA GUARD Technology (CG)	STAR Technology (S)	STAR+ Technology (S+)	EC (Easi Check) Technology	AE-CU Technology
Single luminaire monitoring in battery operation (DC)	●	●	●			●
Freely programmable switching mode in one and the same circuit		●	●			(●)1*
STAR technology and single luminaire monitoring in AC operation						

1 Optional in combination with a DG-S or LP-STAR system*

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

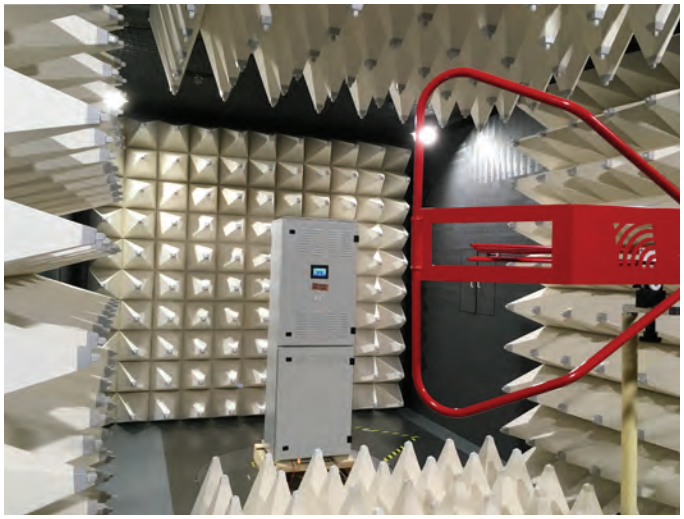
DualGuard-S is excellent!

Beyond the required CE declarations of conformity, Eaton offers system certification from accredited, independent test bodies for all emergency lighting products which are used for emergency lighting planning and have central battery systems.

All products such as:

- Safety lighting and emergency lighting
- Built-in modules in luminaires
- Bus phase monitors
- Battery monitoring technology

and other system components are checked. A test for protection classes is performed in addition to various environmental tests. Furthermore, the products are tested for compliance with EMV requirements. Other current and future requirements for technical standards are observed. Evidence of functional integrity can also be provided. Our third-party certifications meet the highest national and international standards.



We have our own EMV measuring chamber in Soest – EMV system test



Environmental tests such as heating tests in accordance with EN 61439-1; free-standing cabinets in IP21 and IP31, wall cabinets in IP54 as well as small distribution boards in IP65, protection class tests in accordance with DIN EN60529; transportation and vibration tests in accordance with IEC 60068-2-64 and shock tests in accordance with IEC 60068-2-227.



DIBt approval Z-86.3-92 as electrical distribution board (variable equipment) for safety lighting systems with function maintenance of at least 30 minutes in case of fire.



Technical standard testing in accordance with EN 50171; IEC 62485-2und IEC 62368-1

Eaton's cyber security

- More and more companies are coming under the crosshairs of hacker attacks. The cost of cyber attacks is often in the millions.
- The risk potential is huge in the digital age, meaning that those affected are increasingly investing in defense mechanisms.
- Companies without an adequate cyber strategy put both their systems and their image at risk.
- Information security takes top priority at Eaton.



DualGuard-S –
Modular design: flexible in all applications.



The DualGuard-S central battery system reliably supplies power to safety lighting and emergency lighting (230V AC/220 V DC), and automatically monitors itself as well as each individually connected CG-S light (up to 20 per circuit) via the feed-in line. Thanks to STAR technology, the circuit type of each connected CG-S light can be programmed as desired within a 50-Hz or 60-Hz supply network using the central battery system controller. This means that the same power circuit is used for mixed operation including maintained lighting, switched maintained lighting and non-maintained lighting – all without an additional data cable! The TFT touch display, available in a 4.3" or 7" design with 512 MB of RAM and 4 GB of flash memory, monitors and controls the central battery system in combination with a separate ACU DG-S control module. All features of the connected devices and emergency lighting are monitored automatically and any faults reported.

The integrated search function automatically detects all lights connected to the system and addressed during installation. The VisionGuard monitoring software can be accessed via an Ethernet interface.

Advantages of DualGuard-S


LED search


Language



ISO fault

Fast initial operation through:

- Light search – The automatic luminaire search function
- Language – Plain text status display on the TFT touch display down to the last luminaire in the local language
- ISO fault – Automatic isolation fault finding and display of the isolation fault according to LED current circuit



Battery string


Battery block



ISO monitor


3-PM-IO module

Time-saving automatic test through:

- Battery string – The automatic detection of faults in battery strings switched in parallel
- Battery block – The automatic early detection of faults of individual battery blocks
- ISO monitors – The automatic monitoring of the isolation monitor function
- 3-PM-IO module – The automatic monitoring of the phase monitor modules


Luminaire monitoring

Reduced inspection effort through:

- Luminaire monitoring – Shorter inspection time using the CEWA GUARD technology, automatic function monitoring of up to 20 lights per circuit



3-PM-IO programming

Reduced installation costs through:

- 3-PM-IO programming – STAR technology and freely programmable mixed operation of switching types for each luminaire in one circuit

Modules

The modules in DualGuard-S sub-stations of the types ESF30 15-P and ESF30 30-P have been tested by an independent material testing institute for temporary use at increased ambient temperatures in case of fire.

Protection levels

All free-standing cabinets are designed for IP 21 dripping water protection at the factory and can be upgraded to IP 31 on-site.

The protection level of wall cabinets is at least IP 54 or higher.

Connection area

Except for the ACU DG-S module, all of the internal modules are wired to triple-deck tension spring installation clamps, which include a neutral conductor separating clamp and enable convenient wiring.

Modular design

Using modules that have snap-on-click technology, the modules can be exchanged and the system expanded quickly and easily. The intuitive modular design and the spacious control circuit label fields make installation easier.

The wiring system provides a homogeneous cabinet climate and prevents heat build-ups, leading to a longer service life for the built-in modules.

Cable entry

Choose the right roof plate for your installation. Whether pre-drilled for M screw fittings and protective foil, or with bristles or sponge rubber.

Environmental tests

All cabinet models have undergone a variety of environmental tests- from the EMV measurement to the heating test- and been certified via an accredited test laboratory.



Cabinet base

Cabinet bases for cable entry from below in 100 and 200 mm designs are available with all free-standing cabinets with a separate battery housing.

Separate battery compartment

Compliant with the technical standards regarding battery housings.

Hinge positions

Flexible hinge position that can easily be changed on-site. The 180° swivel radius enables access by maintenance gear



TFT touch display

The password-protected TFT touch display with simple ICON-controlled operation and menu profiles tailored to user groups supplies all information at a glance without having to open the distribution cabinet.

Special lock mechanism

Thanks to the standardized swivel handle, it is possible to install 20 mm profile half-cylinders.

Greater user comfort – TFT touch display in 4.3" or 7"



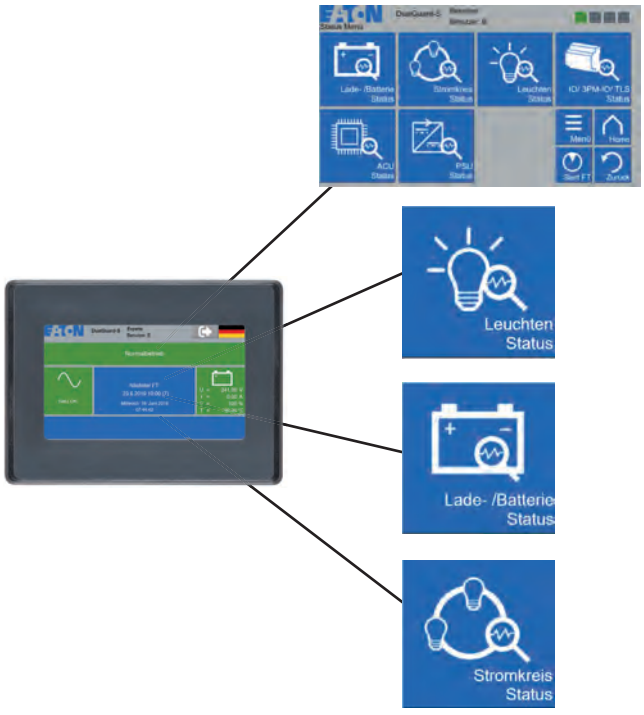
It is important to protect the control panel in electrical operating rooms with a variety of work areas.

Define access rights to prevent unauthorized operation.

From simple status information through to networked system programming.

The displays required under technical standards must be inspected during initial acceptance or recurring tests by certified inspectors.

All important status displays at a glance without password entry or opening the DualGuard-S system.



Easy access to other status information through innovative navigation.

Operators and installers use the detailed information for servicing the DualGuard-S.

- All essential system information at a glance for servicing, technical acceptance, and maintenance
- Intuitive menu guide through a separate operating level for initial operation, configuration, programming and service

Conveniently configure and coordinate from anywhere



Conveniently from anywhere:

- Configure
- Coordinate maintenance work

The integrated web interface, which is standard equipment, facilitates access to the configuration and status displays of each DualGuard-S via the Ethernet. Programmable user access with a password for each user prevents undesired access.

9

Always automatically up to date

Messages such as power failure, deep discharge protection, charging battery faults, isolation faults, control circuit faults and the device status can be sent to up to six email recipients.

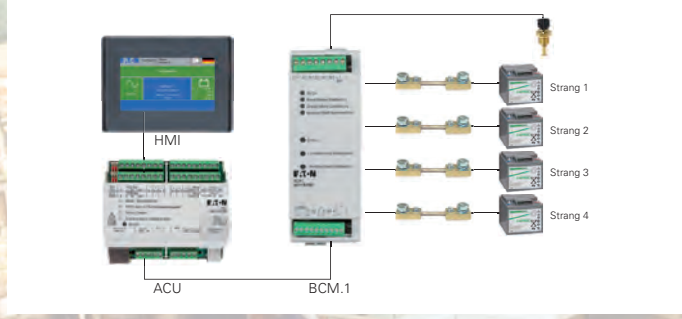


- All information and status information available in multiple languages
- Enter customer-specific texts via the touch keypad on-site in the local language

Battery string and battery block monitoring

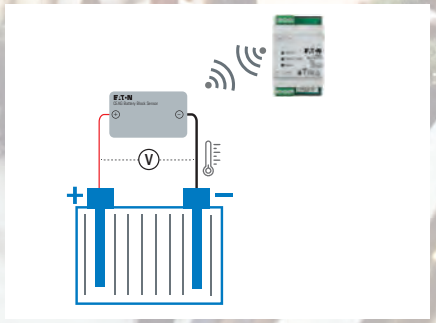
In accordance with draft EN50171

Battery string monitoring



Battery block monitoring





Battery string monitoring

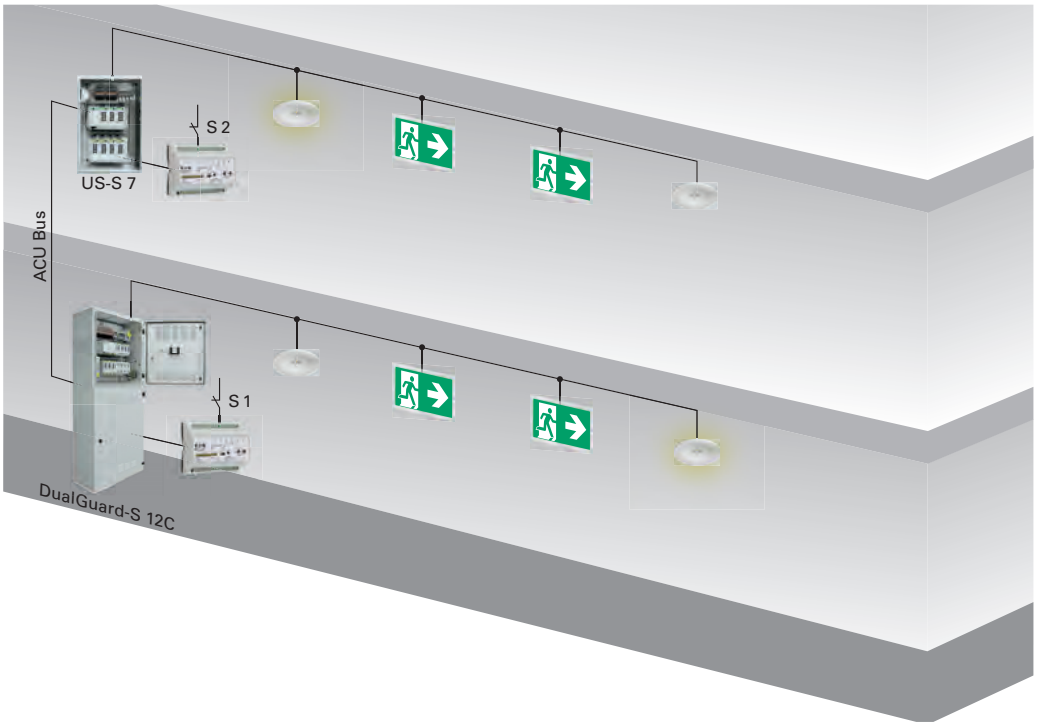
Fault monitoring in more than one battery string:

- The voltage for trickle charging is outside of the permissible range
- Battery charge circuit interrupted
- Faults in charging system such as no charging current although the general power supply is available
- Feed from the battery although general power supply is available
- Deep discharge protection has been triggered

Single battery block monitoring

- Periodic monitoring of battery block voltages and temperatures
- Recording of voltage and temperature values during the continuous function test
- Message in the event of deviations and faults with each individual battery block if the voltage or temperature of one or more battery blocks deviates from the average value of voltage/temperatures of the other battery blocks
- Soft addressing of sensors
- Wireless data transmission – no data line for sensors necessary
- Negative pole temperature measurement – easy and visible assembly of sensors possible
- Low power consumption of <24 mW for operation in the event of lengthy charging interruptions.
- Long-term analysis of measured data via VisionGuard visualization software

Communication via the ACU DG-S bus



Example:

The S1 switch of the DualGuard-S 12C simultaneously switches on the DualGuard-S US 7 luminaires via the ACU DG-S bus CG-S and vice versa.

Unlike any other technology, safety lighting is present in almost every building, whether it be emergency lighting in escape routes or safety lighting for illuminating escape routes and areas with particular hazards. Safety lighting components can even be found in general lighting distributors. The challenge for modern safety lighting is to network all functions of an emergency lighting system in a secure manner in order to process product-specific applications across devices. The new binding function allows all control, switching and phase monitoring functions of up to 32 DualGuard-S devices to be linked via the ACU DG-S bus to the connected CG-S luminaires.

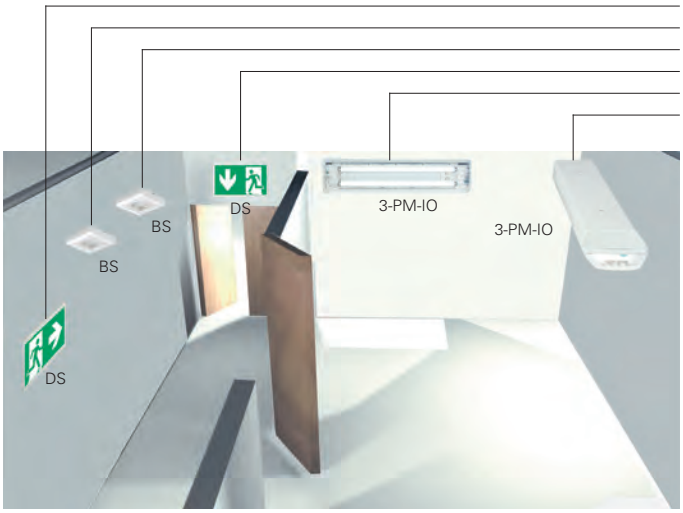
The advantages

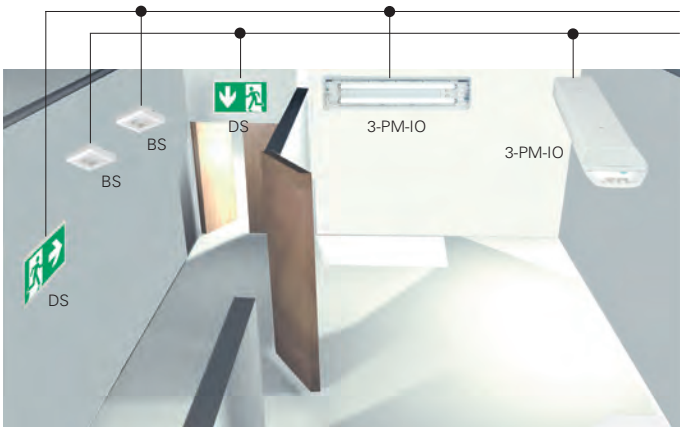
- Simple installation rules – Each DualGuard-S is connected to the ACU DG-S bus and receives Ethernet access.
- Simple planning through the web visualization/ VisionGuard or the TFT touch display because the programming can be adapted to the specific project

Equipped for the future

We believe that emergency lighting systems offering the user further added value along with the emergency lighting function will prevail in the future. Thanks to the new fast and high-performance ACU DG-S bus technology, we are well positioned to meet future requirements for our emergency lighting systems.

Switch to Reliability!





Conventional installation:
Maintained lighting 1 (DS)
non-maintained lighting 1 (BS)
non-maintained lighting 2 (BS)
maintained lighting 2 (DS)
switched maintained lighting 1 (3-PM-IO)
switched maintained lighting 2 (3-PM-IO)

- Each circuit type requires two circuits
- Only one circuit type is possible for each final circuit
- High installation costs for subsequent changes

DualGuard-S installation with STAR technology:
All switching modes

- Only two final circuits for all circuits
- Continuous operation, non-maintained mode and switched maintained lighting are possible in one common circuit
- Subsequent changes to the switching mode are possible without any problems

DualGuard-S is based on the proven STAR technology.

Switching
Technology
Advanced
Revision,

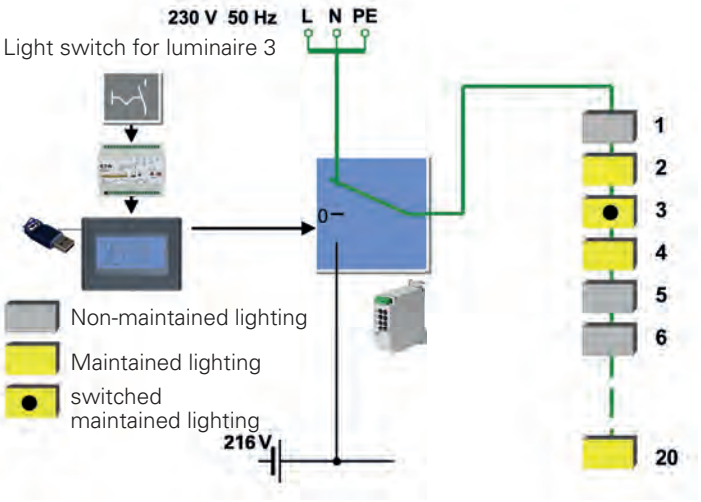
The **CG-STAR** technology offers the opportunity to operate multiple switching types in one and the same circuit, whereby the circuit type of each individual luminaire can be reprogrammed from a central point at any time.

As a result, this technology not only offers the proven CEWA Guard security when it comes to operating safety lighting systems, but also the safety and flexibility when planning the system, which can then respond to structural changes in the building or the use thereof at any time.

How STAR technology benefits you:

The number of final circuits is greatly reduced because continuous operation, the non-maintained mode, and switched maintained lighting are implemented in one common circuit. This enables shorter cable lengths, reduces installation costs, and lowers the fire loading. Of course, it is also possible to assign all of the operating modes retrospectively–**without having to change lighting installation**– which simplifies the configuration process because there is no need for operating mode planning.

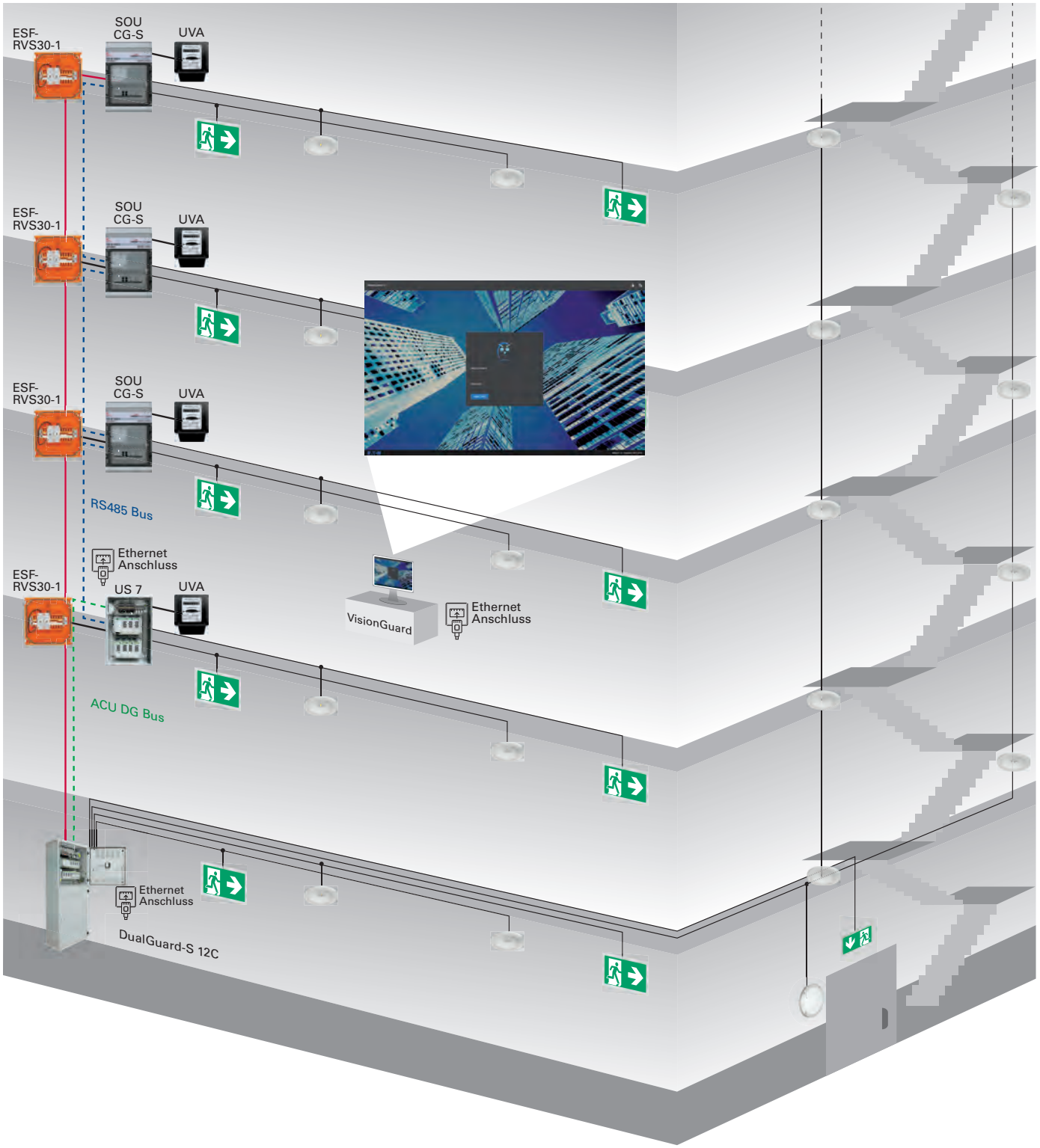
As with the CEWA GUARD technology, no additional data cable for the luminaires is required with the patented STAR technology.



How STAR technology works

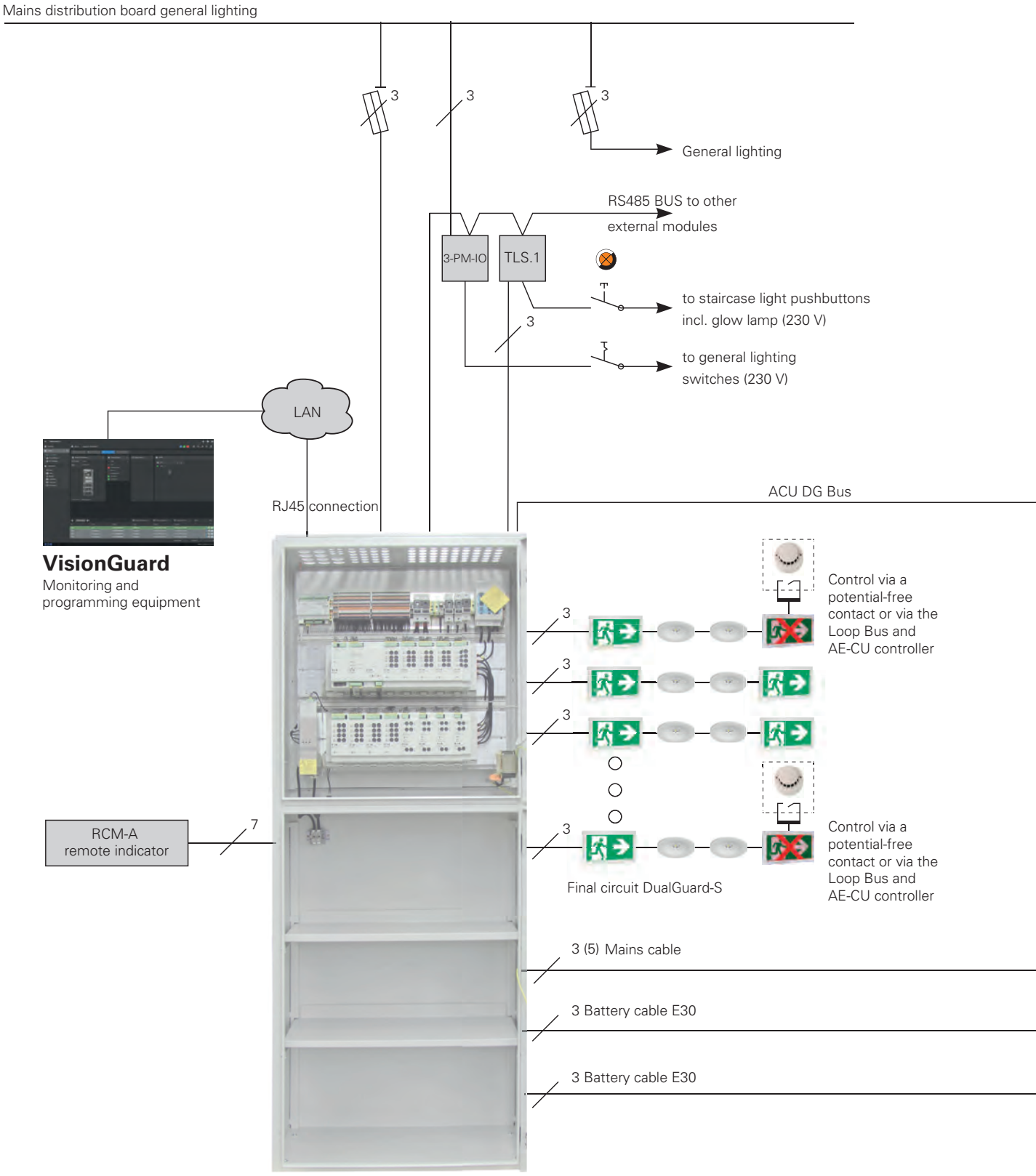
Installation example

Country-specific regulations and guidelines must be observed when planning and designing the installation.

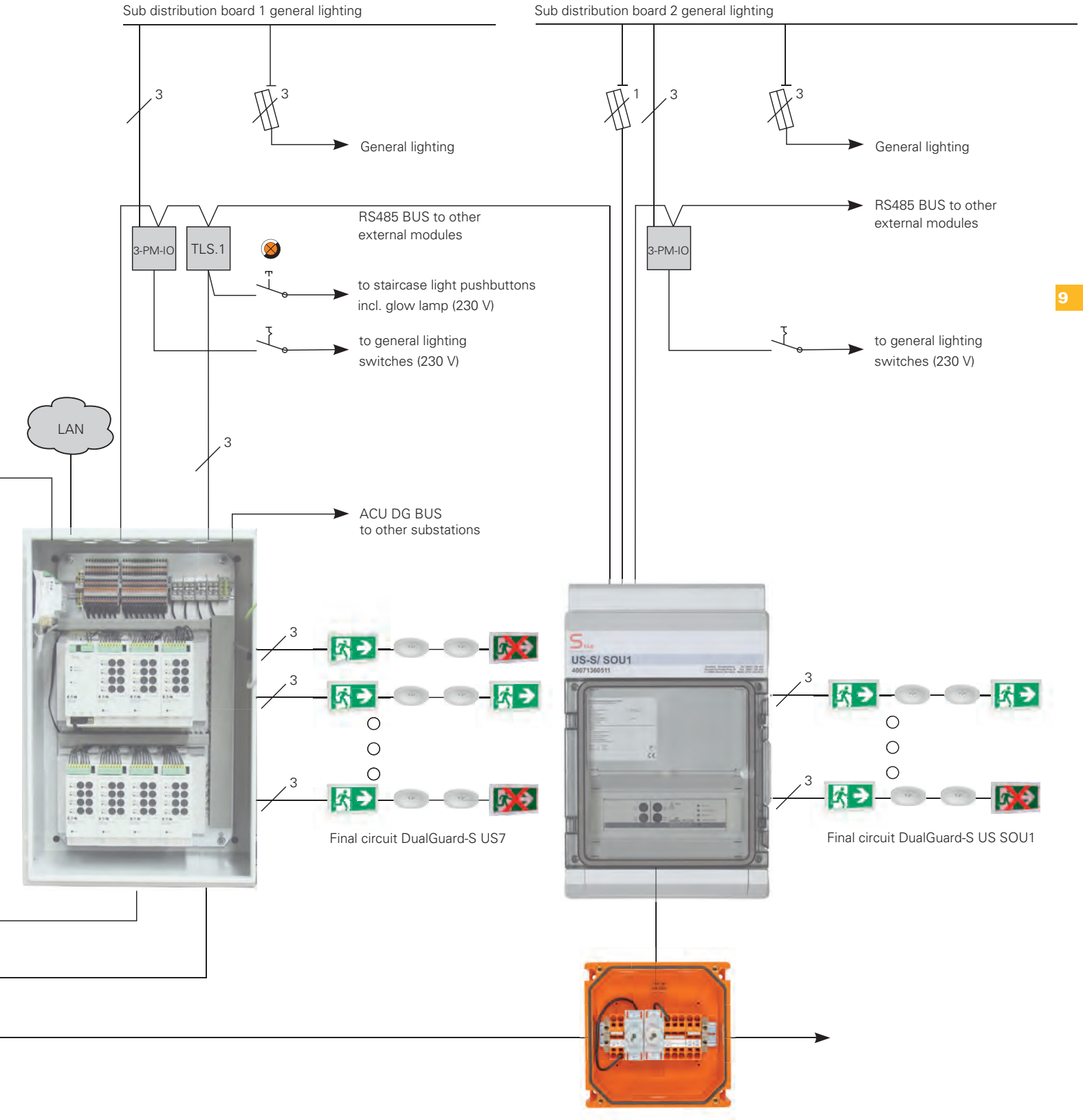


DualGuard-S installation example

DualGuard-S – central battery system



Central battery system DualGuard-S 12C



Substation DualGuard-S US7

Small distribution board DualGuard-S US SOU1

Overview of new DualGuard-S device models

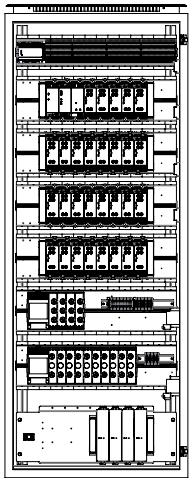


All devices and sub-stations use a modular design. Charging equipment, switching equipment and monitoring equipment form units that operate independently of one another so that the possibility of interactions is excluded. The modular design and the pre-assembled cabinet components guarantee flexible, high-quality implementation. The protection objective of the emergency lighting system is to supply the connected safety lighting system in the event of a general power failure in the primary external power supply. Furthermore, an important function of the emergency lighting system is to ensure the permanent operational capability of all the connected security and LED escape sign luminaires via automatic monitoring.

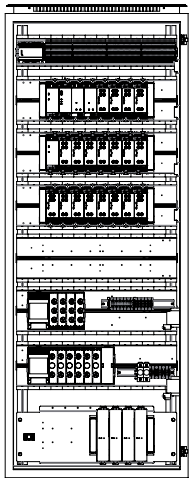
Depending on the project requirement, the correct device model can be chosen from the DualGuard-S product family.

DualGuard-S 28 or DualGuard-S 20

For operation with a maximum of 28 or 20 SKU.1.1 CG-S circuit modules with 88 circuit terminals. Up to 6 sub-stations can be supplied with battery power or main power (up to 6 sub-stations 1-phase, up to 2 sub-stations 3-phase).



DualGuard-S 28



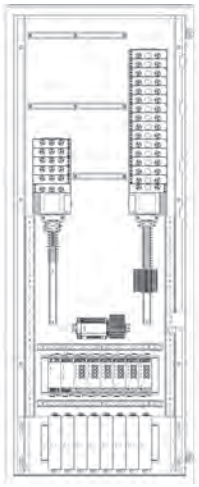
DualGuard-S 20

Order details

Model	Included with delivery	Order no.
DualGuard-S 28	Free-standing cabinet with optimized wiring system for central battery system CEAG DualGuard-S 28, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 88 final circuits, or a maximum of 28 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362511
DualGuard-S 20	Free-standing cabinet with optimized wiring system for central battery system CEAG DualGuard-S 20, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 88 final circuits, or a maximum of 20 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362510

DualGuard-S LAD 100

The charging and distribution board supplies up to fifteen 1-phase or five 3-phase sub-stations with mains and battery voltage. In addition, up to four circuit modules can supply and control 16 circuits.



DualGuard-S LAD 100

Order details

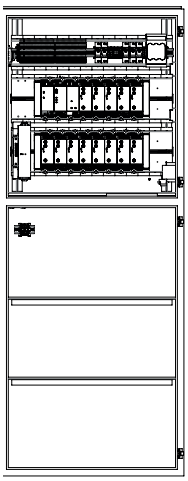
Model	Included with delivery	Order no.
DualGuard-S LAD 100	Free-standing cabinet for central battery system CEAG DualGuard-S LAD 100A, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) power supply unit (PSU), 3-PM-IO module and one SKU.1 CG-S 2 x 3A module. For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 14 final circuits, or a maximum of 3 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362540

Overview of device models

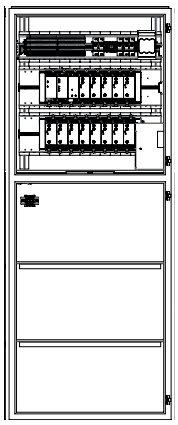
DualGuard-S – central battery system

DualGuard-S 12C, DualGuard-S 12C6, DualGuard-S 20C6, DualGuard-S 12C4, DualGuard-S 4C3

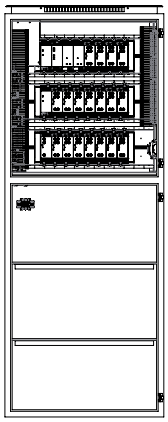
for operation with a maximum of 12 or 20 SKU.1.1 CG-S circuit modules.



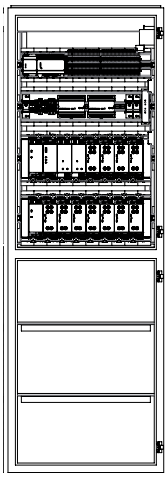
DualGuard-S 12C



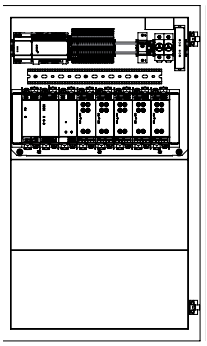
DualGuard-S12C6



DualGuard-S20C6



DualGuard-S12C4



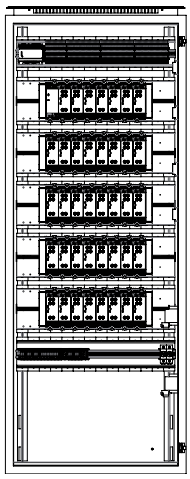
DualGuard-S4C3

Order details

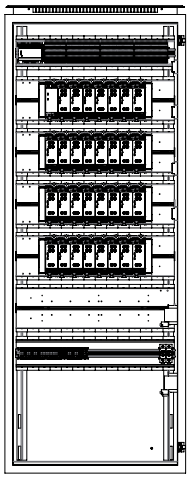
Model	Included with delivery	Order no.
DualGuard-S 12C	Compact cabinet for central battery system CEAG DualGuard-S 12C, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 48 final circuits, or a maximum of 12 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362520
DualGuard-S12C6	Compact cabinet for central battery system CEAG DualGuard-S 12C6, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 48 final circuits, or a maximum of 12 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362523
DualGuard-S20C6	Compact cabinet for central battery system CEAG DualGuard-S 20C6, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 68 final circuits, or a maximum of 20 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362524
DualGuard-S12C4	Compact cabinet for central battery system CEAG DualGuard-S 12C4, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 48 final circuits, or a maximum of 12 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362521
DualGuard-S4C3	Compact cabinet for central battery system CEAG DualGuard-S 4C3, equipped with battery control module (BCM.1), advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 20 final circuits, or a maximum of 4 variable circuit boards. Please note! The CM charging modules and the TFT touch display are not part of the cabinet module.	40071362525

DualGuard-S US 38, US 30, US 23, US 15, US 7

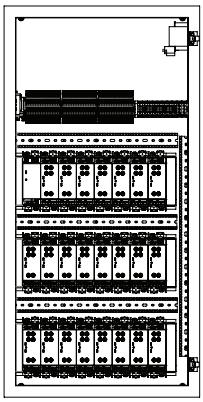
for operation with a maximum of 7, 15, 23, 30 or 38 SKU.1.1 CG-S circuit modules. Charging technology for connected battery emergency power supply not included for these sub-stations; battery and mains power supply takes place via the DualGuard-S system.



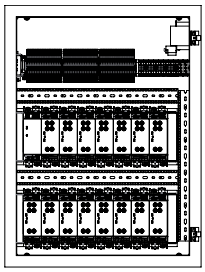
DualGuard-S US 38



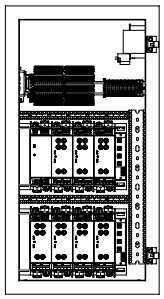
DualGuard-S US 30



DualGuard-S US 23



DualGuard-S US 15



DualGuard-S US 7

Order details

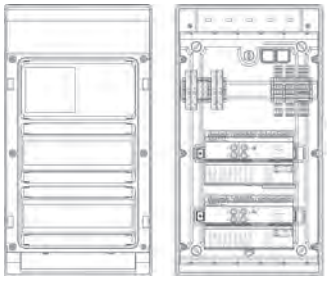
Model	Included with delivery	Order no.
DualGuard-S US 38	Free-standing cabinet for sub-stations CEAG DualGuard-S US-S 38, equipped with advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 88 final circuits, or a maximum of 38 variable circuit boards. Please note! The TFT touch display is not part of the cabinet module.	40071362513
DualGuard-S US 30	Free-standing cabinet for sub-stations CEAG DualGuard-S US-S 30, equipped with advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 88 final circuits, or a maximum of 30 variable circuit boards. Please note! The TFT touch display is not part of the cabinet module.	40071362512
DualGuard-S US 23	Wall cabinet for CEAG DualGuard-S US-S 23 sub-stations, equipped with advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 52 final circuits, or a maximum of 23 variable circuit boards. Please note! The TFT touch display is not part of the cabinet module.	40071362532
DualGuard-S US 15	Wall cabinet for CEAG DualGuard-S US-S 15 sub-stations, equipped with advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 32 final circuits, or a maximum of 15 variable circuit boards. Please note! The TFT touch display is not part of the cabinet module.	40071362531
DualGuard-S US 7	Wall cabinet for CEAG DualGuard-S/US-S 7 sub-stations, equipped with advanced control unit (ACU DG-S) and power supply unit (PSU). For installing a 4.3" or 7" TFT touch display. With extra space for adding a maximum of 28 final circuits, or a maximum of 7 variable circuit boards. Please note! The TFT touch display is not part of the cabinet module	40071362530

Overview of device models

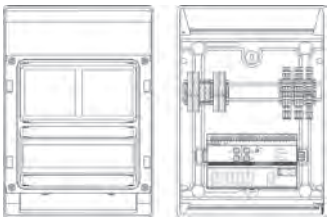
DualGuard-S – central battery system

DualGuard-S US SOU2, US SOU1

For operation with a maximum of 1 or 2 SOU CG-S circuit switching modules. TFT touch display not included for these sub-stations. Battery power supplied via the DualGuard-S system; mains power supplied via the sub-distributor for the general power supply (rental current infeed).



DualGuard-S US SOU2



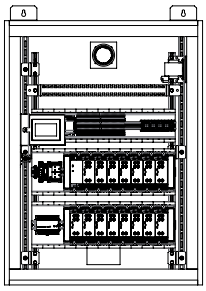
DualGuard-S US SOU1

Order details

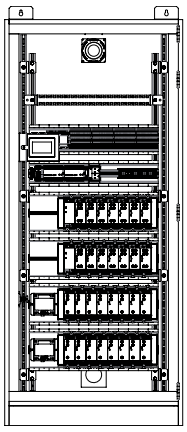
Model	Included with delivery	Order no.
DualGuard-S US SOU2	Small distribution board for DualGuard-S/US-S SOU2 sub-stations, equipped with two SOU CG-S 2x4A circuit modules	40071362519
DualGuard-S US SOU1	Small distribution board for DualGuard-S/US-S SOU1 sub-stations, equipped with one SOU CG-S 2x4A circuit module	40071362518

DualGuard-S ESF15-P, ESF30-P

Electrical distributor with 30 minutes of functional integrity in the event of fire for operation with a maximum of 15 or 30 SKU.1.1 CG-S circuit modules.



DualGuard-S ESF30 15-P



DualGuard-S ESF30 30-P

Order details

Model	Included with delivery	Order no.
DualGuard-S ESF30 15-P	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from outside CEAG DualGuard-S ESF30 15-P, equipped with 4.3" TFT touch display, advanced control unit (ACU DG-S) and power supply unit (PSU). With extra space for adding a maximum of 40 final circuits, or a maximum of 15 variable circuit boards.	40071362516
DualGuard-S ESF30 30-P	Free-standing cabinet for sub-stations with 30 minutes of functional integrity during fire from outside CEAG DualGuard-S ESF30 30-P, equipped with 4.3" TFT touch display, advanced control unit (ACU DG-S) and power supply unit (PSU). With extra space for adding a maximum of 58 final circuits, or a maximum of 30 variable circuit boards.	40071362517

DualGuard-S ESF SOU5, ESF SOU4 IO, ESF SOU3, ESF SOU2, ESF SOU1

Electric distributor with 30 minutes of functionality in the event of fire for operation with a maximum of 5, 3, 2, 1 SOU CG-S 2 x 4A circuit switching modules.



DualGuard-S ESF30 SOU5



DualGuard-S ESF30 SOU4 IO



DualGuard-S ESF30 SOU3



DualGuard-S ESF30 SOU2



DualGuard-S ESF30 SOU1

Order details

Model	Included with delivery	Order no.
DualGuard-S ESF30 SOU5	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from the outside DualGuard-S ESF30 SOU5, equipped with five SOU CG-S 2x4A circuit modules	40071362585
DualGuard-S ESF30 SOU4 IO	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from the outside DualGuard-S ESF30 SOU4, equipped with four SOU CG-S 2x4A circuit modules and space for two 3-PM-IO modules or two 3-PM-IO-INV modules.	40071362584
DualGuard-S ESF30 SOU3	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from outside DualGuard-S ESF30 SOU3, equipped with three SOU CG-S 2x4A circuit modules	40071362583
DualGuard-S ESF30 SOU2	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from the outside DualGuard-S ESF30 SOU2, equipped with two SOU CG-S 2x4A circuit modules	40071362582
DualGuard-S ESF30 SOU1	Wall cabinet for sub-stations with 30 minutes of functional integrity during fire from the outside DualGuard-S ESF30 SOU1, equipped with one SOU CG-S 2x4A circuit module	40071362581

TFT touch display 4.3" and 7"

DualGuard-S – central battery system

TFT touch display 4.3" and 7"





TFT touch display 4.3" and 7"

- Dimmable TFT touch display with 64k colors and 250 cd/m²light density
- Touch function across the entire operating surface
- Multi-color icons for status displays, operation and programming
- High performance 32-bit processor, 512MB Ram, 4GB Flash
- Start screen with all essential system information for servicing, technical acceptance, initial operation and maintenance at a glance
- Intuitive menu navigation through operating levels for initial operation, configuration, programming and servicing
- Eaton's cyber security for password protection, web access and connectivity
- All operating texts and status information in 19 different languages
- Customer-specific texts can be entered on-site
- USB 2.0 host for use in transmitting data during start-up, configuration modifications, log book and software updates
- Web connection available as standard equipment
- IP65 – Meets the highest standards in terms of quality and service life
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes in the event of fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Protection class, external	IP65
Ambient temperature range	0 – 50°C
Electromagnetic compatibility	Industrial EN 61000-6-2, Commercial EN 61000-6-3
Relative humidity	10 – 95%, non-condensing
Pollution level	2
Max. power consumption	9.5W

Order details

Model	Included with delivery	Order no.
HMI module 4.3" SP	4.3" TFT touch display for door installation	40071361644
HMI module 7" SP	7" TFT touch display for door installation	40071361654

PC Programming Software DualGuard-S



PC Programming Software DualGuard-S

Programming software on pre-configured USB stick for quick pre-programming on the PC and for easy reading and editing of the test book memory. All files can be stored on memory card and hard disk for documentation purposes.

Order details

Model	Included with delivery	Order no.
Software	PC software for DualGuard-S, for alternative programming of the system configuration on the PC	40071362319
USB stick	For saving the device configuration	40071362318

ACU DG-S module





ACU DG-S module

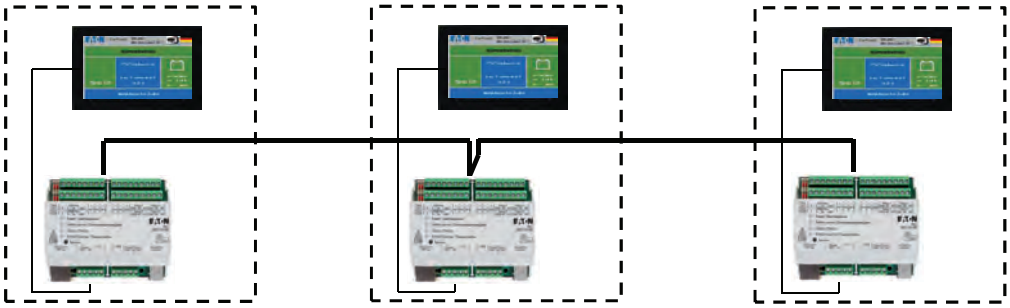
- Compact DIN bars installation
- Dual assignable screw terminals for conductors with the same diameter
- Integrated, switchable bus terminal resistors
- Six freely configurable short-circuit/interruption-tolerant 24V inputs
- Four configurable potential-free signal contacts with separate roots
- Two configurable 24V CD outputs for additional relays
- Color LED indicators for ready status, battery mode, malfunction and scenario active
- Innovative, transmission-safe ACU DG-S bus communication
- Automatic activation of safety lighting following interruption of bus communication
- Functional upon activation of battery deep discharge protection or HMI outage
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes in the event of fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Degree of protection	IP20
Protection class	II
Ambient temperature range	-5°C – +55°C
Relative humidity	10 – 95%, non-condensing
Electromagnetic compatibility	Industrial EN 61000-6-2, Commercial EN 61000-6-3
Max. pollution level	2
Overvoltage category	II for battery circuit
Power consumption	2 W

Order details

Model	Included with delivery	Order no.
ACU DG-S module	Control module for top-hat rail installation	40071361600

Wiring diagram: ACU Bus – X2.A	
Rated voltage	≤ 30V (SELV)
Rated current	≤ 0.09A short-circuit-proof
Bus topology	Line
Cable type	such as IY(ST)Y 4x2x0.8 mm
Maximum cable length	900 m
Terminating resistor	Switchable via DIL switch on ACU DG-S.
Maximum number of DualGuard-S systems	32



PSU module

DualGuard-S – central battery system

PSU module



PSU module

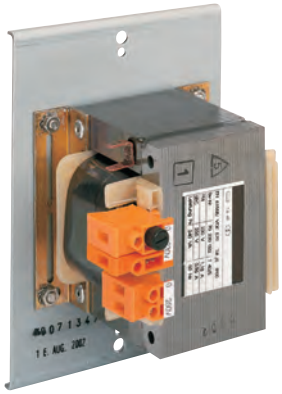
- Intelligent, automatic bus alarm management in the event of a fault or exceeding limit values
- Expanded DC input voltage range from 173-330V
- Expanded temperature range from 0°C…+55°C
- Maintenance-free, passive ventilation
- Output voltage indication provided by three LEDs
- Outputs switchable in parallel with automatic power control
- Wide finger-safe ventilation slits for optimum heat dissipation
- Simple, time-saving snap-on click installation on device rack
- Meets all EMV requirements for industrial and commercial use
- The DEKRA system certification documents product quality and compliance with standards
- Functionality for 30 minutes in the event of fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Degree of protection	IP20
Protection class	II
Ambient temperature range	0°C – +55°C
Relative humidity	10% – 95%, non-condensing
Air pressure	795…1080 hPa
Height	≤ 2000 m
Pollution level	2

Order details

Model	Included with delivery	Order no.
PSU module	Power supply module for component rack installation	40071361590

AC trafo



AC trafo

- For mains supply to internal modules
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes in the event of fire verified in a fire test conducted by an independent materials testing institute
- Conforms to with RoHS and REACH

Degree of protection	IP20
Protection class	II
Ambient temperature range	0°C – +55°C
Relative humidity	10% – 95%, non-condensing
Air pressure	795…1080 hPa
Height	≤ 2000 m
Pollution level	2

Order details

Model	Included with delivery	Order no.
AC trafo	Transformer module AC/AC converter 240VA including mounting adapter for top-hat rail installation	40071347162



BCM.1 module

DualGuard-S – central battery system

BCM.1 module





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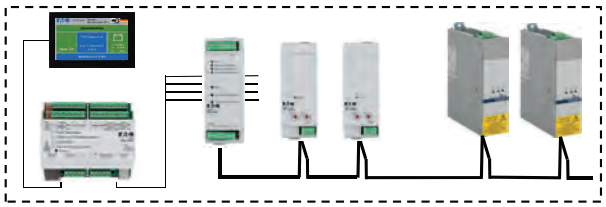
BCM.1 module

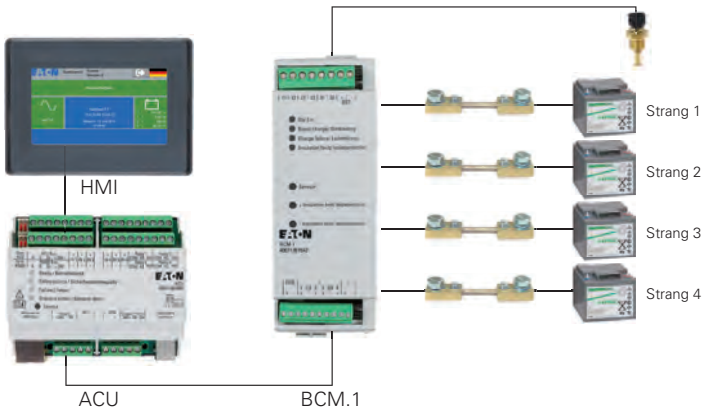
- Automated monitoring of up to four battery arrays
- Temperature-controlled charging control of up to 32 charging modules
- Automated monitoring of each charging module via the CCB bus with individual error warnings via the TFT touch display
- LED display indicating ready, boost charge, charging malfunction and insulation defect
- Individual indication of isolation faults per circuit
- Automatic monitoring of isolation measuring device
- Alternating charging regulation during trickle charging and more than one charging module
- Relay contacts for forwarding of disruption, boost charging and insulation defect
- All module connections are wired to a three level tension-spring installation terminal
- Simple, time-saving snap-on click installation on device rack
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Conforms to RoHS and REACH

Degree of protection	IP20
Protection class	II
Ambient temperature range	-5°C – +55°C
Relative humidity	10% – 95%, non-condensing
Air pressure	795…1080 hPa
Pollution level	2
Electromagnetic compatibility	Industrial EN 61000-6-2, Commercial EN 61000-6-3

Order details

Model	Included with delivery	Order no.
BCM.1 module	Battery control module for component rack installation	40071361540





CM.1 1.7A charging module





CM.1 1.7 A charging module

- Efficient operation by means of alternating activation/deactivation of trickle charge
- Optimum performance through a combination of charging modules 1.7A and 3.4A
- Automated monitoring and temperature-dependent charging regulation through the BCM.1 module and the CCB bus connection
- Automated deactivation of boost charging during outage of room ventilation system
- LED indicator of ready status/malfunction
- Wide finger-safe ventilation slits for optimum heat dissipation
- Simple, time-saving snap-on click installation on device rack
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Conforms to RoHS and REACH

Degree of protection	IP20
Protection class	II
Ambient temperature range	0°C – +55°C
Relative humidity	10% – 95%, non-condensing
Air pressure	795…1080 hPa
Pollution level	2
Electromagnetic compatibility	Industrial EN 61000-6-2, Commercial EN 61000-6-3

Order details

Model	Included with delivery	Order no.
CM.1 1.7A	1.7A charging module for component rack installation	40071361580

CM 3.4A charging module





CM 3.4A charging module

- Efficient operation by means of alternating activation/deactivation of trickle charge
- Optimum performance through a combination of 1.7A and 3.4A charging modules
- Automated monitoring and temperature-dependent charging regulation through the BCM.1 module and the CCB bus connection
- Automated deactivation of boost charging during outage of room ventilation system
- LED indicator of ready status/malfunction
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Conforms to RoHS and REACH

Degree of protection:	IP20
Protection class:	I
Ambient temperature:	0°C – +55°C
Relative humidity:	10% – 95%, non-condensing
Air pressure:	795…1080 hPa
Pollution level:	2
Electromagnetic compatibility	Industrial EN 61000-6-2, Commercial EN 61000-6-3

Order details

Model	Included with delivery	Order no.
CM 3.4A	3.4A charging module for component rack installation	40071360370

SKU.1 CG-S 4x1.5A circuit switching

DualGuard-S – central battery system

SKU.1 CG-S 4x1.5A





SKU.1 CG-S 4x1.5A

- CG technology provides for automatic monitoring of up to 20 safety lights and emergency signs without requiring the transmission of additional data for each circuit
- Overload indicator
- Programmable switching for each individual light with no need to make adjustment directly to the light itself
- Automated isolation fault finding
- Assemblies use service-friendly module technology, wired ready for connection to triple-deck 4 mm² neutral terminals
- Large finger-safe ventilation slits for optimum heat dissipation
- Simple, time-saving snap-on click installation on device rack
- Wide sign racks for customized labeling
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes during fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Inputs	
Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50 or 60 Hz
Maximum head dissipation capacity:	8 W
Outputs	
Rated current	1.5A
short-circuit current	1500A
Inrush current	60A per circuit/240A per module

Order details

Model	Included with delivery	Order no.
SKU.1 CG-S 4 x 1.5A	Circuit switching 4 x 1.5A for component rack installation	40071361550

SKU.1 CG-S 2x3A





SKU.1 CG-S 2x3A

- CG technology provides for automatic monitoring of up to 20 safety lights and emergency signs without requiring the transmission of additional data for each circuit
- Overload indicator
- Programmable switching for each individual light with no need to make adjustment directly to the light itself
- Automated isolation fault finding
- Assemblies use service-friendly module technology, wired ready for connection to triple-deck 4 mm² neutral terminals
- Wide finger-safe ventilation slits for optimum heat dissipation
- Simple, time-saving snap-on click installation on device rack
- Large sign rack for customized labeling
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes during fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50 or 60 Hz
Maximum head dissipation capacity	4 W
Outputs	
Rated current	3A
short-circuit current	1500A
Inrush current	250A per circuit

Order details

Model	Included with delivery	Order no.
SKU.1 CG-S 2 x 3A	Circuit switching 2 x 3A for component rack installation	40071361560

SKU.1 CG-S 1x6A circuit switching

DualGuard-S – central battery system

SKU.1 CG-S 1x6A





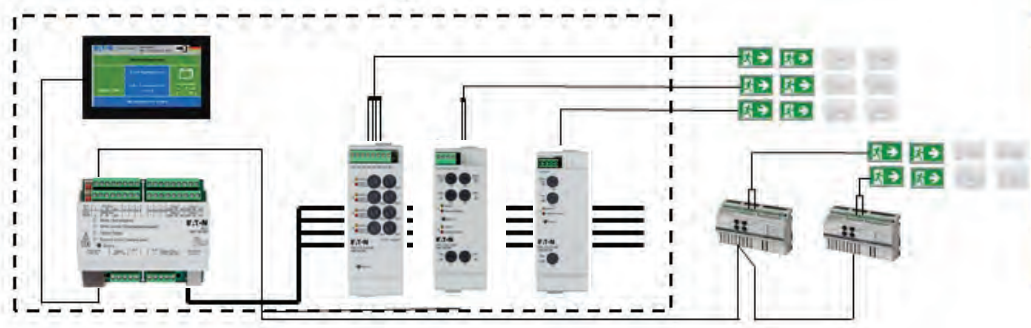
SKU.1 CG-S 1x6A

- CG technology provides for automatic monitoring of up to 20 safety lights and emergency signs without requiring the transmission of additional data
- Overload indicator
- Programmable switching for each individual light with no need to make adjustment directly to the light itself
- Automated isolation fault finding
- Assemblies use service-friendly module technology, wired ready for connection to triple-deck 4 mm² neutral terminals
- Wide finger-safe ventilation slits for optimum heat dissipation
- Simple, time-saving snap-on click installation on device rack
- Large sign rack for customized labeling
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes during fire verified in a fire test conducted by an independent materials testing institute
- Conforms to RoHS and REACH

Inputs	
Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50 or 60 Hz
Maximum head dissipation capacity:	4 W
Output nominal current	6A
short-circuit current	1500A
Inrush current	250A

Order details

Model	Included with delivery	Order no.
SKU.1 CG-S 1 x 6A	Circuit switching 1 x 6A for component rack installation	40071361570



SOU CG-S 2x4A



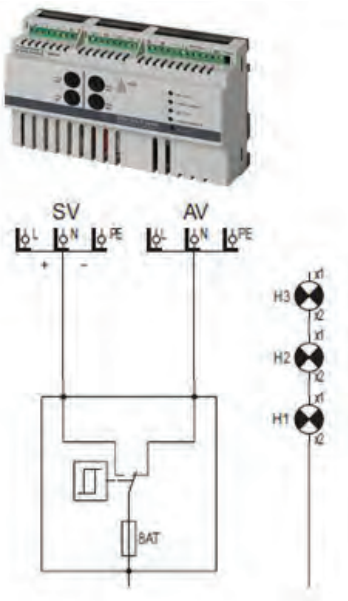
SOU CG-S 2x4 A

- Separate rental current feed-in
- CG technology provides for automatic monitoring of up to 20 safety lights and emergency signs without requiring the transmission of additional data for each circuit
- Overload indicator
- Programmable switching for each individual light with no need to make adjustment directly to the light itself
- Automated isolation fault finding
- Dual assignable screw terminals for conductors with the same diameter
- All module connections are wired to a triple-deck tension-spring installation terminal
- Large sign rack for customized labeling
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes during fire verified in a fire test conducted by an independent materials testing institute

Inputs	
Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50/60 Hz
Maximum head dissipation capacity:	9 W
Short-circuit current per circuit	1500A
Inrush current	250A per circuit

Order details

Model	Included with delivery	Order no.
SOU CG-S 2 x 4A	Circuit switching 2 x 4A for top-hat rail installation	40071360430



CG IV.1 relay module

DualGuard-S – central battery system

CG IV.1 relay module



CG IV.1 relay module

This module allows for connection of the central battery system to a central control station. Status of key systems reported via potential-free signal contacts. Two input channels available for remote inspection of the central battery system. A function test can be launched via the "FT" input channel, and a duration test (battery test) can be launched via the "BT" input channel. Eight light-emitting diodes indicate system status.

Inputs	
Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50 Hz
Outputs	
Rated current/voltage	0.65A/24V

Order details

Model	Included with delivery	Order no.
CG IV.1	Relay module for component rack installation	40071361620

CG V.1 relay module





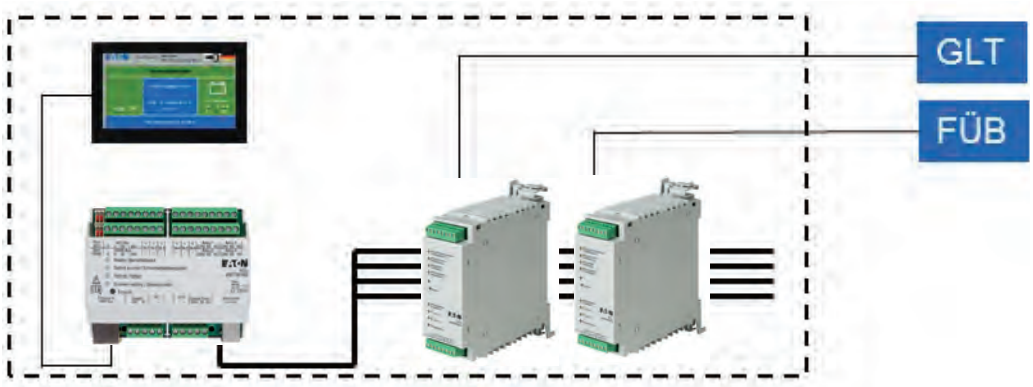
CG V.1 relay module

This module allows for connection of the central battery system to a building control system. Status of key systems reported via potential-free signal contacts. Two input channels available for remote inspection of the central battery system. A function test can be launched via the "FT" input channel, and a duration test (battery test) can be launched via the "BT" input channel. Eight light-emitting diodes indicate system status.

Inputs	
Nominal AC voltage	220-240V
Nominal DC voltage	184-275V
Rated frequency	50 Hz
Outputs	
Rated current/voltage	0.65A/24V

Order details

Model	Included with delivery	Order no.
CG V.1	Relay module for component rack installation	40071361630



RCM-A remote indication

DualGuard-S – central battery system

RCM-AR flush-mounted



RCM-AS surface-mounted



9

RCM-A remote indication

The RCM-A remote display uses a battery power supply to display the the most important system functions safely. A key-operated switch can be used to block emergency lighting operation during periods of inactivity. The remote indicator thus fulfils the requirement that remote switching is only permissible if actuation by unauthorized persons are not possible. By blocking the emergency operation the battery maintenance charge is not affected. A differential loop monitoring leads to short-circuit or open-circuit detection to make the system ready for operation. LED indicators: System operational, power source for safety purposes, error.

	RCM-AS surface-mounted	RCM-AR flush-mounted
Mechanic		
Dimensions (W x H x D mm)	80 x 80 x 52	80 x 80 12 (without flush-mounted box) Diameter flush-mounted box: 70 mm Deep flush-mounted box: 64 mm
Weight	0.15 kg	0.16 kg
Degree of protection	IP 20	IP 20
Material	Thermoplast	
Resistant up to Flammability	650°C	
Environment		
Ambient temperature	-5°C … +35°C	
Storage temperature	-20°C … +65°C	
Relative humidity	10% ... 95% no condensation	
Air pressure	795 … 1080 hPa	
EMC		
Interference immunity	EN/IEC 61000-6-2	
Interference radiation	EN/IEC 61000-6-3	
Electrical parameters		
Rated voltage	24 V DC (SELV)	
Degree of pollution	2	
Power consumption	< 1 W	
Installation		
Lead	J-Y(ST)Y 4 x 2 x 0.8	
Max. Cable length	2000 m	

Ordering details

Type	Scope of supply	Order No.
RCM-AS remote indication	Subassembly for wall mounting	40071362390
RCM-AR remote indication flush-mounted	Component for installation in switch or cavity wall sockets according to DIN VDE 0606	40071362395
Spare Key	Spare Key for RCM remote indication	40042071603

3-PM module



3-PM voltage monitoring module

To avoid hazards from mains power outages, the functionality of the light distributors for the general lighting must be continuously monitored in order to turn on safety lighting in the event of a disruption. Consequently, 3-PM modules are an important element of safety systems.

In the event of a phase outage, the 3-PM module switches a relay contact and interrupts the 24V current loop to the emergency lighting devices. All safety lights set to non-maintained mode are switched to maintained lighting. A second relay contact is used to signal the power failure.

- Test button for a mains emergency light fault, so there is no need to interrupt mains voltage and, therefore, no disruptions to operations in progress
- No E30 wiring by virtue of short-circuit/interruption-tolerant communication. This results in significantly simpler installation and cost savings.
- Does not require that main power to general lighting be shut off during weekly function testing by virtue of simple manual testing of the circuit monitoring function via the test button. This avoids the disruption of operations in progress as well as the resulting costs thereof
- Automatic record keeping in inspection log. The documentation requirements for safety equipment are thus satisfied
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system

Dimensions in mm (W x H x D)	85 x 52.5 x 65/3 TE
Enclosure	Plastic, light gray
Terminals	2.5 mm² rigid and flexible
Mounting type	On DIN support rails
Contact	0.5A/24V AC/DC, 1 x normally open, 1 x change-over contact
Threshold	U< 85 % UN

Order details

Model	Included with delivery	Order no.
3-PM module with test button	Circuit monitor module for top-hat rail installation	40071361660

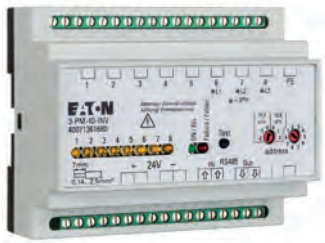
3-PM-IO module

DualGuard-S – central battery system

CEAG 3-PM-IO module



CEAG 3-PM-IO-INV module



External CEAG 3-PM-IO and CEAG 3-PM-IO-INV module

To avoid hazards from mains power outages, the functionality of the light distributors for the general lighting must be continuously monitored in order to turn on safety lighting in the event of a disruption. Consequently, the CEAG 3-PM-IO and CEAG 3-PM-IO-INV modules are an important element of the safety system.

- Test button for mains emergency light fault, so there is no need to interrupt mains voltage and, therefore, no disruptions to operations in progress
- 3-PM-IO module: Eight measurement inputs for monitoring up to three phases and up to five * light switches
- 3-PM-IO-INV module: Eight inverted measurement inputs for monitoring up to three phases and up to five* light switches
- Programmable allocation of CEAG 3-PM-IO and CEAG 3-PM-IO-INV modules
- Meets the requirements of future standards. Reduces the risk of cost incurred from retrofitting
- No E30 wiring by virtue of short circuit/interruption-tolerant communication. This results in significantly simpler installation and cost savings.
- Does not require that mains power to general lighting be shut off during weekly function testing by virtue of simple manual testing of the circuit monitoring function via the test button. This avoids the disruption of operations in progress and the resulting costs thereof
- Automatic record keeping in inspection log. The documentation requirements for safety equipment are thus satisfied
- Meets all EMV requirements for industrial and commercial use
- DEKRA system certification documents product quality and compliance with standards for the entire system
- Functionality for 30 minutes during fire verified in a fire test conducted by an independent materials testing institute

* If the phase monitoring function is not required, all eight measuring inputs can be used for the light switch query

	CEAG 3-PM-IO	CEAG 3-PM-IO-INV
Rated voltage of device	24V DC (min. 19V, max. 30V)	
Current consumption (all 8 channels connected)	20 mA ± 5 mA	
Degree of protection	IP20	
Protection class	I	
Ambient temperature range	-10° – +40°C.	
Input channels 8 3-PM (channel 1–8) 3-PH (channel 1–5)	8 (potential separated U_N = 230V) 3-PM (chan. 1–8) > 195V-> ON < 138V-> OFF	8 (potential separated U_N = 230V) 3-PM (chan. 1–8) < 195V-> OFF > 138V-> ON
Data bus/address range	RS 485/1-25	
Weight	0.2 kg	
Dimensions (L x W x H) mm	105 x 85 x 60	
Assembly	DIN rail	
Terminals	2.5 mm² rigid and flexible	

Order details

Model	Included with delivery	Order no.
3-PM-IO module with test button	Module for DIN support rail installation	40071361670
3-PM-IO-INV module with test button	Module for DIN support rail installation with inverted input logic	40071361680
DIN support rails	4 DIN support rails for mounting external modules in the switch cabinet including mounting material	40071347125

TLS bus module



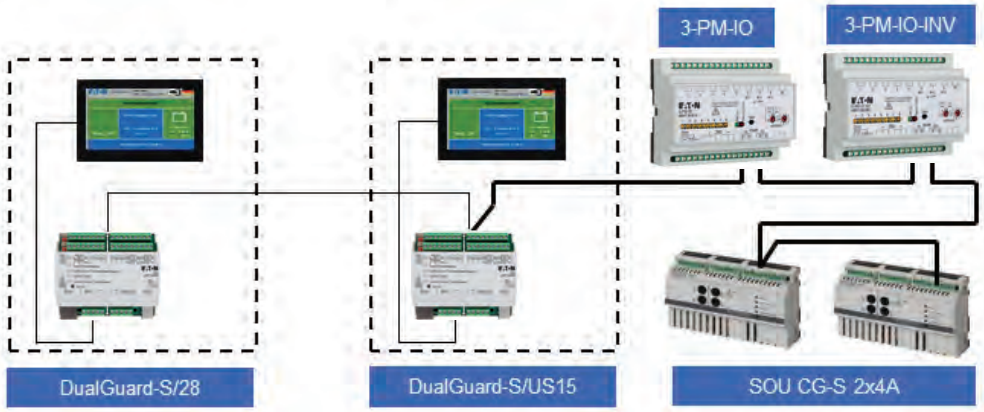
TLS bus module

This module for installation in general lighting distribution boxes monitors the switching status of buttons for up to two separate stairwell luminaires and transmits the respective switching status to the ACU DG-S module of the DualGuard-S system via an RS485 bus line. In mains and emergency operation, the circuits of the stairwell and emergency lights are operated in accordance with the settings for the CU CG-S control unit. In addition, the switch glow lamps of the connected buttons are supplied in mains and emergency lighting mode.

Power supply for the modules	
Connection voltage	24V DC (19 ... max. 30V)
Cable type	4 x 2 x 0.8 mm IY(ST)Y, twisted pair shielded
(minimum requirement)	
Current consumption	Max. 50mA, depending on the number of
glow lamps for stairwell light switches	
Bus connection	RS 485, Rated voltage: Un = 24V DC
(minimum requirement)	Type of cable: 4 x 2 x 0.8 mm IY(ST)Y, twisted pair shielded
Connection terminal A, B, SE	
Switch outputs	2 rated voltage Ur = 230V, switching current: max. 10A (120A/ms)
Safety class/type	IP20/I
Ambient temp.	-10 ... +40° C
Indicator LEDs:	- LED K1 or K2 illuminate when the circuit is closed - LED T1 and T2 illuminate as long as the corresponding button input is activated - LED on/off lit if 24 V DC supply voltage is present and the device is activated via the control - LED fault/failure illuminates if a malfunction has been registered in the module

Order details

Model	Included with delivery	Order no.
TLS.1 module	Stairwell light switch module for top-hat rail installation	40071361720



BDM battery data module

DualGuard-S – central battery system

BDM





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BDM battery data module

The CEAG BDM battery data module automatically records voltage and temperature values during initial operation and recurring tests. In addition, the battery block monitoring system enables automation of the annual operational duration test. The battery charge level is shown as a percentage on the TFT touch display. A potential-free changeover contact reports battery status to a higher-level building services system on an as-needed basis. Warning and alarm signals for deviations from boost charge, trickle charge voltage, discharge voltage and battery block temperature of each individual battery block are displayed and recorded on the TFT touch display as well as through a maximum of 72 battery block sensors. The wireless transfer of sensor data to a BDM module simplifies the installation of BBS battery block sensors because no additional data cable is required. The negative pole temperature reading via the sensor circuit means that there is no need for a direct temperature-conducting connection between the BBS battery block sensor and the battery housing. Status displays that are clearly visible through a robust, trans-luminescent BBS sensor enclosure, which has an integrated, mechanically protected color LED, guarantee clear indications at a glance.

An automated configuration routine using soft addressing and menu navigation of the TFT touch display via user icons makes it very easy to manage the system sensor reports and provides a complete overview.

- Automatic recording of voltage and temperature figures during initial operation
- Wireless data transfer provides for connection to the battery block sensors without the need for an additional data cable
- Potential-free changeover contact for reporting operational status

Dimensions (LxHxD)	90x72x60 mm
Materials	Polycarbonate UL94V-0
Weight	0.06 kg
Assembly	DIN rail snap-on
Degree of protection	IP20
Protection class	II
Ambient temperature range	-5°C – +35°C

BDM Connection Box





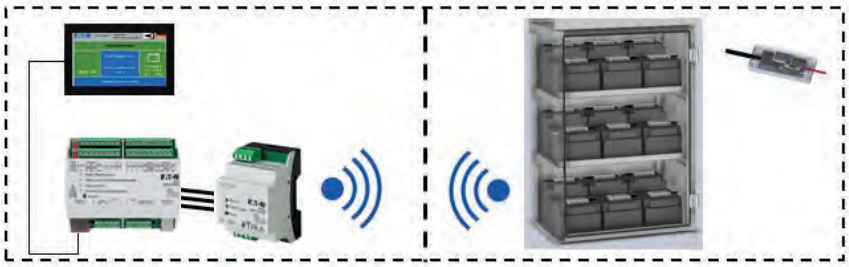
BDM Connection Box

The BDM Connection Box is used if the battery is installed >15m away from the central battery distribution board and no suitable battery connection board is available for the installation of the BDM module.

Dimensions (LxHxD)	250x187x150 mm
Enclosure material	Glass fiber reinforced plastic
Color	RAL 7035
Cover	Smoky transparent
Weight	1.5 kg
Degree of protection	IP65
Impact class	IK10
Protection class	II
Ambient temperature range	-5°C – +35°C

Order details

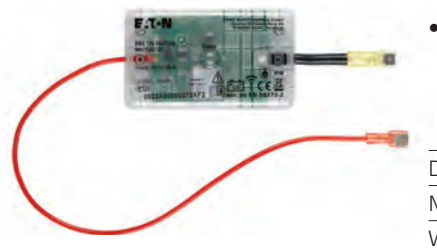
Model	Included with delivery	Order no.
BDM module	Battery data bus module for top-hat rail installation	40071361780
BDM Connenction Box	BDM Connenction Box	40071362357
BDM Connenction Kit	Complete BDM Connection kit incl CAN Bus Adapter, Mounting set and connection Box	40071362700



BBS



Faston BBS



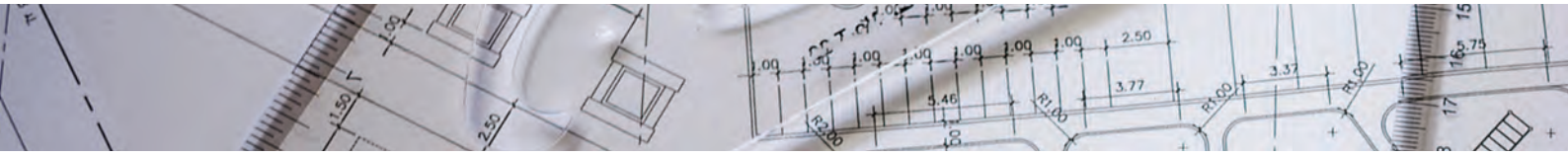
BBS battery block sensor

- Temperature readings are taken from the minus pole via the sensor cable, so no fixed connection is required between the battery block sensor and the battery housing
- Status displays that are clearly visible through a trans-luminescent sensor enclosure with an integrated LED
- Percentage display of the battery charge status in percent on the TFT touch display
- Warning and alarm signals for deviations from boost charge, trickle charge voltage and discharge voltage of each individual battery block on the TFT touch display as well as through the battery block sensor
- Warning and alarm signals for deviations from battery block temperature on the TFT touch display as well as through the battery block sensor

Dimensions (LxHxD)	90x53x17 mm
Materials	Polycarbonate UL94V-0
Weight	0.05 kg
Assembly	on the battery block cover
Degree of protection	IP20
Protection class	II
Ambient temperature range	-5°C – +35°C

Order details

Model	Included with delivery	Order no.
12V/M6 BBS sensor	Battery block sensor for 12 V battery blocks with M6 connection. 23.3 Ah, 32 Ah, 39.8 Ah, 50.4 Ah, 53.7 Ah, 66.2 Ah, 85.7 Ah, 89.4 Ah	40071362190
12V/SR 6,3 Faston BBS sensor	Battery block sensor for 12 V battery blocks with SR 6.3 Faston connection. 5,5 Ah and 8,5 Ah	40071362720
12V/M5 BBS sensor	Battery block sensor for 12 V battery blocks with M5 connection. 16 Ah	40071362030
6V/M8 BBS sensor	Battery block sensor for 6 V battery blocks with M8 connection. 118 Ah	40071362202



Configuring the central battery system

The DualGuard-S central battery system can be quickly and easily configured using predetermined data from the tables.

Recommended procedure:

Determine the required battery capacity.

The number of safety lights and emergency signs required is determined on the basis of the projected lighting design.

Example:

With respect to the safety lighting requirements for one assembly point (3 h rated operating period and 12 h recharging period), the following number of luminaires was determined.

Quantity	Model	Current consumption per light	Total
100	GuideLed 11011	0.011A	1.10A
250	GuideLed SL 13021.1	0.02A	5.00A
100	V-CG-SLI 350	0.043A	4.30A
Total:			10.40A

Depending on the rated operating period required (1, 3 and 8 h), the battery capacity (C10; 1.8V/cell; +20°C) relative to the maximum discharge current – determined via the battery power consumption of all consumers – can be determined using the battery discharge tables. Pursuant to EN 50171, batteries with a duration of at least 10 years at 20°C shall be used. In this example, with a required rated operating period of 3 h, a battery capacity of 39.80 Ah (C10: 1.8V/cell; +20°C) should be selected from the table. The maximum discharge current for 3 hours of discharge is 11.00A.

Determining the required number of additional charging modules

Pursuant to EN 50171, 80% of withdrawn capacity must be charged to the discharged batteries within 12 h. In determining the number of additional charging modules, the aging reserve factor of 25% need not be included.

Example:

Battery current uptake

= 11.00A for 3 h discharge

Required number of charging modules:

1 x 3.4A according to the charging module table



Determining the required battery capacity, including the aging allowance.

Since a lead battery that is properly operated generally has a capacity loss of up to 2.5% per year (25% over 10 years), pursuant to EN 50171 this loss of capacity must be allowed for in selecting a battery. The end of the service life has been reached when the battery's rated voltage under the rated load falls below 90%.

Example:

Battery current uptake

10.40A + 25%

Aging reserve = 13.00A

Battery Urated = 216V

90% Urated battery

(108 cells) = 194.4V = **1.8V per cell**

In this example, the battery capacity must be increased from 39.8 Ah to 50.40 Ah. The maximum discharge current for 3 hours of discharge is 13.60A.

Please note! – In determining the number of additional charging modules, the aging reserve factor of 25% need not be included.

Fuse protection of the mains circuit connection

The total connected load of the DualGuard-S system is needed to determine the fuse protection for the general power supply main distributor. This load consists of the sum of the mains connection loads of the individual lights and consumers (see connection values of charging modules CM.1 1.7 A and CM.1 3.4 A).

Example:

100 units GuideLed 11011 @ 8VA = 0.80kVA

250 units GuideLed SL 13021.1 @ 8VA = 2.00kVA

100 units V-CG-SLI 350

11.6VA = 1.16kVA

= 3.96kVA

Charge module CM 3.4A

Pzu 0.98kVA = 0.98kVA

Total connection load = 4.94kVA

Order details

DualGuard-S – central battery system



Order details

Model	Included with delivery	Order no.
DualGuard-S 28 central battery system	DualGuard-S/28 central battery system including TFT touch display, BCM.1 and PSU, 28 free module slots	40071362511
DualGuard-S 20 central battery system	DualGuard-S/20 central battery system including TFT touch display, BCM.1 and PSU, 20 free module slots	40071362510
DualGuard-S LAD100 central battery system	DualGuard-S LAD 100A central battery system, equipped with battery control module (BCM.1), TFT touch display HMI/ACU DG-S PCU transformer, with sufficient space for adding a maximum of 16 final circuits, or a maximum of 4 variable circuit boards. Please note! The charging modules are not part of the cabinet assembly.	40071362540
DualGuard-S 12C central battery system	DualGuard-S 12C central battery system including TFT touch display, BCM.1 and PSU, 12 free module slots	40071362520
DualGuard-S 20C6 central battery system	DualGuard-S 20C6 central battery system including TFT touch display, BCM.1 and PSU, 20 free module slots	40071362524
DualGuard-S 12C6 central battery system	DualGuard-S 12C6 central battery system including TFT touch display, BCM.1 and PSU, 12 free module slots	40071362523
DualGuard-S 12C4 central battery system	DualGuard-S 12C4 central battery system including TFT touch display, BCM.1 and PSU, 12 free module slots	40071362521
DualGuard-S 4C3 central battery system	DualGuard-S 4C3 central battery system including TFT touch display, BCM.1 and PSU, 4 free module slots	40071362525
DualGuard-S US 38 sub-station	DualGuard-US 38 model sub-station including TFT touch display, 38 free module slots	40071362513
DualGuard-S US 30 sub-station	DualGuard-US 30 model sub-station including TFT touch display, 30 free module slots	40071362512
DualGuard-S US 23 sub-station	DualGuard-US 23 model sub-station including TFT touch display, 23 free module slots	40071362532
DualGuard-S US 15 sub-station	DualGuard-US 15 model sub-station including TFT touch display, 15 free module slots	40071362531
DualGuard-S US 7 sub-station	DualGuard-US 7 model sub-station including TFT touch display, 7 free module slots	40071362530
DualGuard-S SOU2 sub-station	SOU2 model sub-station including 2 x SOU CG-S 2 x 4A	40071362519
DualGuard-S SOU1 sub-station	SOU1 model sub-station including 1 x SOU CG-S 2 x 4 A	40071362518
DualGuard-S ESF30-30-P sub-station	DualGuard-S ESF30-30-P cabinet, equipped with TFT touch display, PSU, with space for adding a maximum of 58 final circuits, but a maximum of 30 variable circuit modules	40071362517
DualGuard-S ESF30 15-P sub-station	DualGuard-S ESF30 15-P cabinet, equipped with TFT touch display, PSU, with space for adding a maximum of 40 final circuits, but a maximum of 15 variable circuit modules	40071362516
ESF30 SOU5 sub-station	ESF30 SOU5 small distribution board, fitted with 5 circuit modules SOU CG-S 2 x 4 A	40071362585
ESF30 SOU4 IO sub-station	ESF30 SOU4 IO small distribution board, fitted with 4 circuit modules SOU CG-S 2 x 4 A and space for two 3-PM-IO module or two 3-PM-IO-INV module	40071362584
ESF30 SOU3 sub-station	ESF30 SOU3 small distribution board, fitted with 3 circuit modules SOU CG-S 2 x 4 A	40071362583
ESF30 SOU2 sub-station	ESF30 SOU2 small distribution board, fitted with 2 circuit modules SOU CG-S 2 x 4 A	40071362582
ESF30 SOU1 sub-station	ESF30 SOU1 small distribution board, fitted with 1 circuit module SOU CG-S 2 x 4 A	40071362581





Order details

Model	Included with delivery	Order no.
ESF-RVS30	ESF-RVS30 distribution board in E30 version for 2 protected circuits with 4 build-in D02 Neozed fuses (+/- fuse protection)	40071347920
ESF-RVS30-1	ESF-RVS30 distribution board in E30 version for 1 protected circuit with 2 build-in D02 Neozed fuses (+/- fuse protection)	40036071034
Reductions	M32 to M20 reductions including M20 cable screw fitting for E30 junction box.	40071071033
Base for DualGuard-S 12C4	600 mm x 400 mm x 100 mm base	40071362280
	600 mm x 400 mm x 200 mm base	40071362281
Base for DualGuard-S 28, 20, LAD 100, US 38, US 30, IP 21 Battery Cabinets and DualGuard-S 12C	800 mm x 400 mm x 100 mm base	40071362282
	800 mm x 400 mm x 200 mm base	40071362283
Base for DualGuard-S 20C6 und 12C6	800 mm x 600 mm x 100 mm base	40071362284
	800 mm x 600 mm x 200 mm base	40071362285
Grommet Set	for DualGuard-S 12C4	40071362404
	for DualGuard-S 28/20 & DG-S US 38/30	40071362405
	for DualGuard-S LAD	40071362406
	for DualGuard-S 20C6	40071362407
	for DualGuard-S 12C6	40071362408
	for DualGuard-S 12C	40071362409
	for DualGuard-S 4C3	40071362410
	for DualGuard-S US23	40071362411
	for DualGuard-S US15	40071362412
	for DualGuard-S US7	40071362413
	for Battery Cab.	40071362414
The DualGuard-S third party certificate includes a higher IP rating, and is no longer valid for use with lower rated roof panels.		
Roof plate with foam rubber flange plates IP 20 (can´t be combined with IP31-kit)	for DualGuard-S 28/20 & DG-S US 38/30	40071362441
	for DualGuard-S LAD 100	40071362444
	for DualGuard-S 20C6	40071362445
	for DualGuard-S 12C6	40071362442
	for DualGuard-S 12C	40071362443
	for DualGuard-S 12C4	40071362440
Roof plate with rubber clamp profile IP 20 (can´t be combined with IP31-kit)	for DualGuard-S 28/20 & DG-S US 38/30	40071362451
	for DualGuard-S LAD 100	40071362454
	for DualGuard-S 20C6	40071362455
	for DualGuard-S 12C6	40071362452
	for DualGuard-S 12C	40071362453
	for DualGuard-S 12C4	40071362450
Optional IP 31 kit	for DualGuard-S 4C3	40071362298
	for DualGuard-S 12C	40071362293
	for DualGuard-S 12C4	40071362290
	for DualGuard-S 12C6	40071362292
	for DualGuard-S 20C6	40071362297
	for DualGuard-S 28/20 & DG-S US 38/30	40071362291
	for DualGuard-S LAD 100	40071362296
	for DualGuard-S battery cabinets	40071362294
Left-hand hinge position	for DualGuard-S 4C3	40071362307
	for DualGuard-S 12C	40071362303
	for DualGuard-S 12C4	40071362300
	for DualGuard-S 12C6	40071362302
	for DualGuard-S 20C6	40071362306
	for DualGuard-S 28/20/LAD 100 & DG-S US 38/30	40071362301

Roof plate with foam rubber flange plates 40071362445 f0r DualGuard-S 20C6



Roof plate with rubber clamp profile 40071362455 für DualGuard-S 20C6



DualGuard-S compact cabinets

Model	DualGuard-S 28	DualGuard-S 20	DualGuard-S LAD 100
Control section: ACU DG-S & HMI	1	1	1
PSU	1	1	1
BCM.1	1	1	1
SKU.1 CG-S circuit module	0-28 *2	0-20 *2	0-3
CM.1 1.7A charging module	0-1	0-1	0-1
CM.1 3.4A charging module	0-6 *1	0-6 *1	0-8
Cabinet design, electric:			
Rated voltage	400/230V	400/230V	400/230V
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz
Cable placement and grounding system in mains mode / battery mode	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT
Max. ambient temperature *4	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C
Protection class	1	1	1
Degree of protection	IP21	IP21	IP21
Max. rated current (mains) [∑ L1, L2, L3] [A]	80	80	100
Max. rated output (mains) [KW]	18.4	18.4	23
Max. rated current (battery) [A]	80	80	100
Max. rated output (battery) [KW]	17.3	17.3	21.6
Three-phase split	yes	yes	yes
Connection diameter for mains and battery feed	50 mm^2	50 mm^2	50 mm^2
Outlet distributor	0- 6 outlets	0- 6 outlets	0- 15 outlets DC and AC 1-phase, 0-5 outputs AC 3-phase
Terminal capacity	16 mm^2	16 mm^2	16 mm^2
Max. connection diameter final circuit	4 mm^2	4 mm^2	4 mm^2
Max. number of final circuit connections	88	88	14
Cabinet design, mechanical:			
Dimensions H x W x D (mm)	2070 x 800 x 405	2070 x 800 x 405	2040 x 800 x 405
Material/design	Sheet steel/free-standing cabinet	Sheet steel/free-standing cabinet	Sheet steel/free-standing cabinet
Hinge position	Right	Right	Right
Outer finish	Powder coating	Powder coating	Powder coating
Color	RAL 7035	RAL 7035	RAL 7035
Color touch in-door	Yes	Yes	Yes
Partial glazed door	–	–	–
Lock mechanism	3 mm double ward key	3 mm double ward key	3 mm double ward key
cable inlets on top	Yes	Yes	Yes
Cable inlets on bottom	Yes	Yes	Yes
Base (optional)	100/200	100/200	100/200
Weight (w/o battery)	approx. 180 kg	approx. 170 kg	approx. 170 kg
Battery capacity, integrated into:			
Battery cabinet (H x W x D: 2050 x 800 x 400 mm)	23.3-245 Ah	23.3-245 Ah	23.3-308 Ah
Compact cabinet	–	–	–
Battery rack	23.3-245 Ah	23.3-245 Ah	23.3-308 Ah

Other battery sizes on request

*1 When equipped with more than 4 charging modules CM 3.4 A, an upgrade to charging module rack 8-way is necessary.

*2 When equipped with more than 13 SKU.1 CG-S 4 x 1.5 A or 26 SKU.1 CG-S 2 x 3 A/1 x 6 A, a second PSU module is necessary.

*3 When equipped with 1 charging module CM 3.4 A, an additional charging module rack 1-way must be configured.

*4 Optimum ambient temperature battery +20 °C.

DualGuard-S 20C6	DualGuard-S 12C6	DualGuard-S 12C	DualGuard-S 12C4	DualGuard-S 4C3
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
0-20 *2	0-12	0-12	0-12	0-5
0-1	0-1	0-1	1	1
0-2	0-2	0-1 *3	–	–
400/230V	230V	230V	230V	230V
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT
-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C
1	1	1	1	1
IP21	IP21	IP21	IP21	IP21
50	50	35	25	12
14.5	14.5	13.8	5.8	3.5
50	50	35	25	12
13.6	13.6	7.6	5.4	2.6
–	–	–	–	–
35 mm^2	35 mm^2	35 mm^2	35mm^2/10mm^2	35mm^2/10mm^2
2 outlets	1 outlet	1 outlet	1 outlet	–
35 mm^2	35 mm^2	35 mm^2	16 mm^2	–
4 mm^2	4 mm^2	4 mm^2	4 mm^2	4 mm^2
68	48	48	48	20
2070 x 800 x 605	2040 x 800 x 605	2040 x 800 x 405	1800 x 600 x 405	1000 x 600 x 305
Compact cabinet	Compact cabinet	Compact cabinet	Compact cabinet	Compact cabinet
Right	Right	Right	Right	Right
Powder coating	Powder coating	Powder coating	Powder coating	Powder coating
RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
–	–	–	–	–
Yes	Yes	Yes	Yes	Yes
3mm double ward key	3mm double ward key	3mm double ward key	3mm double ward key	3mm double ward key
Yes	Yes	Yes	Yes	Yes
No	No	No	No	No
100/200	100/200	100/200	100/200	–
approx. 220 kg	approx. 206 kg	approx. 155 kg	approx. 115 kg	approx. 50 kg
–	–	–	–	–
5.5-89.4 Ah	5.5-89.4 Ah	5.5-53.7 Ah	5.5-23.3 Ah	5.5-18 Ah
–	–	–	–	–

DualGuard-S US sub-stations

Model	DualGuard-S US 38	DualGuard-S US 30	DualGuard-S US 23	DualGuard-S US 15	DualGuard-S US 7
Modules:					
Control section: ACU DG-S & HMI	1	1	1	1	1
PSU	1	1	1	1	1
SKU.1 CG-S circuit module	0-38 *2	0-30 *2	0–23 *1	0-15	0-7
Cabinet design, electric:					
Rated voltage	400/230V	400/230V	230V	230V	230V
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Cable placement and grounding system in mains/battery mode	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT
Max. ambient temperature range	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C
Protection class	1	1	1	1	1
Degree of protection	IP21	IP21	IP54	IP54	IP54
Max. rated current (mains) [∑ L1, L2, L3] [A]	80	80	50	50	25
Max. rated output (mains) [KW]	18.4	18.4	11.5	11.5	6.9
Max. rated current (battery) [A]	80	80	50	50	25
Max. rated output (battery) [KW]	17.3	17.3	10.8	10.8	6.5
Three-phase split	Yes	Yes	No	No	No
Connection diameter for mains and battery feed	35 mm^2	35 mm^2	35 mm^2	35 mm^2	10 mm^2
Terminal capacity	–	–	–	–	–
Max. connection diameter of final circuit	4 mm^2	4 mm^2	4 mm^2	4 mm^2	4 mm^2
Max. number of final circuit connections	88	88	52	32	28
Cabinet design, mechanical:					
Dimensions H x W x D (mm)	2070 x 800 x 405	2070 x 800 x 405	1200 x 600 x 305	800 x 600 x 305	750 x 400 x 305
Material/design	Sheet steel/ free-standing cabinet	Sheet steel/ free-standing cabinet	Sheet steel/wall cabinet	Sheet steel/wall cabinet	Sheet steel/wall cabinet
Hinge position	Right	Right	Right	Right	Right
Outer finish	Powder coating	Powder coating	Powder coating	Powder coating	Powder coating
Color	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Partial glazed door	Yes	Yes	No	No	No
Lock mechanism	3 mm double ward key	3 mm double ward key	3 mm double ward key	3 mm double ward key	3 mm double ward key
Cable inlets on top	Yes	Yes	Yes	Yes	Yes
Cable inlets on bottom	Yes	Yes	No	No	No
Base (optional)	100/200	100/200	-	–	–
Weight (w/o battery)	approx. 170 kg	approx. 165 kg	approx. 110 kg	approx. 75 kg	approx. 42 kg

*1 A maximum of 12 SKU.1 CG-S 4 x 1.5 A may be installed.

DualGuard-S SOU sub-stations

Model	SOU2	SOU1
SKU.1 CG-S *1 circuit module	including 2 x SOU CG-S 2 x 4A	including 1 x SOU CG-S 2 x 4A
Cabinet design, electric:		
Rated voltage	230V	230V
Rated frequency	50/60 Hz	50/60 Hz
Cable placement and grounding system in mains/ battery mode	TN-C-S/IT	TN-C-S/IT
Max. ambient temperature range	-5°C to +35°C	-5°C to +35°C
Protection class	2	2
Degree of protection	IP65	IP65
Max. rated current (mains) [∑ L1, L2, L3] [A]	16	8
Max. rated output (mains) [KW]	3.6	1.8
Max. rated current (battery) [A]	16	8
Max. rated output (battery) [KW]	3.4	1.7
Three-phase split	No	No
Connection diameter for mains and battery feed	10 mm^2	10 mm^2
Max. connection diameter of final circuit	4 mm^2	4 mm^2
Max. number of final circuit connections	4	2
Cabinet design, mechanical:		
Dimensions H x W x D (mm)	583 x 295 x 129	458 x 295 x 129
Material/design	Plastic small distribution board	Plastic small distribution board
Hinge position	Right	Right
Color	RAL 7035	RAL 7035
Partial glazed door	Yes	Yes
Lock mechanism	On request	On request
Cable inlets on top	Yes	Yes
Weight (w/o battery)	approx. 8.8 kg	approx. 7.5 kg

DualGuard-S ESF sub-stations

Model	DualGuard-S ESF30 15P	DualGuard-S ESF30 30P
Modules:		
Control section: ACU DG-S & HMI	1	1
PSU	1	1
SKU.1 CG-S 1 x 6A circuit module	0-15	0-30
SKU.1 CG-S 2 x 3A circuit module	0-15	0-30
SKU.1 CG-S 4 x 1.5A circuit module	0-15	0-30
DLS/TLS interface module	1	2
Cabinet design, electric:		
Rated voltage	230V	400/230V
Rated frequency	50/60 Hz	50/60 Hz
Ventilation, decibel level (dB)	55	55
Cable placement and grounding system in mains/battery mode	TN-C-S/IT	TN-C-S/IT
Max. ambient temperature range	-5°C to +35°C	-5°C to +30°C
Protection class	I	I
Degree of protection	IP42	IP42
Max. total rated current [A] relative to ambient temperature +25°C +30°C +35°C	 33 33 33	 48 48 48
Max. total rated output [A] relative to ambient temperature +25°C +30°C +35°C	 7 7 7	 10.3 10.3 10.3
Three-phase split	No	Yes
Connection diameter for mains and battery feed	35 mm²	35 mm²
Max. connection diameter of final circuit	4 mm²	4 mm²
Max. number of final circuit connections	40	58
Cabinet design, mechanical:		
Dimensions H x W x D (mm)	1265 x 898 x 449	2278x918x604
Material/design	Coated gypsum fiber-board/wall cabinet	Coated gypsum fiber-board/free-standing cabinet
Hinge position	Right	Right
Color	RAL 7035	RAL 7035
Cable entry	From above	From above
Base (optional)	–	– only with base
Weight	210 kg	approx. 330 kg
Licenses/certifications		
ABZ housing including components Z-86.3 ... ABZ empty housing Z-86.1 ... Summary report for functional integrity fire test MPA NRW VDE certificate Specialized company declaration	Yes Yes Yes – Yes	Yes Yes Yes – Yes

DualGuard-S ESF sub-stations SOU

Model	ESF30 SOU5	ESF30 SOU4 IO	ESF30 SOU3	ESF30 SOU2	ESF30 SOU1
Modules:					
SOU CG-S 2 x 4 A circuit switching module	5	4	3	2	1
3-PM-IO / 3-PM-IO-INV Modules	–	0-2	–	–	–
Cabinet design, electric:					
Rated voltage	230V	230V	230V	230V	230V
Rated frequency	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
Ventilation, decibel level (dB)	–	–	–	–	–
Cable placement and grounding system in mains/battery mode	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT	TN-C-S/IT
Max. ambient temperature range	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C	-5°C to +35°C
Protection class	II	II	II	II	II
Degree of protection	IP54	IP54	IP54	IP54	IP54
Maximum installed heat dissipation performance [W]					
Max. total rated current [A] relative to ambient temperature +25°C +30°C +35°C	 33 28 16	 33 28 16	 20 17 10	 15 12 9	 8 6 5
Max. total rated power [W] relative to ambient temperature +25°C +30°C +35°C	 7.1 6.0 3.4	 7.1 6.0 3.4	 4.3 3.6 2.1	 3.2 2.5 1.9	 1.7 1.2 1.0
Three-phase split	No	No	No	No	No
Connection diameter for mains and battery feed	10 mm²	10 mm²	10 mm²	10 mm²	10 mm²
Max. connection diameter final circuit	4 mm²	4 mm²	4 mm²	4 mm²	4 mm²
Max. number of final circuit connections	10	8	6	4	2
Cabinet design, mechanical:					
Dimensions H x W x D (mm)	1228 x 478 x 295	1228 x 478 x 295	928 x 478 x 295	778 x 478 x 295	628 x 478 x 295
Material/design	Fire protection panels	Fire protection panels	Fire protection panels	Fire protection panels	Fire protection panels
Hinge position	Left	Left	Left	Left	Left
Color	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Cable entry	From above	From above	From above	From above	From above
Weight (w/o battery)	approx. 103 kg	approx. 103 kg	approx. 80 kg	approx. 69 kg	approx. 60 kg
Licenses/certifications					
ABZ housing including components Z-86.2 ... ABZ empty housing Z-86.1 ... Summary report for functional integrity fire test MPA STGT VDE certificate CE declaration of conformity	Will be required Yes Yes - Yes	Will be required Yes Yes - Yes	Will be required Yes Yes - Yes	Will be required Yes Yes - Yes	Will be required Yes Yes - Yes

Determination of battery capacity

DualGuard-S – central battery system

Table 1

Determining the required battery capacity from maintenance-free AGiV block batteries as per EN 50171 (larger battery capacities on request).

C10 battery capacity at 1.8V/cell and +20°C	Ah	5.5	8.5	18.0	23.3	32.0	39.8	50.4	53.7	66.2	85.7	89.4	106.0 1 x 39.8 1 x 66.2	118.0	143.1 1 x 89.4 1 x 53.7	155.6 1 x 89.4 1 x 66.2	178.8 2 x 89.4	195.4 1 x 89.4 1 x 66.2 1 x 39.8	245.0 2 x 89.4 1 x 66.2	268.2 3 x 89.4	308.0 3 x 89.4 1 x 39.8	357.6 4 x 89.4
Max. discharge current [A] at rated operating period [h], 1.8V per cell and +20°C ambient temperature	**1.0**	3.2	4.5	9.2	15.4	20.2	24.1	30.7	37.9	49.2	52.6	63.8	73.3	85.1	101.7	113.0	127.6	137.1	176.8	191.4	215.5	255.2
	1.5	2.5	3.4	6.5	11.9	15.0	19.0	22.7	27.6	34.5	38.3	46.1	53.5	60.0	73.7	80.6	92.2	99.6	126.7	138.3	157.3	194.7
	2.0	2.1	2.9	5.3	9.2	12.3	14.6	18.5	21.5	26.3	31.0	36.0	40.9	46.9	57.5	62.3	72.0	76.9	98.3	108.0	122.6	144.0
	3.0	1.5	2.1	4.1	6.9	9.1	11.0	13.6	15.8	18.2	23.1	26.5	29.2	33.3	42.3	44.7	53.0	55.7	71.2	79.5	90.5	106.0
	8.0	0.7	1.0	1.7	2.8	3.7	4.8	5.9	6.6	7.9	10.3	11.0	12.7	14.2	17.6	18.9	22.0	23.7	29.9	33.0	37.8	44.0

Special note: The aging allowance of 25% for the batteries is not included in the discharge current figures.

Table 2

Number of 1.7A and 3.4A charging modules given a recharging time as per DIN EN 50171 of:

C10 battery capacity at 1.8 V/cell and +20°C	h	A	5.5	8.5	18.0	23.3	32.0	39.8	50.4	53.7	66.2	85.7	89.4	106.0	118.0	143.1	155.6	178.8	195.4	245.0	268.2	308.0	357.6
12 hours/80%	**1.0**	1.7	1	1	1	1	1	0	0	0	1	1	1	0	0	1	0	0	1	1	1	1	0
		3.4	0	0	0	0	0	1	1	1	1	1	1	2	2	2	3	3	3	4	4	5	6
	1.5	1.7	1	1	1	1	0	0	0	0	1	1	0	0	1	0	0	1	1	1	0	0	1
		3.4	0	0	0	0	1	1	1	1	1	1	2	2	2	3	3	3	3	4	5	6	6
	2.0	1.7	1	1	1	1	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0
		3.4	0	0	0	0	1	1	1	1	1	1	2	2	2	3	3	3	4	5	5	6	7
	3.0	1.7	1	1	1	1	0	0	0	1	1	1	0	1	1	0	1	0	0	0	0	1	1
		3.4	0	0	0	0	1	1	1	1	1	1	2	2	2	3	3	4	4	5	6	6	7
	8.0	1.7	1	1	1	0	0	0	1	1	1	0	0	1	0	1	0	1	1	0	1	1	1
		3.4	0	0	0	1	1	1	1	1	1	2	2	2	3	3	4	4	4	6	6	7	8

Table 3

Number of battery cabinets; battery weight

C10 battery capacity at 1.8 V/cell and +20°C	5.5	8.5	18.0	23.3	32.0	39.8	50.4	53.7	66.2	85.7	89.4	106.0	118.0	143.1	155.6	178.8	195.4	245.0	268.2	308.0	357.6
Number of battery cabinets (weight/cabinet approx. 150 kg)	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	4	4
Total weight per battery set approx. kg	45	65	97	180	243	252	351	405	499	527	594	612	900	1000	1093	1296	1354	1687	1782	1782	2376

Table 4

Determination of air supply and ventilation in electrical operating rooms according to DIN EN IEC 62485-2 (calculated for boost charge):

216V battery	5.5	8.5	18.0	23.3	32.0	39.8	50.4	53.7	66.2	85.7	89.4	106.0	118.0	143.1	155.6	178.8	195.4	245.0	268.2	308.0	357.6
Air volume flow required to ventilate the installation space [m^3/h]	0.24	0.37	0.78	1.01	1.38	1.72	2.18	2.32	2.86	3.70	3.86	4.58	5.10	6.18	6.72	7.72	8.44	10.58	11.59	13.31	15.45
Ventilation cross-section of the inlet and outlet openings of the installation space [cm^2]	6.65	10.28	21.77	28.18	38.71	48.14	60.96	64.96	80.08	103.66	108.14	128.22	142.73	173.09	188.21	216.28	236.36	296.35	324.41	372.56	432.55

Table 5

Determination of air supply and ventilation in electrical operating rooms according to DIN EN IEC 62485-2 (calculated for trickle charge*):

216V battery	5.5	8.5	18.0	23.3	32.0	39.8	50.4	53.7	66.2	85.7	89.4	106.0	118.0	143.1	155.6	178.8	195.4	245.0	268.2	308.0	357.6
Air volume flow required to ventilate the installation space [m^3/h]	0.03	0.05	0.10	0.13	0.17	0.21	0.27	0.29	0.36	0.46	0.48	0.57	0.64	0.77	0.84	0.97	1.06	1.32	1.45	1.66	1.93
Ventilation cross-section of the inlet and outlet openings of the installation space [cm^2]	0.83	1.29	2.72	3.52	4.84	6.02	7.62	8.12	10.01	12.96	13.52	16.03	17.84	21.64	23.53	27.03	29.54	37.04	40.55	46.57	54.07

* If a boost charge is not frequently used (for example, once a month), the air flow rate for ventilation can be calculated based on the trickle charge current.

DualGuard-S with Adaptive evacuation

DualGuard-S – central battery system



System-related measures to guarantee self-rescue in the event of evacuation take top priority in changing risk situations. In combination with GuideLed DXC emergency signs, the AE-CU technology makes it possible to respond in a proactive manner to changing hazard situations such as fire, attacks, or natural disasters. The shortest route out of a building is not always the safest route.

During a hazardous situation, the AE-CU system reliably controls up to 240 adaptive emergency signs via an open circuit and short circuit-tolerant loop bus.

This approach allows every adaptive emergency sign to be associated with hazard scenarios in a freely programmable manner via the AE-CU.

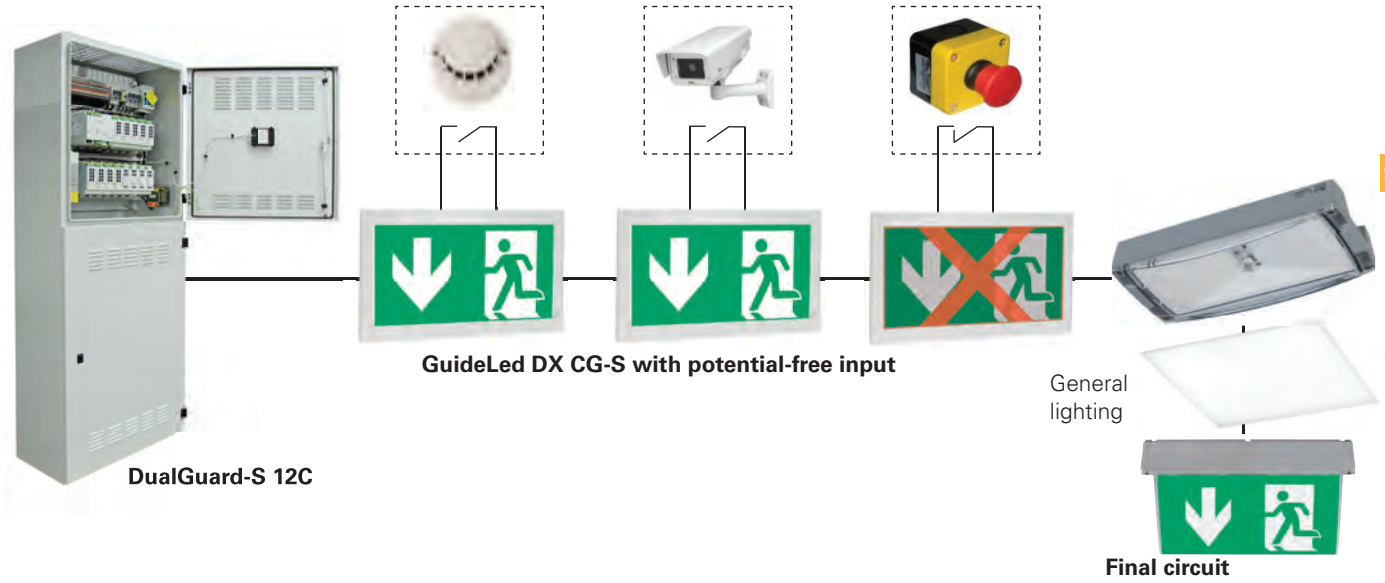
The control section, which has a non-volatile program memory and a large touch display, automatically monitors and controls all components of the AE-CU system as well as the function of the connected adaptive luminaires. Any faults that occur are shown on the display, reported via signaling contacts, and stored in an inspection log.

An integrated search function automatically detects all GuideLed DXC emergency signs connected during the installation. It is possible to connect a central visualization system via an interface.

The solution for simple structured applications

Control of GuideLed DX luminaires via potential-free contacts:

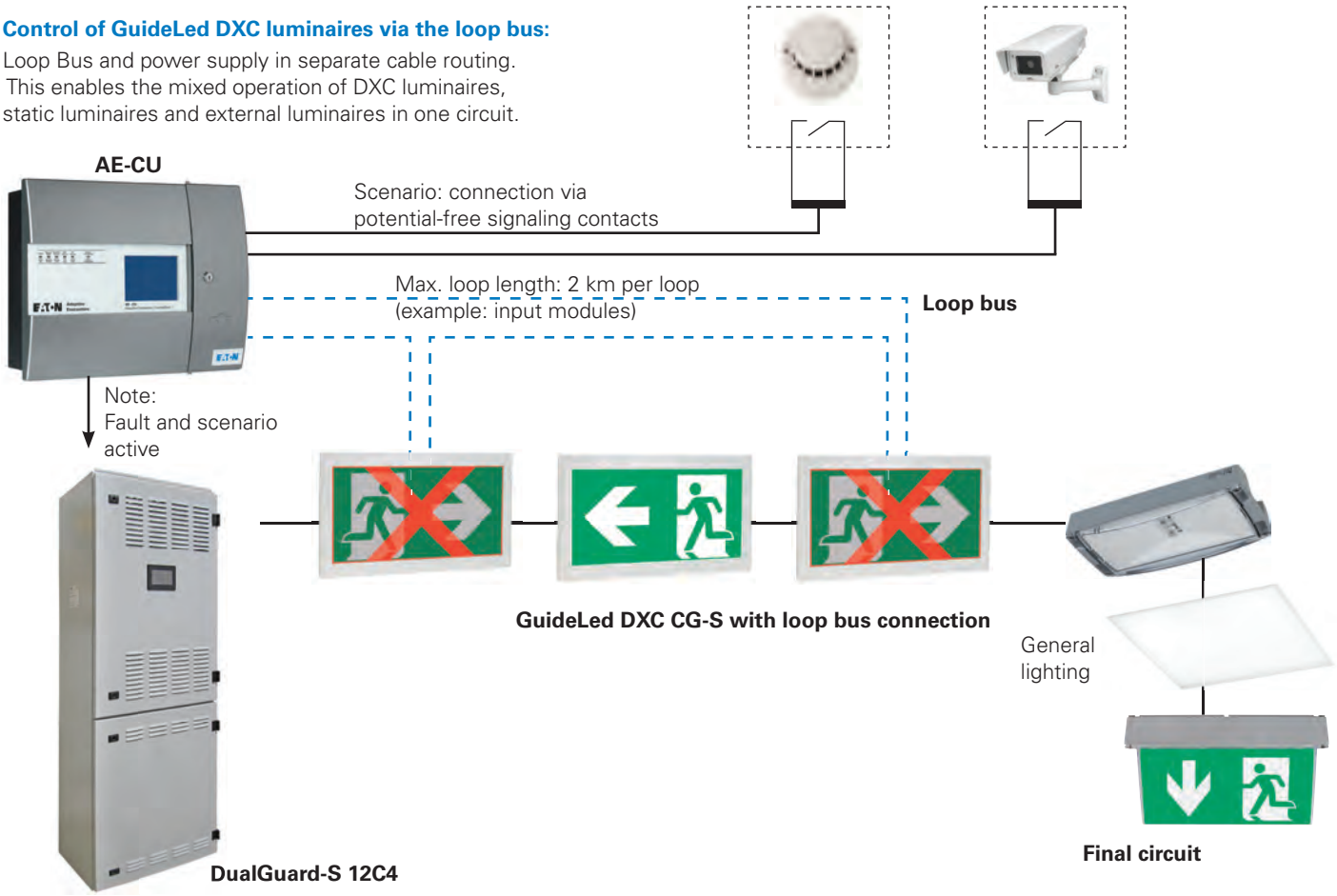
Potential-free contacts of fire detectors, video surveillance systems or key switches to indicate areas as "locked, blocked, or unsafe." Examples include areas to which access is prohibited for a certain period of time due to construction activities or to block elevator access in the event of a fire (special pictogram). Only one control line leads to the emergency sign.



The solution for simple structured and complex applications

Control of GuideLed DXC luminaires via the loop bus:

Loop Bus and power supply in separate cable routing. This enables the mixed operation of DXC luminaires, static luminaires and external luminaires in one circuit.




Das videobrain
Premium Abonnement
Jetzt auf deiner Unit



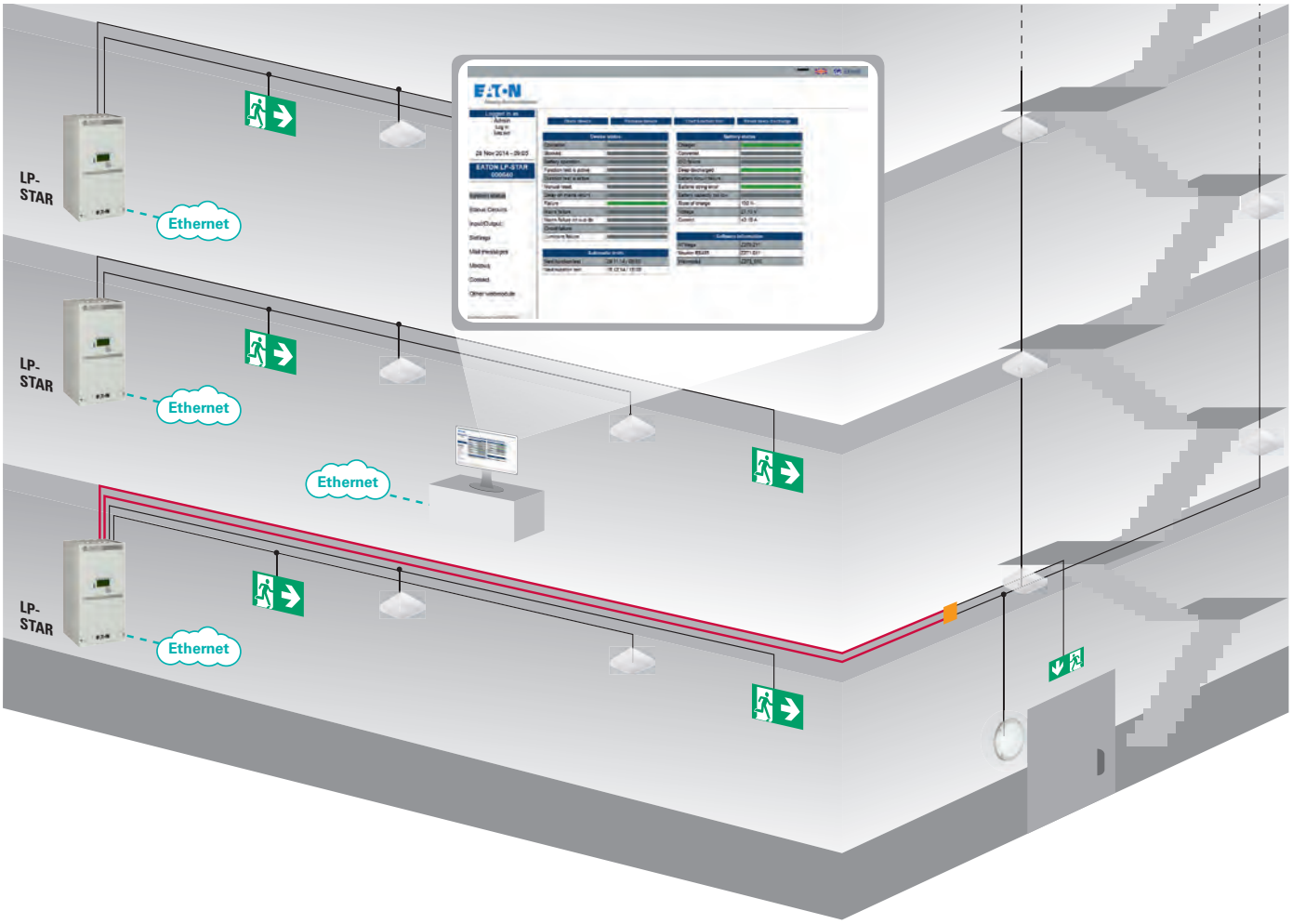
Central battery systems AC/DC

LP-STAR

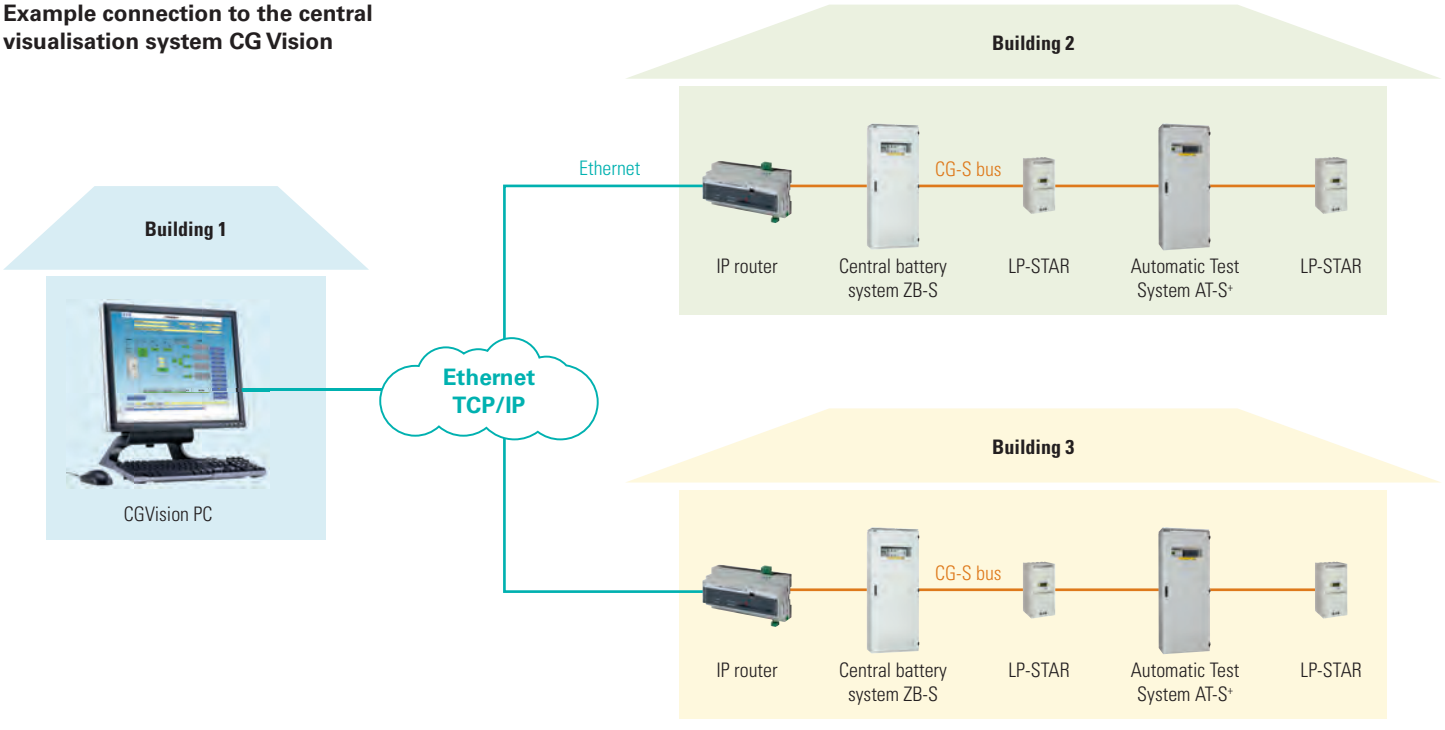
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LP-STAR emergency lighting power supply in a compact design

Installation example



Example connection to the central visualisation system CG Vision



Simple installation and reliable power supply



LP-STAR is especially recommended in case of the separate supply of emergency lighting systems of individual fire areas to save on installation costs incurred by installing E30 cabling to cover different fire areas.

The LP-STAR System supplies reliable power to the escape luminaires and exit sign luminaires (230V AC/220 V DC) according to EN 50171. It is suitable for emergency lighting systems according to DIN VDE 0100-560, EN 50172 and V DIN V VDE 0108-100.

The system performs an automatic self-check and monitors all CG-S luminaires connected (up to 20 luminaires per circuit) simply through a feed line. The circuit type of each connected CG-S luminaire can be programmed freely in the 50 Hz or 60 Hz supply network with the control module based on the STAR technology. This means that the same power circuit is used for mixed operation including maintained light, switched maintained light and non-maintained light, all this without an additional data cable!

The control module includes a non-volatile program memory as well as a big graphical display that monitors and controls the LP-STAR device and checks all functions of the connected emergency luminaires according to EN 62034. It reports the operating states of the entire system. The integrated search function detects all luminaires addressed during installation automatically. A central monitoring system can be connected using the optional bus interface.

The main scope for the protection of electrical rooms is the protection of the environment against the hazards involved with technical devices, transformer stations and switching stations of over 1 kV. At the same time, for example in case of fire, the operation of safety-relevant systems, central battery systems and fixed power generators must be maintained for a specific period of time.

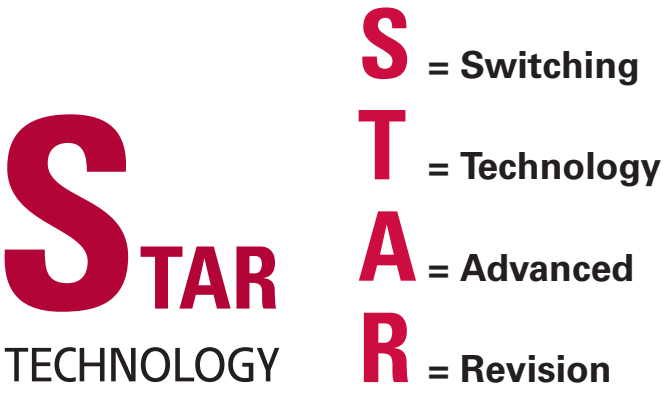
The LP-STAR System was designed to meet the requirements concerning batteries and these have been verified according to EN 60950 and EN 50272-2.

Features

- No special requirements concerning the housing on functionality in case of installation in separate fire areas
- Cost savings as E30 wiring is not required because devices are installed in separate fire areas
- Natural ventilation is generally sufficient due to the closed form and low capacity of batteries
- Additional safety even in case of fire due to the decentralised arrangement of systems
- Simple operation and commissioning based on a smart programming and operating plan
- 230V AC / 220V DC supply voltage selectable to power the escape luminaires and exit sign luminaires to comply with architectural issues
- Standard integrated phase monitor for monitoring general power supply conditions
- Additional phase monitor input including line monitoring for an external phase monitor
- Standard eight digital 230 V input channels for switching each luminaire separately, for example, freely programmable
- Optional webmodule for the automatic monitoring of LP-STAR according to EN 62034
- Optional CG-S interface for connecting to the CG-S bus for CGVision or master/slave operation for connecting several LP-STAR devices
- Shorter inspection time using the CEWA GUARD technology, automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to the STAR technology, freely programmable mixed operation of switching modes per luminaire in a single circuit without an additional data cable
- Automatic luminaire search function
- Plain text display at the control module for all luminaires
- Flexible data memory for the test log and device configuration using the Secure Digital card
- Absence of retroactive effect of different circuits in case of a short-circuit due to the automatic, selective shut-off function
- EoL shut-off, programmable as standard

LP-STAR emergency lighting power supply in a compact design

What is STAR?



9

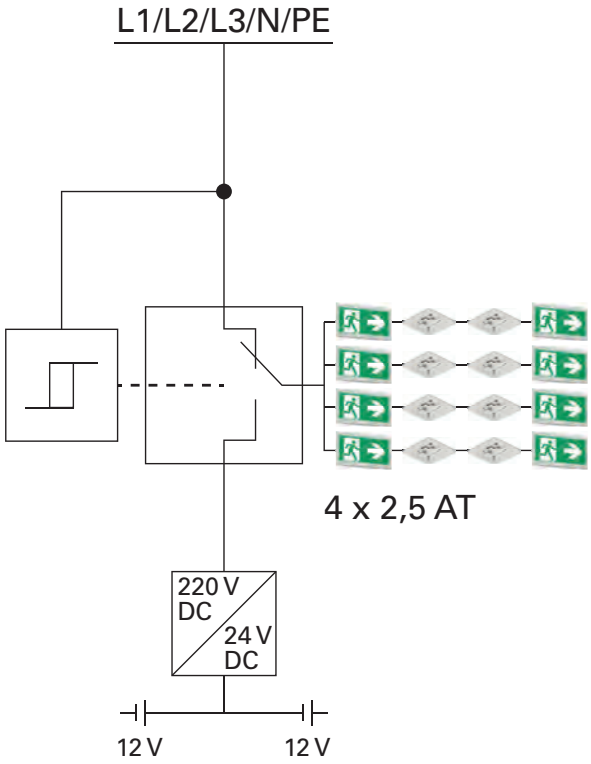
Switch to safety!

The continuing development of the CEWA GUARD monitoring system has led to the creation of the

Switching
Technology
Advanced
Revision,

or **STAR** for short. This **CG-STAR**-technology allows different switching modes to be implemented in the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology not only offers the proven CEWA Guard safety when it comes to operating a safety lighting system, but also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.



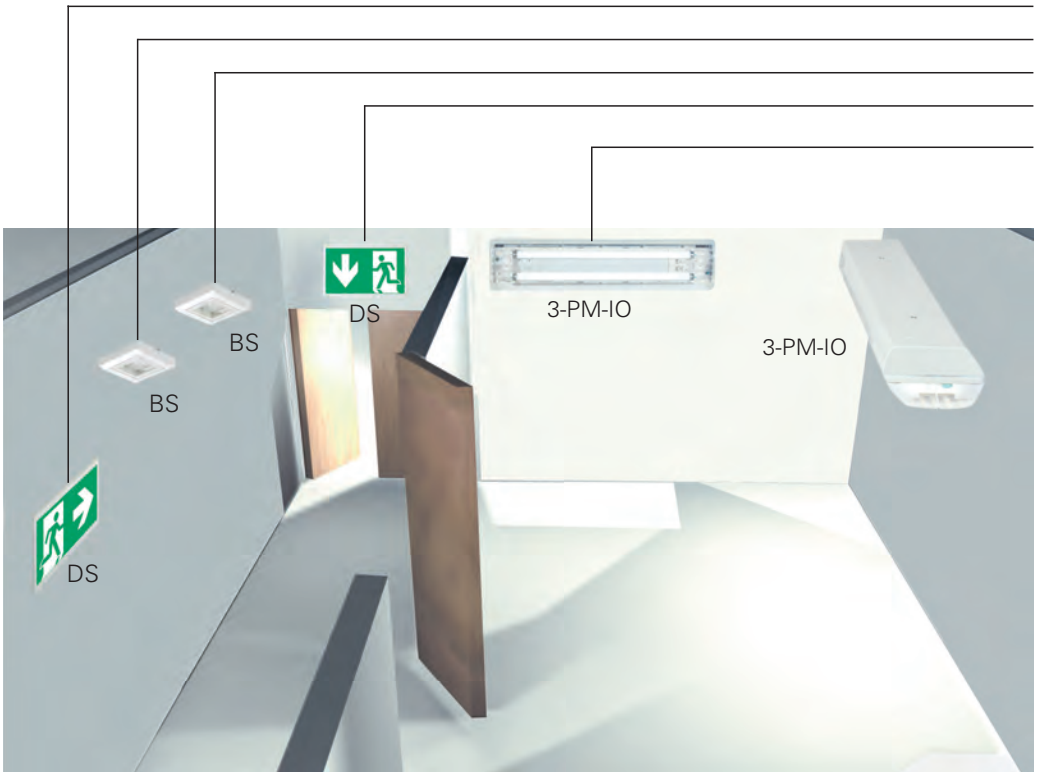
Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.

This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – **without encroachment in the lighting installation.** This enables simple project planning without having to take all possible types of operation into account.

As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.

STAR TECHNOLOGY



Conventional Installation:

Maintained light 1 (DS)

Non-maintained light 1 (BS)

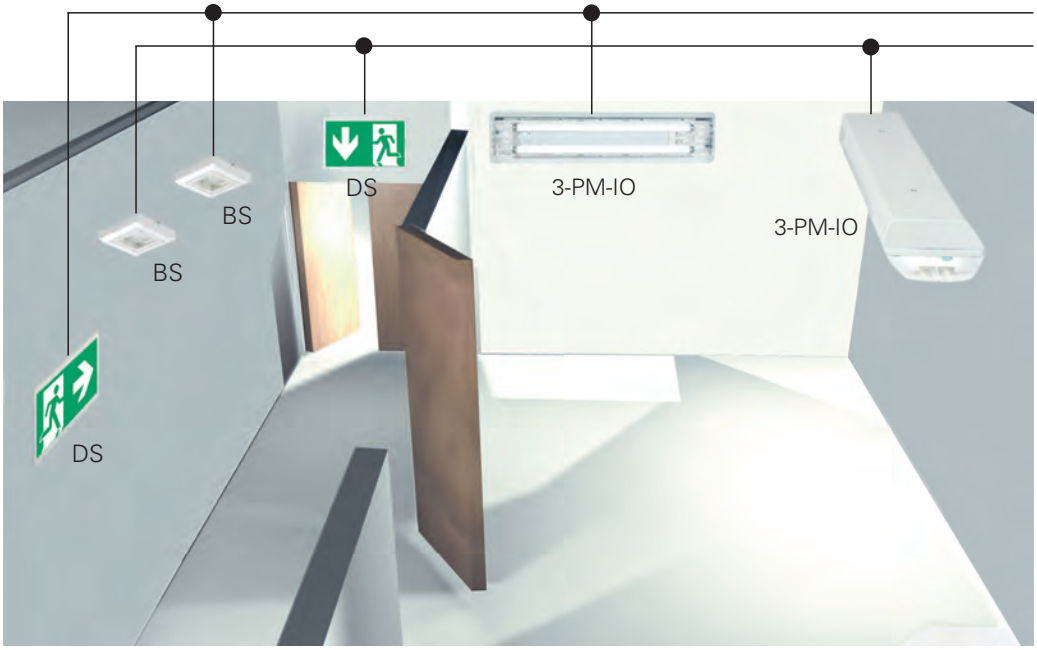
Non-maintained light 2 (BS)

Maintained light 2 (DS)

Switched maintained light 1 (3-PM-IO)

Switched maintained light (3-PM-IO)

- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense



ZB-S Installation with STAR-Technology:

All types of switching modes

All types of switching modes

- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems

LP-STAR emergency lighting power supply in a compact design

Construction

Overview of connections



1 Grid connection terminal

3-phase feed-in incl. phase monitoring function

2 Connection for end circuits

Double assignment, 2.5 mm² solid/flexible

3 Connection for disable switch

Control loop for disabling the system during operating downtimes with differential loop monitoring for short circuit and wire breakage detection. Differential monitoring: Short circuit or interruption lead to the system going into standby.

4 24 V connection for external phase monitors

24 V power loop for the emergency luminaires with differential loop monitoring for short circuit and wire breakage detection. Differential monitoring: Short circuit or interruption lead to the system switching on (maintained light) immediately.

5 Connection for potential-free indicator contacts and buzzer

4 relays with a separate root, each 1x changeover contact, 24 V 0.5 A.

The four potential-free contacts and the buzzer can be assigned freely to one or several of 12 different messages. The DIN VDE specification can be loaded any time and used as a default setting.

6 Connection for digital inputs

8 freely assignable inputs 230V, programmable as inverted and non-inverted for example start/stop function test, start/stop duration test, block/release device, manual reset, turn on/off maintained light, turn on emergency lighting as corridor lighting, for light switch query and switching emergency lighting depending on the general lighting conditions (DLS function).

7 Optional interface (factory-installed)

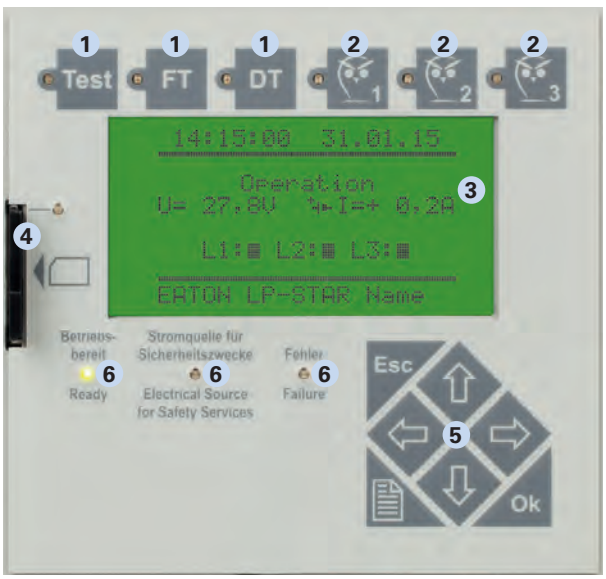
The interface for connecting to a CGVision can be installed on site, see page 13.

8 Webmodule connection

9 Battery connection, wires 1-4

Maximum 4 sets per 2 battery blocks, 12 V.

Freely programmable control module



1 Separate buttons for:

- Test (emergency luminaire function)
- Function test
- Duration test

2 Three freely assignable function keys

3 128 x 64 pixel graphical display

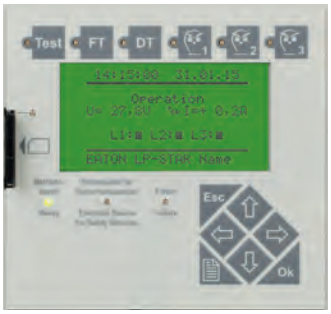
Back-lit, adjustable contrast and brightness

4 Log book and device configuration

Save the log book and device configuration comfortably on the memory card. Easily programmable on the PC using an SD card reader and the CEAG software.

5 Seven control buttons for a user-friendly navigation

6 Function display using LEDs



Control module

A freely programmable control module with a non-volatile program memory and 4-lines, alphanumeric, graphic display monitors and controls the LP-STAR system. All functions such as loading, mains/emergency switch-over and deep discharge protection of devices and the connected emergency luminaires are automatically inspected. The errors are reported immediately. A central monitoring system can be connected using the interface. In case of a short circuit or interruption of control current loops, differential monitoring leads to the system immediately switching on (maintained light) or to the system being put in standby.

- Non-volatile program memory
- Automatic luminaire search function
- Single luminaire monitoring
- Manual reset
- Password function
- Fuse monitoring of the end circuits
- Control module with master/slave function

Display includes:

- Date/time
- Charge fault
- Deep discharge protection
- Battery voltage/charge current (+)
- Battery discharge current in test or failure (-)
- Manual reset
- Test mode
- Delay-time on mains return (remaining time in minutes)
- Luminaire failure with location label
- Insulation fault
- Power failure UV-AV (target location information)
- Failure/programming information



Sealed keypad with 3 buttons for:

- Test (mains failure- battery operation)
- Start/stop function test
- Start/stop duration test



3 freely assignable function keys for:

- Block/release device
- Manual reset
- Stop function test
- Display error list
- Turn on/off maintained light
- Turn on complete emergency lighting (continuity lighting)
- Power failure simulation UV-A (emergency operation)
- Confirm deep discharge protection



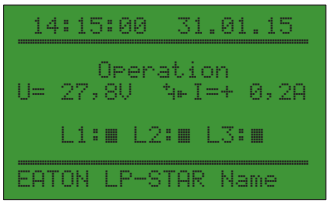
7 control keys

for a user-friendly navigation



LED indicators for:

- Ready
- Operation through the electrical source for safety services
- Failure



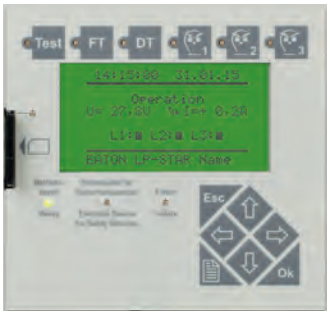
Graphic display:

128 x 64 pixels, back-lit, program adjustable contrast and brightness.

LP-STAR emergency lighting power supply in a compact design

Components and options

Control module



Graphical display	128 x 64 pixel adjustable contrast
Illumination	Adjustable background luminosity
Keypad	Sealed, with 6 function and 7 control keys
Readout	Battery voltage Battery charge current (+) Battery discharge current in test or by failure (–) Charge Fault Luminaire failure with location label Deep discharge protection Manual reset Delay-time on mains return Fault UV-AV (location label) Test mode Date/time Insulation fault with circuit label Failure information Programming information
Status	• Ready • Electrical source for safety services • Failure

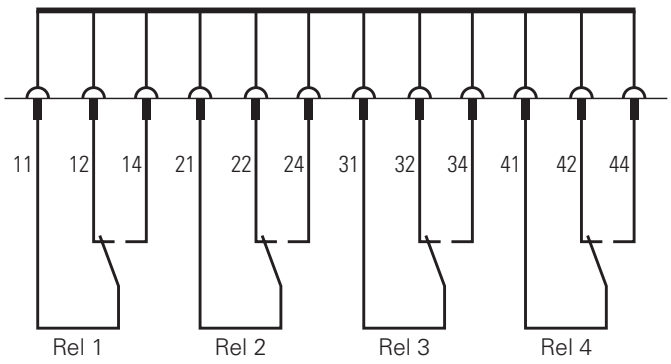
Potential-free signal contacts, buzzer

4 relays with a common potential, 1x switching contact each, 24 V 0.5 A.

The three potential-free contacts and the buzzer can be assigned freely to one or several of 12 different messages. The DIN VDE specification can be loaded any time and used as a default setting.

Default settings LP-STAR

Name	Relay 1	Relay 2	Relay 3	Relay 4	Buzzer
Mains operation		X			
Mains failure	X		X		
UV mains failure	X				
Charge fault	X				
Circuit fault	X				
Luminaire fault	X				
Common system fault	X				
Total discharge protection	X				
ISO fault	X				
Function test		X			
Duration test		X			
Device fault					



Note:

NO = Normal Open (normally open)
NC = Normal Closed (normally closed)

The device is fitted with 4 potential-free signal contacts (relay outputs) and an integrated buzzer.

Signal contacts freely programmable including: 1 x changeover contact 1 x 24 V; 0.5 A capacity

SD card



SD card reader



Secure Digital card

Flexible memory for device and inspection log book configuration, for example for archiving the device configuration and the prescribed inspection log book information over a minimum of 4 years.

The device can be programmed using any PC with the optional SD card reader and the CEAG software. The text messages can be introduced also using the control module.

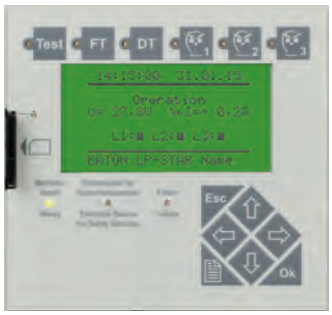
Storing of:

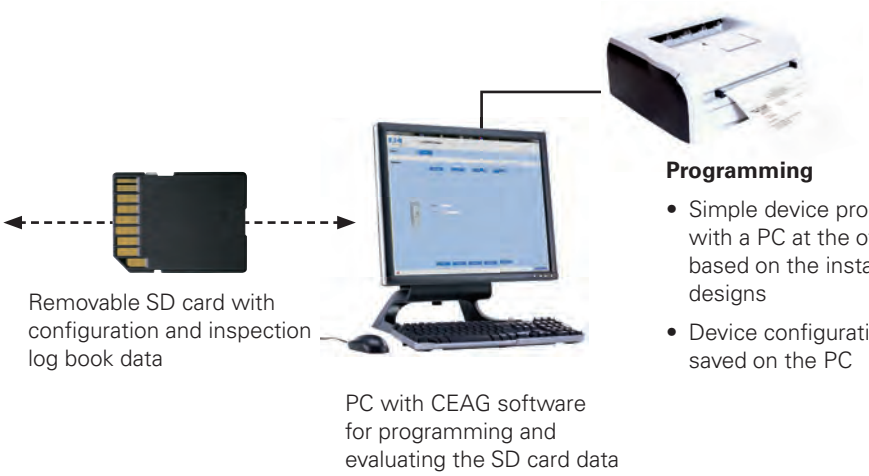
- 360.000 log book entries
- Luminaire target location texts (20 characters per luminaire)
- Circuit names (20 characters per circuit)
- LP-STAR name (20 characters)

Ordering details Replacement SD-Card

Type	Model	Order No.
SD card	SD card formatted for LP-STAR	40071347911
SD card reader	SD card reader for USB port	40064070561

SD card (Secure Digital Card)





Removable SD card with configuration and inspection log book data

PC with CEAG software for programming and evaluating the SD card data

Programming

- Simple device programming with a PC at the office based on the installation designs
- Device configuration can be saved on the PC

LP-STAR emergency lighting power supply in a compact design

Technical Data

LP-STAR 4-24



LP-STAR 4-48



LP-STAR

Input	
Rated voltage AC	1 ~ 220-240 V
Rated frequency	50/60 Hz
Max. rated current AC	5.5 A
Rated voltage DC	19.2- 28.8 V
Battery	VRLA, 2x6 cells in series, 20 °C

Output	
Rated voltage AC	220-240 V AC / 220 V DC konstant
Total current	4.7 A AC / 2.45 A DC
Total power	1080 VA / 540 W
Circuit power	345 VA / 330 W
Rated breaking capacity	1500 A @ 300 V DC
Max. rated current 24 V auxiliary voltage	6 W

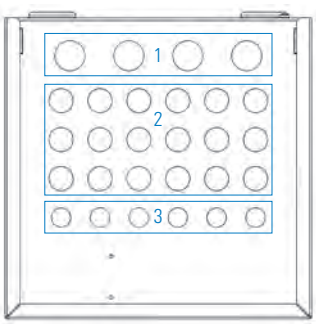
	LP-STAR 4-12	LP-STAR 4-24	LP-STAR-4-36	LP-STAR-4-48
Circuits	4	4	4	4
Max. battery size (C10; 1.8 V/Z, +20 °C)	2 x 12 V / 11 Ah	4 x 12 V / 11 Ah	6 x 12 V / 11 Ah	8 x 12 V / 11 Ah
Dimensions (W x H x D)	260 x 550 x 260 mm		260 x 730 x 260 mm	
Max. ambient temperature	For storage: -20 °C to + 40 °C, For operation*: -5 °C to + 35 °C			
Sound pressure level at mains operation / emergency mode (converter operation)	0 dB / 50 dB			
Housing colour	RAL 7035			
Degree of protection / insulation class	IP20 / I			
Weight (approx.) without battery	17 kg		21 kg	

* Maximum Design Lifetime at +20 °C: 10 years

Battery

Rated capacity AhK10, 1.8 V/Z, +20 °C	Dimensions of one battery L x W x H (mm)	Number of batteries U_B = 12 V pieces	Total weight of all batteries (kg)
10 Y: 11 Ah	151 x 98 x 101	max. 8 pieces	4 pieces: 15.25 8 pieces: 30.50

Pre-cut cable entries LP-STAR (11)



1 = 4 x M25

2 = 18 x M20

3 = 6 x M16

LP-STAR 4-24 (1) (2)



LP-STAR 4-48 (3) (4)



Optional Webmodule LP-STAR, for expansion (6)



LP-STAR

Ordering details

	Type	Model	Order No.	Selection
1	LP-STAR 4-12	LP-STAR-4-12, incl. control module, 1 charging unit, 4 circuits and battery packs 2 x 12 V / 12 Ah	40071362120	☐
2	LP-STAR 4-24	LP-STAR-4-24, incl. control module, 1 charging unit, 4 circuits and battery packs 4 x 12 V / 24 Ah	40071362240	☐
3	LP-STAR 4-36	LP-STAR-4-36, incl. control module, 1 charging unit, 4 circuits and battery packs 6 x 12 V / 36 Ah	40071362360	☐
4	LP-STAR 4-48	LP-STAR-4-48, incl. control module, 1 charging unit, 4 circuits and battery packs 8 x 12 V / 48 Ah	40071362480	☐

Construction group ordering details

	Type	Model	Order No.	Selection
5	Webmodule LP-STAR	Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, factory fitted	40071361450	☐
6	Webmodule LP-STAR	Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, for expansion	40071361449	☐
7	CG-S Bus Interface* **Attention:** Installation must factory-provided happened	Inerface* for connection on CGVision or for MasterSlave operation (Connection of more LP-STAR over the CG-S Bus)	40071071178	☐

* **Attention:** The installation of the CG-S Bus Interface must factory-provided happened. A expansion of the module locally is only possibe with exchange of the full CSU module. MasterSlave and CGVision operation isn´t possible.

Battery ordering details

	Type	Model	Order No.	Selection
8	12 V/12 Ah spare part	Battery block, period of use: 10 years Connector: Faston 4,3 mm	40066071147	☐
	12V / 11Ah	Battery block, period of use: 10 years Connector: Faston 6,3mm	40066071591	☐

Period of use specified for a max. battery temperature of +20 °C

Fuse ordering details

	Type	Model	Order No.	Selection
9	Final circuit fuses	2.5 AT / 250 V (packaging unit 10 pieces)	40071361235	☐
10	Mains feed-in circuits	6.3 AT / 250 V (packaging unit 10 pieces)	40071361234	☐

Accessories ordering details

	Type	Model	Order No.	Selection
11	Clamping gland set, 28 pieces	4 x M25, 18 x M20, 6 x M16	40071361159	☐

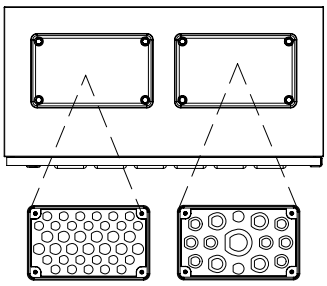
LP-STAR emergency lighting power supply in a compact design

Technical Data

LP-STAR 4-24 / IP 54



Pre-cut cable entries LP-STAR



24 x M16
13 x M20

1 x M50/32
4 x M32/20
8 x M25/16
2 x M20

LP-STAR IP54

Input	
Rated voltage AC	1 ~ 220-240 V
Rated frequency	50/60 Hz
Max. rated current AC	5,5 A
Rated voltage DC	19.2- 28.8 V
Battery	VRLA, 2 x 6 cells in series, 20 °C

Output	
Rated voltage AC AC	220-240 V AC / 220 V DC konstant
Total current	4.7 A AC / 2.45 A DC
Total power	1080 VA / 540 W
Circuit power	345 VA / 330 W
Rated breaking capacity	1500 A @ 300 V DC
Max. rated current 24 V auxiliary voltage	6 W

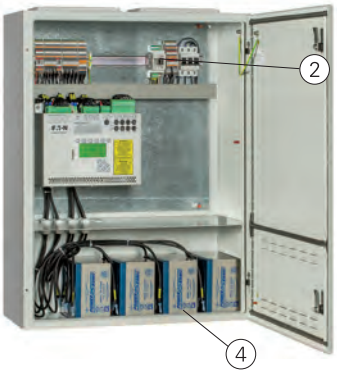
	LP-STAR 4-12 / IP54	LP-STAR 4-24 / IP54	LP-STAR-4-36 / IP54	LP-STAR-4-48 / IP54
Circuits	4	4	4	4
max. battery size (C10; 1,8 V/Z, +20 °C)	2 x 12 V / 11 Ah	4 x 12 V / 11 Ah	6 x 12 V / 11 Ah	8 x 12 V / 11 Ah
Dimensions (W x H x D)	815 x 600 x 300 mm			
Max. ambient temperature	For storage: -20 °C to + 40 °C, For operation*: -5 °C to + 35 °C			
Sound pressure level at mains operation / emergency mode (converter operation)	0 dB / 30 dB			
Housing colour	RAL 7035			
Degree of protection electronic area	IP54			
Degree of protection battery box	IP21			
Degree of protection / insulation class	I			
Weight (approx.) without battery	17,5 kg			

* Maximum Design Life Time at +20 °C: 10 years

Battery

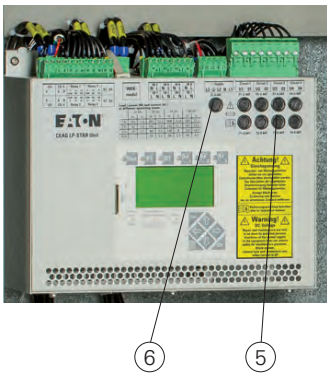
Rated capacity AhK10, 1.8 V/Z, +20 °C	Dimensions of one battery L x W x H (mm)	Number of batteries U_B = 12 V	Total weight of all batteries (kg)
10 J: 11 Ah	151 x 98 x 101	max. 8 pieces	4 pieces: 15,25 8 pieces: 30,50

LP-STAR 4-48/IP54 (1)



Optional Webmodule LP-STAR, for expansion (3)





LP-STAR IP54

Ordering details

	Type	Model	Order No.	Selection
1	LP-STAR 4-12/IP54	LP-STAR-4-12/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 2 x 12 V / 12 Ah	40071362124	☐
1	LP-STAR 4-24/IP54	LP-STAR-4-24/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 4 x 12 V / 24 Ah	40071362244	☐
1	LP-STAR 4-36/IP54	LP-STAR-4-36/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 6 x 12 V / 36 Ah	40071362364	☐
1	LP-STAR 4-48/IP54	LP-STAR-4-48/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 8 x 12 V / 48 Ah	40071362484	☐

Construction group ordering details

	Type	Model	Order No.	Selection
2	Webmodule LP-STAR	Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, factory fitted	40071361450	☐
3	Webmodule LP-STAR	Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, for expansion	40071361383	☐

Battery ordering details

	Type	Model	Order No.	Selection
4	12 V/11 Ah	Battery block, period of use: 10 years Connector: Faston 4,3 mm	40066071147	☐
	12V / 11Ah	Battery block, period of use: 10 years Connector: Faston 6,3mm	40066071591	☐

Period of use specified for max. battery temperatur of +20 °C

Fuse ordering details

	Type	Model	Order No.	Selection
5	Final circuit fuses	2.5 AT / 250 V (packaging unit 10 pieces)	40071361235	☐
6	Mains feed-in circuits	6.3 AT / 250 V (packaging unit 10 pieces)	40071361234	☐

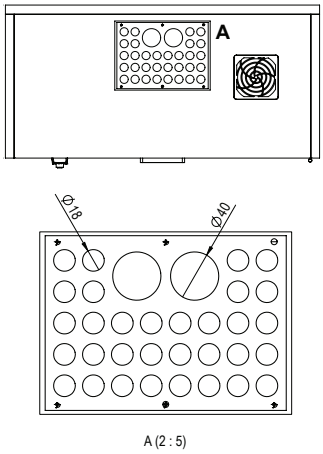
LP-STAR emergency lighting power supply in a compact design

Technical Data

LP-STAR 4-24 / ESF30



Pre-cut cable entries LP-STAR



A (2 : 5)

Number of cable entries:

2 x 40 mm

32 x 18 mm

LP-STAR ESF30

Input	
Rated voltage AC	1 ~ 220-240 V
Rated frequency	50/60 Hz
Max. rated current AC	5,5 A
Rated voltage DC	19.2- 28.8 V
Battery	VRLA, 2 x 6 cells in series, 20 °C

Output	
Rated voltage AC AC	220-240 V AC / 220 V DC konstant
Total current	4.7 A AC / 2.45 A DC
Total power	1080 VA / 540 W
Circuit power	345 VA / 330 W
Rated breaking capacity	1500 A @ 300 V DC
Max. rated current 24 V auxiliary voltage	6 W

	LP-STAR 4-12 / ESF30	LP-STAR 4-24 / ESF30	LP-STAR 4-36 / ESF30	LP-STAR 4-48 / ESF30
Circuits	4	4	4	4
max. battery size (C10; 1,8 V/Z, +20 °C)	2 x 12 V / 11 Ah	4 x 12 V / 11 Ah	6 x 11 V / 11 Ah	8 x 12 V / 11 Ah
Dimensions (W x H x D)	1238 x 688 x 335 mm			
Max. ambient temperature	For storage: -20 °C to + 40 °C, For operation*: -5 °C to + 35 °C			
Sound pressure level at mains operation / emergency mode (converter operation)	0 dB / 30 dB			
Housing colour	Light grey			
Degree of protection	IP54			
Degree of protection / insulation calss	I			
Weight (approx.) without battery	170 kg			

* Maximum Design Life Time at +20 °C: 10 years

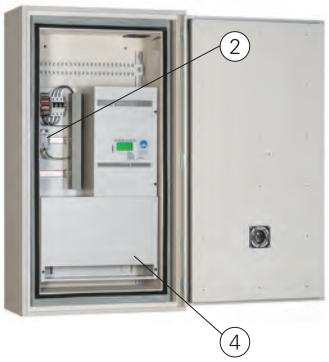
Battery

Rated capacity AhK10, 1.8 V/Z, +20 °C	Dimensions of one battery L x W x H (mm)	Number of batteries U_B = 12 V	Total weight of all batteries (kg)
10 J: 11 Ah	151 x 98 x 101	max. 8 pieces	4 pieces: 15,25 8 pieces: 30,50



DIBt approval Z-86.2-93 as electrical distribution board (variable equipment) for safety lighting systems with function maintenance of at least 30 minutes in case of fire.

LP-STAR 4-48/ESF30 (1)



Optional Webmodule LP-STAR, for expansion (2)





LP-STAR ESF30

Ordering details

	Type	Model	Order No.	Selection
1	LP-STAR 4-12/ESF30	LP-STAR-4-12/ESF30, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 2 x 12 V / 12 Ah	40071362128	☐
1	LP-STAR 4-24/ESF30	LP-STAR-4-24/ESF30, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 4 x 12 V / 24 Ah	40071362248	☐
1	LP-STAR 4-36/ESF30	LP-STAR-4-36/ESF30, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 6 x 12 V / 36 Ah	40071362368	☐
1	LP-STAR 4-48/ESF30	LP-STAR-4-48/ESF30, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 8 x 12 V / 48 Ah	40071362488	☐

9

Construction group ordering details

	Type	Model	Order No.	Selection
2	Webmodule LP-STAR	Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, **factory fitted or for expansion**	40071361383	☐

Battery ordering details

	Type	Model	Order No.	Selection
4	12 V/12 Ah	Battery block, period of use: 10 years Connector: Faston 4,3 mm	40066071147	☐
	12V / 11Ah	Battery block, period of use: 10 years Connector: Faston 6,3mm	40066071591	☐

Period of use specified for max. battery temperatur of +20 °C

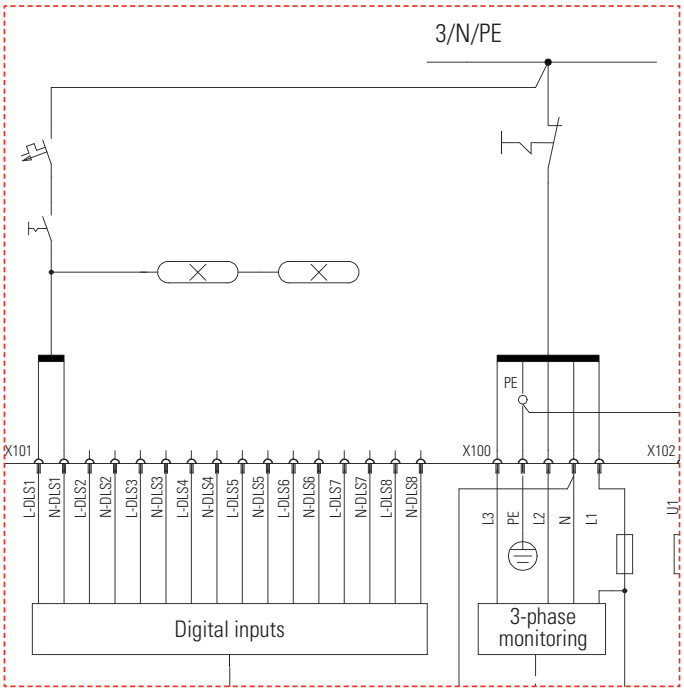
Fuse ordering details

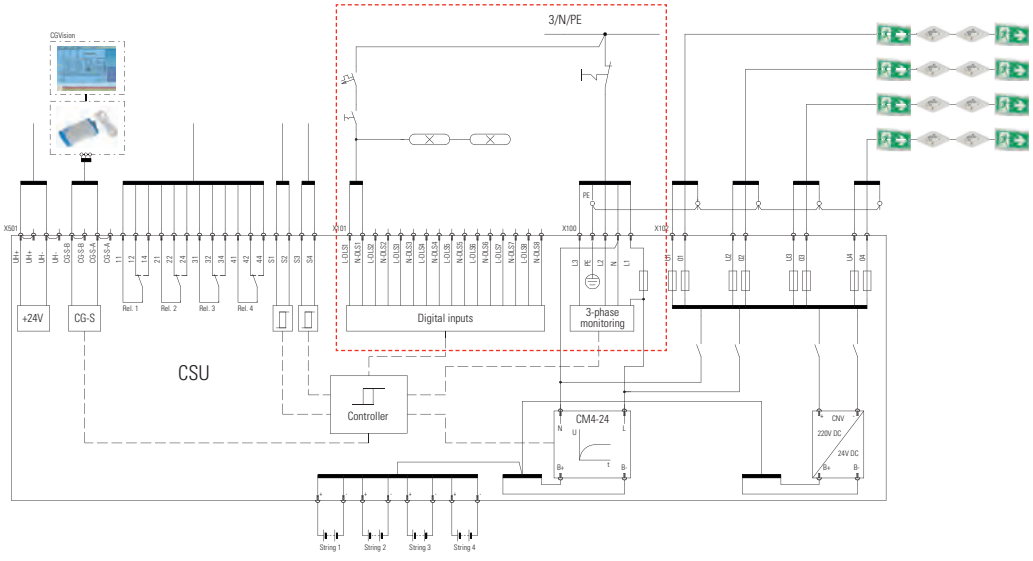
	Type	Model	Order No.	Selection
5	Final circuit fuses	2.5 AT / 250 V (packaging unit 10 pieces)	40071361235	☐
6	Mains feed-in circuits	6.3 AT / 250 V (packaging unit 10 pieces)	40071361234	☐

Digital inputs, for example light switch query

The standard 8 digital inputs (two for each circuit) can be used to query the switch for the combined switching of emergency and general lighting.

Schematic diagram





CEAG 3-PM Voltage monitoring module



CEAG 3-PM Voltage monitoring module

To avoid risks from mains failures, it is necessary to permanently monitor the function of the mains lighting light distributors in order to switch on the safety lighting in the event of a fault. Thus the CEAG 3-PM modules are an important part of the safety system.

If one phase fails, the CEAG 3-PM module switches a relay contact and interrupts the 24 V current loop to the emergency lighting units. All emergency luminaires in stand-by circuit are switched to continuous light. A second relay contact is used to signal the power failure.

- No E30 wiring due to short circuit and interruption tolerant 24V current loop technology.
- Test button for mains/emergency light failure thus no interruption of the mains voltage necessary and thus no failures of the operational processes.

Dimensions mm (H x W x D)	85 x 52.5 x 65, 3 subunits
Enclosure	Plastic, light grey
Connection terminals	2.5 mm^2 rigid and flexible
Type of mounting	DIN mounting rail
Contact	0.5 A/24 V AC/DC, 1 x open contact, 1 x changeover contact
Trigger threshold	U< 85 % U_N

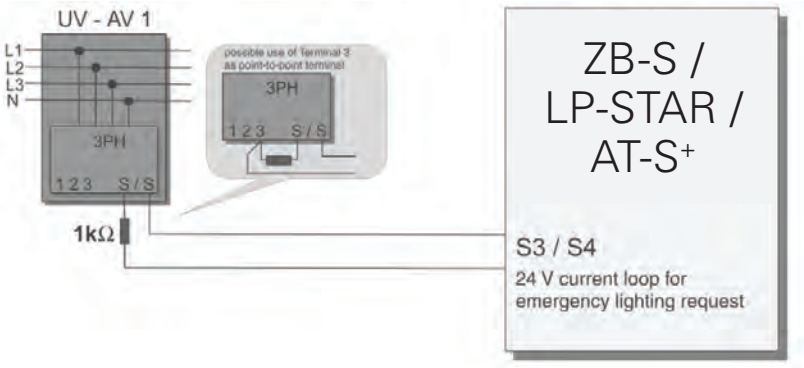
9

Ordering details

Type	Scope of supply	Order No.
CEAG 3-PM Modul with Test-Taster	Module ready for mounting	40071361660

Current loop

24 V current loop for emergency lighting request using differential loop monitoring for short-circuit and open circuit detection.



Differential monitoring:	A short or open circuit causes the system to energise immediately (maintained light).
Phase monitor switch closed (1 kΩ):	Normal system mode

LP-STAR emergency lighting power supply in a compact design

Components and options

RCM-AR flush-mounted



RCM-AS surface-mounted



RCM-A remote indication

The RCM-A remote display uses a battery power supply to display the the most important system functions safely. A key-operated switch can be used to block emergency lighting operation during periods of inactivity. The remote indicator thus fulfils the requirement that remote switching is only permissible if actuation by unauthorized persons are not possible. By blocking the emergency operation the battery maintenance charge is not affected. A differential loop monitoring leads to Short-circuit or open-circuit detection to make the system ready for operation. LED indicators: System operational, power source for safety purposes, error.

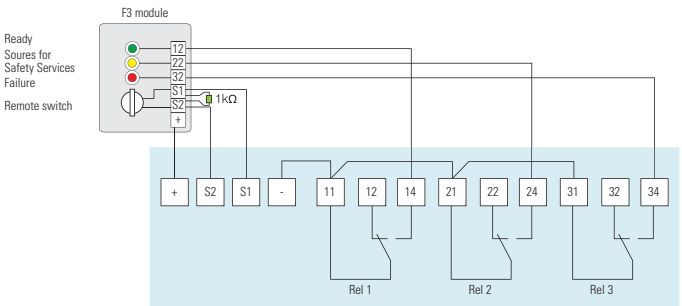
	RCM-AS surface-mounted	RCM-AR flush-mounted
Mechanic		
Dimensions (W x H x D mm)	80 x 80 x 52	80 x 80 12 (without flush-mounted box) Diameter flush-mounted box: 70 mm Deep flush-mounted box: 64 mm
Weight	0.15 kg	0.16 kg
Degree of protection	IP 20	IP 20
Material	Thermoplast	
Resistant up to Flammability	650°C	
Environment		
Ambient temperature	-5°C ... +35°C	
Storage temperature	-20°C ... +65°C	
Relative humidity	10% ... 95% no condensation	
Air pressure	795 ... 1080 hPa	
EMC		
Interference immunity	EN/IEC 61000-6-2	
Interference radiation	EN/IEC 61000-6-3	
Electrical parameters		
Rated voltage	24 V DC (SELV)	
Degree of pollution	2	
Power consumption	< 1 W	
Installation		
Lead	J-Y(ST)Y 4 x 2 x 0.8	
Max. Cable length	2000 m	

Ordering details

Type	Scope of supply	Order No.
RCM-AS remote indication	Subassembly for wall mounting	40071362390
RCM-AR remote indication flush-mounted	Component for installation in switch or cavity wall sockets according to DIN VDE 0606	40071362395

Remote switch

Control loop for blocking LP-STAR during operating downtimes with differential loop monitoring for short circuit and wire breakage detection.

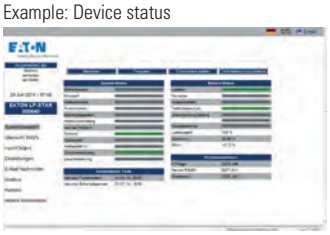


Differential monitoring: Short circuit or interruption lead to unlock LP-STAR
F3 switch closed: Device ready
F3 switch open (1 kΩ): Device blocked

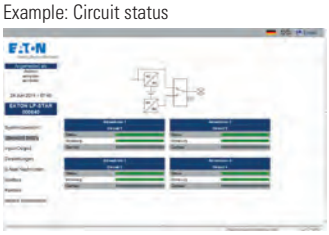
Webmodule LP-STAR



Example: Device status



Example: Circuit status



Webmodule CG-S (LP-STAR)

Webmodule LP-STAR for visualisation and monitoring an LP-STAR device on the local Ethernet (LAN) or Internet (WWW) with a conventional WEB browser. Access to the webmodule via internet (WWW) must be appropriately administered and set up on site by a competent IT department. Integrated mail program for convenient, event-related error notification via email for up to 5 email recipients. 1 web-module is required for each LP-STAR device.

- Simple menu navigation
- Any type of display devices can be used with a WEB browser, for example notebook, tablet PC, IPad or smartphone
- Complete visualisation and monitoring of an LP-STAR device through the local Ethernet (LAN) with a regular WEB browser, no additional software required for all functions
- Retrieving and indicating all current operating states
- Localised fault indicators for every emergency luminaire circuit and luminaires with target location information in plain text connected to a function test
- Continuous up-to-date information on charging unit and battery
- Parallel access from various PC workstations to a webmodule possible (max. 8)
- Integrated email program for each webmodule for convenient error notification via email
- Encrypted, adjustable email dispatch acc. to type of error or function test
- Up to 5 email recipients programmable
- Adjustable update cycle for web browser via the webmodule
- Encrypted transmission
- Authenticated access via administrator account with password protection
- Configurable guest account for restricted access with password protection
- Static or dynamic (DHCP) IP addressing possible
- Supports IPv4/IPv6 (Internet Protocoll version 4/version 6)
- Any number of webmodules operable in parallel
- Overview of all active webmodules on the local Ethernet with status display and hyperlink function
- Independent parallel operation of a CGVision visualisation possible
- Includes 2 Modbus sockets as standard

Device supply voltage	24 V DC
Rated power	< 1.1 W
Connection	RJ45
Degree of protection	IP20
Weight	0.05 kg
Dimensions	90 x 35 x 31
Housing	Polycarbonate

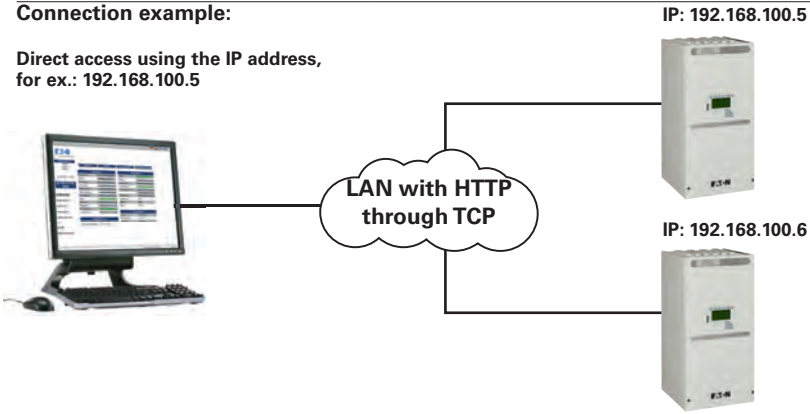
Cyber Security:

see White Paper WP152002EN "Cyber security considerations for electrical distribution systems" www.eaton.com

Ordering details

Type	Scope of supply	Order No.
Webmodule CG-S (LP-STAR intern)	Module for DIN rail mounting, incl. connection without RJ45 patch cable, mounted ex works	40071361450
Webmodule CG-S (LP-STAR)	Module for DIN rail mounting, incl. connection without RJ45 patch cable, for retrofitting	40071361449

Connection example:



CGVision Package III

CGVision Package III (Basic or Pro) includes the CG-S/USB interface (USB box), for connecting the CG-S bus-based emergency luminaire systems like the LP-STAR, ZB-S and AT-S+ to the CGVision visualisation software using a standard bus cable and an optional CG-S Bus Interface.

Up to 480 devices of the LP-STAR, ZB-S or AT-S+ systems can be connected, even in mixed mode. However, systems must be assigned to their own device groups in CGVision.

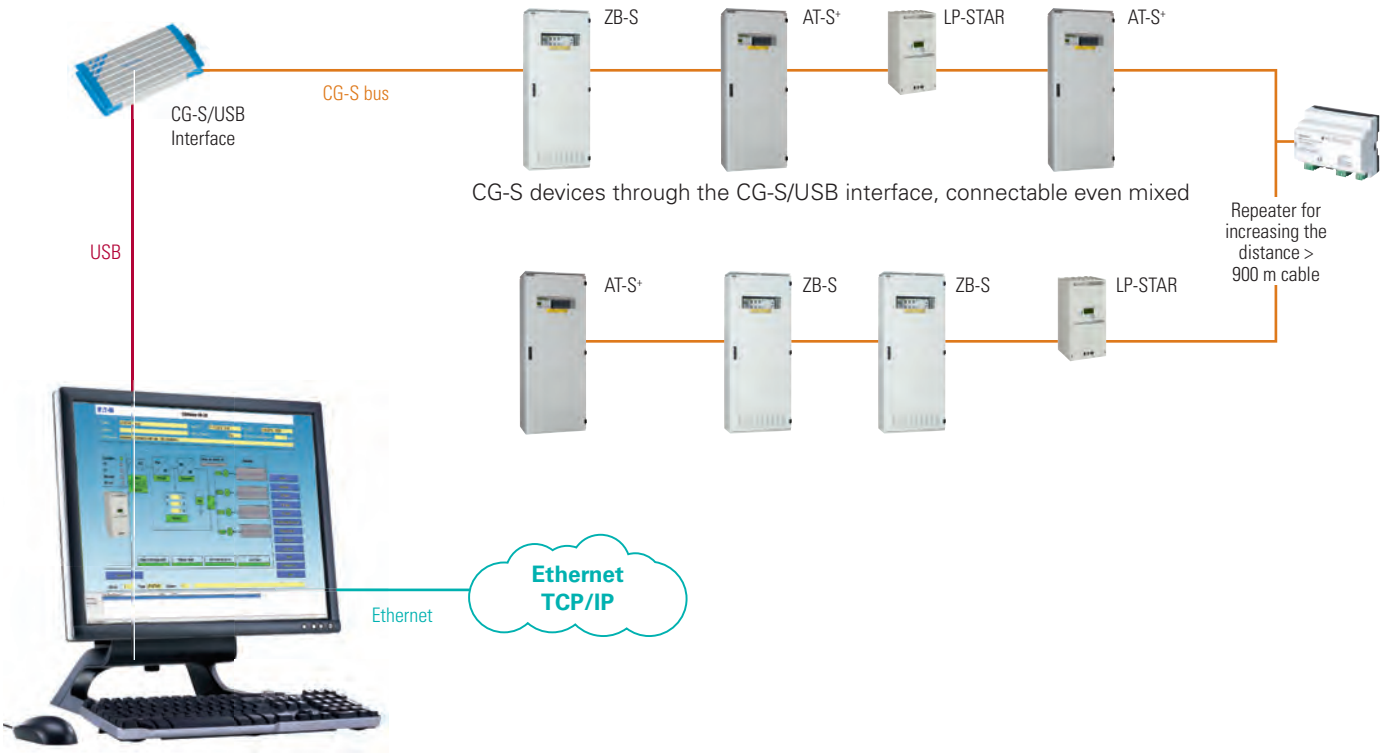
The bus cable can be extended with an optionally available repeater.

The CGVision Package III also includes all dongle licences for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine on CGVision.

CG-S bus

- Max. bus length: 900 m
- The bus length can be extended using a router/repeater
- Double terminated Bus
- No stub lines allowed
- Recommended cable: JY (ST) Y 4 x 2 x 0.8 mm² Ø twisted pair (double twisted pair), shielded
- Termination resistor: 105 Ω on both sides

CGVision Package III application example



CGVision PC
(See ordering details on CGVision product page)

To connect a LP-STAR to a CGVision visualization software, following CG-S Bus Interface for LP-STAR is required:

Ordering details

Type	Scope of supply	Order No.
CG-S Bus Interface	Plug-in card*	40071071178

* **Attention:** The CG-S Bus Interface must be installed by the manufacturer. The module can be installed later on site only with the replacement of the entire CSU module.





PC programming software LP-STAR

Programming software for pre-configured LP-Star memory cards for quick pre-programming on the PC and for easy reading and processing of the inspection log book memory. All data can be saved on the memory card and hard disk for documentation.

Prints for documentation:
Detailed prints of programmed system configuration with the following information:

- Individual device name (20 characters) + 100 characters of additional information
- Date and time of automatic duration test incl. Distance in months
- Date and time of automatic function test incl. Distance in days
- Manual reset: Yes/No
- Delay in mains return: 0-99 min
- LON switch: Yes/No
- Capacity in Ah
- Rated operating time in h
- Operating limit time in %
- Assignments of the 4 relays
- Assignments of the 3 function keys
- Assignments of the 8 optional inputs

Detailed print of the programmed circuits (wiring diagrams) with the following information for each circuit:

- Circuit/ SKU number and type
- Individual circuit name
- Monitoring type for circuit
- Switch type for circuit
- Number of luminaires
- Address and individual name of each luminaire
- Circuit type for each luminaire

Print of inspection log book with following options:

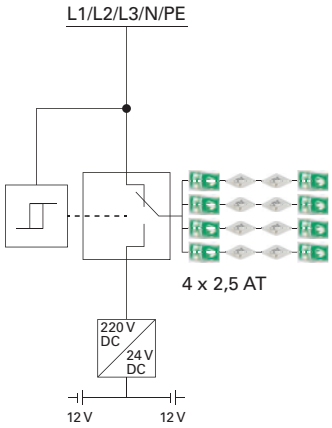
- Fault events (35 various fault events selectable separately or fully)
- Inspection log book period (from – to for date and time)
- Individual comment per print
- For luminaire failure: Information on individual luminaire and circuit names

Ordering details

Type	Scope of supply	Order No.
Software	PC software for LP-STAR for alternative programming of the system configuration on PC	40071347152

LP-STAR emergency lighting power supply in a compact design

Technical Data



Circuit change-over module

The circuit change-over module supplies 230 V AC in mains operation and 220 V DC in emergency lighting operation to the luminaires of the emergency lighting system according to EN 60598-2-22.

The CEWA GUARD monitoring checks the operation of the connected luminaires. Up to 20 luminaires can be connected.

Mechanical structure	Circuit board
Fuse	2,5 AT / 250 V 5 x 20 mm
Max. operating time in battery operation	Maximum 330 W per circuit and total maximum 540 W for all circuits
Max. power in mains operation	Maximum 345 VA per circuit and total maximum 1080 W for all circuits
Max. inrush current transformer output	250 A
Output voltage	220 V constant
For the luminaires	EVG

Luminaire series	Luminaire type	Power consumption battery operation [W]*	Power consumption mains operation [VA]*	Inrush current [A]
GuideLed	10011 ... 10026 CG-S	1.9	4.0	1.5
	10021 ... 10026 CG-S	2.9	5.5	
	11011 ... 11026 CG-S	2.6	5.0	
	11021 ... 11026 CG-S	4.1	7.1	
	10011 ... 10013 CG-S FSL	4.0	7.2	
	13011.1 ... 13022.1	3,9	8,0	
	13051 ... 13052	5,0	8,5	
	13091.1 ... 13092.1	3,9	8,0	
	13032 ... 13042	5,0	8,5	
	13031 ... 13041	5,0	8,5	
CrystalWay	19021	1,6	3,5	
	19022	3,7	6,5	
Style LED	22011 LED CG-S	4.4	7.6	
	22021 LED CG-S	5.8	9.5	
	51011, 51021 LED CG-S	5.8	9.5	
Spirit LED	Spirit LED 16	1.7	3.8	
	Spirit LED 28	3.7	6.6	
Brillant LED	1503 ... 1803 LED CG-S	2.9	5.5	
	1504 ... 1804 LED CG-S	4.1	7.1	
	1903 LED CG-S	3.0	5.5	
Aluminium housing	70011 LED CG-S	2.0	4.36	
	70021 LED CG-S	3.1	5.8	
	71011 LED CG-S	3.1	5.8	
	71021 LED CG-S	5.8	9.5	
Escape luminaires	3503.1 LED CG-S	4.4	7.6	
	3604.1 LED CG-S	5.8	9.5	
Atlantic	Atlantic LED S CG-S	5.0	8.5	
	Atlantic LED D CG-S	5.0	8.5	
	Atlantic LED R/O/Wand CG-S	5.0	8.5	
i-P65+	i-P65+ L CG-S, i-P65+ H CG-S	9,3	15,6	
46011 LED	46011 LED CG-S	10,3	17,1	
	46011 LED HYG CG-S	10,3	17,1	
	46011 LED LT CG-S	10,5	11,0	

* Power consumption of the luminaires during battery or mains operation in case of an ambient temperature of +20 °C.

Connection cable/W for the luminaires with:

International term	Lamp cap	EVG Type EVG ...	Lamp load in [W]	Battery operation P [W] at a luminous flux K_E/K_{Rated} = 75 %	Mains operation S [VA]	Inrush current [A]
T 16	G5	13.3 ...	4	4.4	8	3
		13.3 ...	6	5.5	12	3
		13.3 ...	8	6.6	16	3
		13.3 ...	13	11.0	23	3
TC-SEL	2G7	13.3 ...	5	4.4	10	3
		13.3 ...	7	5.5	13	3
		13.3 ...	9	6.6	16	3
		13.3 ...	11	8.8	18	3
TC-DEL	G24q-1	13.3 ...	10	7.7	16	3
		13.3 ...	13	11.0	23	3
TC-TEL	GX24q-1	13.3 ...	13	11.0	23	3
T 26	G13	18 ...	18	15.4	30	8
TC-F	2G10	18 ...	18	15.4	30	8
TC-L	2G11	18 ...	18	15.4	30	8
TC-DEL	G24q-2	18C ...	18	15.4	30	8
TC-TEL	GX24q-2	18C ...	18	15.4	30	8

Continuous output = start output

N-EVG 54 W V-CG-S



Rated value N-EVG ... V-CG-S in case of mains and battery operation

Term	T5	T5	T5	T5	T5	T5
Lamp cap	G5	G5	G5	G5	G5	G5
Type N-EVG ... V-CG-S	14 / 21 / 28 / 35 W	14 / 21 / 28 / 35 W	14 / 21 / 28 / 35 W	14 / 21 / 28 / 35 W	24/39 W	24/39 W
Lamp load [W]	14	21	28	35	24	39
Battery operation, incl. converter efficiency [W] in switch position (luminous flux K_E/K_{Rated} in %)						
100 %	18	24	33	40	29	42
90 %	15	22	29	35	26	37
80 %	14	20	26	31	22	33
70 %	13	18	24	29	20	29
60 %	11	15	22	24	18	26
50 %	10	14	20	22	15	24
40 %	9	12	18	20	15	22
30 %	8	11	15	18	13	20
Power consumption [VA]	18	25	32	39	28	41
Inrush current [A]	10	10	10	10	10	10
System power lamp + EVG acc. EN 50294 [W]	16	23	30	37	25	41

LP-STAR emergency lighting power supply in a compact design

Technical Data

N-EVG 58 W V-CG-S



Term	T5	T5	T5	T8	T8
Lamp cap	**G5**	**G5**	**G5**	**G13**	**G13**
Type N-EVG ... V-CG-S	**49W**	**54W**	**80W**	**36W**	**58W**
Lamp load [W]	**49**	**54**	**80**	**36**	**58**
Power consumption [A] at 220 V battery operation in switch position (luminous flux K_E/K_{Rated} in %)					
100 %	53	57	84	37	55
90 %	46	51	75	33	48
80 %	42	46	66	31	44
70 %	37	40	59	26	40
60 %	33	35	53	24	35
50 %	31	33	46	22	31
40 %	26	29	42	20	29
30 %	24	26	37	18	24
Power consumption [VA]	55	58	85	37	55
Inrush current [A]	10	10	12	10	10
System power lamp + EVG acc. EN 50294 [W]	52	57	84	34	53

The required battery current is determined based on luminous flux conditions (30% ... 100%).
Dim mode 30% only down to 10°C, 60% only down to 0°C allowed.
When used outdoors, the 100% setting should only be used.

Calculation example

The following luminaires should be connected to one power circuit:

8 pieces of GuideLed 10011 CG-S RZ
4 pieces of V-CG-SLI 350
2 pieces of GuideLed SL 13021.1

There are the following conditions:

Battery operation:			**Mains operation:**
max. cont. output:		330 W	max. 345 VA apparent power max. inrush current 250 A
max. output:			
10011 CG-S: 8 x 1.9 W	=	15.2 W	
V-CG-S-SLI 350: 4 x 10.7W	=	42.8 W	
13021.1 CG-S: 2 x 3.9W	=	7.8 W	
Total	=	65.8 W	**< 330 W --> OK**
max. inrush current:			
10011 CG-S: 8 x 1.5 A	=	12.0 A	
V-CG-SLI 350: 4 x 3 A	=	12.0 A	
13021.1 CG-S: 2 x 1.5 A	=	3.0 A	
Total	=	27.0 A	**< 250 A --> OK**
max. mains power:			
10011 CG-S: 8 x 4 VA	=	32.0 VA	
V-CG-SLI 350: 4 x 11.6 VA	=	46.4 VA	
13021.1 CG-S: 2 x 8 VA	=	16.0 VA	
Total	=	94.4 VA	**< 345 VA --> OK**

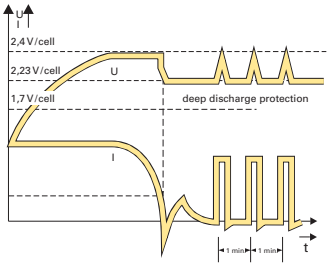
Attention!

The connected load of all circuits in total may not exceed **540 W** and **1080 VA** per LP-STAR device.

When conecting external modules to the 24 V auxiliary supply, consider power consumption with battery sizing.

LP-STAR emergency lighting power supply in a compact design

Components and options

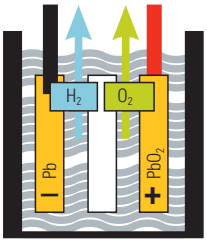


CM 4-24

The completely sealed lead batteries are charged gradually based on an IU0U charging curve in function of temperature. Boost charge is activated in function of the battery charge level to ensure that the batteries are charged without exceeding the gassings voltage.

The charge monitoring procedure verifies the charging process continuously and it reports any faults immediately, including interruption of the battery circuit, faulty charging unit or a high impedance battery cell.

End-of-charge voltage boost charge at +20 °C	28.8 V
End-of-charge voltage trickle charge at +20 °C	27.6 V
Deep discharge protection [1.6 V/Z]	20.4 V
Maximum charging current	4 A
Maximum rated power at boost charge	130 VA
Maximum rated power at trickle charge	10- 120 VA



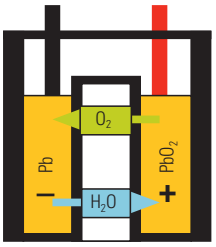
In conventional lead-acid batteries with free electrolyte, water is broken down into oxygen at the positive plate and hydrogen at the negative plate in case of overcharging the battery. To protect the battery from drying, this loss of water must be compensated for at regular intervals.

Max. battery discharge power [W] [1)]

Rated operating time	P-Batt min 12 Ah	P-Batt min 24 Ah	P-Batt min 36 Ah	P-Batt min 48 Ah
1.0 h	133 W (7.6 A)	303 W (15.2 A)	468 W (22.8 A)	540 W (27.1 A)
2.0 h	50 W (3.9 A)	142 W (7.8 A)	232 W (11.7 A)	320 W (15.6 A)
3.0 h	24 W (2.7 A)	86 W (5.3 A)	149 W (8.0 A)	212 W (10.7 A)
8.0 h	-	16 W (2.2 A)	38 W (3.3 A)	66 W (4.4 A)

[1)] Values incl. converter efficiency
[C)] = Discharge current

Important note: The aging provision for batteries (25 %) is included.



The extremely low gas emission absorption cells are designed to ensure that the positive plate is charged completely before the negative plate and consequently the released oxygen diffuses to the negative plate. On the negative plate it reacts with the lead to form lead-oxide which in turn reacts with the sulphuric acid electrolyte and forms lead-sulphate and water to prevent any loss of water.

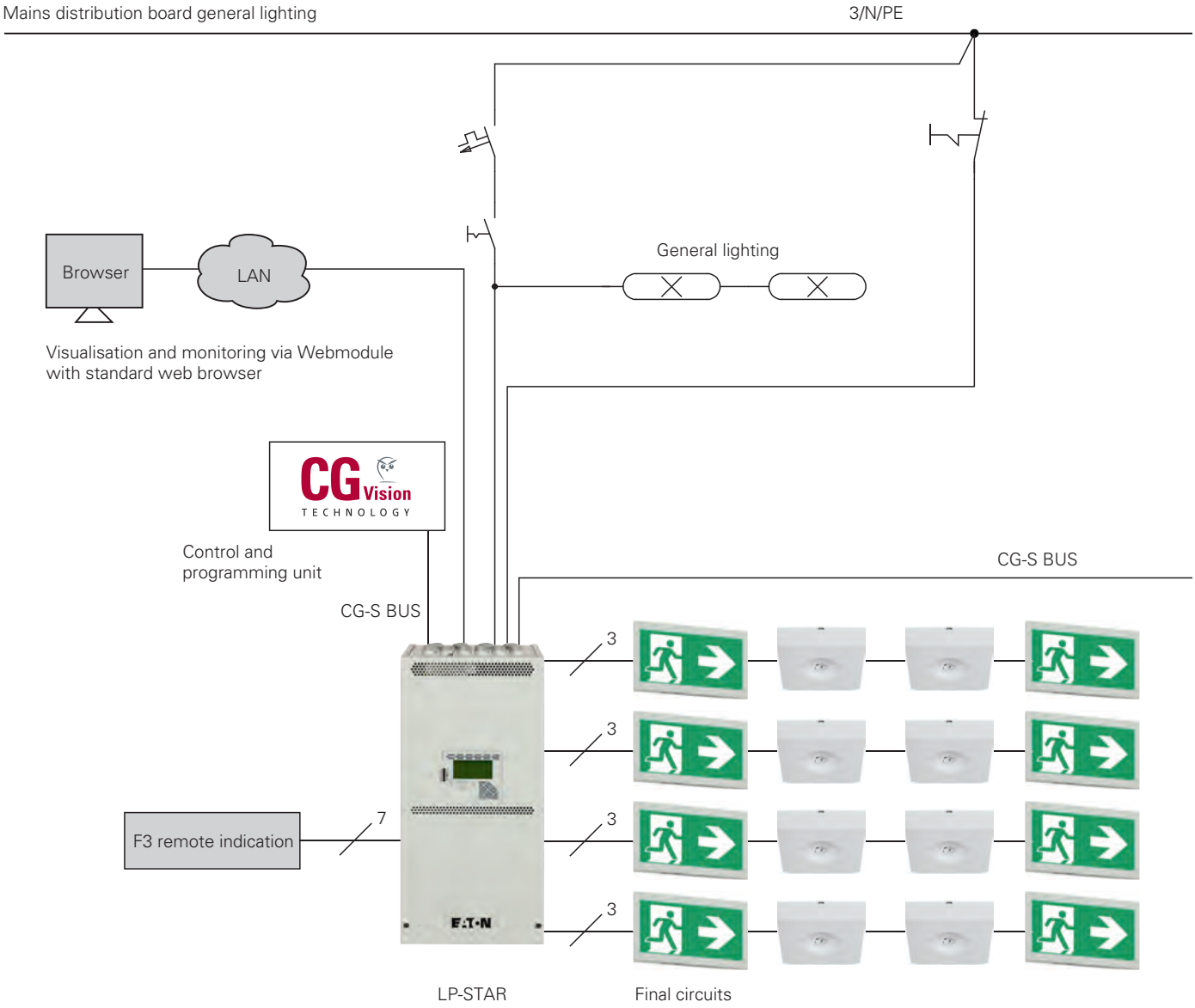
Evaluation of aeration and deaeration of electrical service rooms according to DIN EN 50272-2

Capacity	12	24	36	48
Air volume flow required for the aeration of the location room [l/h], calculated for boost charge*	57.6	115.2	172.8	230.4
Vent cross-section of the air inlets and outlets of the place of installation [cm²], calculated for boost charge*	1.6	3.2	4.8	6.5
Air volume flow required for the aeration of the location room [l/h], calculated for trickle charge*	7.2	14.4	21.6	28.8
Vent cross-section of the air inlets and outlets of the place of installation room [cm²], calculated for trickle charge*	0.2	0.4	0.6	0.81

* If boost charge is not frequently used (for example once a month), the air flow rate can be calculated based on the trickle charge current.

LP-STAR emergency lighting power supply in a compact design

Installation example



LP-STAR emergency lighting power supply in a compact design

Description

LP-STAR



9

LP-STAR emergency lighting power supply in a compact design

Low Power System according to EN 50171 for the power supply of escape luminaires and exit sign luminaires 230V / 216V AC/DC. It is suitable for emergency lighting systems according to DIN VDE 0100-560, EN 50172 and V DIN V VDE 0108-100. With an automatic test device and monitoring and displaying the state and name of individual luminaires connected to system-specific EVG/LED supply module including a monitoring component without an additional data cable.

The switching operation of each escape luminaire and exit sign luminaire with system-specific EVG/LED supply module or monitoring component is programmed freely in the control module without an additional control cable to the luminaires.

The CEAG STAR technology results in a severe reduction of end circuits, because the mixed operation including maintained light, switched maintained light and non-maintained light is implemented in a single circuit.

The control module assigns the different operating modes without any modification of the luminaire installation. The operating modes: non-maintained light or maintained light cannot be selected at the monitoring module or EVG/LED supply module using slide switches, coding switches or jumpers respectively. The additional costs incurred due to the use of parts made by other manufacturers or additional components on the installation lines cannot be claimed.

Simple connection technology using plug-in, back of hand proof clamp connections.

Bus technologies

CG-S bus technology based on LONWorks® technology

For data communication a 2-pole, bidirectional CG-S data bus, is integrated optimally in the control module of LP-STAR.

Using the optionally available CG-S Bus Interface, any building control systems based on the LONWorks® technology can communicate with the system on the CG-S bus.

Alternatively, any OPC compatible building control system can be connected to the optionally available OPC server and the Interface-Box using the CG-S bus.

Thus extensive status messages and commands can be queried through the CG-S bus.

The following data can thus be directly communicated:

- Status messages such as device disabled, deep discharge protection, battery interruption, battery voltage, current and temperature, insulation error, charging unit fault, bus communication error, mains failure, circuit faults etc.
- Input commands such as Start function test, Start and cancel duration test, Manual reset, Disable and release system.

16 virtual switching inputs can be used to directly and independently switch circuits or even individual luminaires via external LON sensors.

Interconnection of all LP-STAR distribution boards also possible via various media such as fibre optic cables, Ethernet and LAN using optional components.

Status and error messages can be retrieved for each individual luminaire.

Communication with system-oriented luminaires takes place only through the connected power line.

Using the search function, the luminaires connected to the system addressed during installation are automatically detected.

Control module

A freely programmable control module with a non-volatile program memory and alphanumeric graphic display monitors and controls the LP-STAR system. All functions such as loading, mains/emergency switch-over and deep discharge protection of devices and the connected emergency luminaires are automatically inspected. Errors arising will be reported immediately.

An interface provides a connection to a central monitoring device.

In case of a short circuit or interruption of control current loops, differential monitoring leads to the system immediately switching on (maintained light) or to the system being put in standby.

Graphical display:
128 x 64 pixels, back-lit, program-adjustable contrast and brightness.

Display values:
battery voltage, battery charge current (+), battery charge current in test mode or in case of fault (–), charge fault, luminaire fault with location information in plain text, deep discharge protection, manual reset, delayed emergency light (remaining time in minutes), test mode, date/time, insulation fault, UV-AV fault, fault information, programming information, test log book.

LED displays:
System readiness, supply from the source for safety services, failure.

Sealed keypad:

- individual buttons for device test, function test and duration test.
- 3 freely programmable function keys for example: Lock/unlock device, manual reset, turn on/off maintained light, display fault list, turn on/off continuity lighting, simulation mains failure UV.
- 7 control buttons for user-friendly navigation in query and programming mode.

Programming options:
Individual luminaire monitoring, circuit monitoring, individual name (20 characters) per device, circuit, luminaire, device address, selective manual reset, delayed emergency light (1-15 min.), LON switch, timer function, automatic function and duration test, selection of menu language, automatic daylight savings time setting, password protection.

Connection for disable switch:
Control loop for disabling the system during operating downtimes with differential loop monitoring for short circuit and wire breakage detection.

Differential monitoring: Short circuit or interruption lead to the system going into standby.

Connection for phase monitor:
24V current loop for emergency light requirement with differential loop monitoring for short circuit and wire breakage detection.

Differential monitoring: Short circuit or interruption lead to the system switching on (maintained light) immediately.

Connection for potential-free indicator contacts, buzzer:
4 potential-free indicator contacts with a separate root. Every potential-free contact can have one or more of the 11 different alerts assigned to it. Freely programmable, DIN VDE specification retrievable at any time as default setting.

Connection for 230 V digital inputs without phase monitor function: 8 freely assignable inputs 230V, programmable as inverted and non-inverted for example for start/stop function test, start/stop duration test, manual reset, turn on/off

maintained light, turn on emergency lighting as continuity lighting.

Memory card:
Memory card for archiving the device configuration and the mandatory inspection log book information over a minimum of 4 years.

Storing:

- 360.000 inspection log book entries
- Luminaire target location texts (20 characters per luminaire)
- Circuit names (20 characters per circuit)
- Device name (20 characters)

Using The device can be programmed offline on a PC using the optional CEAG software.

Charging technology

The sealed maintenance-free lead batteries are charged gradually based on an microprocessor-controlled IU charging curve in function of temperature. Force charge is activated in function of the battery charge level to ensure that the batteries are charged without exceeding the gas development voltage. The charge monitoring procedure verifies the charging process continuously and it reports any faults immediately, including interruption of the battery circuit, faulty charging unit or a high impedance battery cell.

- with ISO test device according to DIN VDE0100 Part 410
- LED displays for charging unit on, boost charge on, insulation fault, charge fault, mains available
- potential-free contacts charge fault, boost charge, insulation fault
- Temperature sensor built into the battery compartment

Circuit components

The circuit switch-over supplies and monitors emergency luminaires with electronic ballasts for DC operation. The CEWA GUARD monitoring checks the operation of the connected luminaires.

- Monitoring of up to 20 luminaires per circuit with individual status display
- Mixed operation of continuous lighting, switched maintained light and non-maintained light within a single circuit. (an additional data line to the luminaires is not required)
- Output voltage in battery operation: 220 V DC
- Typical switch-over time mains/battery: 450 ms
- freely programmable for maintained light, switched maintained light or maintained mode
- fuses easily accessible on the front part of the component
- permanent monitoring of fuses
- automatic luminaire search function

Webmodule

Webmodule for visualising and monitoring a LP-STAR device on the local Ethernet (LAN) or Internet (WWW) with a regular WEB browser. Access to the webmodule via internet (WWW) must be appropriately administered and set up on site by a competent IT department.

Integrated email program for convenient, event-related error notification via email for up to 5 email recipients.

- Simple menu navigation
- Complete visualisation and monitoring of an LP-STAR through the local Ethernet (LAN) with a regular WEB browser
- Retrieving and indicating all current operating states
- Localised fault indicators for every emergency luminaire circuit and luminaires with target location information in plain text connected to a function test
- Continuous up-to-date information on charging device and battery
- Parallel access from various PC workstations to a web-module possible (max. 8)
- Integrated email program for a convenient error notification via email
- Adjustable email dispatch acc. to type of error or function test
- Up to 5 email recipients programmable
- Adjustable update cycle for web browser via the webmodule
- Authenticated access via administrator account with password protection
- Configurable guest account for restricted access with password protection
- Static or dynamic (DHCP) IP addressing possible
- Any number of webmodules operable in parallel
- Overview of all active web-modules on the Intranet with status display and hyperlink function

Supply voltage:	24V DC
power consumption:	< 1.5W
Connection:	RJ45

Housing made of polycarbonate for installation on DIN rail, 2TE

Dimensions (L x W x H): 90 mm x 35 mm x 58 mm Weight: ca. 100 g Protection rating: IP20

24V OGiV block battery

Only closed and non-spillable OGiV batteries are used. Rated operating time 1, 3 and 8 hours respectively

- extremely low gas emissions
- Period of use: 10 years at 20°C
- low self-discharge
- Design according to IEC60896-21/-22
- electrolyte and air oxygen sealed terminals

CEAG is a member of the "Stiftung Gemeinsames Rücknahmesystem Batterien [joint battery recycling programme] (GRS)".

In this manner, batteries undergo a controlled and complete recycling cycle. This means that possible polluting materials are recovered and reused for new products.

Specifications have been quoted based on CEAG products. Specifications can be compared based on this product. The tenderer can submit a tender based on a variant solution including an equivalent product (proof by the tenderer). Detailed product descriptions must be attached to the offer for the evaluation of equivalence:

References

CEAG Notlichtsysteme GmbH
Senator-Schwartz-Ring 26
D-59494 Soest/Germany

Telephone	+49 (0) 2921/69-870
Fax	+49 (0) 2921/69-617
Internet	www.eaton.com
Email	info-n@eaton.com

A ISO 9001 certification must be further provided as proof.

Manufacturers without the ISO 9001 certification are not permitted.

LONWorks®: Registered trademark of the Echelon Corporation









Central Battery Systems AC/AC

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Easicheck

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AT-S+

Automatic Test System AT-S+ with STAR+ Technology 390
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Central Battery Systems AC/AC

Overview

	Central Power System	Low Power System	AC/AC power source	AC/DC power source	DC/DC power source
10.1 Loadstar 	●		●		
10.2 Easicheck 	●1*				
10.3 AT-S+ 	●2*				

10

Circuit Monitoring	CEWA GUARD Technology (CG)	STAR Technology (S)	STAR+ Technology (S+)	EasiCheack (EC) Technology	AE-CU Technology
				●1*	
	●	●	●		

Single luminaire monitoring in battery operation (DC)

Freely programmable switching mode in one and the same circuit

STAR technology and single luminaire monitoring in AC operation

1 Optional luminaire test system for Loadstar*

2 Luminaire test and controll system for external AC safety power supply systems*

Central Battery Systems AC/AC

System Design - Loadstar

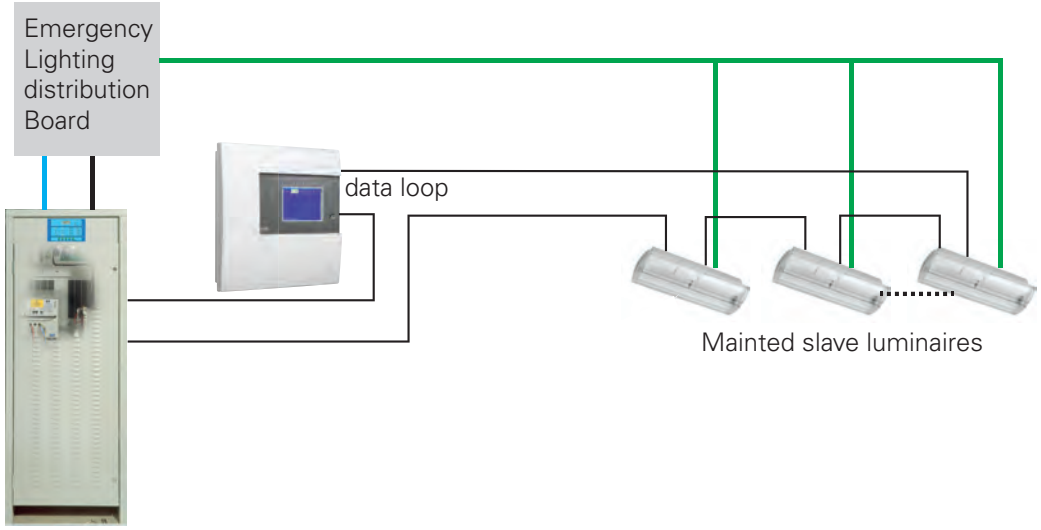


Central battery system based emergency lighting is ideal for medium to large installations. For projects where central control and testing is desirable, a central battery system is a viable and cost effective alternative to self-contained emergency lighting products. The main advantages of central battery systems over self-contained systems are:

- Testing and maintenance is much easier to carry out
- Battery replacement is much quicker and less disruptive
- Battery life is generally 10 years or more
- Luminaires can be centrally controlled
- High light levels can easily be achieved
- The emergency lighting system can be completely unobtrusive

Eaton manufactures a wide range of central battery emergency lighting systems. Standard products include AC/AC static inverter systems, with the addition of a new compact, competitively priced unit for smaller installations. Bespoke systems to suit the exact requirements of the specifier are also available.

To complement the range of central battery systems, Eaton also offers a wide selection of slave luminaires and conversion modules for mains fluorescent and LED luminaires. EasiCheck automatic self-testing can be readily incorporated into central systems.



System Control and Mode of Operation

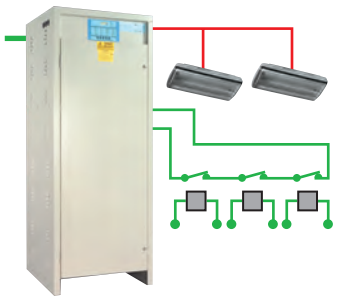
It is a requirement of any correctly designed emergency lighting system that the emergency lighting is activated both in the event of complete mains failure, and also in the event of a local mains failure. The emergency lighting system can have luminaires that are maintained or non-maintained. Similarly, the central battery unit can also be maintained or non-maintained operation. The following diagrams explain how activation of the emergency lighting is achieved using the main types of central battery systems.

Central systems with dedicated slave luminaires

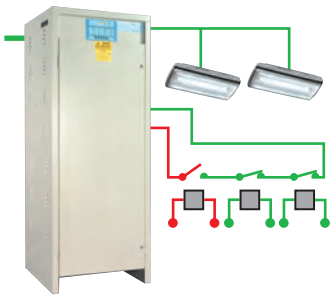
a. Non-maintained central battery unit with sub-circuit monitors

With this method, relays are used to monitor the normal lighting supplies. The contacts of these relays are wired in a series loop such that in the event of failure of any of the normal lighting supplies, the loop is broken, sending a signal to the central battery unit to activate all of the emergency luminaires. Details of purpose-made remote sub-circuit monitor units can be found in the Loadstar product section.

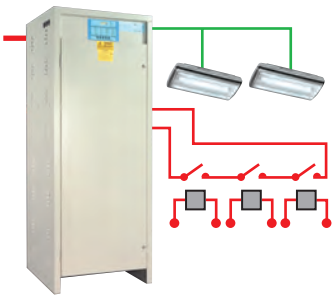
Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



KEY
- LIVE
- DEAD

b. Maintained central battery unit with the maintained circuit continuously energised

A simple installation where emergency luminaires are illuminated at all material times irrespective of the status of the normal lighting. In the event of a complete mains failure, the slave luminaires are illuminated from the battery supply.

Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



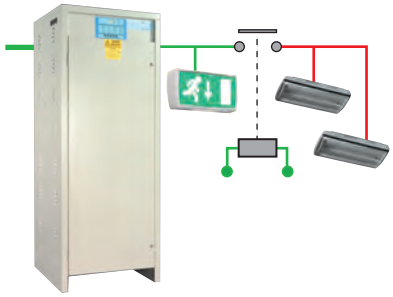
KEY
- LIVE
- DEAD

c. Maintained central battery unit with remote hold off relays

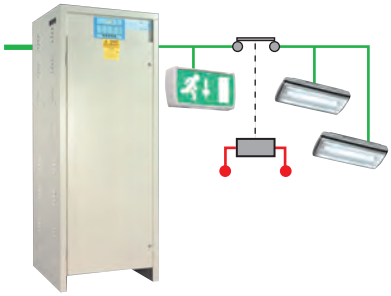
The maintained output from the battery unit is fed to a number of remote hold off relays throughout the building. The coil of the hold off relay is connected to the unswitched side of the local normal lighting supply. Assuming this supply is healthy, the relay will pull in, opening the contacts and preventing power from reaching the slave luminaires. In the event of a local mains failure, the relay drops out, the contacts close and the emergency luminaires in that particular area are illuminated from the maintained circuit of the battery unit.

In the event of a complete mains failure, the system operates in a similar manner, except that the slave luminaires are illuminated from the battery supply. Details of purpose-made remote hold off relays can be found in the Loadstar product section.

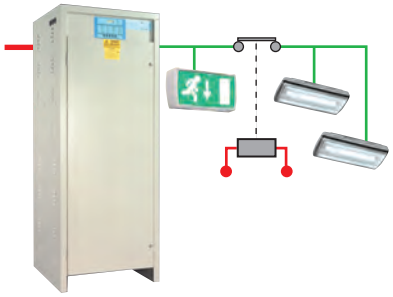
Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



KEY
- LIVE
- DEAD

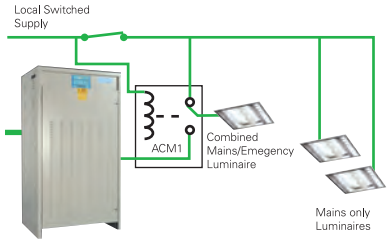
Central systems with converted mains luminaires

d. Static inverter unit with conventional mains fittings

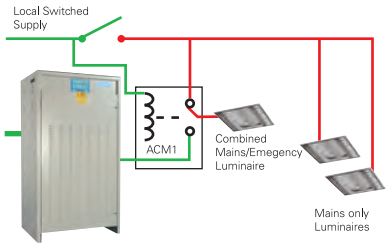
A static inverter runs conventional mains luminaires at full brightness during both mains healthy and mains failure conditions. However, there is usually a requirement for local switching of the luminaires during mains healthy conditions with automatic illumination in the event of mains failure.

Local switching with automatic illumination in the event of mains failure can be easily achieved by use of the ACM1 module, which is purpose-designed for this application. A detailed description of the ACM1 module, including a typical wiring schematic, can be found on page in Loadstar product section.

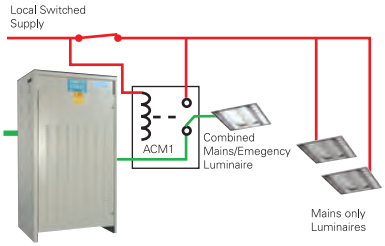
Normal mains healthy condition



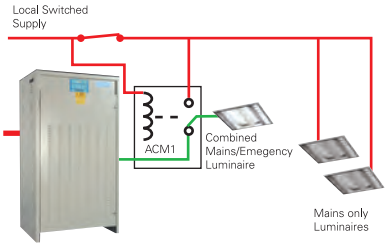
OR



Failure of normal lighting final circuit



Total mains failure



KEY
- LIVE
- DEAD



Battery Type

Eaton offers a choice of five different battery types:

- Valve regulated lead acid (10 year design life)
- Valve regulated lead acid (3-5 year design life)
- Vented nickel-cadmium
- High performance plante lead acid
- Flat plate lead acid

Each battery type has specific characteristics. The table below (fig. 2) provides a comparative guide to these characteristics.

The most popular battery type is valve regulated lead acid with a 10 year design life. This type of battery is used on approximately 90% of projects due to its competitive cost, good life characteristics, ease of maintenance and compact size.

Fig 2. Comparison of Battery Characteristics

Characteristics	Valve Regulated Lead Acid (10 year life)	Valve Regulated Lead Acid (3-5 year life)	Vented Nickel Cadmium	High Performance Plante Lead Acid	Flat Plate Lead Acid
Expected life	√√√	√	√√√	√√√	√
Capital cost	√√	√√√	√	√	√
Maintenance	√√√	√√√	√√	√√	√√
Resistance to damage and abuse	√	√	√	√	√
Through life costs	√√	√	√√	√√	√√

Battery Room Ventilation

Vented batteries, such as nickel cadmium, plante and flat plate lead acid emit potentially explosive gases under charge conditions. Therefore it is important when selecting rooms for emergency lighting central battery systems with these types of battery to calculate the amount of ventilation required. The required number of air changes per hour (A) is given by the following formula:

$$A = \frac{0.045 \times N \times I}{V}$$

Where:

N = Number of cells in the battery

V = Volume of room in cubic metres

I = Charge rate in Amperes

This formula will give the number of air changes per hour required during boost charge conditions. On float charge (systems are on float charge for most of their service life), the amount of gas emitted is approximately 1.5% of that liberated whilst on boost charge and under most circumstances this will be dissipated by natural ventilation and will not present a hazard. However, we recommend that the boost charge condition is allowed for at the design stage to ensure the appropriate decision on ventilation requirements is made.

Although Valve Regulated Lead-Acid Batteries require little ventilation under normal operating conditions, it is good practice to apply the formula to calculate the number of air changes required to achieve minimum risk under battery fault or failure conditions. Please refer to: EN IEC 62485-2: 2018.



Installation Notes

- Warning notices should be displayed on entry doors to battery rooms: BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING

System Sizing

When sizing the system, it is important to allow for the full input requirement of the light fittings rather than the lamp wattages.

AC/AC systems

When utilising a static inverter system, the fitting operates at full output during both mains healthy and mains failure conditions. When sizing a suitable static inverter to power a particular load, it is important to consider the input VA and the input (not lamp) wattage of the emergency luminaires. The total VA requirement defines the inverter module size, and the total input wattage defines the battery size.

Therefore, to establish the correct inverter module size, the power factor correction (PFC) rating of the luminaires must be considered in addition to lamp wattage and control gear losses. High frequency control gear circuits have excellent PFC ratings, usually of around 0.96 to 0.98. This compares with 0.85 to 0.9 for equivalent lamp magnetic control gear circuits. Care should be taken when low wattage compact fluorescent lamps are used, utilising high frequency gear or high PFC versions where possible. Low power factor versions can have PFC ratings of only 0.45 to 0.5, thereby greatly increasing the inverter rating required for the system. If utilising low voltage lighting powered via step-down transformers, it is essential to allow for the efficiency and power factor of the step-down transformers. Table (fig. 3) and graph (fig. 4) illustrate the relationship between wattage and VA rating for a typical system.

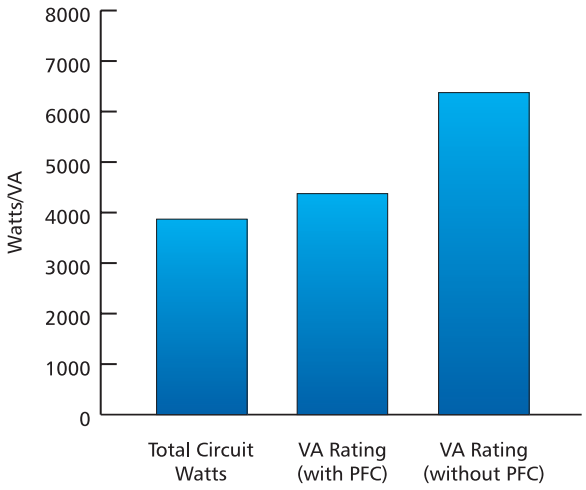
Note: EN 60598-2-22 prohibits the use of glow starters in fluorescent luminaires used for emergency lighting.

Fig 3. Typical system. VA rating with and without power factor correction

Qty of Luminaires	Description	Total Circuit Watts	VA Rating (Compact lamps without PFC)	VA Rating (Compact lamps with PFC)
25	1 x 58W T8 (wire wound ballasts)	1725	1925	1925
40	1 x 28W 2D (wire wound ballasts)	1360	2960	1560
15	1 x 16W 2D (wire wound ballasts)	315	690	375
15	1 x 13W TC-D (wire wound ballasts)	270	600	315
5	1 x 40W GLS incandescent	200	200	200
	Inverter Rating =	3870	6375	4375

Note: Use of compact fluorescent luminaires with power factor correction (PFC) leads to a reduced inverter module size and therefore savings in space and capital costs

Fig 4. Typical system. VA rating with and without power factor correction



Additional Considerations

Spare capacity

With any central battery system it is important to bear in mind that it is difficult to extend the system at a later date unless capacity has been allowed for at the design stage. For this reason, we would strongly recommend that some spare capacity is included when selecting the central battery system rating. Our technical department is available to provide assistance.

Cable sizes

When selecting cable sizes, due regard should be paid to limitations imposed by voltage drop and physical strength. Each conductor shall be of copper, having a nominal cross sectional area of not less than 1mm². Usually (see national requirements) the voltage drop in cables connecting a central battery to a slave luminaire should not exceed 4 % of the system nominal voltage at maximum rated current.

Using copper conductors, volts drop can be calculated per pair of conductors as shown in table fig. 5. Total volts drop on a circuit can be calculated according to the formula:

VDT = I x VDM x D

Where:

10

VDT = volts drop total
I = maximum load current
VDM = volts drop per ampere per metre (obtained from fig. 5)
D = cable run in metres

Example:

Fig. 6 and 7 show an example comparison for a central battery system with a total connected load of 1500W and a 50m run of 16mm² cable supplying the luminaires.

This example shows that for this configuration, a 230 V system would be most suitable to meet the requirements of max. 4 % voltage drop. The low current value combined with greater allowable volt drop would enable much smaller cables to be used.

Fig 6.

Comparison Data	24V System	50V System	110V System	230V System
Max. permissible Volt drop (4 %)	0.96 V	2.0 V	4.4 V	9.2 V
Total current for total connected load of 1500W	62.5 A	30 A	13.6 A	6.52 A
Actual volt drop for 16 mm² cable with 50m length	8.43 V	4.05 V	1.84 V	0.88 V

The use of larger cables or multiple outgoing circuits may permit the use of 24, 50 or 110V systems in the above example.

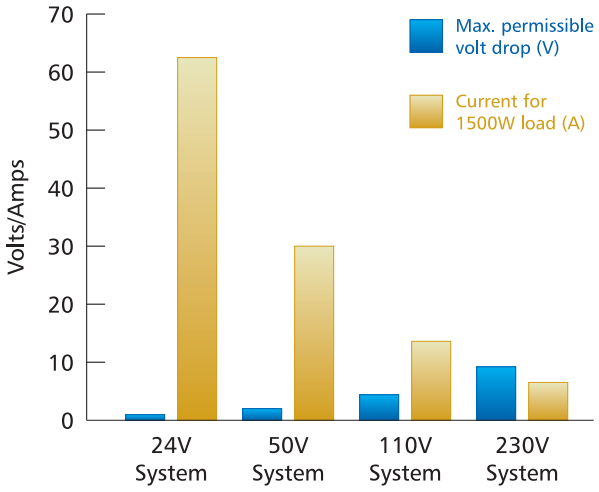
Fig 5.

Nominal Cross Sectional Area	Maximum Current Rating	Volt per Drop per Metre
1.0 mm²	14 amps	42 mV
1.5 mm²	17 amps	28 mV
2.5 mm²	24 amps	17 mV
4.0 mm²	32 amps	11 mV
6.0 mm²	41 amps	7.1 mV
10.0 mm²	55 amps	4.2 mV
16.0 mm²	74 amps	2.7 mV

The problems of volt drop can be overcome by:

- Using higher system voltages (= lower currents and therefore lower volt drop)
- Using larger cables (= lower resistance and therefore lower volt drop)
- Using multiple outgoing circuits (= less current per circuit and therefore lower volt drop)

Fig 7.



Additional Considerations

Fire protection of cables

Cables should be routed through areas of low fire risk.
The following cables and wiring systems should be used.

a) Cables with inherently high resistance to attack by fire

b) Wiring systems with additional fire protection.

Systems should be installed in accordance to the national Regulations. Additional fire protection may apply. For example, if cables are buried in the structure of the building.

IP21

Loadstar

The Loadstar range of AC/AC static inverter units offer the opportunity to create a discreet emergency lighting system, utilising suitable standard mains luminaires without modification. Small or decorative compact luminaires can also be easily incorporated. Loadstar AC/AC systems offer many benefits, including higher light levels in emergency mode, as all lamps in the luminaire are usually energised by the emergency supply. Mains voltage and lower currents enable cables of smaller cross sectional area to be used with low voltage AC/DC systems without unacceptable levels of voltage drop. The proven and reliable modular design ensures a cost effective emergency lighting.

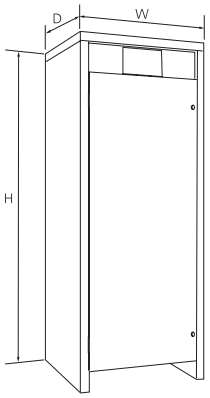
Loadstar AC/AC System



- BSI Kitemarked for peace of mind
- Cost effective modular design
- Standard mains luminaires used for emergency lighting
- Fully complies with EN50171
- Digital display to clearly indicate system status
- EasiCheck compatible versions available
- Low maintenance
- Low running cost due to passive stand-by operation
- Three phase systems available

10

Dimensions



Cubicle Ref	H (mm)	W (mm)	D (mm)
931	1200	715	755
932	1800	715	755
934	1800	1015	755

Depth of 931/2/4 includes a 75mm spacer fitted to back, to ensure ventilation grilles are not obstructed. Dimensions are for guidance only and may be subject to change.



System Operation

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- In mains healthy condition, the power to luminaires designated for emergency use is supplied from the normal mains, via a by-pass contactor inside the cubicle. This may be switched using a "maintained lights" switch (optional extra) or by use of a remote switch connected to terminals provided
- Local change-over switching can be achieved using an ACM1 module, controlling single or multiple luminaires (if fed from common switched mains supply - max load 750VA). The system will then supply normal mains power or emergency power via the inverter, dependant on status of mains supply at the static inverter
- In the event of a mains failure, the system provides emergency power to dedicated mains slave or designated standard mains luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage, from the system via the inverter, is 230V AC nominal
- Standard mains luminaires require no modification to operate with the static inverter (unless ACM1 change-over module is fitted integrally). All lamps in multi-lamp luminaires will be lit during mains failure, unless separate control gear is provided for individual lamps
- Sub-circuit monitoring and hold off relays can be added to the system to energise the emergency luminaires in the event of a localised mains circuit failure, if the ACM1 module is not used

Energy Efficient Standby Operation

The Loadstar range of AC/AC static inverter systems are designed specifically for long term sustainability, reduced carbon footprint and reduced running cost without compromising on the products performance criteria. Due to the passive stand-by operation of the inverter only operating when required, the quiescent running power is minimised while maximising equipment lifetime and reduced running cost.

Standard Specification

• Cubicles
- 1.6mm zinc coated steel panels with powder coat RAL7032 light pebble grey finish
- Plinth base feature to prevent build up of moisture/corrosive materials and aid mechanical handling by fork or pallet truck
- 3 standard size cubicles, for combined charger/inverter/battery, charger/inverter only or battery only
- Small systems require only one cubicle. Larger systems housed in multiple sets (see selection tables)
- Electrical control gear and battery compartments are segregated, with lockable access door(s)
- Battery compartments supplied, where appropriate with separate tiered sections, to enable ease of electrolyte level inspection
- Separate fixed facia panel for mounting control/display panel
- Option of open battery racks on larger systems

• Battery Charger
- Solid state, constant voltage charge control module
- Fully automatic
- Full recharge within 24 hours of a rated discharge
- Recharge to 80% capacity within 12 hours, complying with EN 50171
- Manual boost switch on systems with vented battery cells
- Current limit facility, preventing overcharging or damage to the system in the event of battery failure or fault
- Outputs have low AC ripple currents for maximum battery life and in compliance with EN 50171
- Input protection by MCB to BS 3871 Part 1 or BS 4752 Part 1

• Battery
- Systems can be specified with:
  • Valve regulated lead acid
  • Vented nickel cadmium
  • High performance plante
- See selection tables/guides for battery characteristics

• Fusegear
- Removable industrial HRC fuses

• Input Circuits
- Cable entry via removable gland plate on top of cubicle
-Single phase 230V ± 10% AC 50Hz supply. Other input voltages on request
- Input terminals and MCB DIN-rail mounted and easily accessible

• Load Circuits
- Substantial DIN rail mounted output terminals
- Option of integral distribution board (MCB or HRC fuses)

• Output
- Systems are available in single phase and true three phase (three phase + neutral) output
- Standard systems offered are designed to 0.85 power factor, however unity power factor systems are available on request
- Option for 50Hz or 60Hz

• Monitoring Circuits

- Terminals provided for connection of remote monitors and controls

• Cables
- Compliant with BS 6231

• Transformer
- Double wound with earth screen to BS 171

• Rectifier
- Full wave controlled thyristor/diode bridge

• Contactor
- Mains failure contactor to BS5424 Part 1

• Temperature Compensation
- All lead acid cell systems supplied with transducer to monitor battery compartment temperature
- Chargers pre-set for optimum performance in 20°C ambient
- Charging voltage automatically adjusted to optimise battery life

• Low Battery Voltage Disconnect Circuit
- Automatically shuts down the inverter when battery voltage falls below pre-set level, during extended periods of mains supply failure
- Helps prevent potential damage from deep discharge
- Indicator remains lit until mains power restored and reset pressed

• Inverter
- Extensively proven and reliable modular design
- Systems with ratings up to 4 kVA incorporate a single module rated at 1.25 kVA, 2.5 kVA or 4 kVA
- Larger systems utilise multiple modules in parallel to provide a single common output, equal to sum of individual ratings
- Complies fully with EN50171
- Modules can be quickly and easily removed/replaced, aiding installation and maintenance
- See table for detailed technical specification

• Test Push Button
- Simulates a mains failure

• Frequency
- 50 Hz +/- 0.01% (60 Hz option)

• Metering and Display Panel
Simple and easy to read status display
- LCD meter indicating battery voltage, battery current or battery compartment temperature. Voltage is default, others displayed using push buttons. Display mode indicated by LED:
  • Volts
  • Amps
  • Temperature - lead acid batteries only
- Charger indication LEDs
  • Power On
  • Maintained Lights (maintained systems only)
  • Float Mode
  • Current Limit
  • Full Charge
  • Boost mode (vented battery systems only)
- Alarm indication LEDs
  • Mains Fail
  • Charge Fail
  • Battery High Volts
  • Battery Low Volts
  • DC Earth Fault
  • Deep Discharge Protection (protection circuit has operated)
- Inverter indication LEDs
  • Inverter Running
  • Inverter Overload (optional alarm package)
  • Inverter High Volts (optional alarm package)
  • Inverter Low Volts (optional alarm package)
- Audible alarm fitted internally, with mute button on display plus common volt free contacts for remote signalling of a fault condition and terminals for optional remote alarm unit



Central Battery Systems AC/AC

Loadstar AC/AC Systems

Inverter



Inverter

- To ensure a suitably rated system is selected, list the luminaires to be used, with their characteristics, to determine the wattage and VA power rating of the required inverter
- Where possible, utilise luminaires with high frequency control gear, compact fluorescent luminaires with high power factor correction, or dedicated 230V AC mains slave luminaires, to minimise the required VA rating of the inverter
- Using uncorrected compact fluorescent luminaires with poor power factor, will increase the size of inverter module required, leading to increased capital cost and space requirements
- For details of static inverter systems with ratings above those listed, please contact our central systems technical sales department
- It should be noted that multiple smaller units can often be more cost effective than a single large system. Distribution costs can be substantially reduced by locating units throughout a large building
- Note - systems specified for emergency lighting use should not have other services connected to them

Output Voltage	Pre-settable in the range 220-240V AC. Default setting is 230V AC. Voltage tolerance is 2% on loads of 0-100% of system rating
Frequency	50 or 60Hz. ±0.01%. Standard setting 50Hz. Waveform: Sinusoidal
Voltage Regulation	Static 2%, dynamic 6%
Isolation	2kV rms between input and output terminals
Total Harmonic Distortion	Less than 3% into a linear load
Power Factor	Will supply loads in the 0.3 lag - 0.3 lead range
Overload voltage	200% for 10 seconds, 125% for 20 minutes without reduction in output
Start-up time	Standard 30 ms soft start
Noise Level	Less than 55dBA at 1 metre
Efficiency	85 - 89%
Protection	DC input and AC output MCBs DC input reverse polarity protection Short circuit protection Pre-charge protection fuse Reverse-fed mains proof
Low Voltage Shut down	Inverter module(s) automatically shut down when battery discharges to a pre-set level. Re-set is following a combination of the restoration of the mains supply and an increase in battery voltage above the disconnect threshold level
	Residual current drain when the disconnect circuit has operated is less than 1mA per module
Inhibit	An inhibit switch to control the inverter is fitted on a user control pcb in the cubicle
Technology	Pulse width modulation with high frequency switching

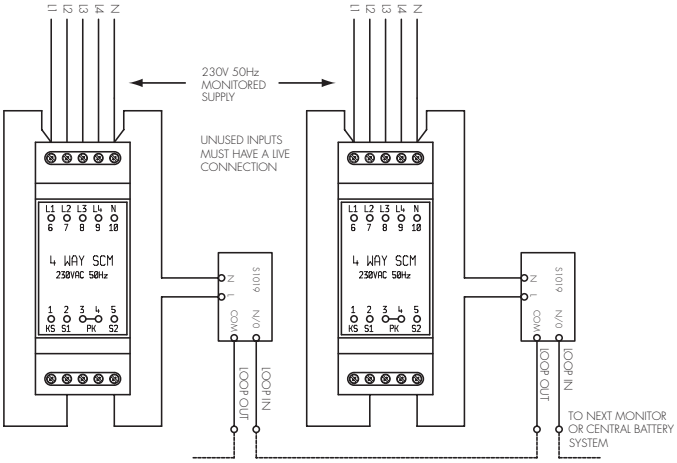
Remote Alarm Unit



Remote Alarm Unit

- Visual and audible indication of system fault
- Sounder mute facility
- Surface mounting dimensions: H114 x L114 x D25mm
- Catalogue Number - RAU-2V1

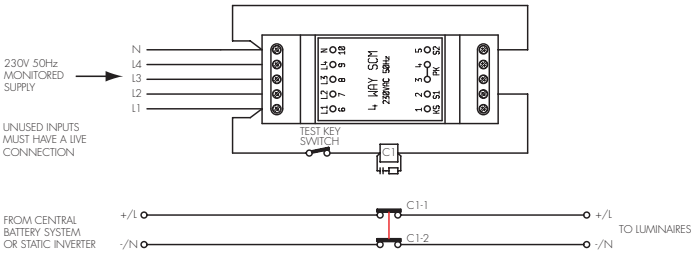
Typical sub-circuit monitor arrangement



Sub Circuit Monitor

- Non load switching
- Monitors mains lighting circuits. Provides signal to central battery unit in the event of a sub circuit failure
- Standard units available to monitor 4, 8 or 12 sub circuits
- Multiple units can be used if more than 12 circuits require monitoring
- A keyswitch can be fitted if required to enable simple testing by authorised user
- Unit dimensions: H 250 x L 265 x D 130mm

Typical hold off relay arrangement



Hold Off Relay Monitors

- Load switching
- Used to hold off maintained output from static inverter unit, providing non-maintained luminaire operation
- Monitors mains lighting circuits. In the event of a sub circuit failure, contactor drops out, allowing the maintained supply to energise the emergency luminaires
- Standard units available to monitor 4, 8 or 12 sub circuits, however monitors are available with up-to 24 circuits
- A keyswitch or supply healthy indicator can be fitted if required to enable simple testing by authorised user and visual indication of the supply condition
- Unit dimensions: H 250 x L 265 x D 130mm

SCM and HOR units are designed to accept a single common neutral per enclosure, all monitored circuits connected to an individual unit must share a common neutral.

Ordering details

Type: Number of ways monitored	Order No. of Sub Circuit Monitor	Order No. of Hold Off Relay Monitor
4	1SCM4	1HOR4
8	1SCM8	1HOR8
12	1SCM12	1HOR12

Selection Table: AC/AC SLR Range, 0.85 Power Factor

System Reference 230V in / 230V out	Inverter Power Rating (kVA)	Output Watts (W)	1 Hour Autonomy	Cubicle Arrangement 2 Hr Autonomy	3 Hr Autonomy
AC1KVA/850/SLR*	1	850	931CBI	931CBI	931CBI
AC2KVA/1700/SLR*	2	1700	931CBI	932CBI	932CBI
AC2.5KVA/2125/SLR*	2.5	2125	931CBI	932CBI	932CBI
AC3KVA/2550/SLR*	3	2550	932CBI	932CBI	932CBI
AC4KVA/3400/SLR*	4	3400	932CBI	932CBI	934CBI
AC5KVA/4250/SLR*	5	4250	934CBI	934CBI	934CBI
AC6KVA/5100/SLR*	6	5100	934CBI	934CBI	932CI + 932B3
AC7.5KVA/6375/SLR*	7.5	6375	934CBI	932CI + 932B3	932CI + 934B2
AC8KVA/6800/SLR*	8	6800	934CBI	932CI + 932B3	932CI + 934B3
AC9KVA/7650/SLR*	9	7650	932CI + 932B3	932CI + 934B2	932CI + 934B3
AC10KVA/8500/SLR*	10	8500	932CI + 932B3	932CI + 934B2	932CI + 934B3
AC11KVA/9350/SLR*	11	9350	932CI + 932B3	932CI + 934B3	932CI + 2 x 932B3
AC12KVA/10200/SLR*	12	10200	932CI + 932B3	932CI + 934B3	932CI + 2 x 932B3
AC13KVA/11050/SLR*	13	11050	932CI + 932B3	932CI + 934B3	932CI + 932B3 + 934B3
AC14KVA/11900/SLR*	14	11900	932CI + 932B3	932CI + 934B3	932CI + 932B3 + 934B3
AC15KVA/12750/SLR*	15	12750	932CI + 932B3	932CI + 2 x 932B3	932CI + 932B3 + 934B3
AC16KVA/13600/SLR*	16	13600	932CI + 934B2	932CI + 2 x 932B3	932CI + 2 x 934B3
AC17.5KVA/14875/SLR*	17.5	14875	934CI + 934B2	934CI + 934B3 + 932B1	934CI + 3 x 932B3
AC18KVA/15300/SLR*	18	15300	934CI + 934B2	934CI + 934B3 + 932B3	934CI + 3 x 932B3
AC19KVA/16150/SLR*	19	16150	934CI + 934B2	934CI + 934B3 + 932B3	934CI + 2 x 934B3
AC20KVA/17000/SLR*	20	17000	934CI + 934B3	934CI + 2 x 934B2	934CI + 932B3 + 2 x 934B3
AC21KVA/17850/SLR*	21	17850	934CI + 932B3 + 932B1	934CI + 2 x 934B2	934CI + 932B3 + 2 x 934B3
AC22KVA/18700/SLR*	22	18700	934CI + 932B3 + 932B1	934CI + 3 x 932B3	934CI + 932B2 + 2 x 934B3
AC23KVA/19550/SLR*	23	19550	934CI + 932B3 + 932B1	934CI + 3 x 932B3	934CI + 932B2 + 2 x 934B3
AC24KVA/20400/SLR*	24	20400	934CI + 934B3	934CI + 3 x 932B3	934CI + 2 x 934B3 + 932B2
AC25KVA/21250/SLR*	25	21250	934FC + 932I + 934B3	934FC + 932I + 3 x 932B3	934FC + 932I + 2 x 934B3 + 932B3

Factory Fitted Options

- 3 Phase Failure Monitor

- Detects phase failure and energises the inverter from the battery supply
- Suffix - PM

System Reference 400V in / 400V out	Inverter Power Rating (kVA)	Output Watts (W)	1 Hour Autonomy	Cubicle Arrangement 2 Hr Autonomy	3 Hr Autonomy
AC26KVA/22100/SLR*/ TPN4W	26	22100	934FC + 934I + 2 x 932B3	934FC + 934I + 2 x 934B3	934FC + 934I + 2 x 934B3 + 2 x 932B3
AC28KVA/23800/SLR*/ TPN4W	28	23800	934FC + 934I + 934B3 + 932B1	934FC + 934I + 2 x 934B3 + 932B3	934FC + 934I + 3 x 934B3
AC30KVA/25500/SLR*/ TPN4W	30	25500	934FC + 934I + 2 x 932B3	934FC + 934I + 2 x 934B3 + 932B2	934FC + 934I + 4 x 934B3
AC32KVA/27200/SLR*/ TPN4W	32	27200	934FC + 934I + 934B3 + 932B3	934FC + 934I + 2 x 934B3 + 932B2	934FC + 934I + 4 x 934B3
AC34KVA/28900/SLR*/ TPN4W	34	28900	934FC + 934I + 934B3 + 932B3	934FC + 934I + 2 x 934B3 + 932B3	934FC + 934I + 4 x 934B3 + 934B1
AC36KVA/30600/SLR*/ TPN4W	36	30600	934FC + 934I + 934B3 + 932B3	934FC + 934I + 2 x 934B3 + 932B3	934FC + 934I + 4 x 934B3 + 934B1
AC38KVA/32300/SLR*/ TPN4W	38	32300	934FC + 2 x 932I + 934B3 + 932B3	934FC + 2 x 932I + 3 x 934B3	934FC + 2 x 932I + 4 x 934B3 + 934B1
AC40KVA/34000/SLR*/ TPN4W	40	34000	934FC + 2 x 932I + 2 x 934B3	934FC + 2 x 932I + 3 x 934B3	934FC + 2 x 932I + 5 x 934B3
AC42KVA/35700/SLR*/ TPN4W	42	35700	934FC + 2 x 932I + 3 x 932B3	934FC + 2 x 932I + 4 x 934B3	934FC + 2 x 932I + 3 x 934B3 + 3 x 932B3
AC44KVA/37400/SLR*/ TPN4W	44	37400	934FC + 2 x 932I + 3 x 932B3	934FC + 2 x 932I + 4 x 934B3	934FC + 2 x 932I + 5 x 934B3
AC46KVA/39100/SLR*/ TPN4W	46	39100	934FC + 2 x 932I + 3 x 932B3	934FC + 2 x 932I + 4 x 934B3 + 934B1	934FC + 2 x 932I + 3 x 934B3 + 3 x 932B3
AC48KVA/40800/SLR*/ TPN4W	48	40800	934FC + 2 x 932I + 2 x 934B3 + 932B3	934FC + 2 x 932I + 4 x 934B3 + 934B1	934FC + 2 x 932I + 6 x 934B3
AC50KVA/42500/SLR*/ TPN4W	50	42500	934FC + 934I + 932I + 2 x 934B3 + 932B3	934FC + 934I + 932I + 4 x 934B3 + 934B1	934FC + 934I + 932I + 6 x 934B3
AC52KVA/44200/SLR*/ TPN4W	52	44200	934FC + 934I + 932I + 2 x 934B3 + 932B3	934FC + 934I + 932I + 4 x 934B3 + 934B1	934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3
AC54KVA/45900/SLR*/ TPN4W	54	45900	934FC + 934I + 932I + 2 x 934B3 + 932B2	934FC + 934I + 932I + 4 x 934B3 + 934B1	934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3
AC56KVA/47600/SLR*/ TPN4W	56	47600	934FC + 934I + 932I + 2 x 934B3 + 932B2	934FC + 934I + 932I + 5 x 934B3	934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3
AC58KVA/49300/SLR*/ TPN4W	58	49300	934FC + 934I + 932I + 2 x 934B3 + 932B2	934FC + 934I + 932I + 4 x 934B3 + 934B1	934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3
AC60KVA/51000/SLR*/ TPN4W	60	51000	934FC + 934I + 932I + 2 x 934B3 + 932B3	934FC + 934I + 932I + 4 x 934B3 + 934B1	934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3

* Denotes the system autonomy i.e. AC1KVA/850/SLR3 = 3Hr Backup Autonomy

≈ Denotes cubicles size/quantity information is available on application

NOTE: The above solutions may change dependant on batteries availability

Central Battery Systems AC/AC

Loadstar AC/AC Systems

Selection Table: AC/AC SLR Range, Unity Power Factor

System Reference	Inverter Power Rating (kVA)	Output Watts (W)	Cubicle Arrangement 1 Hour Autonomy	2 Hr Autonomy	3 Hr Autonomy
AC1KVA/1000/SLR3*	1.0	1000	≈	≈	≈
AC2KVA/2000/SLR*	2.0	2000	≈	≈	≈
AC2.5KVA/2500/SLR*	2.5	2500	≈	≈	≈
AC3KVA/3000/SLR*	3.0	3000	≈	≈	≈
AC4KVA/4000/SLR*	4.0	4000	≈	≈	≈
AC5KVA/5000/SLR*	5.0	5000	≈	≈	≈
AC6KVA/6000/SLR*	6.0	6000	≈	≈	≈
AC7.5KVA/7500/SLR*	7.5	7500	≈	≈	≈
AC8KVA/8000/SLR*	8.0	8000	≈	≈	≈
AC9KVA/7650/SLR*	9.0	9000	≈	≈	≈
AC10KVA/1000/SLR*	10.0	10000	≈	≈	≈
AC11KVA/11000/SLR*	11.0	11000	≈	≈	≈
AC12KVA/12000/SLR*	12.0	12000	≈	≈	≈
AC13KVA/13000/SLR*	13.0	13000	≈	≈	≈
AC14KVA/14000/SLR*	14.0	14000	≈	≈	≈
AC15KVA/15000/SLR*	15.0	15000	≈	≈	≈
AC16KVA/16000/SLR*	16.0	16000	≈	≈	≈
AC17.5KVA17500/SLR*	17.5	17500	≈	≈	≈
AC18KVA/18000/SLR*	18.0	18000	≈	≈	≈
AC19KVA/19000/SLR*	19.0	19000	≈	≈	≈
AC20KVA/20000/SLR*	20.0	20000	≈	≈	≈
AC21KVA/21000/SLR*	21.0	21000	≈	≈	≈
AC22KVA/22000/SLR*	22.0	22000	≈	≈	≈
AC23KVA/23000/SLR*	23.0	23000	≈	≈	≈
AC24KVA/24000/SLR*	24.0	24000	≈	≈	≈
AC25KVA/25000/SLR*	25.0	25000	≈	≈	≈
AC26KVA/26000/SLR*	26.0	26000	≈	≈	≈
AC28KVA/28000/SLR*	28.0	28000	≈	≈	≈
AC30KVA/30000/SLR*	30.0	30000	≈	≈	≈
AC32KVA/32000/SLR*	32.0	32000	≈	≈	≈
AC34KVA/34000/SLR*	34.0	34000	≈	≈	≈
AC36KVA/36000/SLR*	36.0	36000	≈	≈	≈
AC38KVA/38000/SLR*	38.0	38000	≈	≈	≈
AC40KVA/40000/SLR*	40.0	40000	≈	≈	≈
AC42KVA/42000/SLR*	42.0	42000	≈	≈	≈
AC44KVA/44000/SLR*	44.0	44000	≈	≈	≈
AC46KVA/46000/SLR*	46.0	46000	≈	≈	≈
AC48KVA/48000/SLR*	48.0	48000	≈	≈	≈
AC50KVA/50000/SLR*	50.0	50000	≈	≈	≈
AC52KVA/52000/SLR*	52.0	52000	≈	≈	≈
AC54KVA/54000/SLR*	54.0	54000	≈	≈	≈
AC56KVA/56000/SLR*	56.0	56000	≈	≈	≈
AC58KVA/58000/SLR*	58.0	58000	≈	≈	≈
AC60KVA/60000/SLR*	60.0	60000	≈	≈	≈

* Denotes the system autonomy i.e. AC1KVA/850/SLR3 = 3Hr Backup Autonomy

≈ Denotes cubicles size/quantity information is available on application

Selection Guide Batteries

Systems with Valve Regulated Lead Acid Batteries

- Compact
- Reliable
- Cost effective
- Maintenance free, 10 year design life batteries
- Low battery voltage disconnect circuit fitted as standard
- Charger temperature compensation fitted as standard

Systems with Vented Nickel Cadmium Batteries

- Extremely robust over a wide temperature range
- Reliable, with a 25 year service life
- Good "through life" costs
- Resistant to electrical and mechanical abuse
- Can be stored in any state of discharge without damage
- Automatic and manual boost circuits fitted as standard

Systems with High Performance Plante Batteries

- 20 year service life
- Reliable
- Retains virtually full capacity throughout design life
- Low battery voltage disconnect circuit fitted as standard
- Charger temperature compensation fitted as standard

AC/NC Range

System Reference	Inverter Power Rating (kVA)	Inverter Wattage
AC/NC Series	1.0 - 25.0	500 - 21250

AC/HP Range

System Reference	Inverter Power Rating (kVA)	Inverter Wattage
AC/HP Series	1.0 - 25.0	500 - 21250

This guide provides only an overview of possible system configurations. Contact our central systems technical sales department for full details, including cubicle arrangement. 1, 2 or 3 hour autonomy systems available

Compact AC/AC



Many features normally only associated with larger units are included in the standard specification of the Compact AC/AC static inverter system. The inverter has a rated output of 500VA/400W or 600VA/510W and benefits from 4 independently fused outputs, battery deep discharge protection, automatic temperature compensation and a clear, informative system status display panel. The unit also fully complies with the EN 50171 standard. An output voltage of 230V AC permits any suitable, unmodified mains luminaires to be operated at full output in emergency mode.

Compact AC/AC

- 500 VA or 600 VA static inverter system
- Compact - ideal for smaller installations
- Fully complies with EN 50171
- Four separately fused outputs
- Digital display to clearly indicate system status
- EasiCheck compatible version available

Compact AC/AC

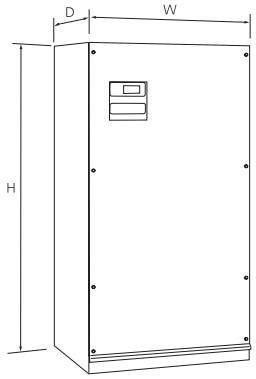


General	
Cubicle	1.6 mm zinc coated steel panels with powder coat RAL7032 light pebble grey finish. Removable cover retained by screws. Cable entries via removable top gland plate
Batteries	Valve regulated lead acid, 10 year design life
Charger and controls	
Mains supply	230V ± 10% AC single phase supply, 50 Hz
Input control	MCB to BS3871 Pt 1, or BS4752 Pt 1
Fusegear	HRC type to BS88
Terminals	DIN-rail mounted near to cable entry
Transformer	Double wound with earth screen
Rectifier	Full wave controlled thyristor/diode bridge
Contactor	Standard contactors comply with requirements of BS5424
Charger	Constant voltage, current limited type with electronic solid state controller. Voltage controlled to within 2% of setting at up to 10% mains supply variations. Full recharge within 24 hours. 80% capacity within 12 hours. Current limit facility
Deep discharge protection	Fitted as standard. Automatic shut down of inverter when battery voltage falls below pre-set level, during extended periods of mains supply failure
Cables	Compliant with BS6231
Load circuits	4 independent fused output circuits
Monitoring circuits	Terminals provided for connection of remote monitors and controls
Temperature compensation	Fitted as standard. Charger voltage is automatically adjusted with reference to ambient temperature to optimise charging and battery life. Pre-set for optimum performance at 20°C
Test push button	Simulates mains failure
Display panel	Composite fascia with LCD display and LED indicators
Alarm warning	Audible alarm fitted internally plus common volt free contacts for remote signalling of a fault condition and terminals for remote alarm unit option

Central Battery Systems AC/AC

Compact AC/AC

Dimensions in mm



H x W x D: 970 x 530 x 400

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Inverter	
Output voltage	Pre-settable in the range 220-240V AC. Default setting is 230V AC. Voltage tolerance is 2% on loads of 0-100% of system rating
Frequency	50Hz. ±0.1%. Waveform: Sinusoidal
Voltage regulation	Static 2%, dynamic 6%
Isolation	1kv rms between input and output terminals
Total harmonic distortion	Typically 3% or better. Max. 10%
Power factor	Will supply loads in the 0.7 lag - 0.7 lead range
Overload	200% for 10 seconds, 125% for 20 minutes without reduction in output voltage
Start-up time	Standard 300mS. Soft start
Noise level	Effectively silent on both charge and discharge
Efficiency	83% nominal. Typically 82-85%
Protection	DC input protection. AC output fuses DC input reverse polarity protection Short circuit protection Pre-charge protection fuse
Low voltage shut down	Inverter module automatically shuts down when battery discharges to a pre-set level. Re-set is automatic following the restoration of the mains supply
Inhibit	An inhibit switch to control the inverter is fitted on the main PCB in the cubicle
Technology	Pulse width modulation with high frequency switching

Ordering details

Type	Inverter Output Rating (VA)	Order No. of Hold Off Relay Monitor
Compact AC/AC 500 VA	500	AC500VA/M3
Compact AC/AC 600 VA	600	AC600VA/M3

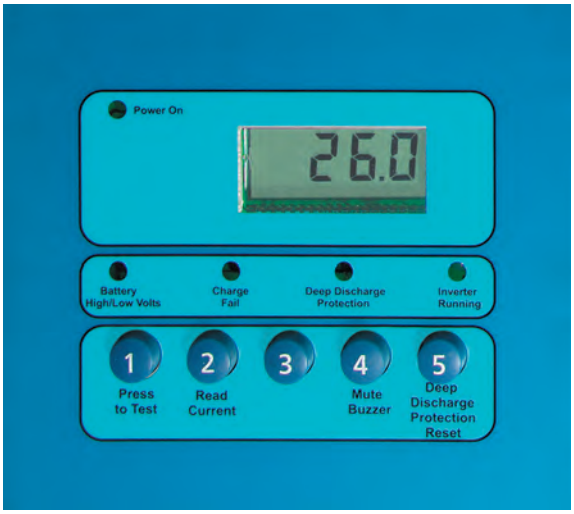
System Operation

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- In mains healthy condition, the power to luminaires designated for emergency use is supplied from the normal mains via a by-pass contactor inside the cubicle
- In the event of a mains failure, the system provides emergency power to dedicated mains slave or designated standard mains luminaires until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage, from the system via the inverter, is 230V AC nominal
- Local change-over switching can be effected using an ACM1 module, controlling single or multiple luminaires (if fed from common switched mains supply)
- Suitable standard mains luminaires* require no modification to operate with the static inverter (unless ACM1 change-over module is integral). All lamps in multi-lamp luminaires will be lit during mains failure, unless separate control gear is provided for individual lamps.

  *High inrush LED or compact fluorescent may not be suitable
- Sub-circuit monitoring and hold off relays can be added to the system to energise the emergency luminaires in the event of a localised mains circuit failure, if the ACM1 module is not used

Metering and Display Panel

- Simple and easy to read status display
- LCD meter indicating battery voltage or current reading mode indicated by LED:
  - Volts
  - Amps
- Indication LEDs
  - Power On
  - Charge Fail
  - Battery High/Low Volts
  - Deep Discharge Protection (protection circuit has operated)
  - Inverter Running



Remote Mounted Options

- Remote Alarm Unit
- Sub Circuit Monitor
- Hold Off Relay Monitor
- ACM1s

Design and Installation Notes

- To ensure the system is suitably rated, list the luminaires to be used, with their characteristics, to ensure the wattage and VA power rating of the inverter is not exceeded
- Using fluorescent luminaires with poor power factor will increase the VA load
- Note - EN 60598-2-22 prohibits the use of glow starters in fluorescent luminaires used for emergency lighting.
- A full set of installation, operating and maintenance instructions is supplied with each system to assist the installer carry out the work efficiently and safely
- Adequate ventilation has been provided in the cubicle to allow a safe dispersal of gases but it is important to remember that when choosing where to locate systems, particularly those with large batteries, attention must be paid to ensuring a build-up of potentially explosive gases is avoided
- Please refer to the system design section for details of ventilation calculations
- Warning notices should be displayed on entry doors to battery rooms:
  BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING



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Central Battery Systems AC/AC



Easicheck

EasiCheck 1.5 Slave 380
EasiCheck EC125 382
EasiCheck EC140 – Module with control input 384
EasiCheck EC141 – Monitoring module with control input 385
ACM1 - Changeover module 387

EasiCheck 1.5 Slave





EasiCheck 1.5 Slave is a purpose designed emergency lighting testing system for central battery AC/AC systems, providing a simple to operate, labour saving alternative to manual testing. Avoiding the need for separate secure manual test keys and the need to manually inspect fittings during and after tests, EasiCheck 1.5 automatically tests the emergency lighting luminaires and central battery system at a user controlled, convenient, non-disruptive time, then gathers the test results and displays them in a simple to understand manner at a central control panel. EasiCheck 1.5 has been designed to ensure quick and simple installation, ease of operation and simple system re-configuration. System extensions and changes can easily be incorporated without the need for specialist software or re-programming.

Features:

- Reduces time and cost of testing and maintenance as required by law
- Testing in compliance with EN50172
- Easy to use touch screen panel
- 250 luminaire capacity per panel
- Stand alone or network up to 63 panels
- Event logs and test reports can be downloaded or printed
- Selection of central monitoring software (text or graphic)

IP20

EasiCheck 1.5 Slave



EasiCheck 1.5 Slave

The main element of the EC1002TS is a large (120mm x 90mm visible area) touch screen display, which provides comprehensive user information and also acts as a multifunctional keypad.

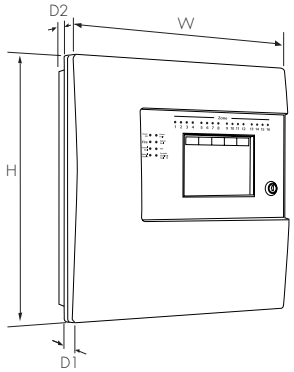
The EC1002TS touch screen display automatically reconfigures to suit the selected function, for example, if the change device text menu option is selected, the touch screen is automatically formatted as a full QWERTY keyboard to enable fast and simple text entry.

The use of the touch screen display enables a wide range of user and engineering facilities to be incorporated into the panel whilst still offering simple operation. There are a number of system status LEDs (power on, emergency mode, general fault, system fault, comms fault, luminaire fault, test in progress, disable luminaire, fault indication) designed to give clear status information to non-technical users.

Panel is used to facilitate following functions:

- Set up test types and times
- Initiate manual tests
- Display real time single luminaire status
- View fault log/panel configuration
- Download/upload fault log and panel configuration
- Re-configure luminaire text locations for ease of installation and commissioning

Dimensions



H: 375 mm

W: 357 mm

D1: 50 mm

D2: 45 mm

An EasiCheck interface module is fitted into all suitable dedicated emergency luminaires and mains luminaires converted for emergency operation.

- Each module shall be addressed using a hand held programmer during installation with a unique address number in the range 0-250
- Every luminaire is connected to a 2 core data BUS cable in a loop configuration, which is linked back to the control panel. A single panel can accommodate up to 250 luminaires
- It is important to maintain accurate 'as fitted' drawings to identify the respective luminaire and its assigned address/location
- Text information can be allocated to each system component
- The panel can then be programmed to carry out automatic test sequences according to EN 50172 or any regional testing regime. Testing can also be initiated manually. All test data is sent back and stored at the control panel. Additionally, the system carries out continuous real time monitoring of all connected devices
- In the event of a fault, the precise location of the device is displayed at the control panel along with accurate details of the nature of the fault, time/date stamp and an alarm is raised
- The system can be enhanced by networking up to 63 panels. Central PC monitoring can also be incorporated

Ordering details

Type	Order No.
EasiCheck1.5 Slave control panel	EC1002TS
EasiCheck1.5 Slave control panel (networked)	EC1002TSNC
Luminaire interface module with changeover relay	EC141
Luminaire changeover relay (non-monitoring)	EC140
Luminaire interface module	EC125
Hand-held programmer	EC160
Printer	EC170EC2
LON/IP Echelon router	EC400
Fibre optic router	CFSFL01
Network booster	EC460

IP20 EASI-CHECK

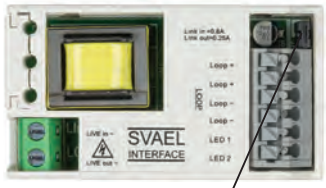
EasiCheck EC125 SVAEL Addressable Test Interface

SVAEL interface is fitted within every emergency luminaire on the emergency lighting system to monitor and report the AC current drawn by the luminaire to the EC1002TS panel along with its address/location. In the event of a luminaire reporting incorrect power consumption, the EC1002TS panel displays a fault with audible warning and location of faulty luminaire.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 32 panels
- Central PC monitoring
- User selectable measuring range (via link)

EasiCheck EC125



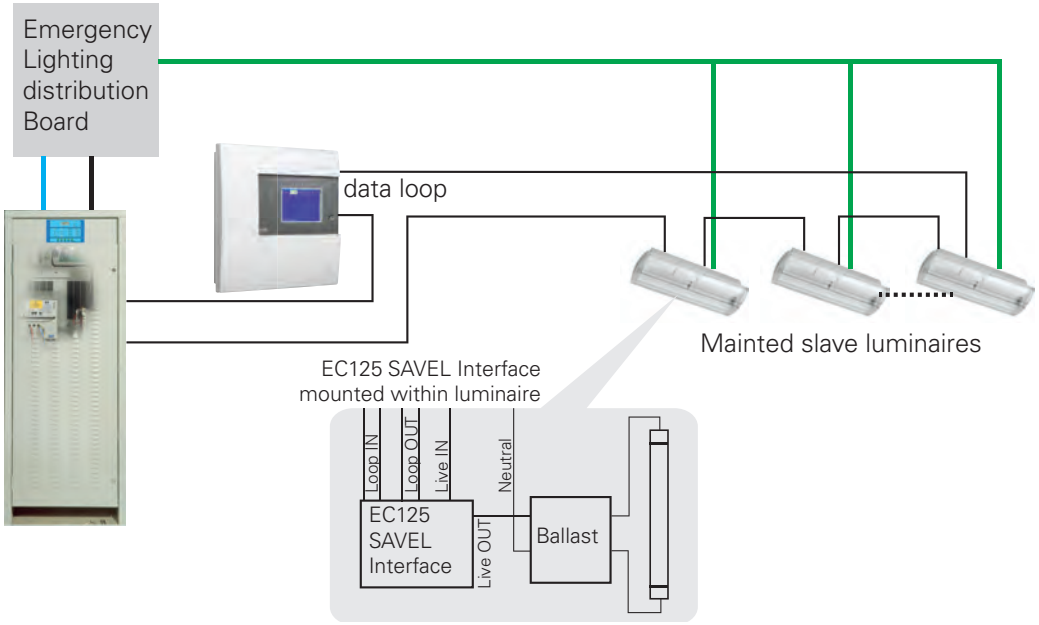


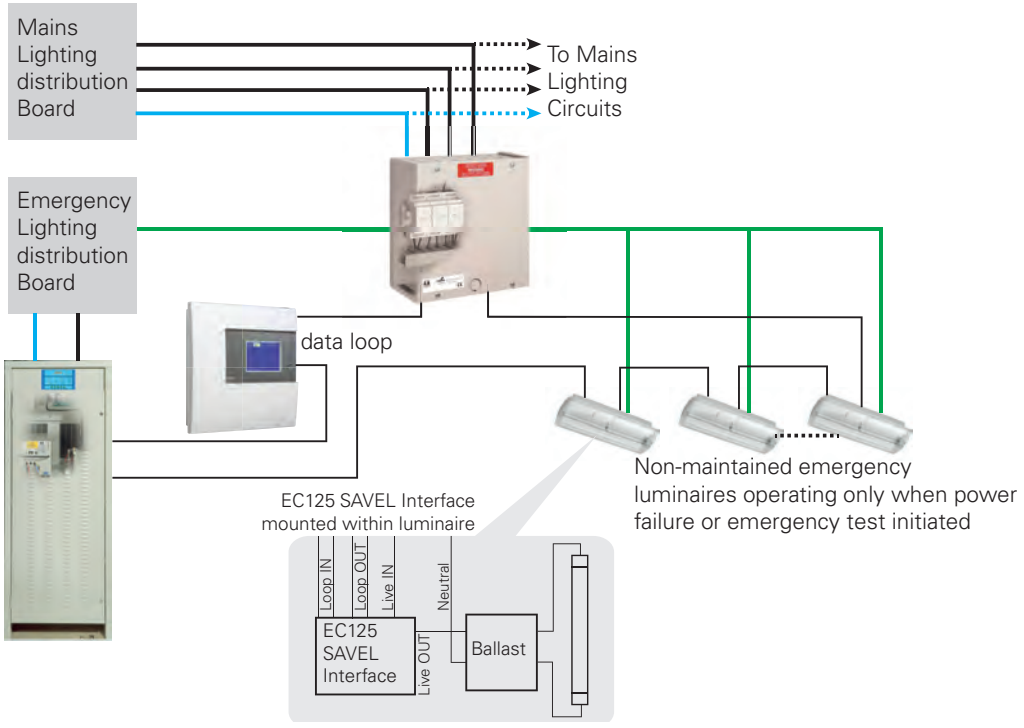
Range Link

Enclosure Material	Polycarbonate
Type of mounting	Within mains / slave luminaire
Dimensions in mm (L x H x D)	54 x 38 x 24
Weight	0.1 kg
Communications	Easicheck Data Loop
Connections	Max. 1.5 mm^2
Measurement	AC current
Monitoring range	34 – 250 mA (no link) 250 – 800 mA (link fitted)
Degree of protection	IP20
Temperature Range	0 °C to +40 °C

Ordering details

Scope of supply	Order No.
Easicheck test interface (Slave)	EC125


Emergency Lighting distribution Board
data loop
Mainted slave luminaires
EC125 SAVEL Interface mounted within luminaire
Loop IN
Loop OUT
Live IN
Neutral
EC125 SAVEL Interface
Live OUT
Ballast


Mains Lighting distribution Board
To Mains Lighting Circuits
Emergency Lighting distribution Board
data loop
Non-maintained emergency luminaires operating only when power failure or emergency test initiated
EC125 SAVEL Interface mounted within luminaire
Loop IN
Loop OUT
Live IN
Neutral
EC125 SAVEL Interface
Live OUT
Ballast

Central Battery Systems AC/AC

EasiCheck EC140 – Module with control input

IP20 EASI-CHECK

EasiCheck EC140 Addressable Changeover Module

EC140 addressable changeoveerr relay can be used to supply several luminaires for emergency operation fed from a static inverter central power supply. The changeover relay automaticall illuminates the emergency luminaire in the event of power failure or when a test is in operation. EC140 addressable changeover relay illuminates the emergency luminaires when a test is in progress enabling a SVAEL monitoring device within the luminaire to report the luminaire status back to the EC1002 panel to display luminaires condition indicating a fault with audible warning and location of faulty luminaires.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 64 panels
- Central PC monitoring

EasiCheck EC140 Changeover relay



10

EC140ENC remote enclosure

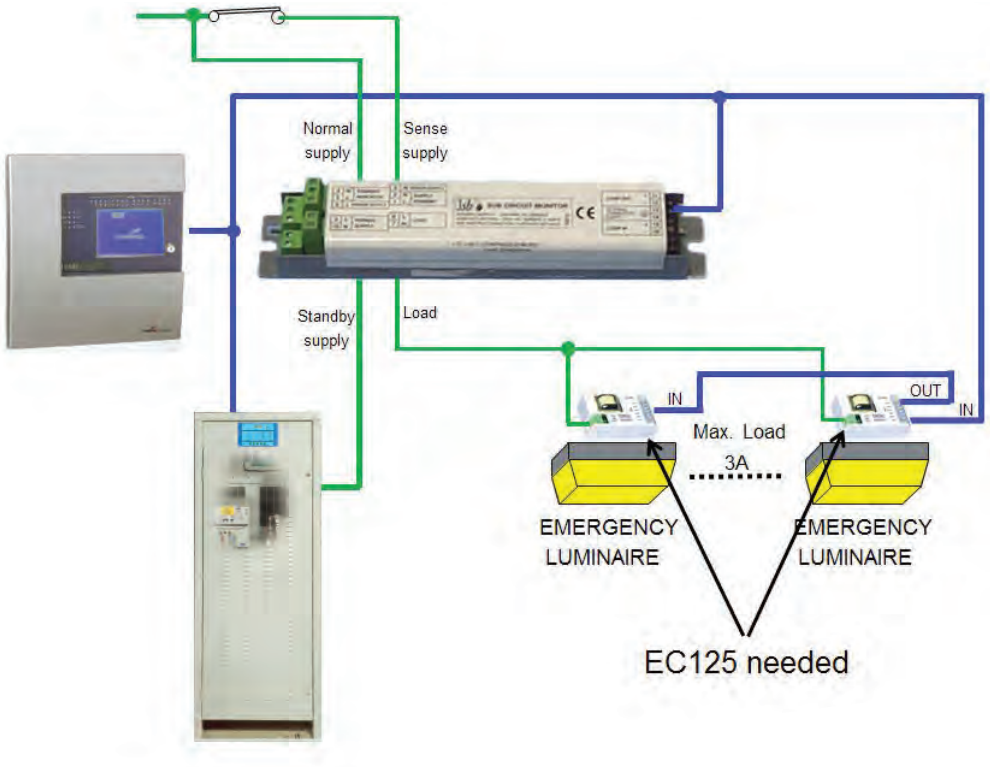


Remote enclosure dimensions in mm (L x W x H) 280 x 102 x 53, 0.7 mm steel painted RAL 9016, Degree of protection: IP20

Enclosure Material	Galvanised steel
Type of mounting	Within mains / slave luminaire or remote enclosure
Dimensions in mm (L x H x D)	220 x 34 x 40
Weight	0.3 kg
Communications	Easicheck Data Loop
Connections	Max. 2.5 mm^2 (2 x 2.5 mm^2 when mounted within FMENCA)
Monitoring range	No monitoring (use EC 141)
Degree of protection	IP20
Temperature Range	0 °C to +50 °C

Ordering details

Scope of supply	Order No.
Easicheck test interface (Slave)	EC140
EC140 mounted in remote enclosure	EC140ENC



IP20 EASI-CHECK

EasiCheck EC141 Addressable Changeover Module

EC141 interface can be fitted within mains luminaire to convert luminaire to emergency operation with addressable testing, alternatively mounted within a remote enclosure supplying a standard mains luminaire. EC141 monitors and report the AC current drawn by the luminaire to the control panel along with its address/location. In the event of a luminaire reporting incorrect power consumption, the EC1002 panel displays a fault with audible warning and location of a faulty luminaire.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 64 panels
- Central PC monitoring
- User selectable measuring range (via link)

EasiCheck EC141



EC140ENC remote enclosure



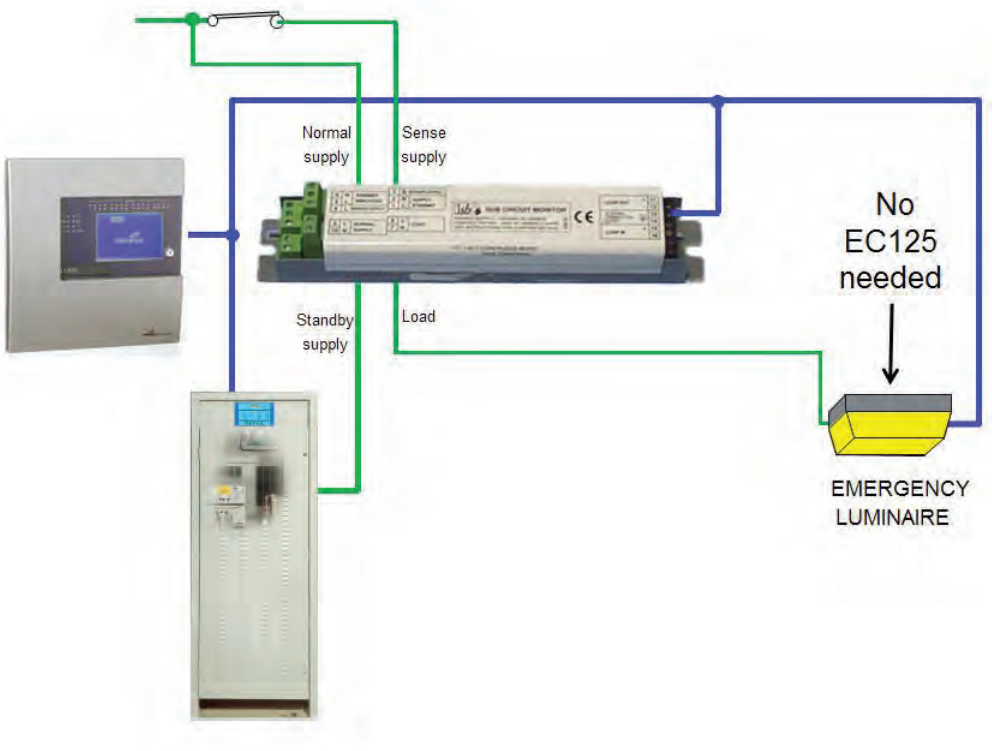
Remote enclosure dimensions in mm
(L x W x H) 280 x 102 x 53,
0.7 mm steel painted RAL 9016,
Degree of protection: IP20

Enclosure Material	Galvanised steel
Type of mounting	Within mains / slave luminaire or remote enclosure
Dimensions in mm (L x H x D)	220 x 34 x 40
Weight	0.3 kg
Communications	Easicheck Data Loop
Connections	Max. 2.5 mm² (2 x 2.5 mm² when mounted within FMENCA)
Measurement	AC current
Monitoring range	34- 250 mA (no link) 250- 800 mA (link fitted)
Degree of protection	IP20
Temperature Range	0 °C to +50 °C

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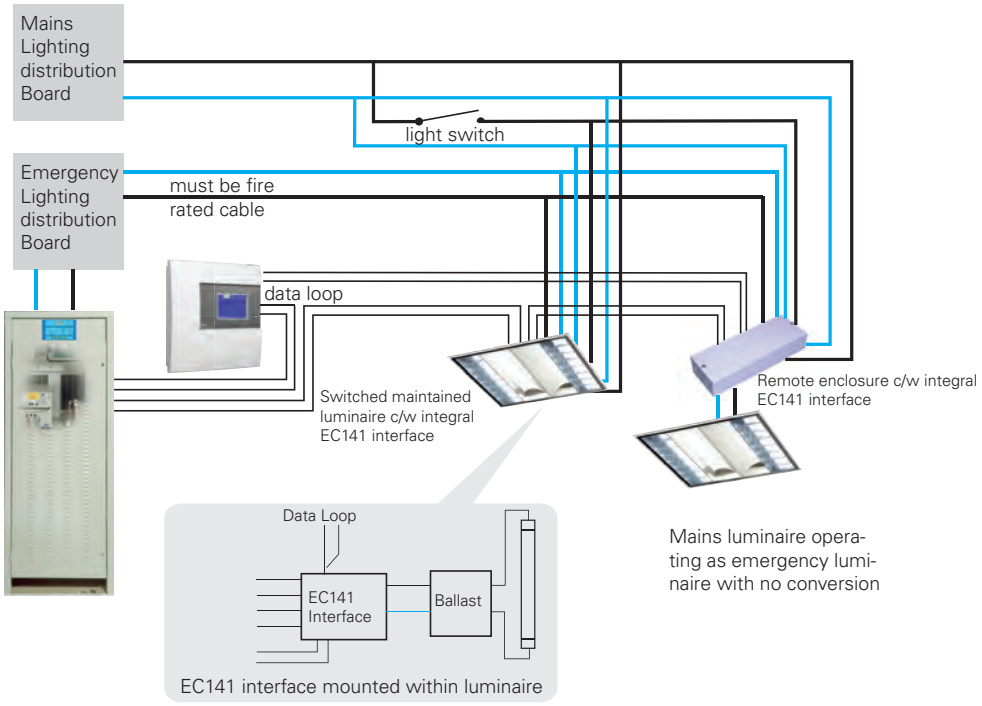
Ordering details

Scope of supply	Order No.
Easicheck test interface (Slave)	EC141
EC141 mounted in remote enclosure	EC141ENC



Central Battery Systems AC/AC

EasiCheck EC141 – Monitoring module with control input



IP20

ACM1 - Changeover module

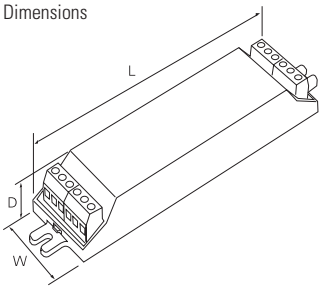
- Utilise mains luminaires as emergency lighting
- Controls up to 750VA
- Simple single or multiple luminaire control
- Rated to switch 480V
- Auxiliary contact for inhibiting dimming control
- Operates luminaire at full lumen output
- Ultra compact profile for ease of integration or remote mounting
- Heavy duty terminals

ACM1 - Static Inverter Conversions



Rated voltage ranges	230 V, 50 Hz
Controls of	up to 750 VA
Degree of protection	IP20
Dimensions in mm (H x L x W)	33 x 158 x 38
Housing material / colour	Module case- polycarbonate, white finish Remote enclosure- steel, white finish
Weight	ACM1: 0.30 kg ACM1ENC: 0.90 kg
Auxiliary contact	1 A at 240 V DC

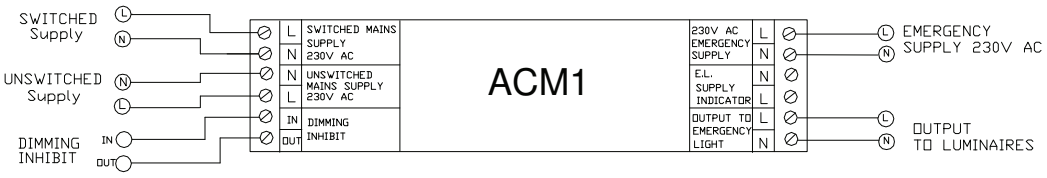
Dimensions

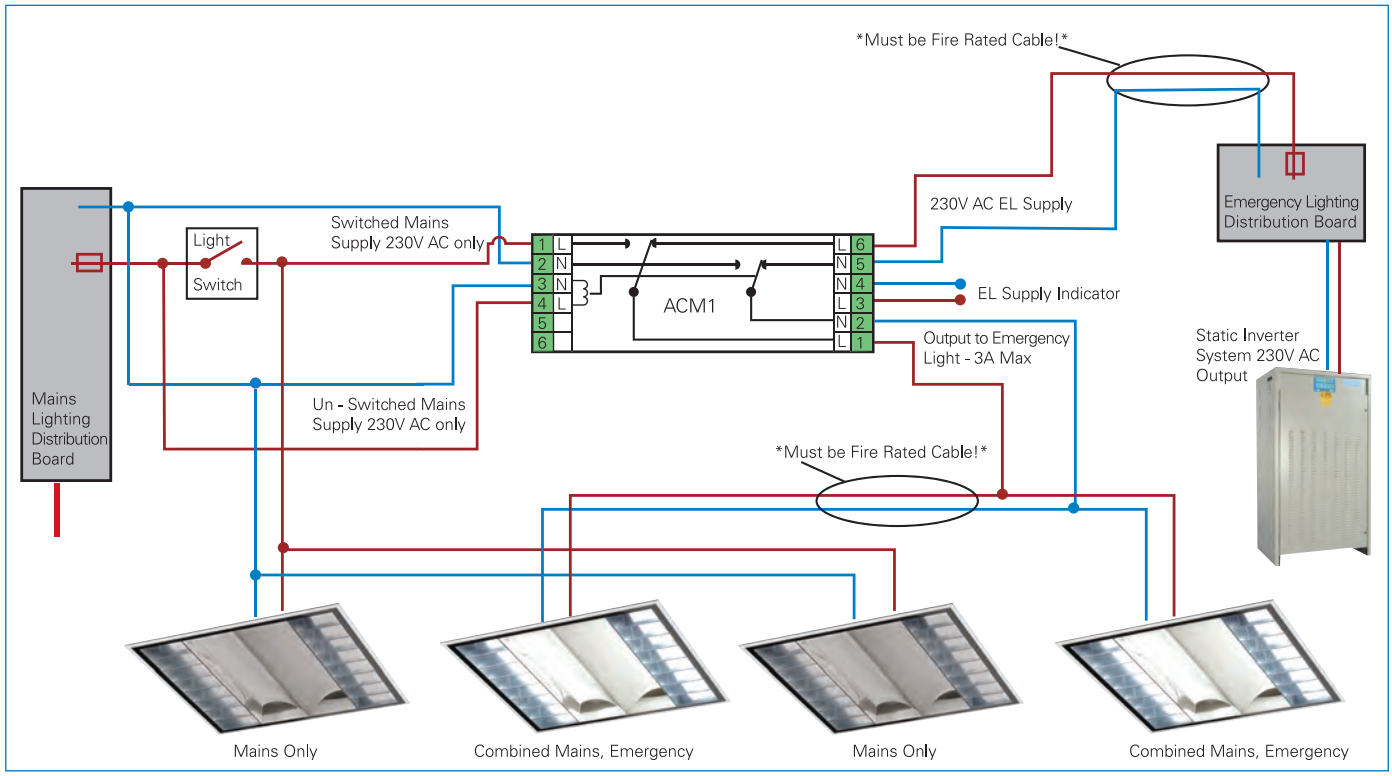


Description	L (mm)	W (mm)	D (mm)
ACM1	158	38	33
ACM1ENC	285	100	55

Ordering details

Description	Order No.
Active Control Module (max 750 VA)	ACM1
ACM1 mounted in remote enclosure	ACM1ENC





Typical ACM1 schematic diagram


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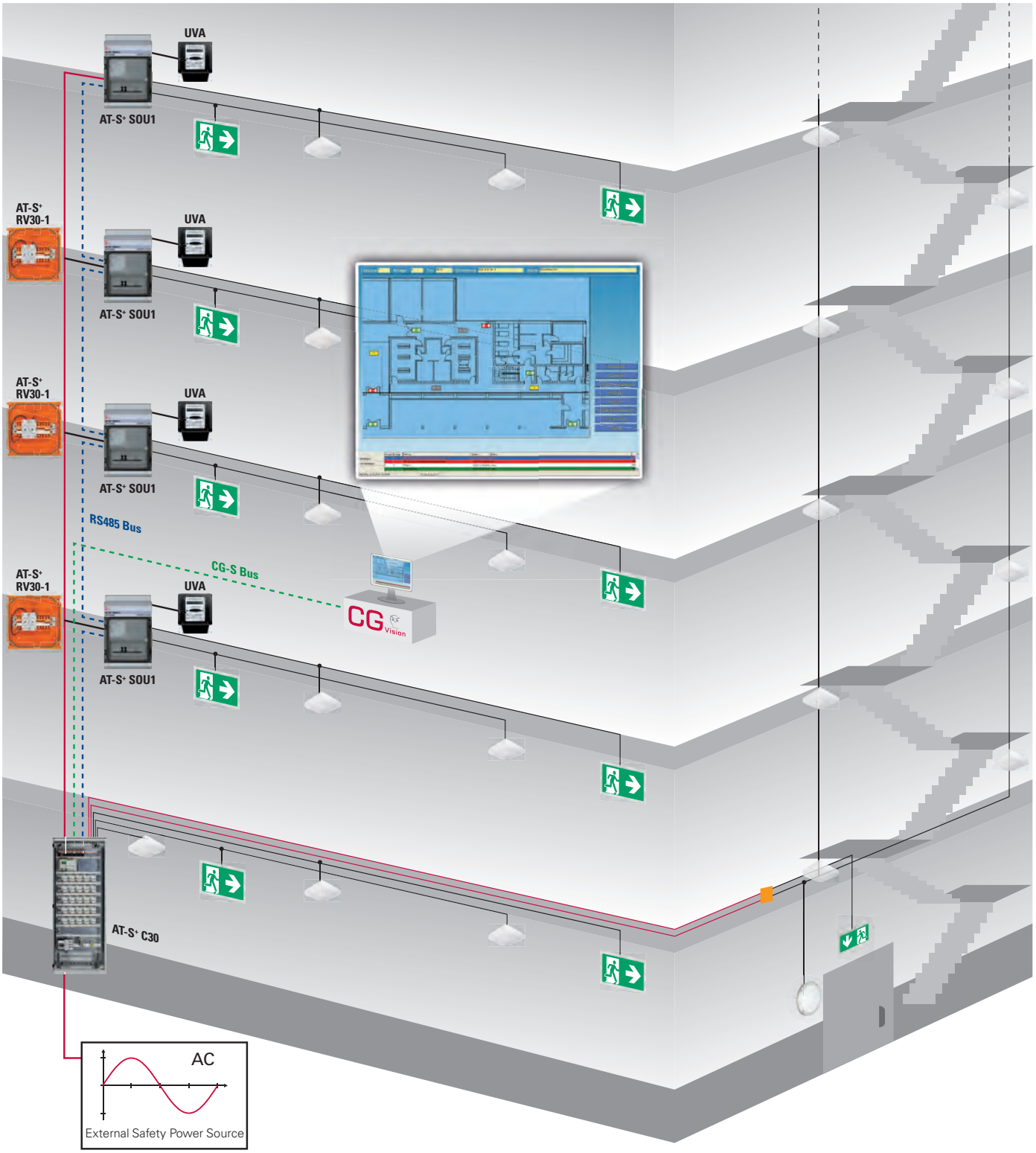
Central Battery Systems AC/AC

AT-S+

Automatic Test System AT-S+ with STAR+ Technology 390
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What is STAR+? 392
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Distribution box SU1 and SOU1 397
Distribution box ESF30 SU2 and ESF30 SOU2 398
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Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Fire compartment-specific installation example





AT-S+ SOU1

Distribution box for area by area installation
allows electricity costs allocation per rental area



Reliable STAR technology for AC safety power sources

AT-S+ offers all the known benefits of our STAR technology, now also for AC safety power sources. It is the perfect symbiosis of CEWA GUARD and STAR technology.

The Automatic Test System AT-S+ individually monitors each CG-S luminaire (up to 20 per circuit) and it does all this by using the power supply cable alone.

The new STAR+ technology allows the switching mode of every connected V-CG-S luminaire to be freely programmed within a 50 or 60 Hz supply network using the system's controller.

This means that maintained light, switched maintained light and non-maintained light modes can be combined in one and the same circuit – there is no need for separate data cables!

The control module with its nonvolatile program memory and large graphic display automatically monitors and controls all components of the test system as well as emergency luminaires connected to it. Faults occurring are shown by the display, forwarded via freely configurable signal contacts and saved to an inspection book.

An integral search function automatically detects all system-dependent luminaires and modules that are assigned an address during installation. A central monitoring device can be connected via an interface.

Features:

- Shortened inspection effort due to STAR+ technology; automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR+ technology; freely programmable mixed operation of the switching modes per luminaire in one circuit
- Less installation costs as no data line is required to the luminaires
- Automatic luminaire search function
- Plain text display on the control module down to the last luminaire
- Flexible data storage for test log and system configuration with memory card
- 30 minutes functionality in compliance with model directive for fire protection requirements on electrical wiring systems (MLAR model conduit systems directive), version 11/2005, tested by national material testing office

S+TAR TECHNOLOGY

S = Switching
T = Technology
A = Advanced
R = Revision
+ = AC single luminaire monitoring

Identify STAR+ market requirements and consistently implement them!

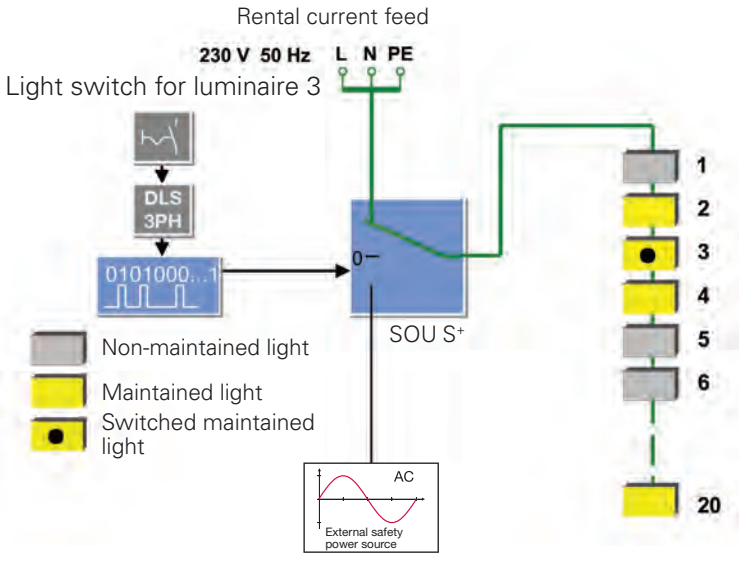
The continuing development of the CEWA GUARD monitoring system has led to the creation of the

Switching
Technology
Advanced
Revision,

or **STAR** for short. This **CG-STAR** technology allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology offers not just the proven CEWA Guard safety when it comes to operating a safety lighting system, it also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.

We have united both forms of technology to STAR+ to take advantage of CEWA GUARD and STAR technology in projects in which batteries as power sources for safety services are not needed, but where generators, dual systems (secondary power supply) or central converter systems are used. This now gives you a highly flexible test system with all the familiar benefits.

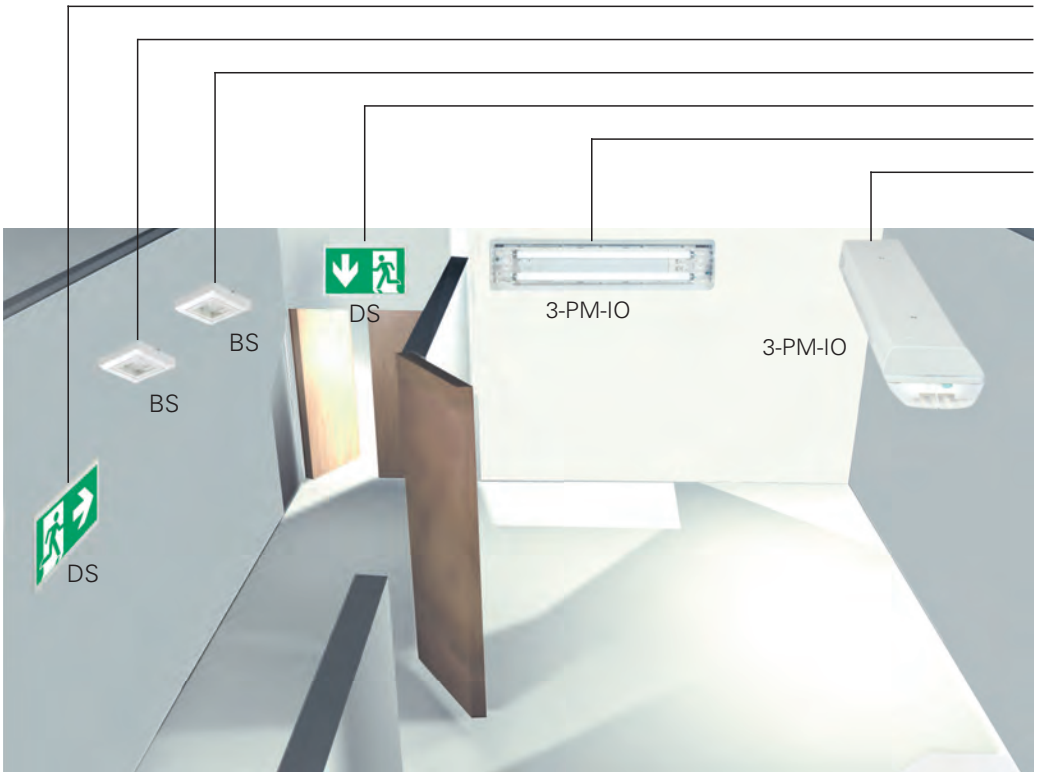


Operation of the STAR+ technology

Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.
This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – without encroachment in the lighting installation. This enables simple project planning without having to take all possible types of operation into account.
With symbiosis of CEWA GUARD technology and the patented STAR technology to STAR⁺ technology, no supplementary data line to the luminaires is needed even with use of an AC power source for safety services.

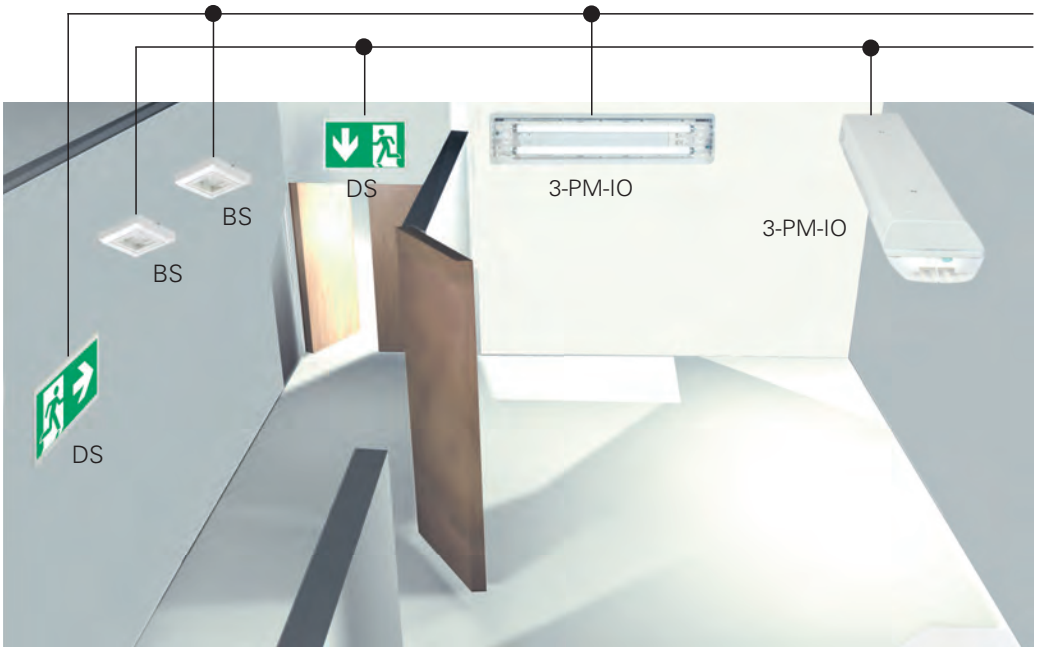
S+ STAR TECHNOLOGY



Conventional Installation:

Maintained light 1 (DS)
Non-maintained light 1 (BS)
Non-maintained light 2 (BS)
Maintained light 2 (DS)
Switched maintained light 1 (3-PM-IO)
Switched maintained light 2 (3-PM-IO)

- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense



AT-S⁺ Installation with STAR⁺ Technology:

All types of switching modes
All types of switching modes

- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Strong in detail

AT-S+ cabinet





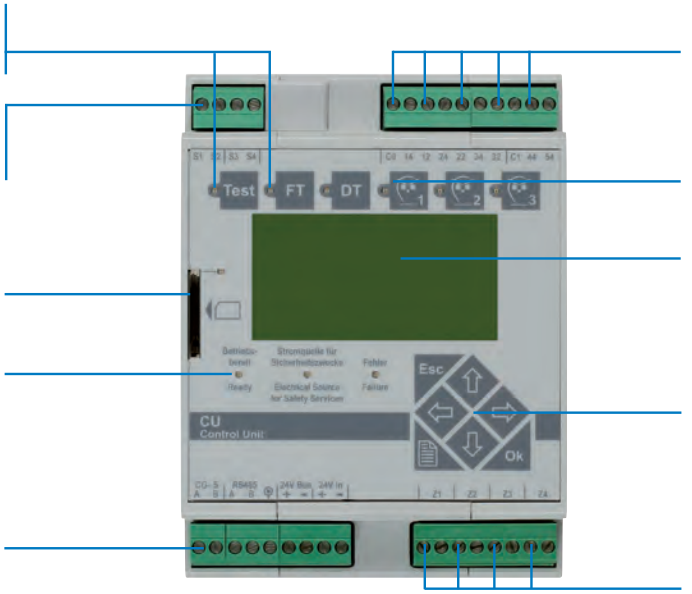
Large connection compartment for convenient wiring

All connections on triple deck installation terminals in the upper part of the central unit.

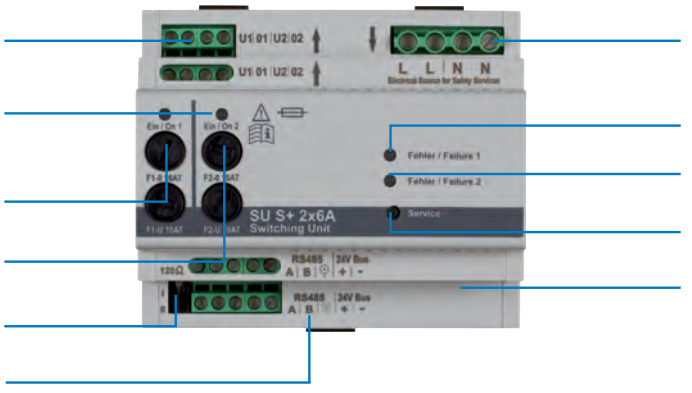
The control unit, DC/DC converter and the AC module are wired at terminal as standard.

Wiring of the SU-S+ modules at terminals is optional.

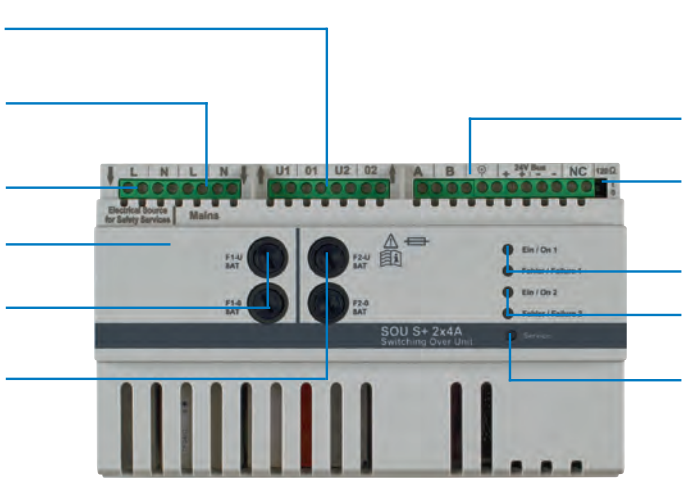
Freely programmable control unit



Switching unit SU S+ 2 x 6 A



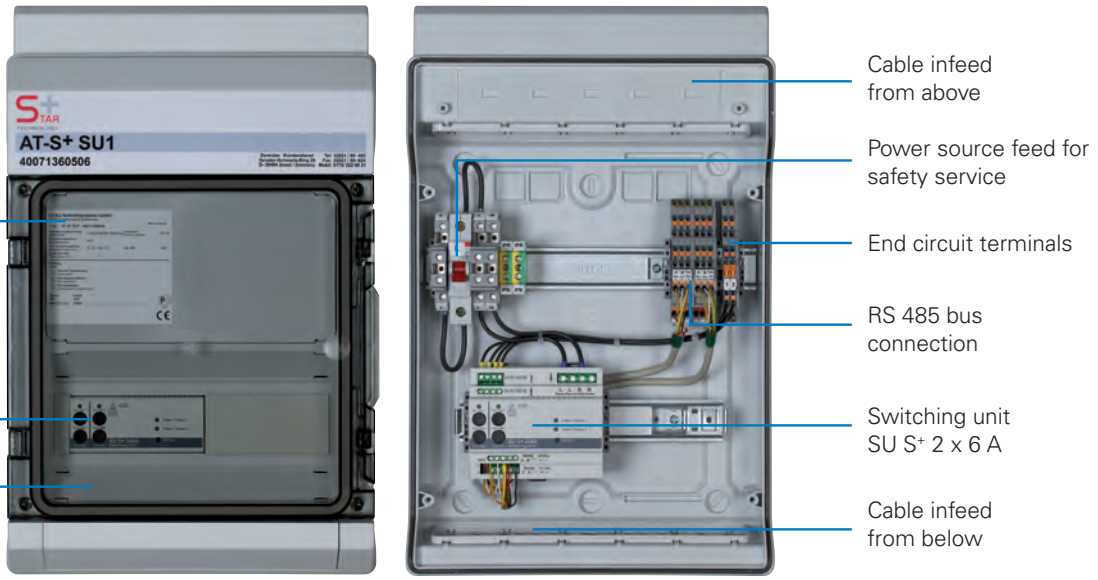
Switching over unit SOU S+ 2 x 4 A



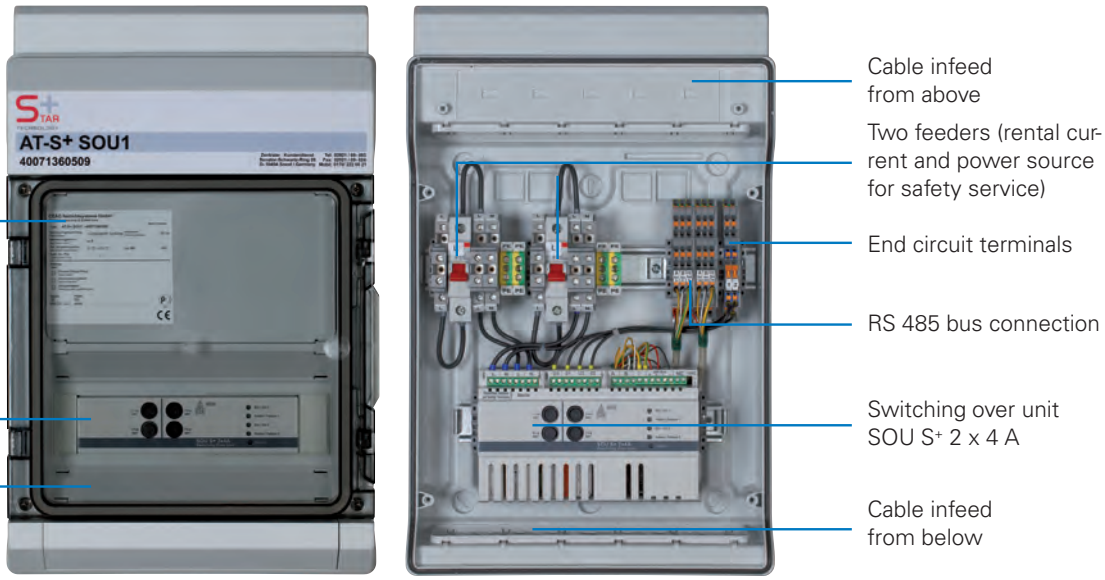
Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Distribution box SU1 and SOU1

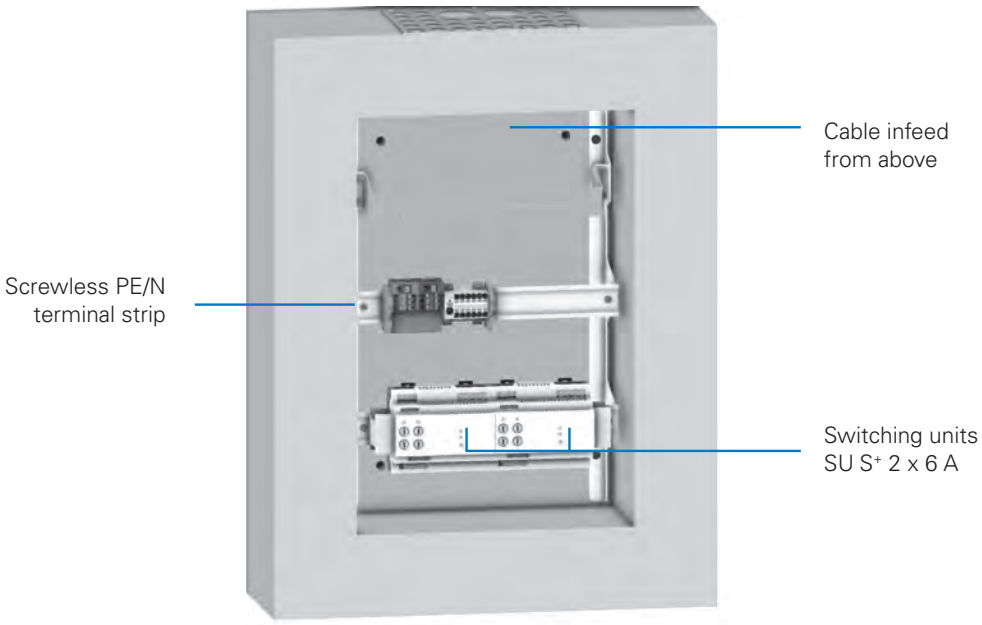
AT-S+ SU1



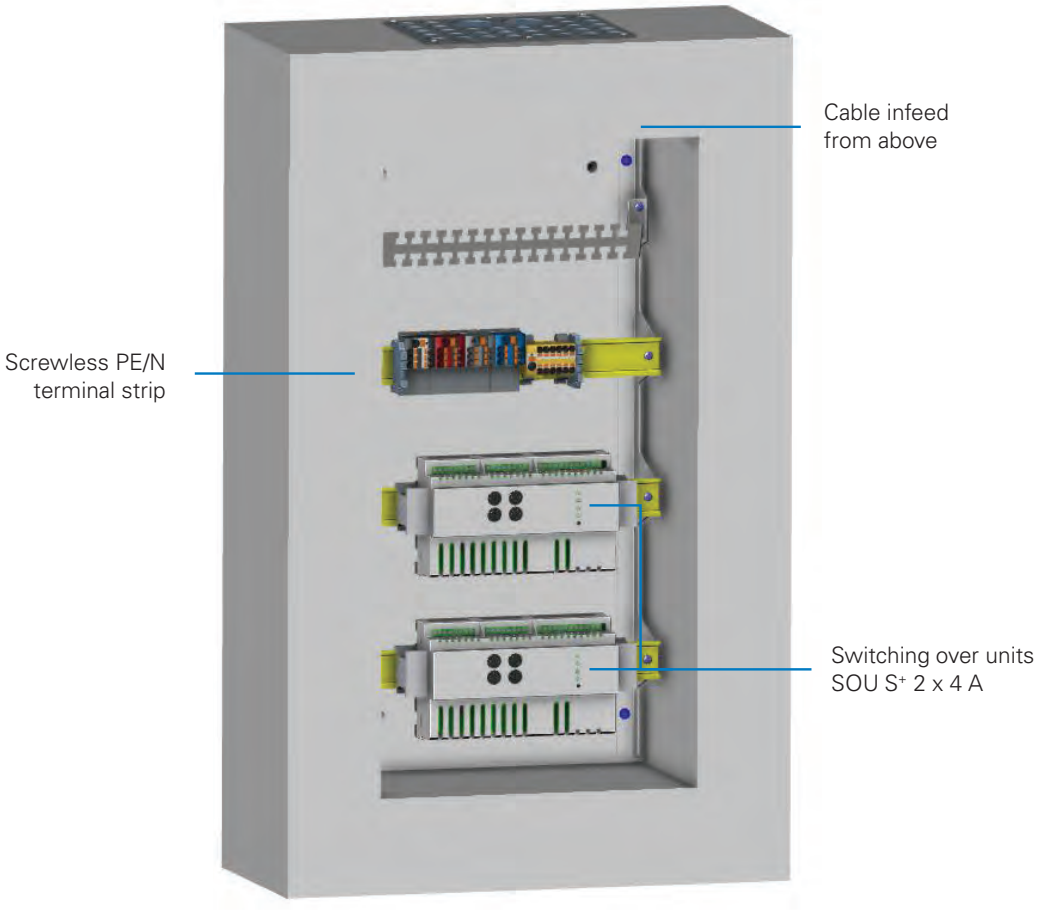
AT-S+ SOU1



AT-S+ ESF30 SU2



AT-S+ ESF30 SOU2





Safe operation under the most extreme environmental conditions

There are different types of sub-distributors available for compliance with the requirements on functional integrity of MLAR 11/2005.



AT-S+ ESF30 C10-P

Sub-distributor in sheet steel housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Approved by the Deutsches Institut für Bautechnik (DIBT- German Institute for Civil Engineering) as an electrical distributor with functional integrity, including electrical equipment and technical air ventilation with approval number: Z-86-2-1.



Electric distributor with functional integrity

Experimental design for application as an electrical distributor with functional integrity. The functioning of all the installed electronic components was tested in a fire test.



AT-S+ ESF30 SOU2



Sub-distributor in Priodec housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Approved by the Deutsches Institut für Bautechnik (DIBT - German Institute for Civil Engineering) as an empty enclosure for fire protection with a fire resistance rating of minimum 30 minutes in case of external fire exposure, approval number of the empty enclosure: Z-86.1-46

Functional integrity exceeding 30 minutes is certified in an expert opinion, based on a fire test.



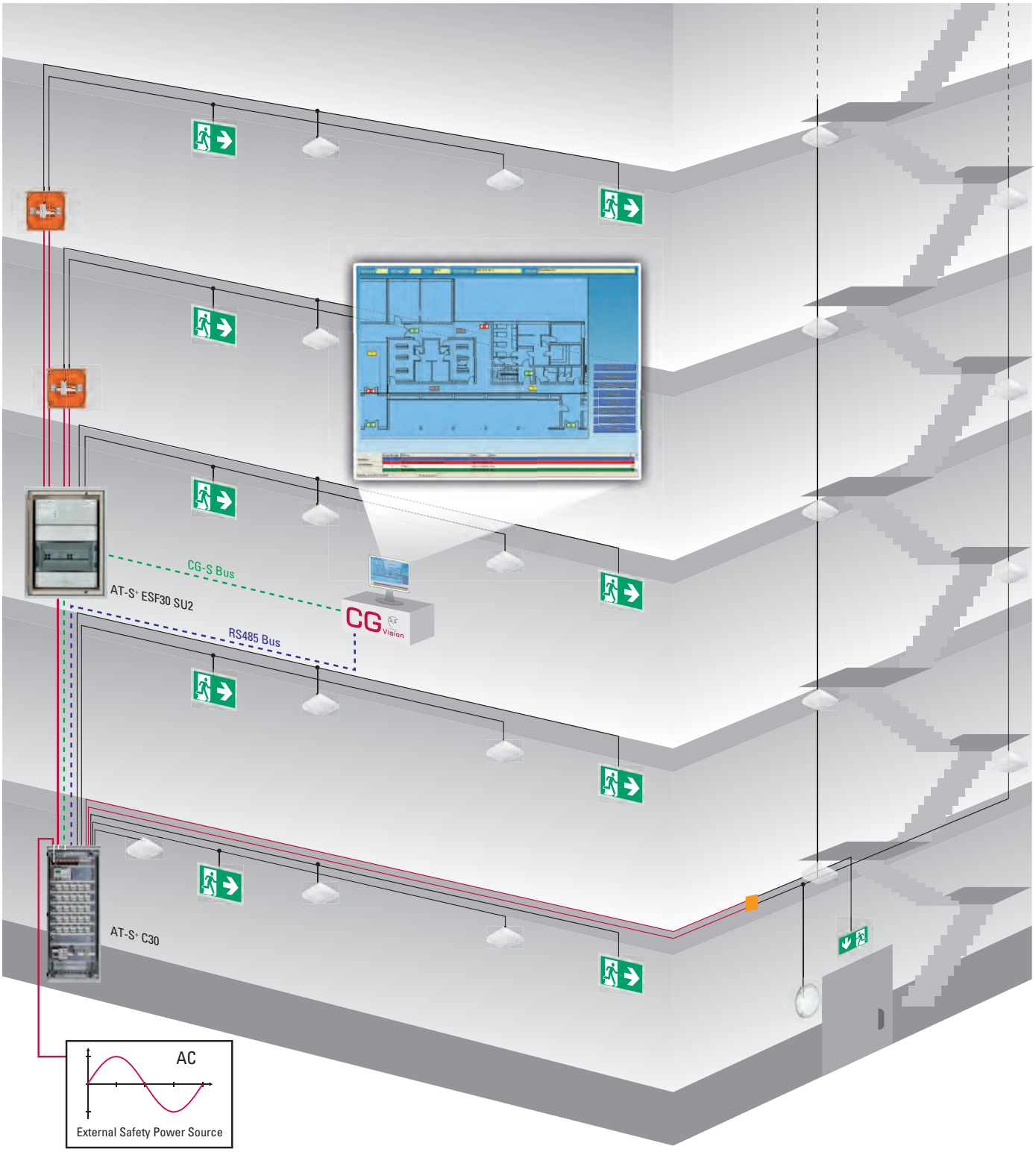
Please scan the following QR code for direct access:

Fire test in a video documentation

Please watch the video documentation of the fire test of the types of enclosures presented here:
http://youtu.be/dk8qieMSiTI

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Across fire compartments-specific installation example





AT-S+ ESF30 SU2

Distribution box for across fire compartments-specific installation



Controle module

A freely programmable control module with non-volatile program memory and graphic display monitors and controls the test system. All functions such as mains/emergency light switching of the devices and the emergency luminaires are tested automatically. Any faults that occur are signalled immediately. An interface enables a central monitoring facility to be connected.

In the event of a short circuit or open circuit in current loops, differential monitors immediately power on the system (maintained light) or put the system in readiness.

- Non-volatile memory
- Automatic luminaire search function
- Individual luminaire monitoring
- Automatic DLS/TLS search function
- Selective manual reset/circuit
- Selective emergency light/circuit
- Password function
- Final circuit fuse monitoring
- Control module with multi-master mode M³



Sealed keypad with 2 keys for:

- Test (mains failure)
- Function test start / cancel (Key DT without function)



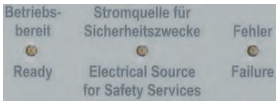
3 freely assignable function keys for:

- System disable/enable
- Manual reset
- Cancel function test
- Show fault list
- Maintained light off/on
- Power on complete safety lighting system (continuity lighting)
- Mains failure simulation UV-A (emergency operation)



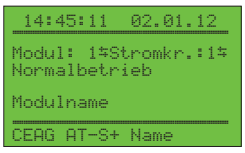
7 control keys

for user-friendly navigation



LED indicators for:

- Ready
- Electrical Source for Safety Services
- Failure



Graphic display:

128 x 64 pixels, backlit, program adjustable contrast and brightness.

Displays include:

- Date/Time
- Power source for safety services ready for operation
- Infeed of safety lighting from power source for safety services
- Power source for safety services faulty
- Manual reset
- Test mode
- Delay-time on mains return (remaining time in min.)
- Luminaire failure with location label
- UV-AV failure (location specification)
- Failure/programming information

Connections

- **Connection for disable switch:**
  24V control loops for blocking the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection. Differential monitoring: Short-circuit or open circuit result in readiness for operation of the system.

- **Connection for phase monitor:**
  24V current loop for requesting emergency lighting using differential loop monitoring for the detection of short-circuit and open circuits. Differential monitoring: Short-circuit or open circuit result in immediate power on (maintained light) of the system.

- **Connection for zero-potential signal contacts and buzzers:**
  Connection for zero-potential signal contacts, 24 V 0.5 A:
  3 relays with common potential, 1 x switching contact each,
  One or several from 11 different messages can be assigned to each zero-potential contact. Freely programmable, DIN VDE specification can be called up at any time as a pre-setting.

  2 relays with common potential, 1 x open contact each with fixed assignment.

- **Connection for analog inputs:**
  4 of freely assignable 24 V analog inputs, switch function can be programmed negated and non-negated, e.g. for start / cancel function test, disable / enable system, manual reset, maintained light on / off, power on safety lighting as continuity lighting.



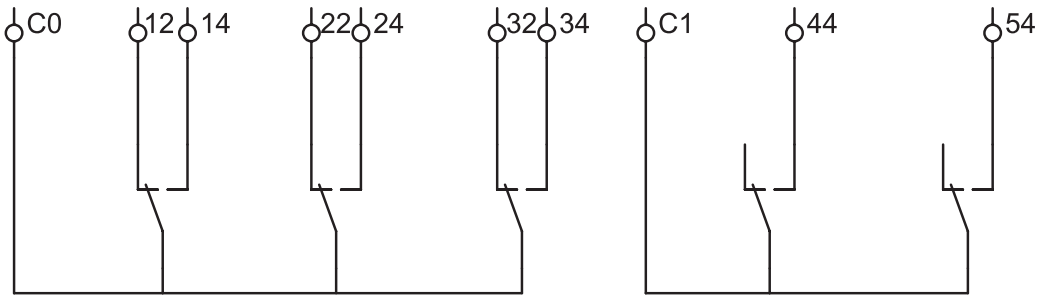
Display	128 x 64 pixel graphic display, program adjustable contrast
Ilumination	backlighting, program adjustable brightness
Keypad	sealed, with 6 function and 7 control keys
Readout	Infeed of safety lighting from power source for safety services Power source for safety services ready for operation AC isolation fault External fan fault Luminaire failure with location label Manual reset Delay-time on mains return UV-AV failure (location specification) Test mode Date/Time Failure information Programming information
Status	– Ready – Electrical Source for Safety Services – Failure

Potential-free signal contacts, buzzer

3 freely configurable relays with common potential, 1 x switching contact each, 2 relays with fixed assignment and common potential, 1 x open contact each, 24 V 0.5 A; buzzer. Freely programmable, DIN VDE specification can be called up at any time as a pre-setting.

Default setting AT-S+

Designation	Relay 1 C0/14/12	Relay 2 C0/24/22	Relay 3 C0/34/32	Relay 4 C1/44	Relay 5 C1/54	Buzzer
Ready for operation		X			Permanently configured for control of a technical cabinet ventilation. Default setting >40°C ON < 35°C OFF.	
Mains failure S3/S4	X					
Mains failure DLS/3PH	X					
Ext. source error	X					
Circuit fault	X					
Luminaire fault	X					
Device fault	X					
Ext. source active			X			
ISO error	X					
Function test				X (permanent-ly configured)		
Invert contact		X				



Ordering details

Type	Model	Order No.
Control module CU-S+ with SD	Plug-in module	4 0071 360 371

SD card



SD card reader



Secure-Digital-Card

Flexible data storage for system and log book configuration, e.g. of the mandatory archiving of log book information for a minimum of 4 years.

The system can also be programmed at any PC using optional SD-card reader and CEAG software. Texts can also be entered on the control module in the switch cabinet.

Storage of:

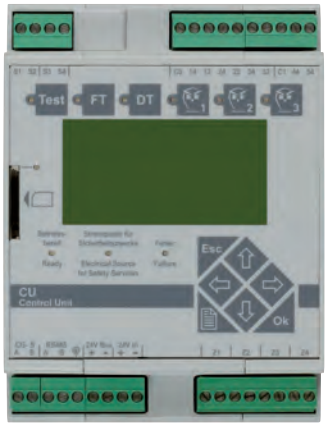
- 360,000 log book entries
- Location texts for the luminaires (20 characters per luminaire)
- Location texts of external modules such as phase monitor, DLS, TLS (20 characters per module)
- Circuit names (20 characters per circuit)
- System name (20 characters)

Ordering details

Type	Model	Order No.
SD card	SD card formatted for AT-S+	40071347911
SD card reader	SD card reader for USB-Port	40064070561
Software	Software for external programming of the AT-S+ via PC	40071347152

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SD-Card (Secure-Digital-Card)





Removable configuration and log book storage SD



PC with CEAG software for SD programming and analysis

Programming

- Easy system programming on an office PC from installation plans
- System configuration can be stored in the PC

DC Converter PSU.1E



DC Converter PSU.1E

The DC Converter PSU.1E converts the 220 V DC voltage to 24 V DC and 6 V DC to supply the modules and processor.

- Incoming supply can be run via AC/AC
- Gear tray mounting

24 V external	20 W continuous rating Outgoing circuit with front panel connector Isolated voltage
24 V internal	100 W continuous rating 140 W peak rating (20 ms)

Ordering details

Type	Order No.
DC Converter PSU.1E	40071361981

AC module



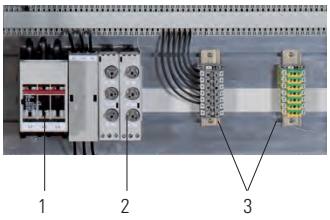
AC module

The AC supply in combination with the DC Converter PSU.1E assumes supply of the internal system voltage.

Ordering details

Type	Order No.
AC module	40071346311

Mains distribution board



Mains distribution board

The mains supply to a AT-S+ C30 or AT-S+ C16 system comes via a modular mains distribution board. This includes a size 00C load disconnector (1) with a maximum conductor size of 50 mm² and allows the connection of up to 6 distribution terminals for slave stations to modular size D02-E18 outgoing mains circuits (2) with the necessary terminals for neutral and ground (3).
The same mains distribution boards must also be used three-phase for feeders to powerful slave-stations (accommodates up to 2 slave stations in this case). The components are simply plugged on from the front and securely contacted.

Mains distribution module D02-E18



Current rating	63 A
Rated operating voltage	400 V
Box terminal for circulator conductor	to 16 mm²
Material	Polyamide (PA 6.6), 30 % glass-fibre-reinforced
Scope of supply	incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A

Ordering details

Type	Scope of supply	Order No.
Mains distribution module for track mounting	incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A	40071347160

SU S+ 2 x 6 A



Switching unit SU S+ 2 x 6 A

- Up to 20 luminaires can be monitored individually
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals

Hybrid operation of maintained light, non-maintained light and switched maintained light per module can be programmed with no additional data cable.

Fusing	10 AT/250 V, 5 x 20
Continuous current rating	6 A per circuit
Max. inrush current	250 A/ms per circuit
Switching time	450 ms
Own consumption	10.5 W (max.)
Module width	6 subunits (H x W x D = 107 x 90 x 58 mm)

Ordering details

Type	Scope of supply	Order No.
SU S+ 2 x 6 A	Switching untit SU S+ 2 x 6 A	40071360350
Spare part	Fuse 10 AT (5 x 20) 250 V (PU 10 pcs.)	40071360483

SOU S+ 2 x 4 A



Switching over unit SOU S+ 2 x 4 A

- Up to 20 luminaires can be monitored individually
- Separate AV-feed for rental current
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals inside the distribution box

Hybrid operation of maintained light, non-maintained light and switched maintained light in a single circuit can be programmed with no additional data cable.

Fusing	8 AT/250 V, 6.3 x 32
Continuous current rating	4 A per circuit
Max. inrush current	250 A/ms per circuit
Switching time	450 ms
Own consumption	9 W (max.)
Module width	10 subunits (H x W x D = 178 x 108 x 60 mm)

Ordering details

Type	Scope of supply	Order No.
SOU S+ 2 x 4 A	Switching over unit SOU S+ 2 x 4 A	40071360461
Spare part	Fuse 8 AT (6.3 x 32) 250 V (PU 10 pcs.)	40071360484

RCM-AS surface-mounted



RCM-AR flush-mounted



RCM-A remote indication

The RCM-A remote indication ensures display of the most important installation functions. Blocking of emergency lighting operation is possible via a key switch during idle operation times.

Differential loop monitoring leads to operational readiness of the system with short circuits or wire-break detection.

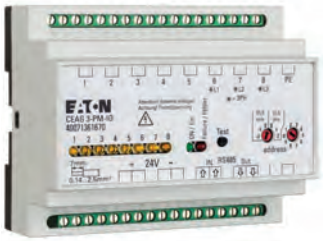
LED displays: system readiness, source for safety services, failure. As such the F3 remote indication fulfills the requirement that remote switching is only permissible when operation by unauthorized persons is not possible.

	RCM-AS surface-mounted	RCM-AR flush-mounted
Mechanic		
Dimensions mm (H x W x D)	80 x 80 x 52	80 x 80 12 (without flush-mounted box) Diameter flush-mounted box: 70 mm Deep flush-mounted box: 64 mm
Weight	0.15 kg	0.16 kg
Degree of protection	IP20	
Material	Thermoplast	
Resistant up to Flammability	650°C	
Environment		
Ambient temperature	-5°C … +35°C	
Storage temperature	-20°C … +65°C	
Relative humidity	10% ... 95% no condensation	
Air pressure	795 … 1080 hPa	
EMC		
Interference immunity	EN/IEC 61000-6-2	
Interference radiation	EN/IEC 61000-6-3	
Electrical parameters		
Rated voltage	24 V DC (SELV)	
Degree of pollution	2	
Power consumption	< 1 W	
Installation		
Lead	J-Y(ST)Y 4 x 2 x 0.8	
Max. Cable length	2000 m	

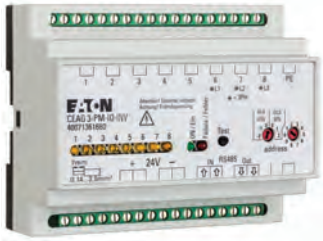
Ordering details

Type	Scope of supply	Order No.
RCM-AS remote indication	Subassembly for wall mounting	40071362390
RCM-AR remote indication flush-mounted	Component for installation in switch or cavity wall sockets according to DIN VDE 0606	40071362395

CEAG 3-PM-IO Modul



CEAG 3-PM-IO-INV Modul



External CEAG 3-PM-IO and CEAG 3-PM-IO-INV module

To avoid risks from mains failures, it is necessary to permanently monitor the function of the general lighting light distributors in order to switch on the safety lighting in the event of a fault.
Thus, the CEAG 3-PM-IO and CEAG 3-PM-IO-INV modules are an important part of the safety system.

- Permanent function monitoring of the entire system by bus technology
- Automatic logging of all test results in the test log book
- Test button for mains / emergency light failure thus no interruption of the mains voltage necessary and thus no malfunctions of the operational processes
- 3-PM-IO Modul: Eight measurement inputs for monitoring up to three phases and up to five * light switches
- 3-PM-IO-INV Modul: Eight inverted measurement inputs for monitoring up to three phases and up to five* light switches
- Freely configurable assignment of the measuring inputs to the emergency lighting
- No E30 wiring of bus illumination due to Fail Save Bus technology

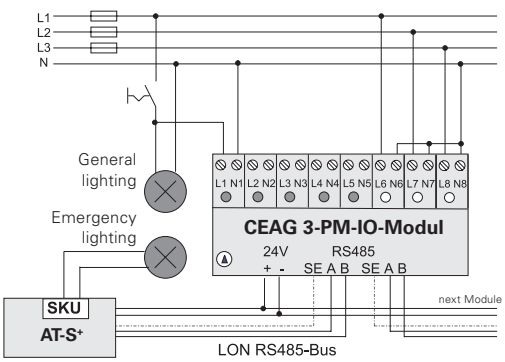
* If the phase monitor function is not required, all eight measurement inputs can be used for light switch enquiry.

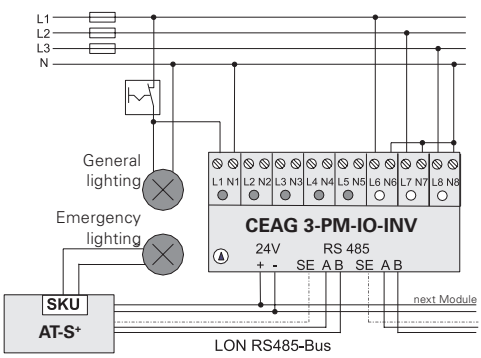
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	CEAG 3-PM-IO	CEAG 3-PM-IO-INV
Rated voltage	24 V DC (min. 19 V, max. 30 V)	
Current consumption (all 8 channel connected)	20 mA ± 5 mA	
Degree of protection	IP20	
Insulation class	I	
Ambient temperature	– 10 ° to + 40 °C	
Input channels 8 3-PM (channel 1-8) 3-PH (channel 1-5)	8 (potential free U_N = 230 V) 3-PM (Chan. 1-8) > 195 V-> ON < 138 V-> OFF	8 (potential free U_N = 230 V) 3-PM (Chan. 1-8) < 195 V-> OFF > 138 V-> ON
Data bus / Address range	RS 485 / 1-25	
Weight	0.2 kg	
Dimensions (L x W x H) mm	105 x 85 x 60	
Mounting	DIN-rail	
Connection terminals	2.5 mm² rigid and flexible	

Ordering details

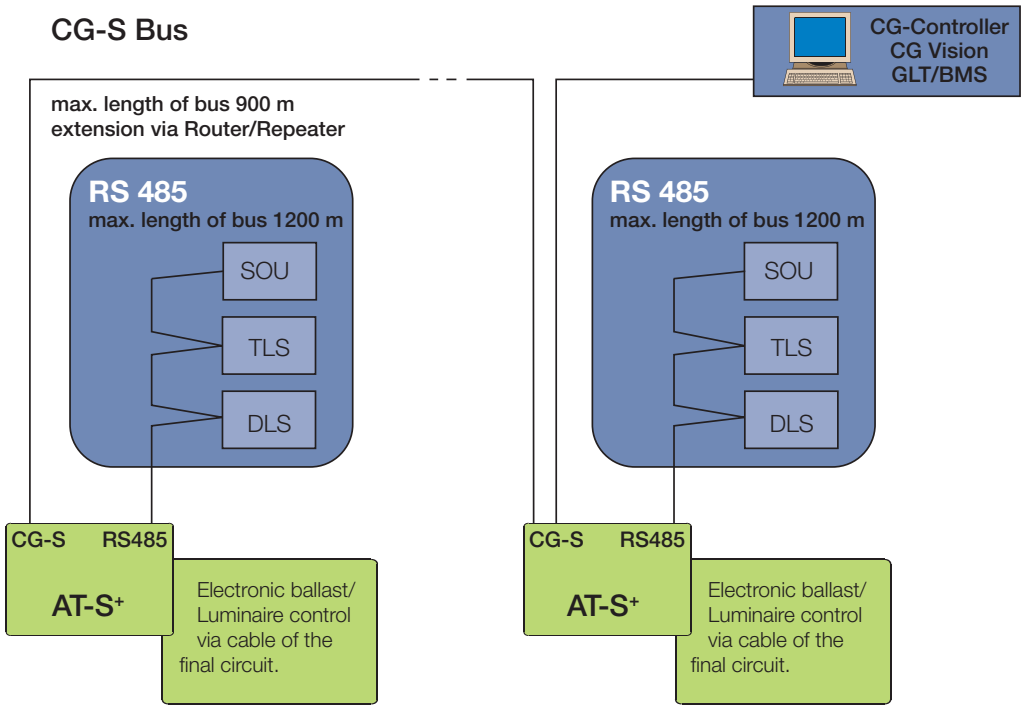
Type	Scope of supply	Order No.
CEAG 3-PM-IO-Modul with Test-Taster	Module for DIN rail mounting	40071361670
CEAG 3-PM-IO-INV-Modul with Test-Taster	Module for DIN rail mounting with inverse switching logic	40071361680
DIN mounting rail	4 pcs. DIN-rails for mounting external modules in the cabinet incl. mounting accessories	40071347125



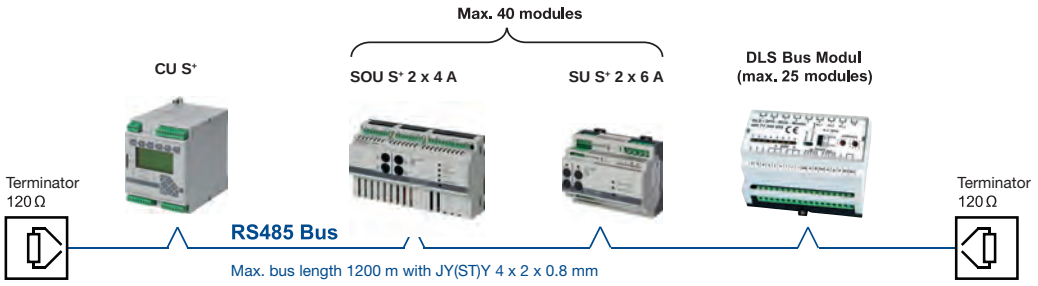


Bus technology according to RS 485

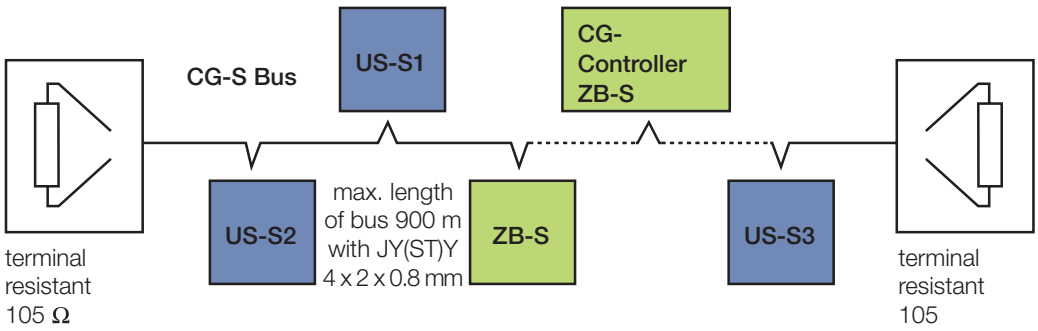
An RS 485 bus is used for data communication with external bus modules (DLS/3PH).
A connection to a central building services management system (BMS) can be made with the CG-S bus. An isolated 24V/0.5 A power supply (SELV) is available for the external modules.
The maximum line length depends on the required power and the conductor size.



Overall structure of the bus system for communication with external switching modules and master control system.



CG-S Bus for communication by AT-S+ systems



RS485 bus for communication with external AT-S+ modules (DLS/3PH bus module). The terminating resistor (120, 0.5 W) can be connected in the modules. The AT-S+ control cabinet also includes a resistor. This must be mounted in the AT-S+ system if only one cable is laid.

Notes:

Bus topology: linear, double terminated (no spur lines allowed)
The absolutely essential terminating resistors are supplied in a plastic pack in the control cabinet. Cable type (minimum requirement): JY(ST)Y 4 x 2 x 0.8 mm (twisted pair, screened). The conductor size required for the 24 V bus voltage will depend on the line length and the number of bus modules (Umin = 19 V DC).

DLS = external maintained light switching module (DLS/3PH bus module)
SOU S+ = switching over unit
SU S+ = switching over unit
CGVision = visualisation software





PC programming software AT-S+

Programming software for preset memory cards of the AT-S+ for the quick pre-programming via PC and simple reading and editing of the logbook. For documentation all files are saveable on memory card and hard disk.

Prints for documentation: Detailed prints of the programmed system configuration with the following details:

- individual name of the device
- the date and time of automatic function tests, incl. distance
- manual reset: yes/no
- delay on mains return: 0-15 min
- selective emergency light: yes/no
- Lon switch: yes/no
- assignments of the 5 relays
- assignments of the 3 function keys
- assignments of the 4 option inputs
- number, type and individual name of the bus modules

Detailed print of the programmed electrical circuits (line diagram) with the following details per electrical circuit:

- electrical circuit / module number and type
- individual electrical circuit name
- type of monitoring
- switching mode of the electrical circuit
- number of luminaires
- address and individual name per luminaire
- switching mode of each luminaire

Logbook prints with the following options:

- fault event (35 different fault events, separate or completely generic)
- time period of the logbook (date and time)
- individual comment per print
- luminaire failure: Detail of the individual luminaire and electrical circuit names

Ordering details

Type	Scope of supply	Order No.
Software	PC-Software for AT-S+, for alternative programming of the system configuration on PC	40071610233

Webmodule CG-S



Example: AT-S+-Device status



Example: SKU-Status



Cyper Security

See White paper WP152002EN "Cybersecurity considerations for electrical distribution systems"

www.eaton.com

Webmodule CG-S (ZB-S/AT-S+)

Webmodule ZB-S/AT-S+ for visualisation and monitoring of a central battery system, type ZB-S/AT-S+ via a local ethernet (LAN) or internet (WWW) with a conventional WEB browser. Access to the web-module via internet (WWW) must be administrated from an IT department on-site. Integrated mail-client for comfortable, event orientated failure information, for up to 5 E-mail recipients. Access via administrator account or guest account, with password protection.

- Easy menu structure
- Any type of display devices can be used with a WEB browser, for example notebook, tablet PC, IPad or smartphone
- Full visualisation and monitoring of a AT-S+ (automatic test system) via ethernet (LAN) with conventional WEB browser (e.g. Internet Explorer, Firefox etc.)
- Display of all actual operation modes
- Local failure information of each emergency circuit and luminaires with destination information in plain text
- Permanent actual information of the charging unit and battery
- Parallel access to the web module from different workstations possible (max. 8)
- Integrated mail client for comfortable failure notification via encrypted mail
- Type of different failures for the mail transmission is selectable
- Up to 5 mail recipients programmable
- Actualisation cycle of the web browser via the web module is adjustable
- Authenticated access via administrator account with password protection
- Encrypted transmission
- Adjustable guest accounts with restricted access with password protection
- Static or dynamic (DHCP) IP-addressing possible
- Supports IPv4/IPv6 (Internet Protocoll version 4/version 6)
- Any number of modules can be operated in parallel
- Overview display of all active web modules in local ethernet with status display and hyperlink function
- Includes 2 modbus sockets as standard

Supply voltage device	24 V DC
Rated power	< 1.1 W
Connection	RJ45
Degree of protection	IP20
Weight	0.05 kg
Dimensions	90 x 35 x 31
Enclosure	Polycarbonate

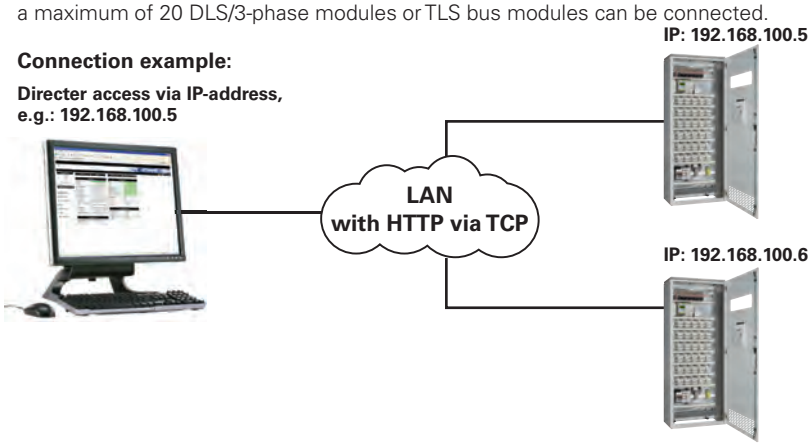
Ordering details

Type	Scope of supply	Order No.
Webmodule CG-S (ZB-S/AT-S+)	Module for DIN-rail mounting, incl. connection without patch line RJ45	40071361383

Notes:

If a webmodule integrated in the AT-S+ is supplied by the DC/DC.2 converter (external 24 V), a maximum of 20 DLS/3-phase modules or TLS bus modules can be connected.

Connection example:



AT-S+ C30



Ordering details

Type	Scope of supply	Order No.
Automatic Test System AT-S+ C30	Automatic Test System type AT-S+ C30 incl. CU-S+, DC/DC.2 and AC module 30 free module slots	40071360500
Automatic Test System AT-S+ C16	Automatic Test System type AT-S+ C16 incl. CU-S+, DC/DC.2 and AC module 16 free module slots	40071360501
Automatic Test System AT-S+ C4	Automatic Test System type AT-S+ C4 incl. CU-S+, DC/DC.2 and AC module 4 free module slots	40071360502
Automatic Test System AT-S+ C0	Automatic Test System type AT-S+ C0 incl. CU-S+, DC/DC.2 und AC module no free module slot	40071360503
Distribution box AT-S+ SU4	Distribution box type AT-S+ SU4 incl. 4 switching units SU S+ 2 x 6 A	40071360504
Distribution box AT-S+ SU2	Distribution box type AT-S+ SU2 incl. 2 switching units SU S+ 2 x 6 A	40071360505
Distribution box AT-S+ SU1	Distribution box type AT-S+ SU1 incl. 1 switching unit SU S+ 2 x 6 A	40071360506
Distribution box AT-S+ SOU2	Distribution box type AT-S+ SOU2 incl. 2 switching over units SOU S+ 2 x 4 A	40071360508
Distribution box AT-S+ SOU1	Distribution box type AT-S+ SOU1 incl. 1 switching over unit SOU S+ 2 x 4 A	40071360509

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AT-S+ ESF30 SOU5



Ordering details

Type	Scope of supply	Order No.
Automatic Test System AT-S+ ESF30 SU5	Distribution box for automatic test system with 30 minutes functionality, incl. 5 SU-S+ 2 x 6 A circuit assemblies	40071362615
Automatic Test System AT-S+ ESF30 SU4	Distribution box for automatic test system with 30 minutes functionality, incl. 4 SU-S+ 2 x 6 A circuit assemblies	40071362614
Automatic Test System AT-S+ ESF30 SU4 IO	Distribution box for automatic test system with 30 minutes functionality, incl. 4 SU-S+ 2 x 6 A circuit assemblies plus space for 2 x 3-PM-IO modules.	40071362613
Automatic Test System AT-S+ ESF30 SU2	Distribution box for automatic test system with 30 minutes functionality, incl. 2 SU-S+ 2 x 6 A circuit assemblies	40071362612
Automatic Test System AT-S+ ESF30 SOU5	Distribution box for automatic test system with 30 minutes functionality, incl. 5 SOU-S+ 2 x 4 A circuit assemblies	40071362595
Automatic Test System AT-S+ ESF30 SOU4 IO	Distribution box for automatic test system with 30 minutes functionality, incl. 4 SOU-S+ 2 x 6 A circuit assemblies plus space for 2 x 3-PM-IO modules.	40071362594
Automatic Test System AT-S+ ESF30 SOU3	Distribution box for automatic test system with 30 minutes functionality, incl. 3 SOU-S+ 2 x 4 A circuit assemblies	40071362593
Automatic Test System AT-S+ ESF30 SOU2	Distribution box for automatic test system with 30 minutes functionality, incl. 2 SOU-S+ 2 x 4 A circuit assemblies	40071362592
Automatic Test System AT-S+ ESF30 SOU1	Distribution box for automatic test system with 30 minutes functionality, incl. 1 SOU-S+ 2 x 4 A circuit assemblies	40071362591
AT-S+ RV30-1	E30 junktion box AT-S+RV30-1 for small cabinets type AT-S+/SU with 1 Neozed fuse inside	40036071033
Reduction	Reduction M32 to M20 cable glands for E30 junction boxes incl. M20 cable gland	40071071033

AT-S+ RV30-1



Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical data

Type	AT-S+ C30	AT-S+ C16	AT-S+ C4	AT-S+ C0
Modules:				
Control module: CU-S+	1	1	1	1
DC/DC.2-converter	1	1	1	1
AC module	1	1	1	1
Switching unit SU S+ 2 x 6 A	0-30	0-16	0-4	–
Switching over unit SOU S+ 2 x 4 A	–	–	–	–
Safety load disconnector mains feed	yes	yes	yes	–
Load disconnector mains feed	–	–	–	yes
No. of branching distributors	6	6	4	–
Electrical cabinet construction:				
Rated voltage	400/230 V	400/230 V	400/230 V	230 V
Rated frequency	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
AC network	TN-C-S	TN-C-S	TN-C-S	TN-C-S
Insulation class	1	1	1	1
Degree of protecton	IP20	IP20	IP54	IP54
Max. current rating mains [∑ L1, L2, L3] [A]	90	74	48	–
Max. rated power mains [KVA]	20.7	17	11	–
Three-phase distribution	yes	yes	yes	no
Connection cross-section for mains supply	50 mm²	50 mm²	50 mm²	4 mm²
Connection cross-section for branching distributors	16 mm²	16 mm²	16 mm²	–
Max. conductor size final circuits	4 mm²	4 mm²	4 mm²	4 mm²
Max. number of final circuit terminals	60	32	8	–
Mechanical cabinet construction:				
Cabinet height (max.)	2050	1800	800	600
Cabinet width (max.)	800	600	600	400
Cabinet depth (max.)	400	400	250	250
Material	Sheet steel	Sheet steel	Sheet steel	Sheet steel
Design	Cabinet	Cabinet	Wall cabinet / surface mounted	Wall cabinet / surface mounted
Door stop	right	right	right	right
Outer coating	Textured powder paint	Textured powder paint	Textured powder paint	Textured powder paint
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Partial viewing door	yes	yes	yes	yes
Lock	3 mm two-way	3 mm two-way	3 mm two-way	3 mm two-way
Cable entry from above	yes	yes	yes	yes
Cable entry from below	yes	yes	no	no
Base (optional)	100/200	100/200	–	–

*1 housing has insulation class II. The earth conductor must however be routed in the housing.

AT-S+ SU4	AT-S+ SU2	AT-S+ SU1	AT-S+ SOU2	AT-S+ SOU1
–	–	–	–	–
–	–	–	–	–
–	–	–	–	–
4	2	1	–	–
–	–	–	2	1
–	–	–	–	–
yes	yes	yes	yes	yes
–	–	–	–	–
230 V	230 V	230 V	230 V	230 V
50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
TN-C-S	TN-C-S	TN-C-S	TN-C-S	TN-C-S
2*1	2*1	2*1	2*1	2*1
IP65	IP65	IP65	IP65	IP65
25	16	10	25	10
5,7	3,7	2,3	5,7	2,3
no	no	no	no	no
10 mm²	10 mm²	10 mm²	10 mm²	10 mm²
–	–	–	–	–
4 mm²	4 mm²	4 mm²	4 mm²	4 mm²
8	4	2	4	2
583	458	458	583	458
295	295	295	295	295
129	129	129	129	129
Plastic	Plastic	Plastic	Plastic	Plastic
Wall cabinet / surface mounted	Wall cabinet / surface mounted	Wall cabinet / surface mounted	Wall cabinet / surface mounted	Wall cabinet / surface mounted
right	right	right	right	right
–	–	–	–	–
RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
yes	yes	yes	yes	yes
on request	on request	on request	on request	on request
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
–	–	–	–	–

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical data

Type	AT-S+ ESF30 SU5	AT-S+ ESF30 SU4 IO	AT-S+ ESF30 SU4	AT-S+ ESF30 SU2
Modules:				
Control module: CU-S+	-	-	-	-
DC/DC.2-converter	-	-	-	-
AC module	-	-	-	-
Switching unit SU S+ 2 x 6 A	5	4	4	2
Switching over unit SOU S+ 2 x 4 A	-	-	-	-
3-PM-I0/3-PM-IO-INV	-	0-2	-	-
Electrical cabinet construction:				
Rated voltage	230 V	230 V	230 V	230 V
Rated frequency	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
AC network	TN-C-S*1	TN-C-S*1	TN-C-S*1	TN-C-S*1
Insulation class	II	II	II	II
Degree of protecton	IP54	IP54	IP54	IP54
Max. total rated current [A] depends on ambient temperature at 230 V, 50 or 60 Hz:				
+25 °C	26	21	21	18
+30 °C	20	16	16	14
+35 °C	14	11	11	11
Max. rated power mains [KVA] depends on ambient temperature at 230 V, 50 or 60 Hz:				
+25 °C	5.98	4.8	4.83	4.14
+30 °C	4.60	3.6	3.68	3.22
+35 °C	3.22	2.5	2.53	1.0
Three-phase distribution	No	No	No	No
Max. connection cross-section for mains supply [qmm]	10	10	10	10
Max. conductor size final circuits [qmm]	4	4	4	4
Max. number of final circuit terminals	10	8	8	4
Mechanical cabinet construction:				
Dimensions [mm]:				
height (max.),	928	928	778	628
width (max.),	478	478	478	478
depth (max.)	295	295	295	295
Weight [kg] approx.	80	80	69	57
Material / version:	Fire protetion panels	Fire protetion panels	Fire protection panels	Fire protection panels
Type of mounting	Wall mounting*3	Wall mounting	Wall mounting*3	Wall mounting*3
Door stop	Left	Left	Left	Left
Colour RAL	7035	7035	7035	7035
Cable entry	From above	From above	From above	From above
Base (optional)	-	-	-	-
Approvals / Verifications				
ABZ housing incl. components Z-86.2 ...	Will applied for	Will applied for	Will applied for	Will applied for
ABZ empty housing Z-86.1 ...	Yes	Yes	Yes	Yes
Fire test for functional integrity, short report MPA NRW/ STGT	Yes	Yes	Yes	Yes
Specialised company declaration	Yes	Yes	Yes	Yes

***1: Further networks on request**

***2: Protective insulation acc. to VDE 0106**

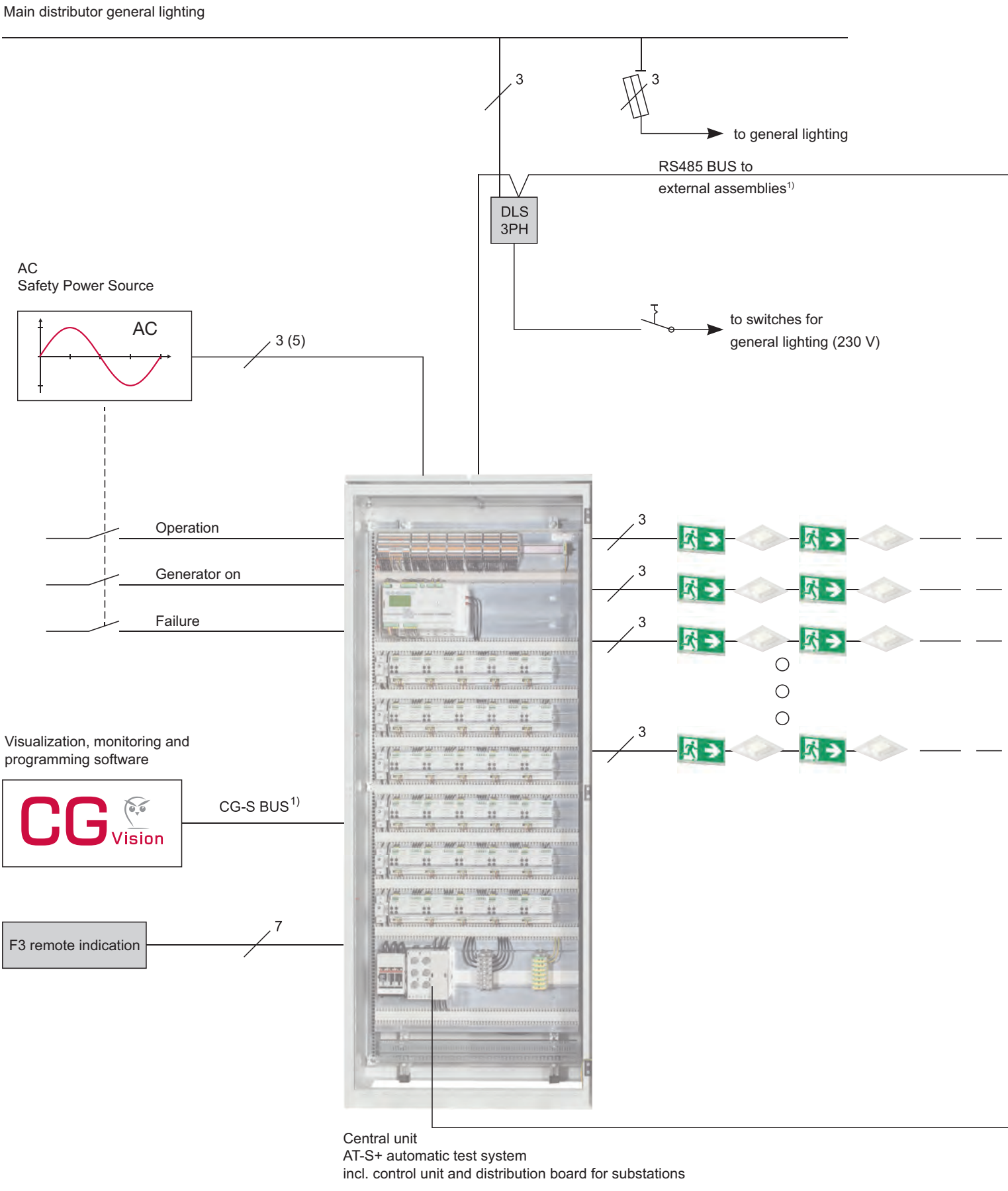
***3: Housings must be adapted to the masonry so that the housing is horizontal.**
The masonry must be designed for functional integrity of at least 30 minutes.
The functional integrity of the masonry must not be impaired by the installation.

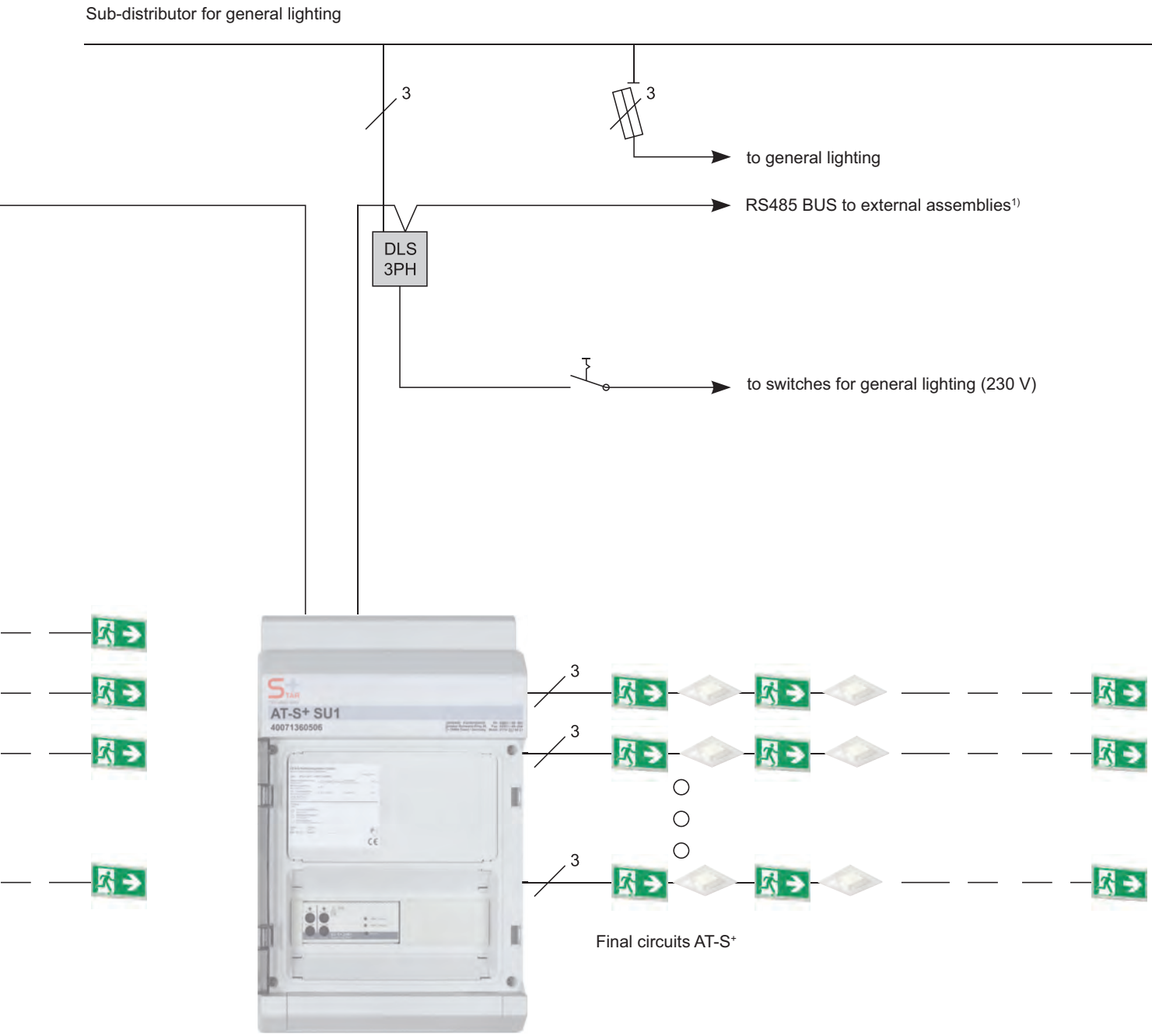
***4: Cable infeed from below on request**

AT-S+ ESF30 SOU5	AT-S+ ESF30 SOU4 IO	AT-S+ ESF30 SOU3	AT-S+ ESF30 SOU2	AT-S+ ESF30 SOU1
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
5		3	2	1
-	0-2	-	-	-
230 V	230 V	230 V	230 V	230 V
50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
TN-C-S[*1]	TN-C-S	TN-C-S[*1]	TN-C-S[*1]	TN-C-S[*1]
II	II	II	II	I[!]
IP54	IP54	IP54	IP54	IP54
33 28 16	26 23 13	20 17 10	15 12 9	8 6 5
7.1 6.0 3.4	5.6 4.9 2.8	4.60 3.91 2.30	3.45 2.76 1.53	1.725 1.380 1.150
No	No	No	No	No
10	10	10	10	10
4	4	4	4	4
10	8	6	4	4
1228 478 295	1228 478 295	928 478 295	778 478 295	628 478 295
103	103	80	69	60
Fire protection panels	Fire protection panels	Fire protection panels	Fire protection panels	Fire protection panels
Wall mounting[*3]	Wall mounting[*3]	Wall mounting[*3]	Wall mounting[*3]	Wall mounting[*3]
Left	Left	Left	Left	Left
7035	7035	7035	7035	7035
From above	From above	From above	From above	From above
-		-	-	-
Will applied for Yes Yes Yes	Will applied for Yes Yes Yes	Will applied for Yes Yes Yes	Will applied for Yes Yes Yes	Will applied for Yes Yes Yes

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Installation example





Final circuits AT-S+

Distribution board automatic test system
without control unit for accommodation of circuit switching modules
Type SU S+ 2 x 6A

1) bus specifications see page
AT-S+ bus technology

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Specifications

Automatic Test System AT-S+



10

Automatic Test System AT-S+

AT-S+ automatic test system for 230V / AC safety and escape sign luminaires.
Suitable for safety lighting systems with an AC power source for safety purposes according to DIN VDE 0100-718, DIN VDE 0100-560, DIN EN 50172 and V DIN V VDE 0108. With automatic testing device and single luminaire monitoring with individual display of state and name per luminaire in connection with system-connected ECG including monitoring module without supplementary data line.

Developed, manufactured and tested according to ISO 9001.

The switching mode of each safety and escape sign luminaire with system-connected ECG or monitoring module is freely programmed in the control unit of the test system without a supplementary control line.

The CEAG STAR+ technology enables the number of end circuits to be strongly reduced as the mixed operation of maintained light, switched maintained light and non-maintained light is implemented in a common circuit.

Assignment of all operating modes is via the control unit without encroaching in the luminaire installation. Selection of the non-maintained light or maintained light operating modes via possibly slide switch, coding switch or jumpers on the monitoring module or ECG is not permitted. Surplus costs to installation lines caused by use of devices from other manufacturers or additional components cannot be made valid.

Electronic assemblies in service-compatible module design wired ready for connection to triple deck installation terminals with N isolating terminal and PE connection.

Connection compartments from above or below on touch-protected connection terminals. With optionally installed mains distribution box for mains cable feed to the substations including fusing. Design with modular plug technology.

Bus technologies

CG-S bus technology based on LONWorks® technology.

For data communication of the test system with the connected substations or monitoring facilities such as CGVision (visualisation software), the 2-pole bidirectional CG-S data bus is used, integrated as standard in the AT-S+ control unit.

Via an optionally available interface box, all types of building management technology based on LONWorks® can communicate with the systems via the CG-S bus.

Alternatively, all OPC-compatible building management technologies can be connected via the CG-S bus with an optionally available OPC server and the interface box.

As such the CG-S bus enables direct calling up of extensive status messages and control commands without supplementary modules.

16 virtual switching inputs via external LON sensors enable circuits or even single luminaires to be independently switched directly.

Networking of all AT-S+ distributors control unit also possible via differing media such as optical waveguide, ethernet and LAN via optionally available components.

Status and error messages can be called up per single luminaire.

External assemblies such DLS/3PH bus module, DLS/3PH inverted bus module and TLS bus module are connected via the RS485 bus.

Communication with the system-connected luminaires is exclusively via the connected energy line.

The central system automatically detects the assemblies addressed during installation and the system-connected luminaires via a search function.

Control unit

A freely programmable control unit with non-volatile program memory and graphic display monitors and controls the test system. All functions such as mains/emergency switching of the devices and connected emergency luminaires are tested automatically. Errors occurring are reported immediately.

An interface enables connection of a central monitoring facility.

Differential monitoring with short circuiting or interruption of control current loops leads to immediate switching on (maintained light) of the system or operational readiness of the system.

Display:
128 x 64 pixel, backlit, contrast and brightness settable via program

Displays:
Power source for safety purposes ready for operation, infeed of safety lighting from power source for safety purposes, power source for safety purposes faulty, manual resetting, follow-on emergency light (residual time in mins.), test operation, date / time, uV-AV failure with location specification in plain text, error information, programming information, inspection book.

LED displays: Ready for operation, power source feed for safety purposes, error

Foil keyboard:

- separate keys for system test, function test.
- 3 freely programmable function buttons for e.g.: Block/release system, manual resetting, switch on / off maintained light, display fault list, switch on / off corridor lighting, mains failure UV simulation
- 7 control buttons for user-friendly navigation in querying and programming mode.

Furthermore, each assembly has a separate service button for directly showing the current assembly status in the display (immediate analysis).

Programming options:
Single luminaire monitoring, individual name (20 characters) per device, circuit, luminaire and bus module, device address, selective manual resetting, follow-on emergency light (1-60 mins.) selective emergency light, LON switch, timer

function, automatic function test, menu language selection

Connection for blocking switch: Control loop for blocking system during idle operating times with differential loop monitoring for short circuit and wirebreak detection.

Differential monitoring: Short circuit or interruption lead to operational readiness of the system.

Connection for phase monitor: 24V current loop for emergency light request with differential loop monitoring for short circuit and wirebreak detection.

Differential monitoring: Short circuit or interruption lead to immediate switching on (maintained light) of the system.

Connection for zero-potential signal contacts, buzzers: 5 potentionalfree relais contacts, each 3 x changeover contact, 2 x normally open contact. 30V DC/AC, 0,5A, buzzer

One or several from 11 different messages can be assigned to each contact. Freely programmable, DIN VDE specification as presetting can be called up at any time.

Connection for 24 inputs: 4 freely assignable 24V inputs, can be programmed either inverted or non-inverted for e.g.: Power source for safety purposes ready for operation, infeed of safety lighting from power source for safety purposes, power source for safety purposes faulty, start/abort function test, block/release system, manual resetting, switch on/off maintained light, switch on safety lighting as corridor lighting, external AC isolation fault, external fan fault.

Memory card: Memory card for archiving of device configuration and specified inspection book information over at least 4 years.

Saving of:

- 300,000 inspection book entries
- Target location texts of luminaires (20 characters per luminaire)
- Target location texts of external modules such as phase monitors, DLS, TLS (20 characters per module)
- Circuit names (20 characters per luminaire)
- System name (20 characters)

With optional CEAG software, programming is possible offline via PC.

Circuit modules

The circuit modules monitored emergency luminaires with electronic ballasts for AC operation. The STAR+ monitoring tests functionality of the connected luminaires.

- Monitoring of up to 20 luminaires per circuit with individual status display via the control unit
- Mixed operation within one circuit for maintained light, switched maintained light and non-maintained light (A supplementary data line to the luminaires is not required).
- Typical switching over time mains/safety source: 450ms
- Free programming for maintained light, switched maintained light or non-maintained operation
- Fuses on the front of the assembly are easily accessible
- Permanent monitoring of fuses
- LED displays for fault and operation/ON per circuit
- Service button for configuration
- Housing for DIN rail mounting
- Automatic luminaire search function

External DLS/3PH bus module

The external DLS/3PH bus module for installation into the sub-distribution of the general lighting can be used as phase monitor and light switch query (DLS) for the general switching of safety and general lighting.

8 DLS inputs (2.5 sq.mm) with LED display or 5 DLS inputs in combination with 3 phase monitor inputs can be activated via selector switch.

Monitoring thresholds acc. to DIN EN 60598-2-22: 60-85% U_{NOM}.

Connection of RS485 bus and 24V module supply.

Addressable via coding switch, LED displays for fault, switching state on, operation.

Housing for DIN rail mounting

Freely programmable assignment of independent DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit.

With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

External DLS/3PH bus module inverted

The external DLS/3PH bus module inverted for installation into the sub-distribution of the general lighting can be used as phase monitor and light switch query (DLS) with inverted switching logic for the common switching of safety and general lighting or for monitoring of automatic cutouts.

8 inverted DLS inputs (2.5 sq.mm) with LED display or 5 inverted DLS inputs in combination with 3 phase monitor inputs can be activated via selector switch.

Monitoring thresholds acc. to DIN EN 60598-2-22: 60-85% U_{NOM}.

Connection of RS485 bus and 24V module supply.

Addressable via coding switch, LED displays for fault, switching state on, operation.

Housing for DIN rail mounting.

Freely programmable assignment of independent inverted DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit.

With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

Supplier information:

CEAG Notlichtsysteme GmbH
Senator-Schwartz-Ring 26
D-59494 Soest/Germany
Telefon +49 (0) 2921/69-870
Telefax +49 (0) 2921/69-617
Internet www.ceag.de
e-mail info-n@ceag.de

ISO 9001:4500 certification must also be verified.

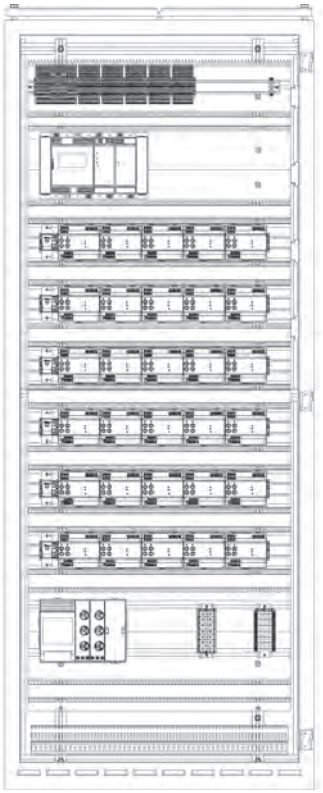
Manufacturers without ISO 9001:4500 certification are not permitted.

LONWorks®: registered trademark of Echelon Corporation

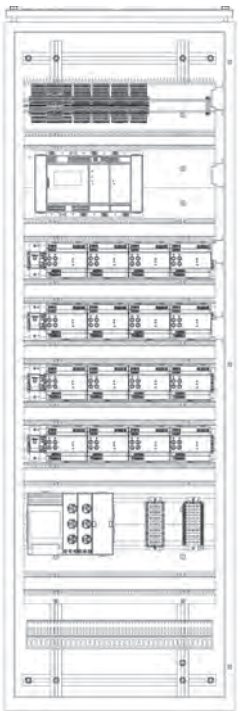
Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical drawings

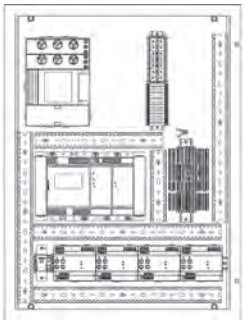
AT-S+ C30



AT-S+ C16



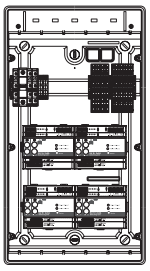
AT-S+ C4



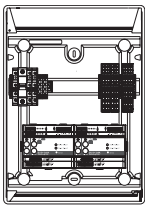
AT-S+ C0



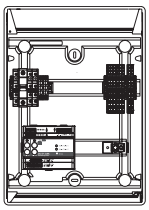
AT-S+ SU4



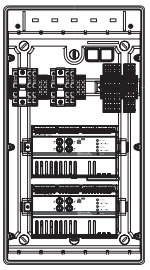
AT-S+ SU2



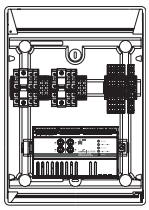
AT-S+ SU1



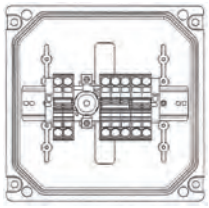
AT-S+ SOU2



AT-S+ SOU1



AT-S+ RV30-1



AT-S+ ESF30 SU5



AT-S+ ESF30 SU4 IO



AT-S+ ESF30 SU4



AT-S+ ESF30 SU2



AT-S+ ESF30 SOU5



AT-S+ ESF30 SOU4 IO



AT-S+ ESF30 SOU3



AT-S+ ESF30 SOU2



AT-S+ ESF30 SOU1




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50%



Central Battery Systems DC/DC

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Features and benefits 426
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Technical data 430
Tender text 433

Central Battery Systems DC/DC

Overview

	Central Power System	Low Power System	AC/AC power source	AC/DC power source	DC/DC power source
11.1 SelvGuard 	●	●			●

Circuit Monitoring	CEWA GUARD Technology (CG)	STAR Technology (S)	STAR+ Technology (S+)	EasiCheack (EC) Technology	AE-CU Technology
	Single luminaire monitoring in battery operation (DC)	Freely programmable switching mode in one and the same circuit	STAR technology and single luminaire monitoring in AC operation		
●					

Features and benefits of SelvGuard



- Increased safety for installers, end-users and fire fighters with SELV end circuits. No risk of dangerous electrical shock on the end circuits side.
- Increased project flexibility with 8 end circuits per LPS
- Reduced number of stock keeping units for distributors with freely programmable switched maintained operation mode. No additional emergency lighting distribution board required.
- Easy access and navigation due to a graphical LCD and navigation joystick
- Increased safety of the system and accuracy of reporting by 2 embedded secure inputs. Avoid loss of function due to interrupted circuit. No need to use expensive fire resistant cables.
- Increased functionality and flexibility with use of 3 freely programmable voltage inputs for: switch on/off one or the other end circuit groups, start/cancel function test or duration test, external ventilation monitoring, etc.
- Increased reporting and monitoring with use of 3 freely programmable changeover output contacts for: mains/emergency operation, charger failure, circuit fault, deep discharge protection reached, function/duration test results, etc.
- Reduced operation and maintenance cost with timely reporting of battery state with individual battery voltage monitoring
- Additional safety and security with easy remote reporting by optional remote display with integrated buzzer (e.g. to use at reception desk).

SelvGuard – Safety Extra Low Voltage



900 - 1200 W



300 - 600 W

SelvGuard

Eaton SelvGuard is a Low Power System (LPS), providing 48V DC supply to the emergency lighting luminaires. The system is suitable for small and medium emergency lighting applications like: small-medium retail stores, health care, education, leisure and hospitality, etc.

Eaton SelvGuard was designed in accordance with EN 50171. It is a protection Class I system and has eight SELV (Safe Extra Low Voltage) end circuits.

SelvGuard comes in two different sizes to accommodate up to 600 W luminaire load in 600x600x250mm and 900-1200W luminaire load in 700x600x400 mm (H x W x D).

The LPS consists of a power supply unit which provides power for the end circuits and charging the batteries, a measure and control unit, a battery compartment separated from the electronic components, two poles circuit breakers for each end circuit and a graphical LCD for enhanced visualization.

The system works perfectly with our 48V DC emergency lighting luminaires like CrystalWay, Planete 400 Disc, Planete 45, Planete 400, BXP, Planete Tube 45, NexiTech 1000, etc.

Central Battery Systems DC/DC

Application example



CrystalWay

High aesthetic exit sign luminaire



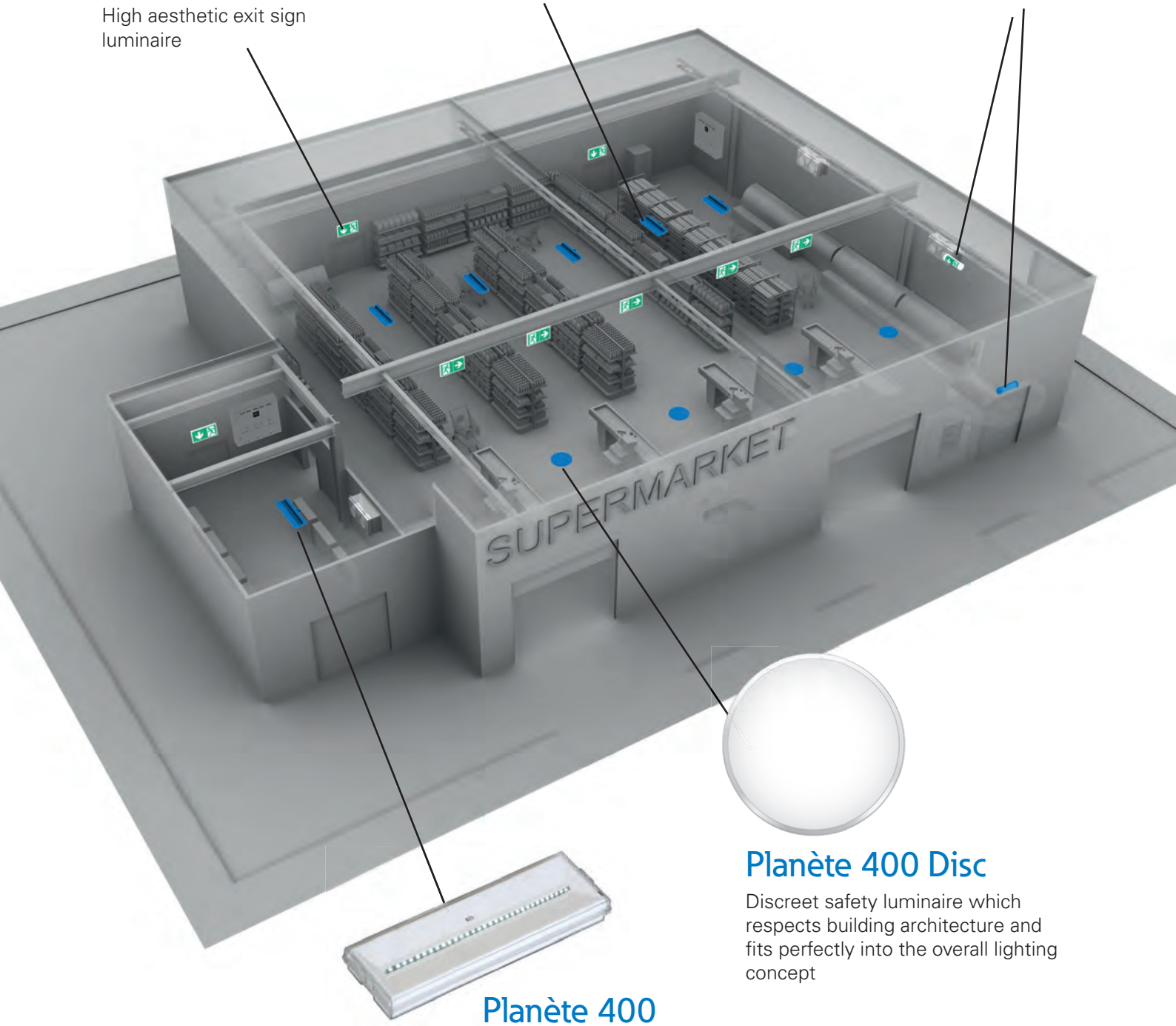
NexiTech 1000lm

High flux LED safety luminaire used to illuminate large or high ceiling areas



Planète Tube 45

Aesthetic tubular exit sign and safety luminaire



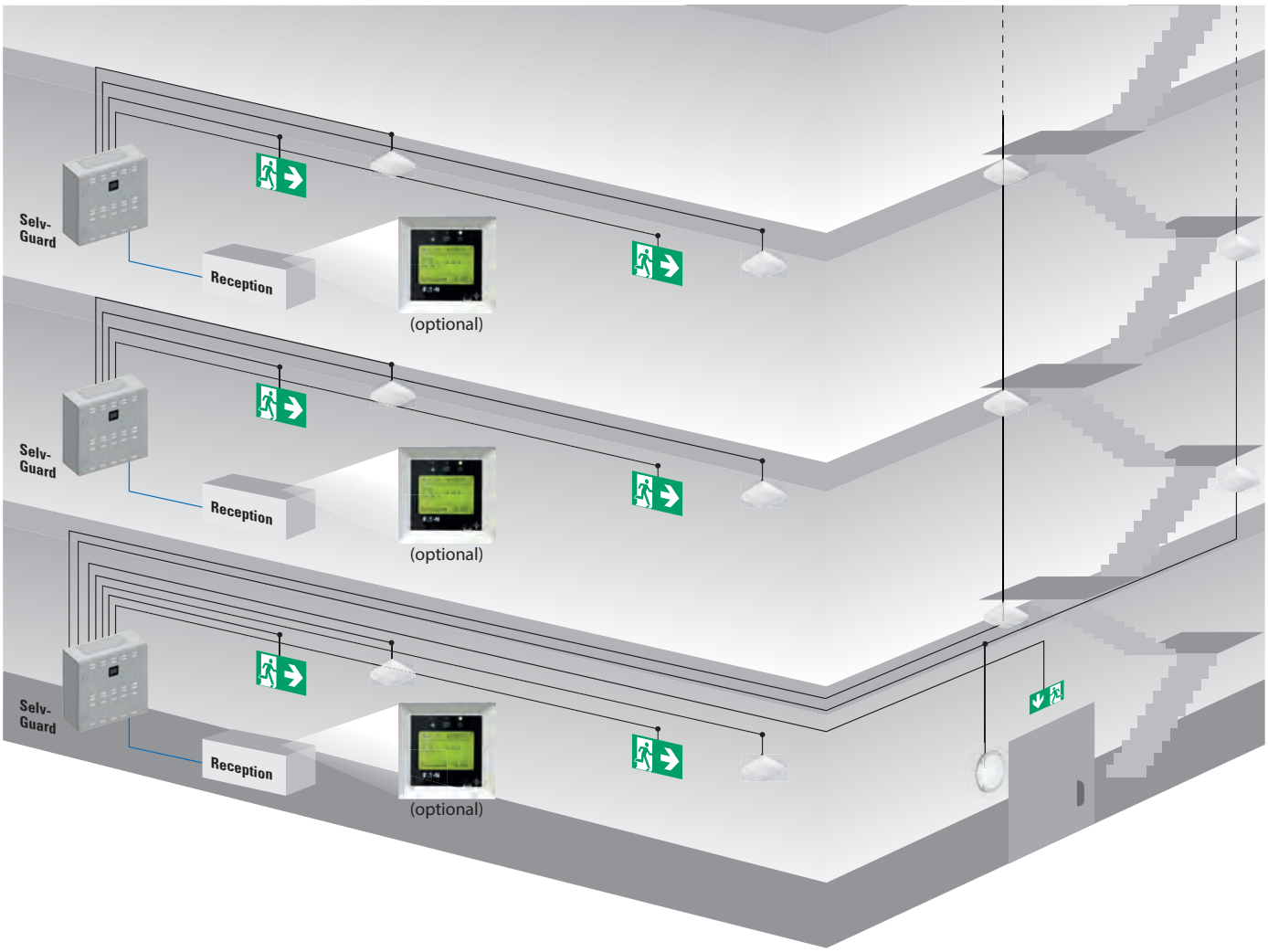
Planète 400 Disc

Discreet safety luminaire which respects building architecture and fits perfectly into the overall lighting concept

Planète 400

High energy efficiency safety luminaire which allows to minimize the consumption and to considerably reduce the capacity of the battery of the central power supply.

Installation example



	Normal mode	Emergency mode
Non-maintained: Operation mode in which the emergency luminaires are switched on only when the supply to the general lighting fails.		
Maintained: Operation mode in which the emergency luminaires are switched on all the times, regardless of the general lighting status.		

Central Battery Systems DC/DC

Technical data

SelvGuard 300 and 600



SelvGuard 600



SelvGuard 900 and 1200



SelvGuard 1200



SelvGuard

Low Power System with 48V DC supply to the emergency lighting luminaires.

- Increased safety of the installer, end-user and fire fighting brigade due to no risk of dangerous electrical shock.
- 8 SELV end circuits – the end circuits are split in two end circuit groups of 6 and 2 end circuits respectively as default; groups can be also wired differently e.g. 4 and 4 circuits; either group can be programmed as maintained or non-maintained
- 2 secure inputs to integrate a 3 phase monitor and to activate rest or inhibit mode (e.g. via a key switch, DLS or TLS)
- 3 freely programmable voltage inputs to switch one or the other end circuit groups Output 1 / Output 2, start function (FT) or duration test (DT), cancel DT/FT, manual reset, deep discharge receipt and ventilation monitoring
- 3 freely programmable switchover output contacts for mains operation, mains failure, charger fault, circuit fault, common system fault, deep discharge protection, function test (FT) and battery duration test (DT)
- Individual battery voltage monitoring
- Optional remote display with 3xLEDs, a 5 way joystick and buzzer for remote alarms and notifications

	SelvGuard 300	SelvGuard 600	SelvGuard 900	SelvGuard 1200
Input voltage	230V AC (198-253 V AC), 50 Hz (47- 63 Hz)			
Recommended upstream protection	10 A type C	13 A type C	25 A type C	32 A type C
Nominal output voltage	48 V DC			
Total maximum output power (Output 1+2), 1h discharge time	283 W*	600 W*	900 W	1200 W
Max power Output 1 (standard configuration- circuit 1 to 6)	283 W	600 W	900 W	1200 W
Max power Output 2 (standard configuration- circuit 7 and 8)	200 W	200 W	200 W	200 W
Nominal output current (total)	5.9 A	12.5 A	18.75 A	25 A
End circuits	8 (SELV Protected)			
End circuit groups (Output 1 / Output 2)	two end circuit groups**: Output1 (6 circuits); Output2 (2 circuits)			
Circuit breaker rating (Output1/Output2)	4A / 4A	4A / 4A	6A / 4A	6A / 4A
Battery	4 x 12 V / 11.2Ah	4 x 12 V / 26 Ah	4 x 12 V / 37.5 Ah	4 x 12 V / 50 Ah
Dimensions (H x W x D)	600 x 600 x 250 mm		700 x 600 x 400 mm	
Max. ambient temperature	For storage:-20 °C to + 40 °C, For operation:-5 °C to + 35 °C			
Humidity	5 %- 90 % RH			
Altitude	< 1000 m			
Noise level	50 dB			
Housing color	RAL 7035			
Degree of protection / insulation class	IP20 / Class I			
Weight (approx.) without battery	30 kg		50 kg	
Weight (approx.) with batteries	45 kg	66 kg	98 kg	120 kg

*Based on the rated 5 year life time required by EN50171 for LPS systems

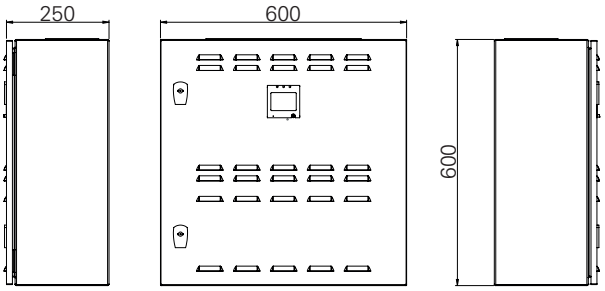
**Different setup can be arranged on site, taking into consideration total power, and power for Output 2 (e.g. 4+4)

NOTE: According to most battery manufacturers, for maximum battery service life, battery should operate at 20°C

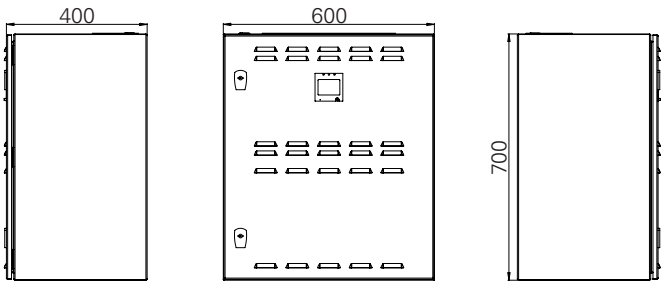
Ordering details

Type	Scope of supply	Order No.
SelvGuard 300	SelvGuard 283 W, 8 end circutis, 1 hour	SG48-300-8C1H
SelvGuard 600	SelvGuard 600 W, 8 end circutis, 1 hour	SG48-600-8C1H
SelvGuard 900	SelvGuard 900 W, 8 end circutis, 1 hour	SG48-900-8C1H
SelvGuard 1200	SelvGuard 1200 W, 8 end circutis, 1 hour	SG48-1200-8C1H

SelvGuard 300 and 600 – Dimensions in mm



SelvGuard 900 and 1200 – Dimensions in mm



Calculation example

Connect the following luminaires to SelvGuard- SG48-300-8C1H:

30 CrystalWay luminaires (LUM22211) – 1.9W / luminaire
20 Planete 400 luminaires (LUM22130) – 6W / luminaire
4 RC 18W luminaires (LUM21047) – 26W / luminaire

On Output 1 end circuits with non-maintained functionality:

Planete400	=	20 x 6 W	120 W	
RC18	=	4 x 26 W	104 W	
Total			= 224 W	**< 283 W --> OK**

On Output 2 end circuits with maintained functionality:

CrystalWay	=	30 x 1.9 W	57 W	
Total			= 57 W	**< 200 W --> OK**
Total:		224 W + 57 W =	**281 W**	**< 283 W --> OK**

Remote Display



Remote Display 30°



Remote Display 55°



Remote Display

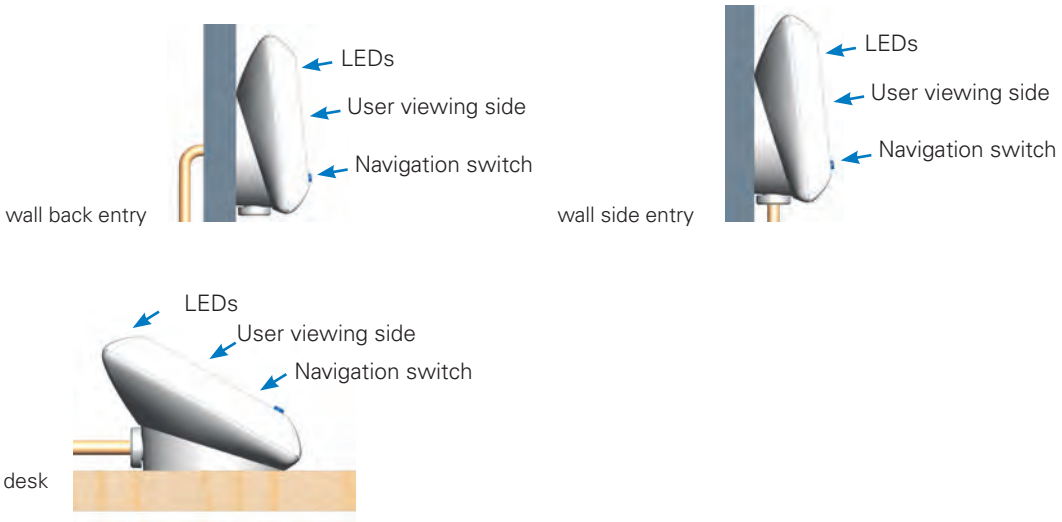
Graphical back-lit LCD with 128x64 pixels resolution. It has the ability to send information remotely (e.g. Reception desk); provides enhanced security and reporting of EL events to ease evacuation; reduces the time to check system status and alarm; compatible with any SelvGuard LPS

- IP 20
- 500m max distance
- Power 6W, J-Y(ST)Y or CAT5 (or better) cable
- 8 line with 20 characters each for better visualization
- 3 status LEDs
- 5 way joystick for easy navigation
- buzzer for acoustic alarms and notifications
- one remote display can be connected to one SelvGuard LPS

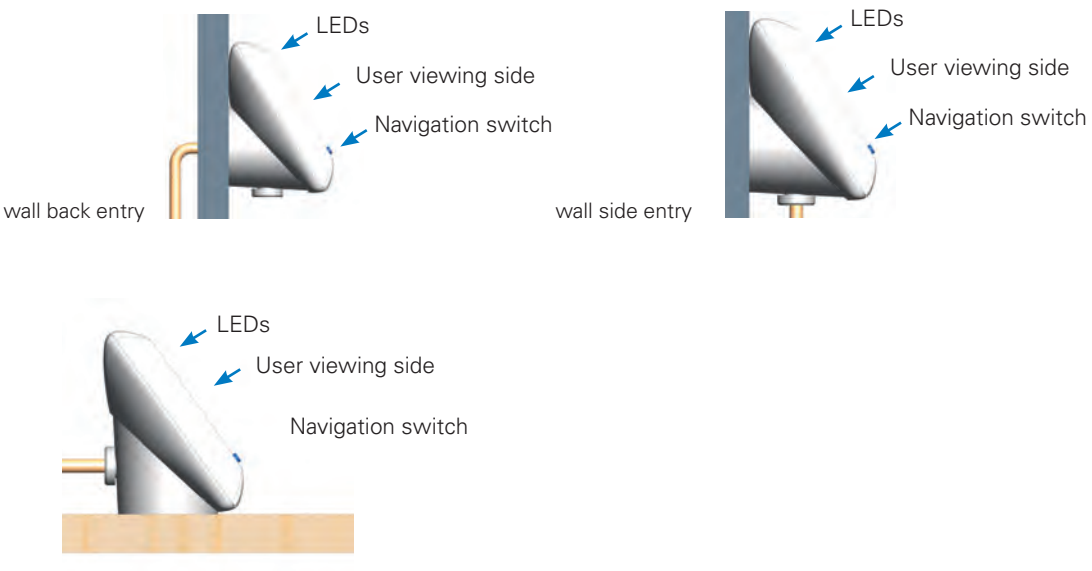
Ordering details

Type	Scope of supply	Order No.
Remote display 30°	Remote display for remote indication SG48, 30° mounting base	SG48-RC-LCD-30
Remote display 55°	Remote display for remote indication SG48, 55° mounting base	SG48-RC-LCD-55

Remote display 30°



Remote display 55°



SelvGuard emergency lighting power supply in a compact design

SELV (Safety Extra Low Voltage) Low Power System according to EN 50171 for the power supply of 48 V DC escape and exit sign luminaires. It is suitable for emergency lighting systems according EN 50172, IEC 60364-5-56 (DIN VDE 0100-560), DIN V VDE V 0108-100, requirements of ERP decree December 11, 2009 and ERT decree February 26, 2003. It features a duration and function test capability as well as an individual battery voltage monitoring system. The LPS is equipped with a 128 x 64 pixels, back-lit graphical LCD to display the state and alarms, set parameters and control end circuit groups. The system is equipped with 8 SELV end circuits divided into two groups of 2 and 6 end circuits respectively, that can either be switched on/off via LCD functionality or an external input (e.g. a key switch), offering the possibility of maintained mode, switched maintained mode and non-maintained mode operation. In case of different output set up needed, the installer can change the busbar and connect for example: 4 by 4 outputs together to suit the installation need. The power per output group should not exceed the values stated in the data sheet of the product. With this function you don't need to use an additional distribution board that has this emergency lighting function. Inputs and outputs are made from the top side of the LPS through predefined holes designed with rubber protective tape, reducing thus the cost of metric cable glands.

Battery Monitoring

The LPS has built in battery monitoring capabilities, monitoring thus battery string voltage and current, individual battery voltage and battery compartment temperature.

Optional Remote Display

The LPS is able to send information remotely via an optional back-lit Graphical Display 128 x 64 pixels, with 3xLEDs, a 5 way joystick for reporting and visualization and a buzzer with snooze function for remote alarms and notifications (e.g. reception desk)

The remote display is connected to the LPS via a bus directly on the controller. In case of an interruption of physical connection, a fault message will be shown on the local display along with an alarm. A coin cell will help maintain RTC (Real Time Clock) during power-off conditions (e.g. after a deep discharge event).

Display values: output voltage and current, output active power, output voltage, output current, battery charge percentage, battery fault, duration time, faults and event log. It can display battery voltage, besides battery current and battery compartment temperature which is shown by:

LED displays: System readiness, battery operation, sum failure.

5 way joystick:

- Navigation through the menu (scroll, select, edit)
- Snooze function (buzzer)

Connections and communication

2 secure inputs to integrate a 3 phase monitors or to activate rest or inhibit mode (e.g. via a key switch)

3 freely programmable voltage inputs to switch one of the output groups, start function (FT) or duration test (DT), cancel DT/FT, manual reset, deep discharge receipt and ventilation monitoring.

3 freely programmable changeover output contacts can be used to remotely signalize: for mains operation, mains failure, charger fault, circuit fault, common system fault, deep discharge protection, function test (FT) and battery duration test (DT)

Circuit components

8 SELV end circuits which can be grouped into two groups that can be freely programmed to have different functions as always on (maintained) or off during normal supply (non-maintained). These functions can be selected via the LDC on front of the LPS.

- Two groups of 6 and 2 end circuits respectively
- Can be used as maintained or non-maintained

Charging technology

The sealed maintenance-free lead batteries are charged gradually based on an microprocessor-controlled IU charging curve in function of temperature. Force charge is activated in function of the battery charge level to ensure that the batteries are charged without exceeding the gas development voltage. The charge monitoring procedure verifies the charging process continuously and it reports any faults immediately, including interruption of the battery circuit, faulty charging unit.

- 3 LEDs for status: System on mains, System on battery, Active fault
- Temperature sensor built into the battery compartment

48V VRLA block battery

Only closed and non-spillable VRLA batteries are used. Rated operating time 1, 1.5, 2, 3, 5, 6, 8 hours respectively

- extremely low gas emissions
- Period of use: 10 years (283W, 600W, 900W and 1200W) at 20°C
- low self-discharge
- Design according to IEC 60896-21/22:2004
- electrolyte and air oxygen sealed terminals

Eaton is a member of the "Stiftung Gemeinsames Rücknahmesystem Batterien [joint battery recycling programme] (GRS)" in Germany.

In this manner batteries undergo a controlled and complete recycling cycle. This means that possible polluting materials are recovered and reused for new products.

Specifications have been quoted based on Eaton products. Specifications can be compared based on this product. The tenderer can submit a tender based on a variant solution including an equivalent product (proof by the tenderer). Detailed product descriptions must be attached to the offer for the evaluation of equivalence:

References

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D-59494 Soest/Germany

Telephone +49 (0) 2921/69-870

Fax +49 (0) 2921/69-617

Internet: www.ceag.de

Email: info-n@ceag.de

A ISO 9001:4500 certification must be further provided as proof.

Manufacturers without the ISO 9001:4500 certification are not permitted.

Central Battery Systems DC/DC

Tender text

SelvGuard 300



SelvGuard 300

SG48-300-8C1H

Compact emergency lighting supply unit acc. to EN 50171 for supply of 48V DC safety and exit sign luminaires. Suitable for safety lighting installations according to EN 50172, IEC 60364-5-56 (DIN VDE 0100-560) and DIN V VDE V 0108-100 and requirements of ERP decree December 11, 2009 and ERT decree February 26, 2003. With automatic function and yearly duration testing device.

The switching mode of the end circuit groups of 6 and 2 respectively can be freely set by LCD menu as maintained or non-maintained.

If different output grouping is needed, this can be done on site at the responsibility of the installer (e.g. 4 by 4 outputs)

Rated operating duration: 1, 1.5, 2, 3, 5, 8 hours according with the duration table.

Consisting of:

Graphical Display, with 3xLEDs, a 5 way joystick navigation and a buzzer with snooze function for alarms and notifications.

Charging facility with microprocessor-controlled, temperature-compensated charging

48V DC power supply unit to supply emergency light circuits in normal or emergency operation mode.

Sheet steel housing for wall mounting consisting of mounting unit with front door and integrated cable infeed and end circuits from the top. With freely accessible, password-protected operating panel.

Protection rating: IP 20

Dimensions (mm): 600 x 600 x 250 (H x W x D)

Color: RAL 7035

Equipped as standard with:

8 x SELV emergency lighting circuits. Maximum of 300 W per circuit (Output1) and maximum of 200 W per circuit (Output2), but not more than 283W in total (Output 1+2).

2 x freely configurable, secure monitoring inputs (e.g. to connect 3 phase monitors, key switches, etc.).

3 x freely configurable, 12 volt contact inputs

4 x 12V / 11.2 Ah batteries

Accessories:
- Remote display, surface-mounted
- F3 remote display, surface-mounted
- F3 remote display, flush-mounted

Type: SG48-300-8C1H

Manufacturer: Eaton

SelvGuard 600



SelvGuard 600

SG48-600-8C1H

Compact emergency lighting supply unit acc. to EN 50171 for supply of 48V DC safety and exit sign luminaires. Suitable for safety lighting installations according to EN 50172, IEC 60364-5-56 (DIN VDE 0100-560) and DIN V VDE V 0108-100 and requirements of ERP decree December 11, 2009 and ERT decree February 26, 2003. . With automatic function and yearly duration testing device.

The switching mode of the end circuit groups of 6 and 2 respectively can be freely set by LCD menu as maintained or non-maintained.

If different output grouping is needed, this can be done on site at the responsibility of the installer (e.g. 4 by 4 outputs)

Rated operating duration: 1, 1.5, 2, 3, 5, 8 hours according with the duration table.

Consisting of:

Graphical Display, with 3xLEDs, a 5 way joystick for navigation and a buzzer with snooze function for alarms and notifications.

Charging facility with microprocessor-controlled, temperature-compensated charging

48V DC converter for supply of emergency light circuits in normal or emergency operation mode.

Sheet steel housing for wall mounting consisting of mounting unit with front door and integrated cable infeed and end circuits from the top. With freely accessible, password-protected operating panel.

Protection rating: IP 20

Dimensions (mm): 600 x 600 x 250 (H x W x D)

Color: RAL 7035

Equipped as standard with:

8 x SELV emergency lighting circuits. Maximum of 600 W per circuit (Output1) and maximum of 200 W per circuit (Output2), but not more than 600W in total (Output 1+2).

2 x freely configurable, secure inputs (e.g. to connect 3 phase monitors, key switches, etc.).

3 x freely configurable, 12 volt contact inputs

4 x 12 V / 26 Ah batteries

Accessories:

- Remote display, surface-mounted
- F3 remote display, surface-mounted
- F3 remote display, flush-mounted

Type: SG48-600-8C1H

Manufacturer: Eaton

SelvGuard 900



SelvGuard 900

SG48-900-8C1H

Compact emergency lighting supply unit acc. to EN 50171 for supply of 48V DC safety and exit sign luminaires. Suitable for safety lighting installations according to EN 50172, IEC 60364-5-56 (DIN VDE 0100-560) and DIN V VDE V 0108-100 and requirements of ERP decree December 11, 2009 and ERT decree February 26, 2003. With automatic function and yearly duration testing device.

The switching mode of the end circuit groups of 6 and 2 respectively can be freely set by LCD menu as maintained or non-maintained.

If different output grouping is needed, this can be done on site at the responsibility of the installer (e.g. 4 by 4 outputs)

Rated operating duration: 1, 1.5, 2, 3, 5, 8 hours according with the duration table.

Consisting of:

Graphical Display, with 3xLEDs, a 5 way joystick for navigation and a buzzer with snooze function for alarms and notifications.

Charging facility with microprocessor-controlled, temperature-compensated charging

48V DC converter for supply of emergency light circuits in normal or emergency operation mode.

Sheet steel housing for wall mounting consisting of mounting unit with front door and integrated cable infeed and end circuits from the top. With freely accessible, password-protected operating panel.

Protection rating: IP 20

Dimensions (mm): 700 x 600 x 400 (H x W x D)

Color RAL 7035

Equipped as standard with:

8 x SELV emergency lighting circuits. Maximum of 900 W per circuit (Output1) and maximum of 200 W per circuit (Output2), but not more than 900W in total (Output 1+2).

2 x freely configurable, secure inputs (e.g. to connect 3 phase monitors, key switches, etc.).

3 x freely configurable, 12 volt contact inputs

4 x 12 V / 37.5 Ah batteries

Accessories:
- Remote display, surface-mounted
- F3 remote display, surface-mounted
- F3 remote display, flush-mounted

Type: SG48-900-8C1H

Manufacturer: Eaton

SelvGuard 1200



SelvGuard 1200

SG48-1200-8C1H

Compact emergency lighting supply unit acc. to EN 50171 for supply of 48V DC safety and exit sign luminaires. Suitable for safety lighting installations according to EN 50172, IEC 60364-5-56 (DIN VDE 0100-560) and DIN V VDE V 0108-100 and requirements of ERP decree December 11, 2009 and ERT decree February 26, 2003. With automatic function and yearly duration testing device.

The switching mode of the end circuit groups of 6 and 2 respectively can be freely set by LCD menu as maintained or non-maintained.

If different output grouping is needed, this can be done on site at the responsibility of the installer (e.g. 4 by 4 outputs)

Rated operating duration: 1, 1.5, 2, 3, 5, 8 hours according with the duration table.

Consisting of:

Graphical Display, with 3xLEDs, a 5 way joystick for navigation and a buzzer with snooze function for alarms and notifications.

Charging facility with microprocessor-controlled, temperature-compensated charging

48V DC converter for supply of emergency light circuits in normal or emergency operation mode.

Sheet steel housing for wall mounting consisting of mounting unit with front door and integrated cable infeed and end circuits from the top. With freely accessible, password-protected operating panel.

Protection rating: IP 20

Dimensions (mm): 700 x 600 x 400 (H x W x D)

Color RAL 7035

Equipped as standard with:

8 x SELV emergency lighting circuits. Maximum of 1200 W per circuit (Output1) and maximum of 200 W per circuit (Output2), but not more than 1200W in total (Output 1+2).

2 x freely configurable, secure inputs (e.g. to connect 3 phase monitors, key switches, etc.).

3 x freely configurable, 12 volt contact inputs

4 x 12 V / 50 Ah batteries

Accessories:
- Remote display, surface-mounted
- F3 remote display, surface-mounted
- F3 remote display, flush-mounted

Type: SG48-1200-8C1H

Manufacturer: Eaton

LCD remote display



LCD remote display
SG48-RC-LCD 30
SG48-RC-LCD 55

Graphical Display, with 128x64 pixel resolution for better visualization of one SelvGuard. It is equipped with 3 status LEDs, a 5 way joystick for easy navigation through display menu and alarms. It also features a buzzer with snooze function for acoustic alarms and notifications. It comes in two mounting variants: with a 30 degrees or 55 degrees base. Each of the bases can be used for wall or desk mount (e.g. hotel reception desk).

The remote display is connected to the LPS via a bus directly on the measure and control unit. In case of an interruption of physical connection, the remote display will turn off and an alarm will show on the LPS LCD.

Display values: output voltage and current, output active power, output voltage, output current, battery charge percentage, battery fault, duration time, faults and event log. Optionally, it can display battery voltage, besides battery current and battery compartment temperature, which is shown by default, if the LPS is equipped with such functionality.

LED displays: System readiness, battery operation, sum failure.

The remote display is backed up by the LPS where configuration parameters are also stored.

5 way joystick:

- Navigation through the menu (scroll, select, edit)
- Snooze function (buzzer)

Type:
SG48-RC-LCD 30
SG48-RC-LCD 55

Manufacturer: Eaton



From static to adaptive escape routing



Adaptive Evacuation

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*Work*Safe
Protect your people and property

Specify superior escape route management technology in complex buildings with Eaton's unique adaptive **emergency lighting evacuation system.**

Risk management for commercial buildings is evolving rapidly. An increasingly urbanised and complex environment, combined with a rising diversity of safety threats, compels the owners and managers of buildings to re-evaluate the way they protect the people, property and business continuity that may be at risk in an emergency. It is not only a legal obligation but a moral, financial and reputational imperative. In situations involving fire, terrorism, major crime, extreme weather and civil unrest, buildings must be able to detect, alert and evacuate. The safe and timely completion of this process is dependent on planning, equipment, training and infrastructure being in place. However, evacuation poses particular challenges when a proportion of occupants are unfamiliar with layout and procedures, and particularly if they are in large, densely-populated, high-risk or complex premises such as railway stations, shopping centres, airports, stadia, government buildings or leisure facilities. Research into crowd behaviour and advances in scenario-modelling technology have highlighted the need for evacuation strategies that are more adaptable to differing circumstances and buildings. In particular, fixed emergency exit routes, indicated by static signage, can lead to congestion, delays and, in some instances, may direct people towards a hazard. Panic is heightened and decision-making can be impaired. Eaton has developed an Adaptive Evacuation System that is capable of identifying the safest exit route in a given circumstance and guiding people towards it via digital signage. The ability of such systems to enhance safety has been confirmed by academic research and technical organisations.



Adaptive evacuation

Adaptive:
Capable of changing in response to changes in environment.

Building upon decades of expertise in the delivery of life safety systems, and particularly emergency lighting technologies, Eaton's Adaptive Evacuation System enables faster, safer and more agile evacuations, particularly when deployed alongside a public address/voice alarm solution that provides additional guidance. When installed, the system is programmed with a range of potential exit routes. Based on information from CCTV, fire detection and other devices that pinpoint the nature and location of a hazard, it can select the safest and fastest route for occupants and an appointed system operator within the building is given the opportunity to accept or reject this recommendation, so that occupants can be directed accordingly. Unlike 'active' and 'dynamic' systems, Eaton's technology is fully adaptable and its instructions can be modified in real-time. It has been extensively tested and conforms with current regulatory requirements, although the technology is so new that standards are still to be fully defined.

Adaptive escape sign luminaires for building evacuation as a supportive system-technical measure.

Aim of protection:

Safe self-rescue to ensure that rescue forces can take care of injured or disabled persons.

Benefits:

- More efficient, quicker and saver evacuation
- Escape routing adapt continuously to the risk
- Assistance to save oneself
- Relief of the rescuers
- Possible compensation measure for constructional scarcities

Facing the diverse risks of fire, terrorism, violent crime, extreme weather and civil unrest, the owners and managers of commercial buildings must ensure the ability to detect, alert and evacuate, which is dependent on planning, equipment, training and infrastructure being in place. However, evacuation poses additional challenges when occupants may include visitors who are not familiar with layout and procedures, and particularly if they are in large, highly-populated, high-risk or complex premises such as railway stations, shopping centres, airports, stadiums, government buildings or leisure facilities. Fixed emergency exit routes, denoted by static signage, are inflexible to changing circumstances and may inadvertently direct people towards danger, as in the case of the deadly attack on Nairobi's Westgate shopping mall in 2013. Building upon decades of expertise in the delivery of life safety systems, Eaton has pioneered the development of an Adaptive Evacuation System, which is capable of switching between a number of predefined routes and guiding people towards the safest available exit in a given scenario.

In hazard situations caused by e.g. fire, attacks, technical plant faults (e.g. gas accidents) and natural catastrophes, only safe escape routes can be used.

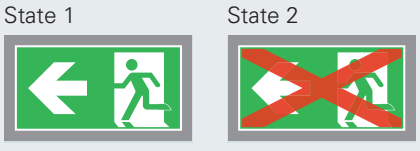
Static escape route guidance:

Exit sign luminaires designate the escape route out of the building always in the same direction, **independently** of a danger situation.



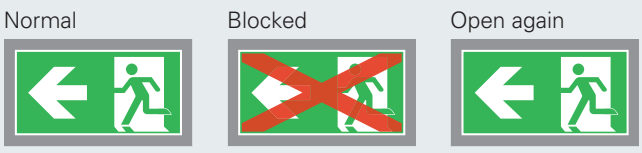
Dynamic escape route guidance:

Exit sign luminaires **block** unsafe escape routes in evacuation situations, thereby guiding those fleeing out of the building via the safe escape routes.



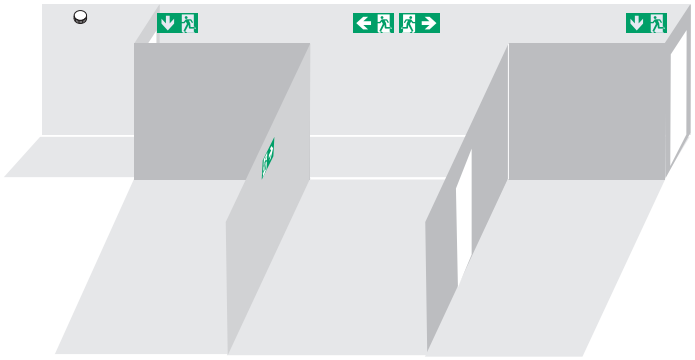
Adaptive escape route guidance:

Exit sign luminaires **block** unsafe escape routes and **release these as soon as they become safe again**. This enables dynamic hazard situations (e.g. in case of fire or attacks) to be flexibly responded to.



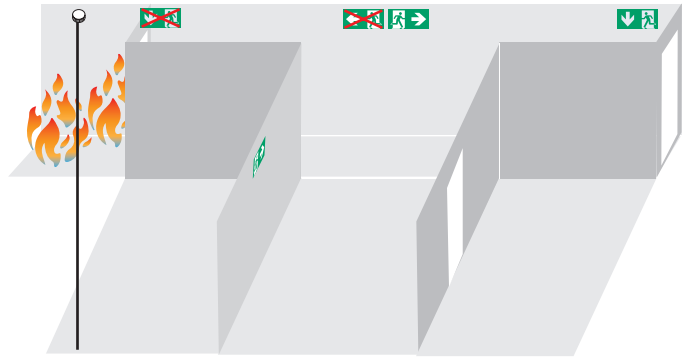
Representation of an adaptive Evacuation:

Before the occurrence:



Exit sign luminaires shows the fastet exit route.

During the occurrence:

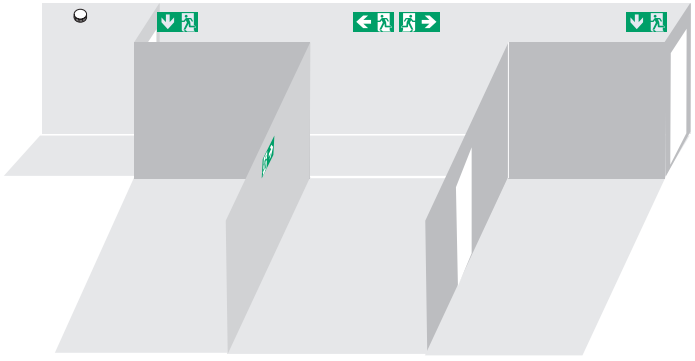


Exit sign luminaires block the unsafe exit route as they receive an information of e.g. a Fire detector, video monitoring, locking systems, evacuation systems. The safest exit route out of the building is now shown.

Alarm e.g. via:

Fire detector,
video monitoring,
locking systems,
evacuation systems

After the occurrence:



Once the exit route is open again, the exit sign luminaires shows it. Therefore it can be flexible and dynamic reacted on hazard e.g. fire or attacks.

Benefits of adaptive Evacuation:



- AE-CU technology in combination with GuideLed DXC exit sign luminaires enable dynamic danger situations such as in cases of fire, attacks or natural catastrophes to be actively responded to
- Decentral configuration of the AE-CU for up to 240 GuideLed DXC exit sign luminaires. This enables flexible, low-cost planning.
- Short circuit and open circuit resistant loop bus technology. This means no E30 cable routing of the loop bus line is required because these are fail-safe with the first fault case.
- Separate operating units for safety lighting and for the programming of scenarios provides increased safety with subsequent modifications.
- Due to separate cable routing of the 230V end circuits and 24V loop bus line to the adaptive GuideLed DXC exit sign luminaires, the hybrid operation of static and adaptive exit sign luminaires and the integration of escape luminaires and luminaires for general lighting is possible in the same circuit.
- An integrated search function automatically detects all GuideLed DXC exit sign luminaires connected up during installation.
- Self-addressing of the connected DXC luminaires simplifies the process for installation and commissioning.
- The control unit with nonvolatile program memory and large touch display automatically monitors and controls all components in the AE-CU system as well as the functionality of the connected adaptive luminaires.
- Connection of central visualization is possible via an interface.
- Networking the AE-CU with Eaton fire detection technology provides system integrity between alerting and evacuation
- Already installed DG-S and LP-STAR systems could be expanded with the AE-CU

Adaptive Evacuation

Performance



From static to adaptive escape route guidance

System-technical measures for ensuring self-rescue in cases of evacuation have top priority in dynamic hazard situations. AE-CU technology in combination with GuideLed DXC exit sign luminaires enable dynamic danger situations such as in cases of fire, attacks or natural catastrophes to be actively responded to. The shortest route out of a building is not always the safest.

The AE-CU system reliably triggers up to 240 adaptive exit sign luminaires via a short circuit and open circuit resistant loop bus.

The hazard scenario can be freely assigned to each adaptive exit sign luminaire via the AE-CU.

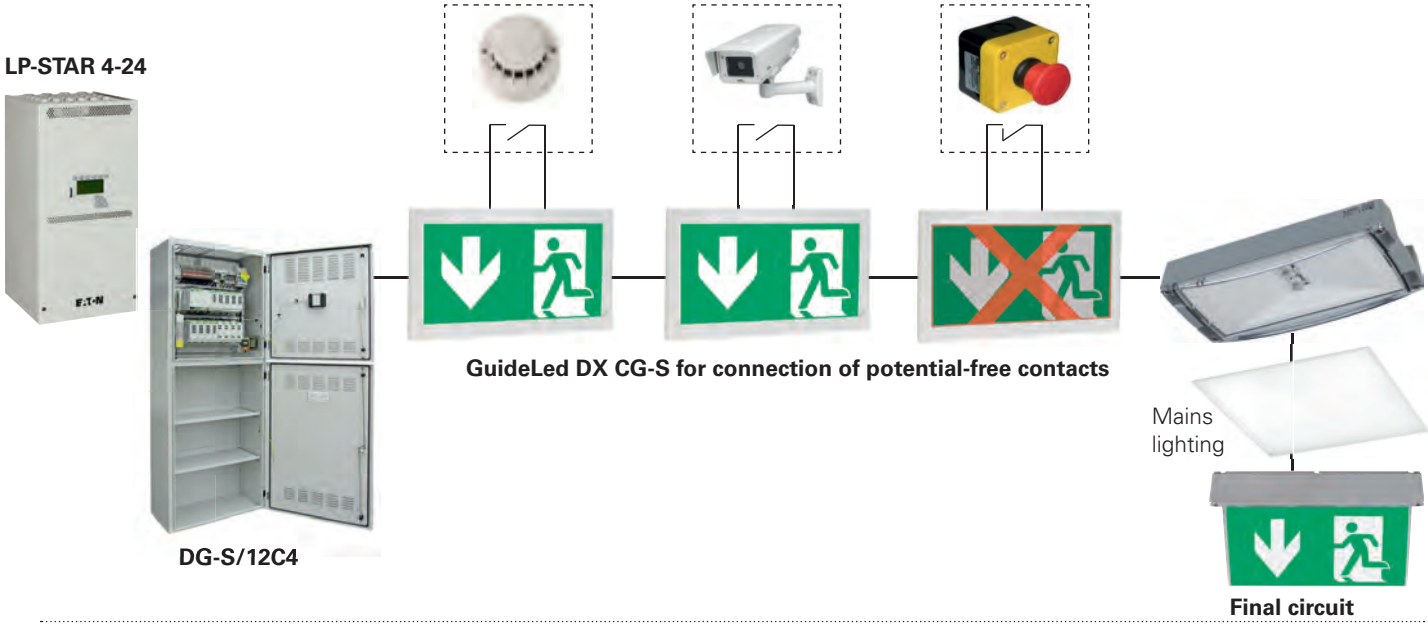
The control unit with nonvolatile program memory and large touch display automatically monitors and controls all components in the AE-CU system as well as the functionality of the connected adaptive luminaires. Faults occurring are shown on the display, forwarded via signal contacts and saved to an inspection book.

An integrated search function automatically detects all GuideLed DXC exit sign luminaires connected up during installation. Connection of central visualization is possible via an interface.

The solution for simple structured applications

Application example:
Triggering of GuideLed DX luminaires via potential-free contacts:

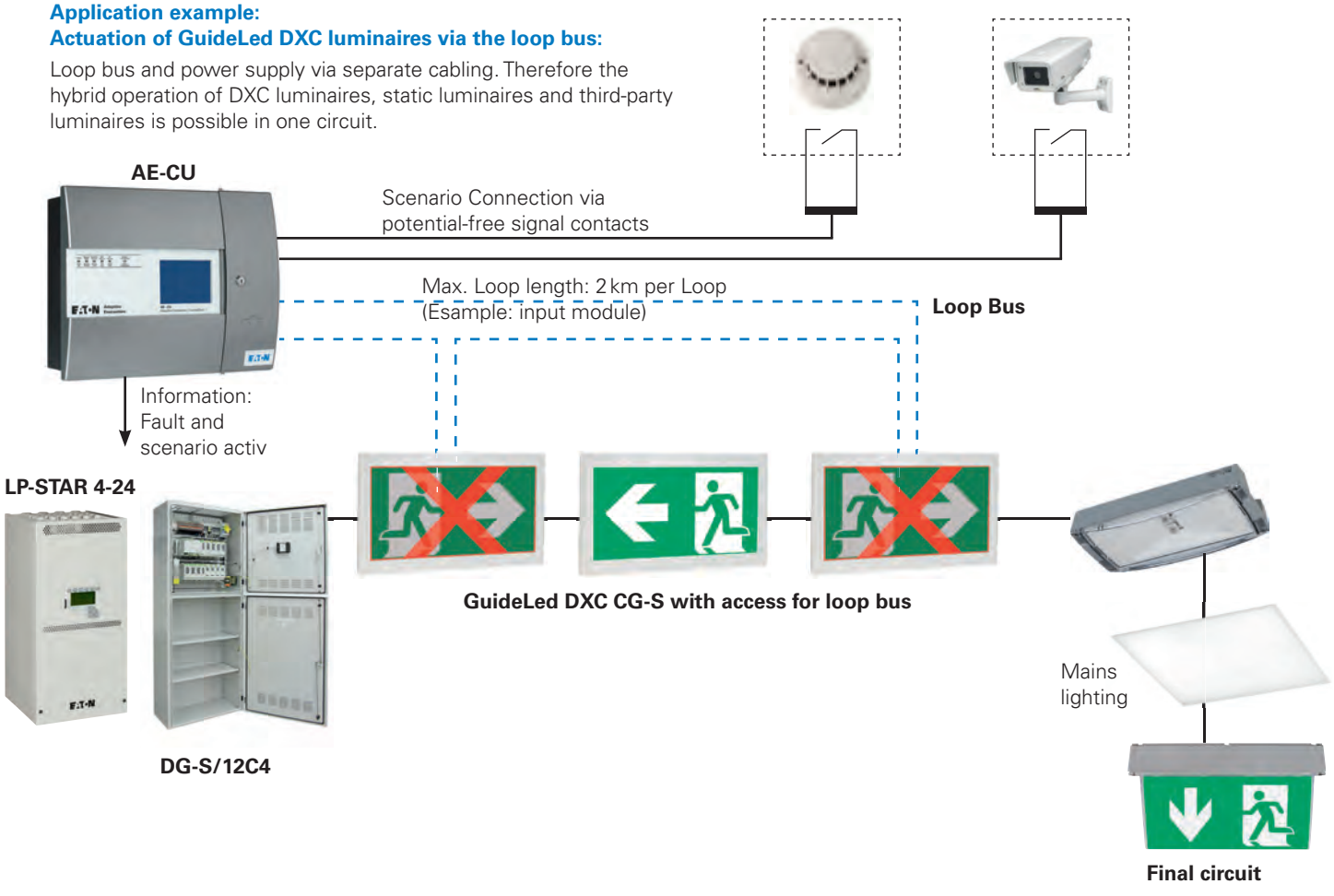
Potential-free signal contacts of fire detectors, CCTV or key switches to indicate areas as „locked, blocked or unsafe". As an example for areas where entry is forbidden for a specific time due to construction measures. Parallel connection of the DX inputs is not possible.



The solution for simple and complex structured applications

Application example:
Actuation of GuideLed DXC luminaires via the loop bus:

Loop bus and power supply via separate cabling. Therefore the hybrid operation of DXC luminaires, static luminaires and third-party luminaires is possible in one circuit.



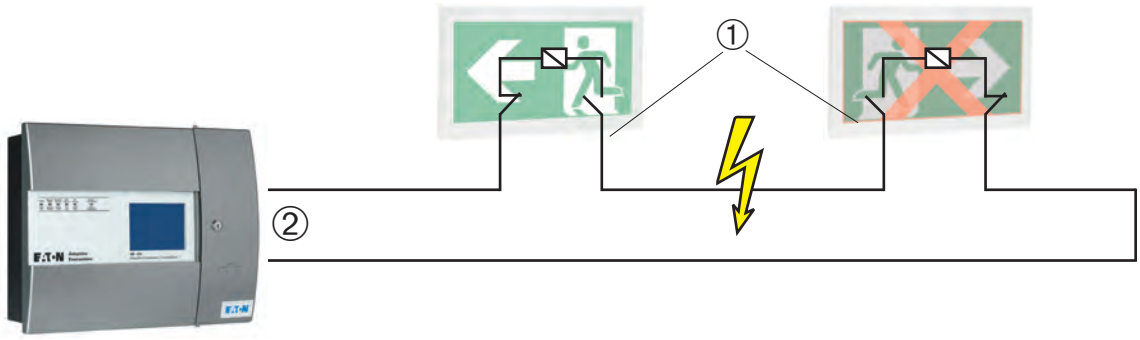
Adaptive Evacuation

Control matrix

Application example:
Short circuit and open circuit resistant loop bus technology

① short circuit-isolated separation

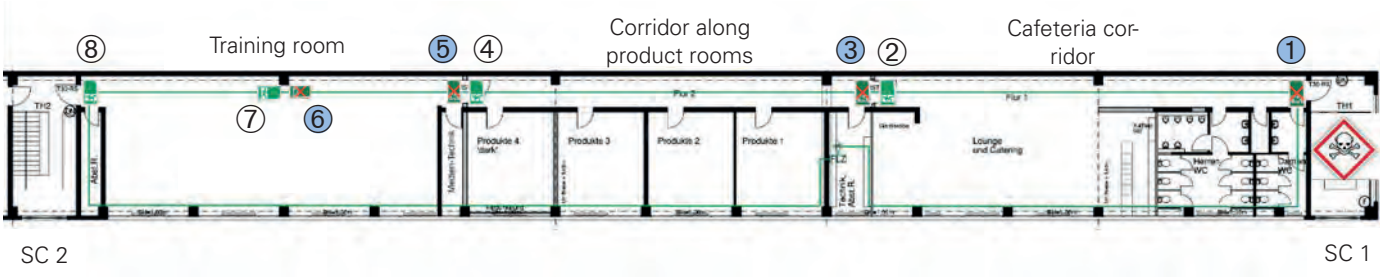
② **still** safeguarded via loop communication
after isolation of the short circuit



12

AE-CU control matrix

Example: Client training center at a workplace



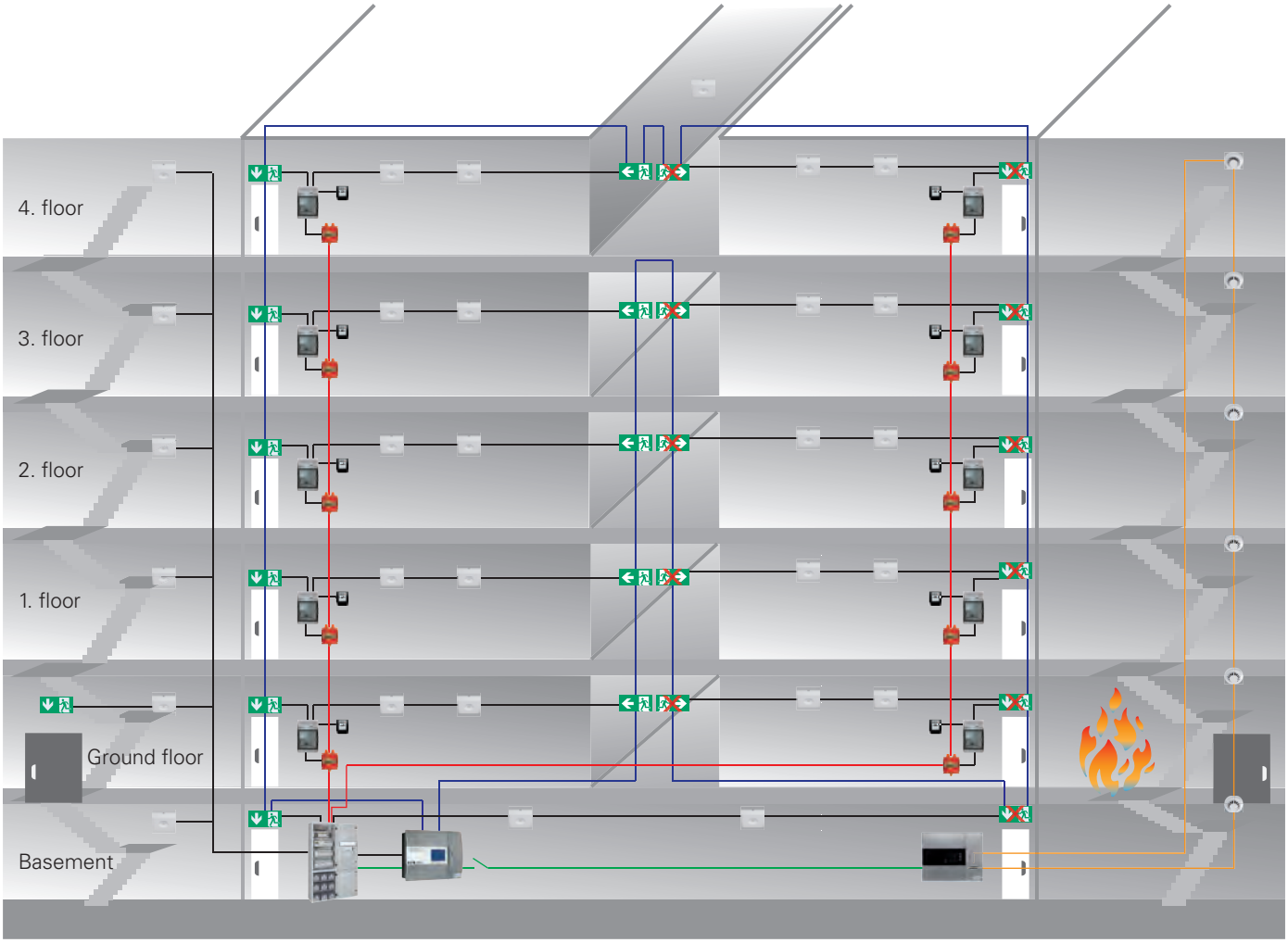
No.	Luminaire description:	Scenario:	SC 1 blocked	Corridor 1 + Cafeteria blocked	Corridor 2 + product rooms blocked	Training room blocked	SC 2 blocked
①	Corridor 1, at door to SC 1		X				
②	Corridor 1, at door to corridor 2				X	X	X
③	Corridor 2, at door to corridor 1		X	X			
④	Corridor 2, at door to training room					X	X
⑤	Training room at door to corridor 2		X	X	X		
⑥	Training room middle direction corridor 2		X	X	X		
⑦	Training room middle direction SC 2						X
⑧	Training room at door to SC 2						X







Adaptive evacuation – installation example



* Due to simplifocation, only one circuit is shown pro fire zone/staircase/flat

= adaptive exit sign luminaire

= active adaptive exit sign luminaire

= escape luminaire

= central fire alarm system

= fire detector

= meter reader

= Luminaire circuit*

= loop bus

= fire detection bus

= E30 cable

= detection scenario

Adaptive Evacuation

AE-CU-W wall housing

AE-CU-W



AE-CU-W

Adaptive Evacuation Control Unit for wall mounting with integrated battery-supported power supply using loop technique for controlling addressable adaptive exit sign luminaires with 230V / 216V AC/DC technology for safety lighting systems acc. to DIN VDE 0100-560, DIN EN 50172 and V DIN V VDE 0108-100. With automatic testing device and monitoring of loop bus communication and individual display of condition and name of loop BUS connection per GuideLed DXC luminaire.

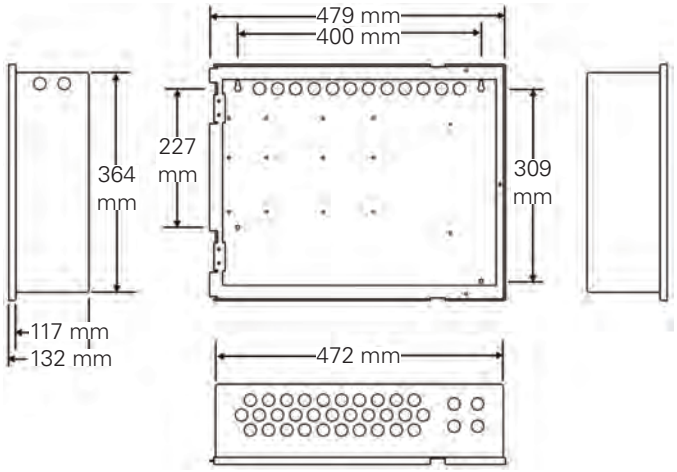
- Adaptive system – Escape routing adapt continuously to the risk
- Self-addressing of the connected DXC luminaires simplifies the process for installation and commissioning
- Simple handling by Touch Display and optional PC programming software
- AE-CU for the adaptive control of up to 240 GuideLed DXC luminaires
- Four short circuit and open circuit resistant loop lines each with 60 GuideLED DXC luminaires
- Two scenarios freely programmable for building evacuation, factory provided integrated. More than two scenarios on request
- A maximum of six DualGuard-S/US-S or LP-STAR systems can be connected per AE-CU. More than six DualGuard-S or LP-STAR systems on request
- Automatic software address-setting of all GuideLed DXC luminaires for scenario control
- Number of scenarios could be extended via scenario boxes with 8 or 16 scenarios
- Number of scenario inputs individual extendable
- Functionality also at power failure by inbuilded battery suppply
- Universal applicable and with hazard alert systems combinable by potential free scenario inputs
- No E30 cable routing of the loop bus line is required because these are fail-safe with the first fault case

Primary rated voltage	230 V AC +10%,-15%
Primary rated current	75 mA
Nominal frequency	50 Hz
Protection rating	IP 30
Insulation class	I
Ambient temperature	-5°C to+40°C
Secondary rated voltage	18,5 V- 29,5 V
Battery	2 x 12 V / 12 Ah
Max. battery current	3.5 A
Charge characteristic	Constant voltage temperature-compensated
Min. backup power time	30 h
Weight with battery	14 kg
Dimensions (HxWxD in mm)	395 x 495 x 180
Basic housing material	Sheet steel, powder-coated
Material of front	Plastic
Inputs	
Addressable loop line	4
Scenario active inputs	2 (more on request)
Maximum ring length	2,000 m / I(ST)Y 4 x 2 x 0.8 mm
Maximum number of GuideLed DX/DXC luminaires per loop	60
Outputs	
Zero-potential changeover contact	2
Contact load	24 V / 1 A
Fuse	1.35 A

Ordering details

Type	Scope of supply	Order No.
AE-CU-W	Surface- / Recessed mounted wall housing	40071361359

Dimensions in mm





1 LED displays:

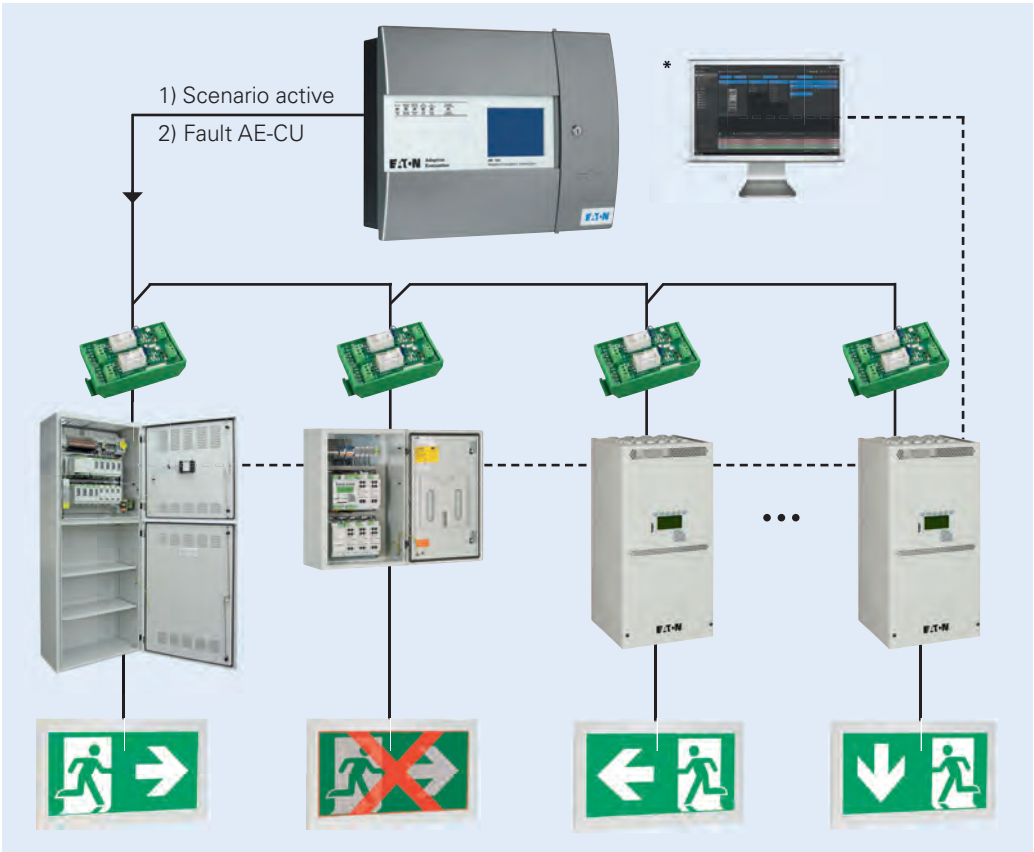
Power On, Scenario Active, General Fault, CPU Fault, Power Fault, General Disablement

2 Touch display, operating messages:

Scenario Active, Fault, Disablement

3 Fault messages:

Battery fault (AE-CU wall assembly), double address, earth fault, loop short circuit, charge fault, mains fault, loop communication fault, loop driver fault, trouble fault relay, CPU fault, loop overload, loop break at address, break-loop +loop

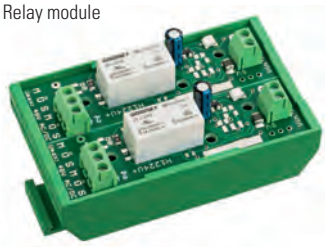


* Simplified presentation of a VisionGuard the messages „Scenario active" and „sum failure AE-CU"are shown on the control unit of the systems and on the VisionGuard. This messages are also listed in the test book with date and time.

Adaptive Evacuation

AE-CU Interface

Relay module



Relay module

Information units ‚scenario active' and ‚fault' are reported to the DualGuard-S or LP-STAR by the AE-CU via the relay module (installed in a DualGuard-S/US-S). Six DualGuard-S/US-S can be connected per AE-CU. More on request.

Ordering details

Type	Scope of supply	Order No.
Relay module	Relay module connection set for use per DualGuard-S/US-S or LP-STAR systems for connection to a AE-CU	40071361422

*Note: Relay module must be mounted externatly at sub stations with functional integrity.


food
beverage
bakery
store

Adaptive Evacuation – Luminaires

GuideLed DX 10011 CG-S

GuideLed DX 10011 CG-S

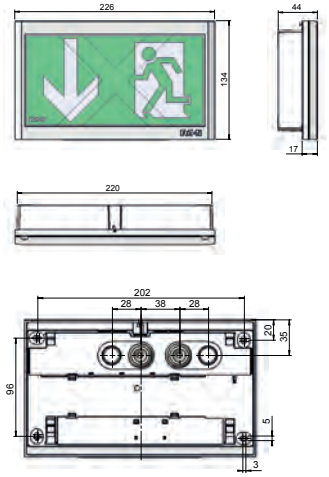
- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DX: activation via a switching input on the supply module e.g. smoke detector or panic switch via potential free contact**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Installation of the LED pictogram without tools on the mounting set
- Without power supply: still visible pictogramm

GuideLed DX 10011 CG-S





Dimensions in mm



Please observe a distance of 10 mm above for mounting!

Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.65 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	7 mA
Power consumption mains operation (apparent power / effective power)	4.7 VA / 2.2 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

Type	Scope of supply (LED pictograms must ordered seperate)	Order No.
GuideLed DX 1x011 CG-S	Wall mounting set for GuideLed DX 10011 CG-S, Surface mounting, including LED supply with additional switching input and CG-S technology (20 addresses)	40071354646

Ordering details - LED pictograms (fastening set required)

Type	Scope of supply	Order No.
PL acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow left (PL), acc. to ISO 7010, 20 m	40071355550
PR acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow right (PR), acc. to ISO 7010, 20 m	40071355551
PU, acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow down (PU), acc. to ISO 7010, 20 m	40071355552
PO acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow up (PO), acc. to ISO 7010, 20 m	40071355553

[1] with additional option: red X

GuideLed DXC 10011 CG-S

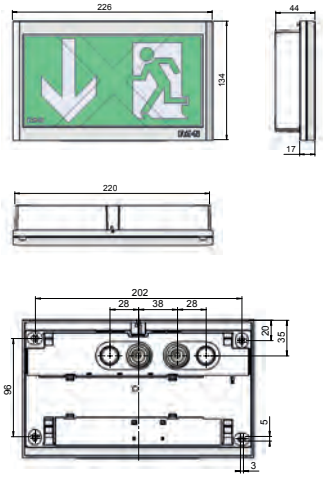
- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DXC: for connection to the adaptive evacuation system Eaton AE-CU via an integrated bus module**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Installation of the LED pictogram without tools on the mounting set
- Without power supply: still visible pictogramm

GuideLed DXC 10011 CG-S





Dimensions in mm



Please observe a distance of 10 mm above for mounting!

Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.7 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Bus interface 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	7 mA
Power consumption mains operation (apparent power / effective power)	4.7 VA / 2.2 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

Type	Scope of supply (LED pictograms must ordered seperate)	Order No.
GuideLed DXC 1x011 CG-S	Wall mounting set for GuideLed DXC 10011 CG-S, surface mounting, including LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355085

Ordering details - LED pictograms (fastening set required)

Type	Scope of supply	Order No.
PL acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow left (PL), acc. to ISO 7010, 20 m	40071355550
PR acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow right (PR), acc. to ISO 7010, 20 m	40071355551
PU, acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow down (PU), acc. to ISO 7010, 20 m	40071355552
PO acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 10011 CG-S, arrow up (PO), acc. to ISO 7010, 20 m	40071355553

[1] with additional option: red X

Adaptive Evacuation – Luminaires

GuideLed DX 11011 CG-S

GuideLed DX 11011 CG-S

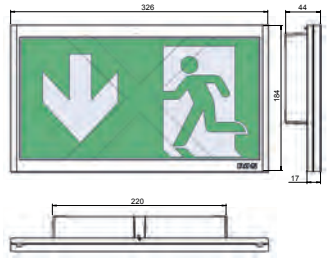
- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DX: activation via a switching input on the supply module e.g. smoke detector or panic switch via potential free contact**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Installation of the LED pictogram without tools on the mounting set
- Without power supply: still visible pictogramm

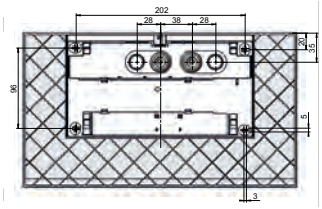
GuideLed DX 11011 CG-S





Dimensions in mm





Please observe a distance of 10 mm above for mounting!

Viewing distance	30 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.79 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	12 mA
Power consumption mains operation (apparent power / effective power)	5.9 VA / 3.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Ordering details - fastening set

Type	Scope of supply (LED pictograms must ordered seperate)	Order No.
GuideLed DX 1x011 CG-S	Wall mounting set for GuideLed DX 11011 CG-S, surface mounting, including LED supply with additional switching input and CG-S technology (20 addresses)	40071354646

Ordering details - LED pictograms (fastening set required)

Type	Scope of supply	Order No.
PL acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow left (PL), acc. to ISO 7010, 30 m	40071355555
PR acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow right (PR), acc. to ISO 7010, 30 m	40071355556
PU, acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow down (PU), acc. to ISO 7010, 30 m	40071355365
PO acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow up (PO), acc. to ISO 7010, 30 m	40071355558

[1] with additional option: red X

GuideLed DXC 11011 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DXC: for connection to the adaptive evacuation system Eaton AE-CU via an integrated bus module**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Installation of the LED pictogram without tools on the mounting set
- Without power supply: still visible pictogramm

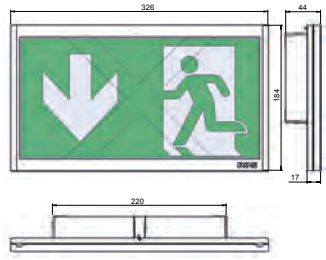
GuideLed DXC 11011 CG-S

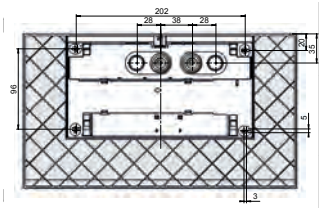




Viewing distance	30 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.7 kg
Type of mounting	Wall mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Bus interface 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	12 mA
Power consumption mains operation (apparent power / effective power)	5.9 VA / 3.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

Dimensions in mm





Please observe a distance of 10 mm above for mounting!

Ordering details - fastening set

Type	Scope of supply (LED pictograms must ordered seperate)	Order No.
GuideLed DXC 1x011 CG-S	Wall mounting set for GuideLed DXC 11011 CG-S, surface mounting, including LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355085

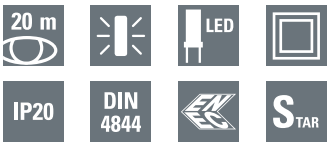
Ordering details - LED pictograms (fastening set required)

Type	Scope of supply	Bestell-Nr.
PL acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow left (PL) acc. to ISO 7010, 30 m	40071355555
PR acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow right (PR), acc. to ISO 7010, 30 m	40071355556
PU, acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow down (PU), acc. to ISO 7010, 30 m	40071355365
PO acc. to ISO 7010 [1]	LED piktogram for GuideLed DX/DXC 11011 CG-S, arrow up (PO), acc. to ISO 7010, 30 m	40071355558

[1] with additional option: red X

Adaptive Evacuation – Luminaires

GuideLed DX 10021, 10022, 10023, 10024 CG-S



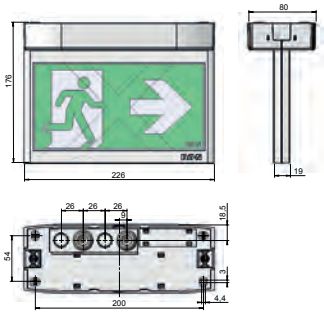
GuideLed DX 10021, 10022, 10023, 10024 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DX: activation via a switching input on the supply module e.g. smoke detector or panic switch via potential free contact**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Without power supply: still visible pictogramm

GuideLed DX 10021 CG-S



Dimensions in mm

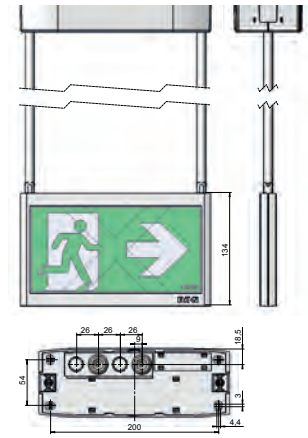


Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.68 kg (10021 LED CG-S) 0.77 kg (10022 LED CG-S) 0.95 kg (10023 LED CG-S) 1.03 kg (10024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation mounting
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	one-sided 7 mA two-sided 12 mA
Power consumption mains operation (apparent power / effective power)	one-sided 4.7 VA / 2.2 W two-sided 6.0 VA / 3.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

GuideLed DX 10022 CG-S



Dimensions in mm



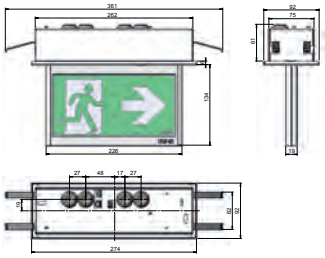
Ordering details - fastening set

Scope of supply (LED pictograms must ordered seperate)	Order No.
Ceiling installation set for GuideLed DX10021 CG-S with canopy incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355295
Ceiling installation set for GuideLed 10022 DX CG-S with canopy and tube suspension 0.5 m, incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355481
Ceiling installation set for GuideLed 10023 DX CG-S with canopy and tube suspension 1.5 m, incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355482
Ceiling installation set for GuideLed 10024 DX CG-S incl. recessed installation housing incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355483

GuideLed DX 10024 CG-S



Dimensions in mm



Ordering details - LED pictograms (fastening set required)

Scope of supply		Order No.
LED piktogram PL/PR, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355330
LED piktogram PU/PU, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355531
LED piktogram PL/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355532
LED piktogram PR/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355533
LED piktogram PU/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355534
LED piktogram PL/PR-R**, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355535
LED piktogram PL/PR-W**, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355536

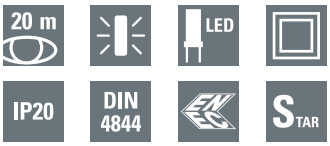
[1] with additional option: red X

** R = Arrow from mounting wall
W = Arrow to mounting wall

12

Adaptive Evacuation – Luminaires

GuideLed DXC 10021, 10022, 10023, 10024 CG-S



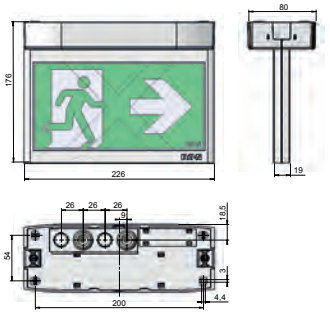
GuideLed DXC 10021, 10022, 10023, 10024 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DXC: for connection to the adaptive evacuation system Eaton AE-CU via an integrated bus module**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Without power supply: still visible pictogramm

GuideLed DXC 10021 CG-S



Dimensions in mm

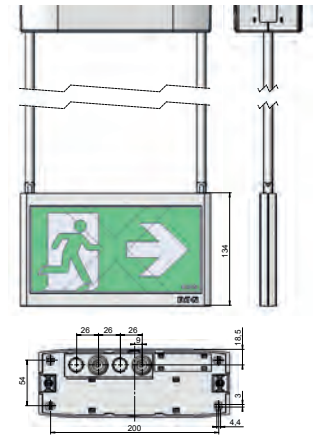


Viewing distance	20 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.68 kg (10021 LED CG-S) 0.77 kg (10022 LED CG-S) 0.95 kg (10023 LED CG-S) 1.03 kg (10024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation
Connection terminal	Mains 3 x 2 x 2.5 mm² Bus interface 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	one-sided 7 mA two-sided 12 mA
Power consumption mains operation (apparent power / effective power)	one-sided 4.7 VA / 2.2 W two-sided 6.0 VA / 3.1 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

GuideLed DXC 10022 CG-S



Dimensions in mm



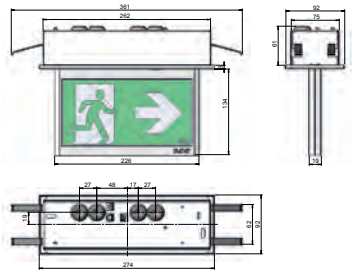
Ordering details - fastening set

Scope of supply (LED pictograms must ordered seperate)	Order No.
Ceiling installation set for GuideLed DXC 10021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355488
Ceiling installation set for GuideLed DXC 10022 CG-S with canopy and tube suspension 0.5 m incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355489
Ceiling installation set for GuideLed DXC 10023 CG-S with canopy and tube suspension 1.5 m incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355490
Ceiling installation set for GuideLed DXC 10024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355491

GuideLed DXC 10024 CG-S



Dimensions in mm



Ordering details - LED pictograms (fastening set required)

Scope of supply		Order No.
LED piktogram PL/PR, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355330
LED piktogram PU/PU, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355531
LED piktogram PL/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355532
LED piktogram PR/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355533
LED piktogram PU/BL, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355534
LED piktogram PL/PR-R**, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355535
LED piktogram PL/PR-W**, for GuideLed DX/DXC 10021/10022/10023/10024 CG-S, ISO 7010 [1], 20 m		40071355536

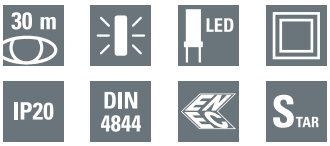
[1] with additional option: red X

** R = Arrow from mounting wall
W = Arrow to mounting wall

12

Adaptive Evacuation – Luminaires

GuideLed DX 11021, 11022, 11023, 11024 CG-S



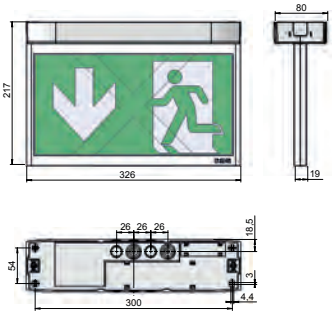
GuideLed DX 11021, 11022, 11023, 11024 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DX: activation via a switching input on the supply module e.g. smoke detector or panic switch via potential free contact**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'Very good perceptibility on account of high luminance of the white contrasting colour
  > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Without power supply: still visible pictogramm

GuideLed DX 11021 CG-S



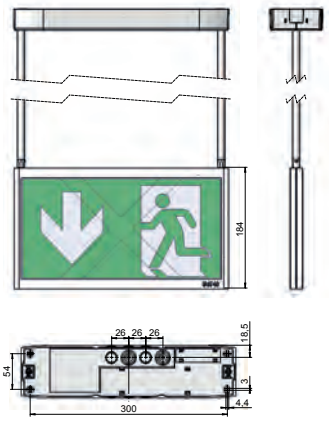
Dimensions in mm



GuideLed DX 11022 / 11023 CG-S



Dimensions in mm



Viewing distance	30 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.99 kg (11021 LED CG-S) 1.08 kg (11022 LED CG-S) 1.26 kg (11023 LED CG-S) 1.38 kg (11024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	one-sided 12 mA two-sided 17 mA
Power consumption mains operation (apparent power / effective power)	one-sided 5.9 VA / 3.1 W two-sided 7.6 VA / 4.3 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

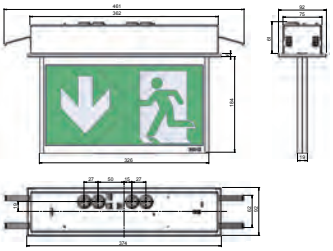
Ordering details - fastening set

Scope of supply (LED pictograms must ordered seperate)	Order No.
Ceiling installation set for GuideLed DX 11021 CG-S with canopy incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355484
Ceiling installation set for GuideLed DX 11022 CG-S with canopy and tube suspension 0.5 m incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355485
Ceiling installation set for GuideLed DX 11023 CG-S with canopy and tube suspension 1.5 m incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355486
Ceiling installation set for GuideLed DX 11024 CG-S incl. recessed installation housing incl. LED supply with additional switching input and CG-S technology (20 addresses)	40071355487

GuideLed DX 11024 CG-S



Dimensions in mm



Ordering details - LED pictograms (fastening set required)

Scope of supply		Order No.
LED piktogram PL/PR, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355540
LED piktogram PU/PU, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355541
LED piktogram PL/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355542
LED piktogram PR/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355543
LED piktogram PU/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355544
LED piktogram PL/PR-R**, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355545
LED piktogram PL/PR-W**, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355546

[1] with additional option: red X

** R = Arrow from mounting wall
W = Arrow to mounting wall

12

Adaptive Evacuation – Luminaires

GuideLed DXC 11021, 11022, 11023, 11024 CG-S

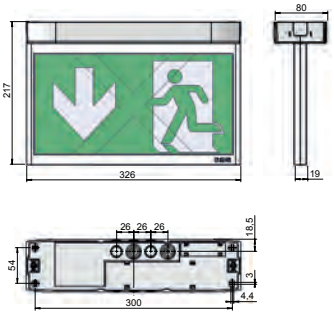
GuideLed DXC 11021, 11022, 11023, 11024 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- **DXC: for connection to the adaptive evacuation system Eaton AE-CU via an integrated bus module**
- For adaption to the respective ambient conditions, the power supply module is equipped with different selectable operating modes, e.g. static or flashing red 'X'
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Without power supply: still visible pictogramm

GuideLed DXC 11021 CG-S



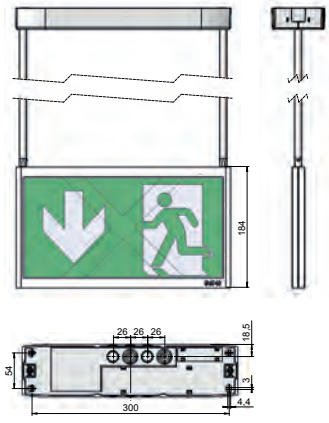
Dimensions in mm



GuideLed DXC 11022 / 11023 CG-S



Dimensions in mm



Viewing distance	30 m
Luminous Φ_E/Φ_N at the end of rated operating time (EBLF)	100 %
Housing material	PC, PMMA
Housing colour	Light grey RAL 7035
Weight	0.99 kg (11021 LED CG-S) 1.08 kg (11022 LED CG-S) 1.26 kg (11023 LED CG-S) 1.38 kg (11024 LED CG-S)
Type of mounting	Ceiling, suspended, recessed installation
Connection terminal	Mains 3 x 2 x 2.5 mm² Switch input 2 x 2 x 1.5 mm²
Connection voltage	220 - 240 V AC, 50/60 Hz 176 V - 275 V DC
Current consumption - battery operation (220 V)	one-sided 12 mA two-sided 17 mA
Power consumption mains operation (apparent power / effective power)	one-sided 5.9 VA / 3.1 W two-sided 7.6 VA / 4.3 W
Inrush current	1.5 A
Permissible ambient temperature	-20 °C to +40 °C
Light source	LED batten

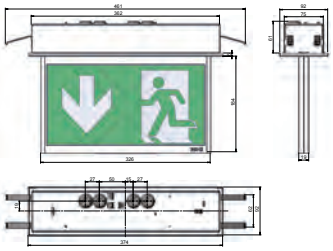
Ordering details - fastening set

Scope of supply (LED pictograms must ordered seperate)	Order No.
Ceiling installation set for GuideLed DXC 11021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355492
Ceiling installation set for GuideLed DXC 11022 CG-S with canopy and tube suspension 0.5 m incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355493
Ceiling installation set for GuideLed DXC 11023 CG-S with canopy and tube suspension 1.5 m incl. LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU	40071355494
Ceiling installation set for GuideLed DXC 11024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses) with integrated bus interface for connection to an AE-CU	40071355495

GuideLed DXC 11024 CG-S



Dimensions in mm



Ordering details - LED pictograms (fastening set required)

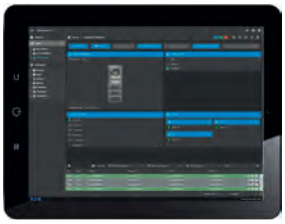
Scope of supply		Order No.
LED piktogram PL/PR, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355540
LED piktogram PU/PU, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355541
LED piktogram PL/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355542
LED piktogram PR/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355543
LED piktogram PU/BL, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355544
LED piktogram PL/PR-R**, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355545
LED piktogram PL/PR-W**, for GuideLed DX/DXC 11021/11022/11023/11024 CG-S, ISO 7010 [1], 30 m		40071355546

[1] with additional option: red X

** R = Arrow from mounting wall
W = Arrow to mounting wall


VisionGuard 0.3
Dashboard
Systeme
DG-S Schalle
DG-S KRUEGER
DG-S Marketing
Administration
Client
Server
Benutzer
Schnittstellen
Stammdaten
Informationen
BLOCK DEVICE
System Informationen
System Zustand
Status battery **
ATSDs

Central Visualisation



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CGVision

Central Visualisation - Visualisation software CGVision 480





VisionGuard and CGVision – Information on the updates





	CGVision	VisionGuard
Windows versions	WIN7 / WIN 10 (32/64Bit) / WIN Server 2008 / WIN Server 2012	WIN 10 (64Bit) / WIN Server 2012 / WIN Server 2016 / WIN Server 2019
Client/Server Architecture	–	•
Client software	–	standard web browser
Display Resolution	Fixed resolution optimized for 1280 x 1024	responsive Webdesign optimized for 1920x1080
Comfort display	–	light / dark mode
max. parallel Client access	1	no limit
USB-Dongle license	•	optional
Soft license	–	•
Suitable EML systems	ZVL220/GVL24.1/CG48/ Euro.ZB.1/ ZB96/CG2000/ ZB-S/AT-S+/LP-STAR/ CGLine400/CGLine+	DualGuard-S prepared for new systems 2021 (ZB-S/AT-S+/LP-STAR CGLine+ in preparation)
Number of possible EML systems	up to 480 32 eml in 15 groups	Voumen licenses 3/10/25/50/100/500
Password protection	simple	complex
UAC (User Account Control)	–	4 roles
Navigation structure	15 groups / 32 devices	flexible explore navigation
Logbook with filter	•	•
Alarm list	•	•
E-Mail function	•	•
Print function	•	•
Export function (for external applications)	•	optional
Backup function	•	•
Building layout programming	.bmp based	.dwg based
Zoom / Pan function	–	•
Bacnet interface (BMS)	optional	BACnet (optional)
OPC-Interface	OPC- DA2	OPC UA
		in planning phase

VisionGuard – a powerful visualization software with a new design



As the successor to our successful CGVision software, the powerful new visualization software VisionGuard offers state-of-the-art monitoring, control and configuration of DualGuard-S (DG-S), LoadStar-S (LS-S) and monitoring and control of ZB-S central battery systems. Designed for all current Windows environments based on WIN10 or Windows Server 2016/2019, the software covers all common application types, from dedicated PC workstations to virtualized environments with remote access. The intelligent and user-friendly VisionGuard visualization software offers maximum reliability, even when it comes to controlling and monitoring large emergency lighting systems. Up to 500 individual DG-S / LS-S or ZB-S emergency lighting systems with over a million light points can be monitored via a single control room monitor. Especially for larger buildings such as airports, universities, museums, sports and industrial facilities, this software is the ideal choice to ensure the optimized and cost-effective operation of emergency lighting systems. A modern project navigation provides a clear and concise orientation for such large projects. VisionGuard is also a powerful tool for small projects thanks to the user-friendly display of all status information, the extensive notification functions and the mobile application for tablets or smartphones.

Web-based client/server structure

VisionGuard is a modern web-based visualization software that relies on a streamlined and clutter-free design. During the development of VisionGuard, we focused on the essentials, namely to offer a design that's highly user-friendly, in line with the motto "less is more!" Such a user-friendly design is not only more effective, but also ensures that users are much more likely to accurately process information.

Versatile display

The responsive web design, which automatically adjusts to the display settings of the device in question, allows unrestricted use of the software across different display sizes and resolutions, on any smartphone or tablet. As a result, users don't have to commit to any particular display sizes or manufacturers.

Highly user-friendly

The VisonGuard display function (web client) supports all common web browsers, such as Chrome, Edge, Firefox, Safari, etc., so that the software can also be used with alternative operating systems such as iOS, Android or Linux.

In addition, this eliminates the need for dedicated special client software and minimizes cost and complexity by eliminating the need for IT specialists to maintain or support the system.

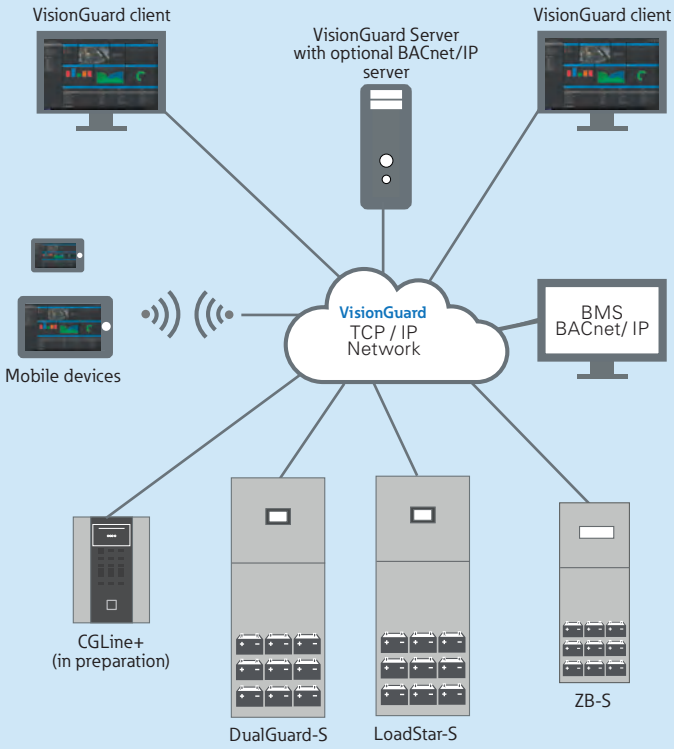
Fast and reliable

In addition to the advantages outlined above, the web-based design delivers maximum performance at high speed, including improved and optimized loading speeds. Contrary to other solutions that leave users waiting impatiently, the software comes with an integrated progress bar that indicates the remaining time for each type of action.

Secure and failsafe



Based on a sophisticated user account control (UAC) with four user roles, designed with different access permissions according to the latest cyber security guidelines, such as the use of strong passwords, the system offers the most advanced security mechanisms a software can bring. The high security standard was verified during development by a Cyber Security Center of Excellence test lab.
The operation of the software via independent services in the background for individual software applications, such as database, e-mail service, etc. guarantees a very high level of reliability. An integrated Back Up and Restore function allows an extremely fast and easy recovery in case the PC hardware fails, or for moving to another system environment.



VisionGuard – a modern client-server architecture

with optional BACnet/IP based BMS interface

VisionGuard's modern web-based client-server architecture meets all the requirements of today's Windows-based IT environments. This web-based client-server design is compatible with any of the browsers that are currently in use for PC workstations. This eliminates the need for any special proprietary client software, which would have to be installed separately and with special administrator rights. This saves time and the involvement of an IT specialist.

What's more, the responsive web design, which can be used with any standard browser, enables the use of mobile devices such as tablets or smartphones, running on any operating system (e.g. Android, iOS).

An optionally available BACnet/IP interface allows the connection of an external Building Management System (BMS) via the BACnet protocol. The BACnet interface provides numerous status messages and four analog battery values per DualGuard-S / LoadStar-S central battery system in the form of BACnet objects.



VisionGuard – a modern design

- A modern web-based design that provides a quick overview and is easy to use
- Customizable login page (background image)
- A modern dashboard starting page
- Clear and innovative presentation of system information by means of widgets (graphic window system)
- An advanced project navigation offers a clear orientation even for large projects
- Responsive web design for different display sizes and resolutions for use with mobile devices such as tablets or smartphones
- The web-based design enables the use of VisionGuard with any operating system, such as Windows, Mac OS, iOS, Android or Linux



The benefits of using VisionGuard

- Multi-user operation: A web-based client/server architecture that can be accessed independently and in parallel from different workstations
- Use of standard web browser on the client PC, no special client software installation necessary
- Dongle-free software licensing
- Tiered versions, from 3 to 500 DualGuard-S (DG-S) / LoadStar-S (LS-S) or ZB-S emergency lighting systems
- Excellent clarity through advanced project navigation with freely configurable navigation levels
- State-of-the-art, web-based dashboard design with widgets (graphic window system)
- Responsive web-based design for different display sizes
- Optimized for Full HD (1920 x 1080 dpi)
- Full visualization, control and configuration (DG-S/LS-S) down to the level of each system/luminaire
- Full visualization and control of ZB-S central battery systems
- User access control with four user roles (supervisor, administrator, power user and user)
- Detailed email function
- Advanced printing functions
- Backup & Restore menu, for quick and easy recovery in case of hardware failure
- Cyber security tested (Eaton)
- Optional BACnet/IP interface for DG-S / LS-S: This allows easy connection to an external building management system (BMS) via the BACnet protocoll
- Graphical representations of battery analog values in the history menu offer a clear representation in the form of diagrams over time
- Occurring faults can be conveniently forwarded to external applications via an integrated export function
- Battery block monitoring: graphic display of the optionally available individual battery block monitoring with single battery block voltage and single battery block temperature (only for DG-S / LS-S)



VisionGuard - A single software for a wide range of tasks

The powerful VisionGuard visualization software is able to control and monitor even large emergency lighting systems with maximum reliability. Eaton has more than 40 years of experience in this field. As market leader, we are always aware of our special responsibility, because in our field, light means life!

A monitoring tool for the really big tasks: Up to 500 individual DualGuard-S (DG-S) / LoadStar-S (LS-S) or ZB-S emergency lighting systems with over a million light points can be monitored via a single control room monitor. Especially for larger buildings such as airports, universities, museums, sports and industrial facilities, this software is the ideal choice to ensure the optimized and cost-effective operation of the entire emergency lighting system. A modern project navigation offers a clear orientation even for large projects.

Compared to VisionGuard, web server solutions offer only a fraction of the performance. The strengths of the Eaton software are its complexity and configurability. It can manage entire emergency lighting systems with unprecedented transparency and efficiency.

Every safety luminaire counts

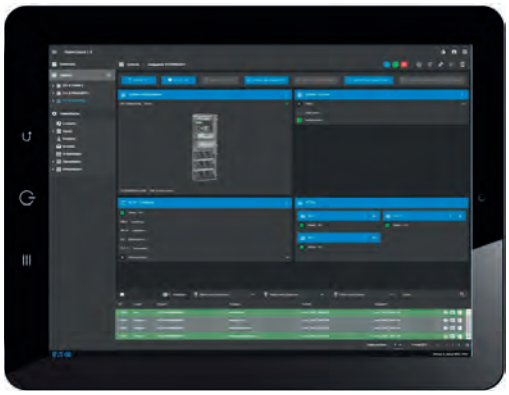
The only thing that matters in an emergency is that the system offers 100 percent protection. Building operators also needs to document that this is really the case. VisionGuard records all the relevant details in an electronic log book,

with status information that can be printed out automatically and at pre-defined intervals. This is control in its most economical form.

Responsive web design

The responsive web design automatically adjusts to the display size/resolution, to make sure that the display is ideally matched to the screen size of any smartphone. Even the navigation menu automatically adjusts to the screen size.





Tablets

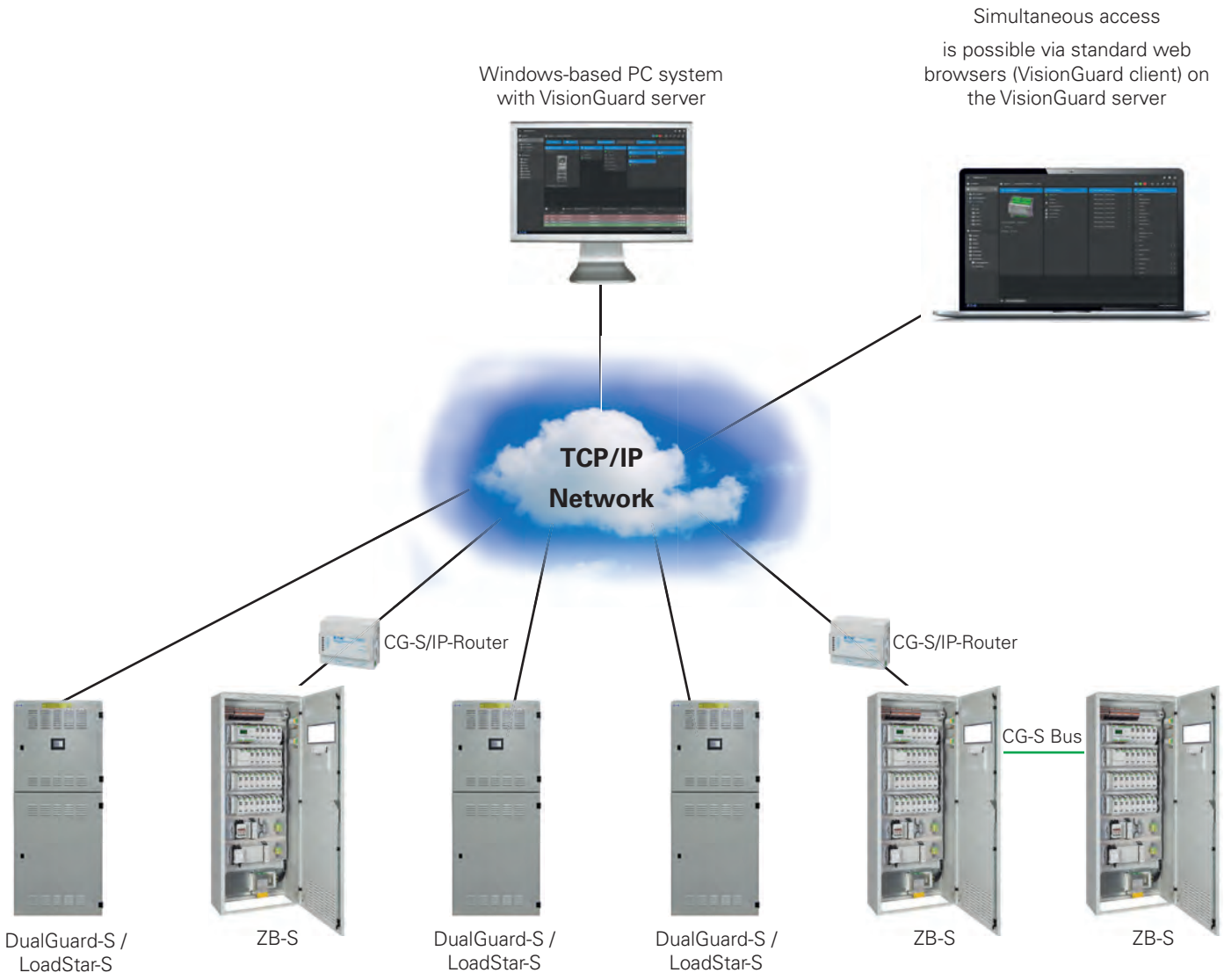
Tablets offer a larger screen than smartphones while still being easy to handle, which makes them ideal for mobile applications. They offer the perfect balance between size and portability.



Full HD

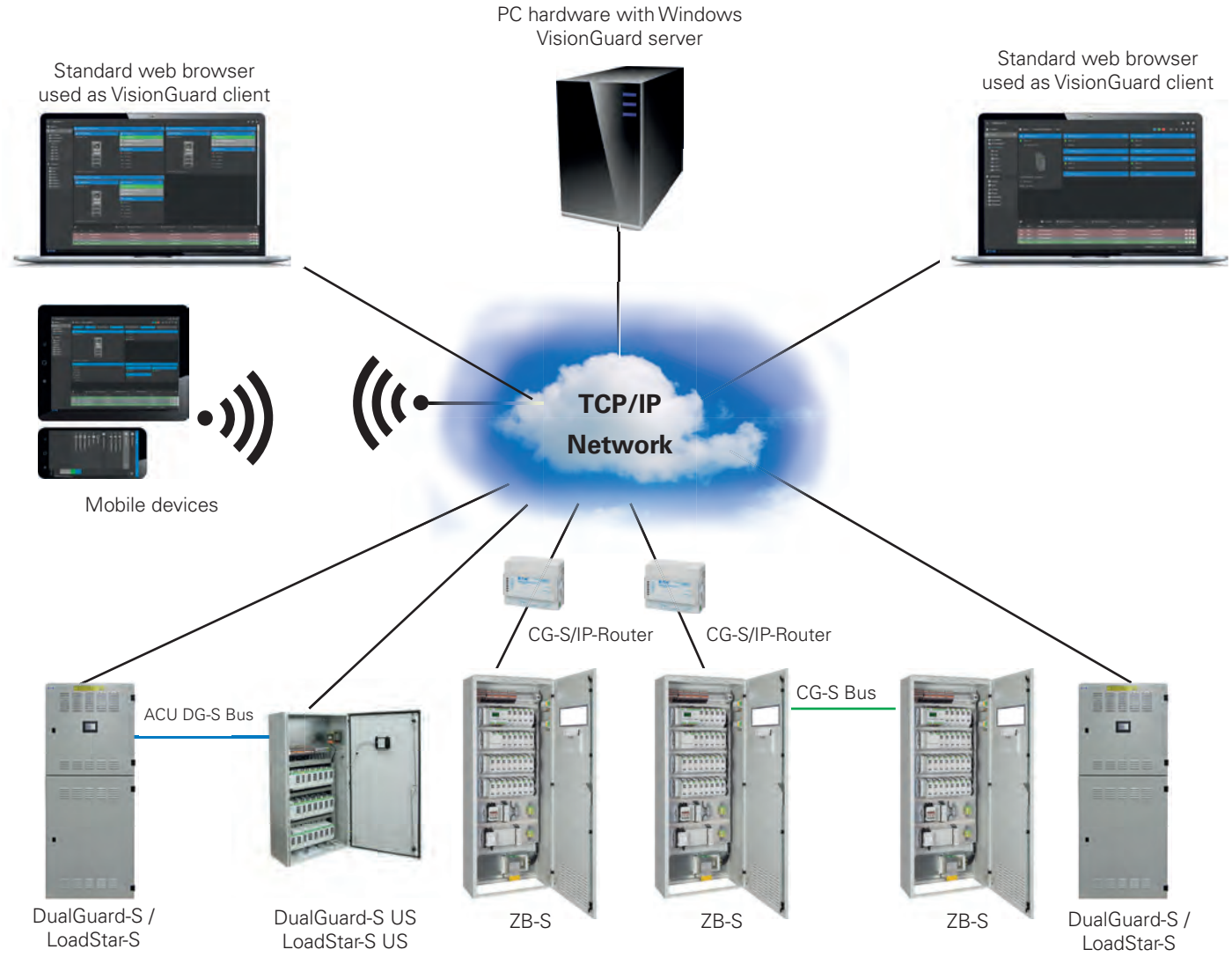
The VisionGuard interface is optimized for a resolution of 1920x1080, which corresponds to Full HD. This means crystal-clear images even on larger screens.

Application example: VisionGuard used as a workstation



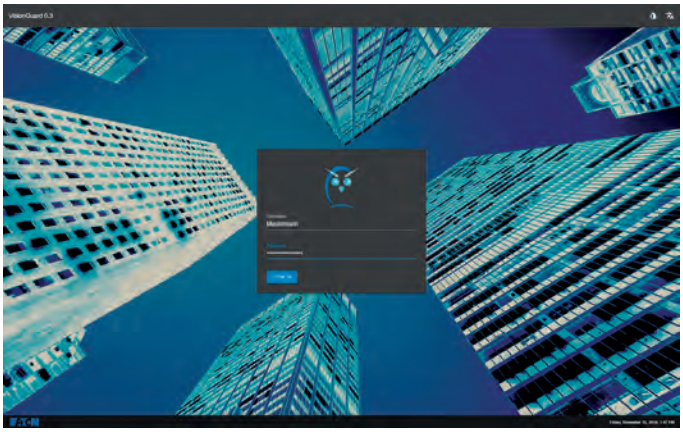
The VisionGuard server software can be installed on any Windows-based PC system. VisionGuard can be accessed via any locally installed web browser. So the use of any OS such as Windows, Linux, iOS or Android is possible. The system can also be easily accessed remotely via a web browser from any PC within the network.

Application example: VisionGuard used as a server installation



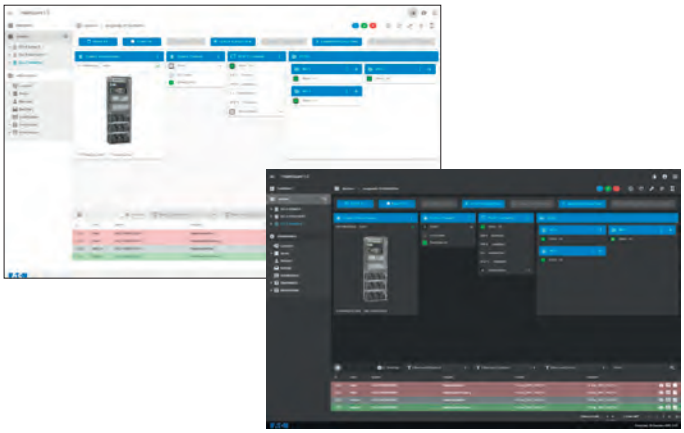
The VisionGuard server software can be installed in physical or virtual Windows-based server environments. Dongle-free software licensing eliminates the need for license servers. VisionGuard can be accessed via networked display devices such as PC workstations, mobile PCs or smartphones and from any web browser, so that any operating system, such as iOS, macOS or Android, can be used.

Login – a safe start



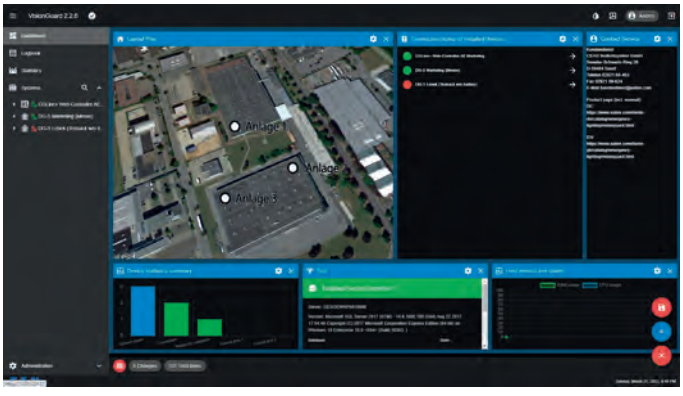
To prevent unauthorized access, operators with assigned access rights must first enter their secure password.

Light/dark mode



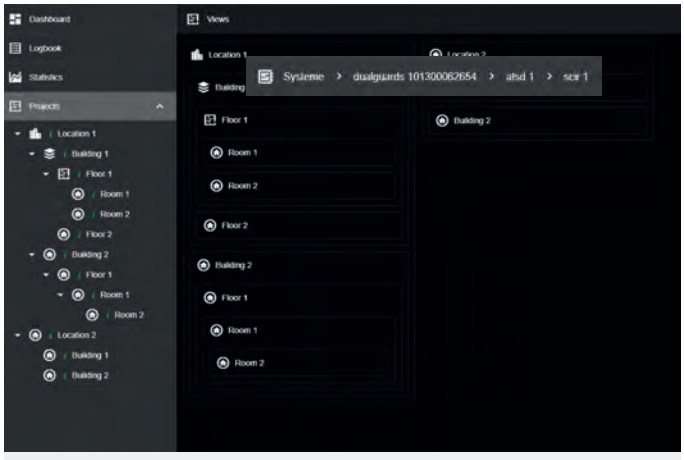
The popular light/dark mode can be switched on any screen via the droplet icon

Dashboard – everything at a glance



After logging in, the start-up dashboard will appear, featuring a useful summary with information about the system. In the dashboard, it is possible to set up widgets in the form of a graphical window system with summary information about the project in question.

Project navigation - easy orientation even for large projects



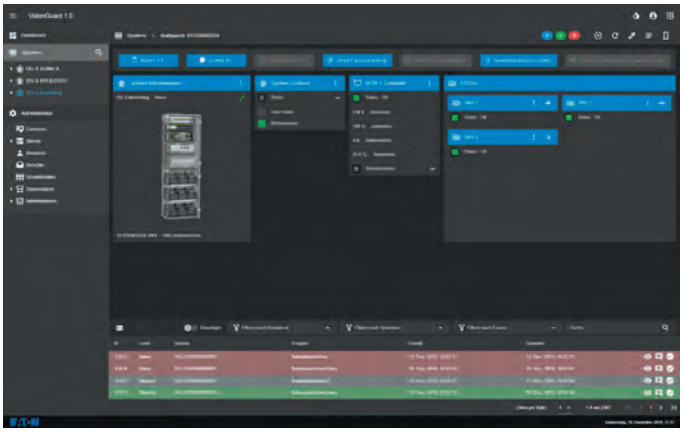
The modern project navigation with freely configurable navigation levels and its helpful “breadcrumb” trail for an easy orientation.

System overview– Important information at a glance



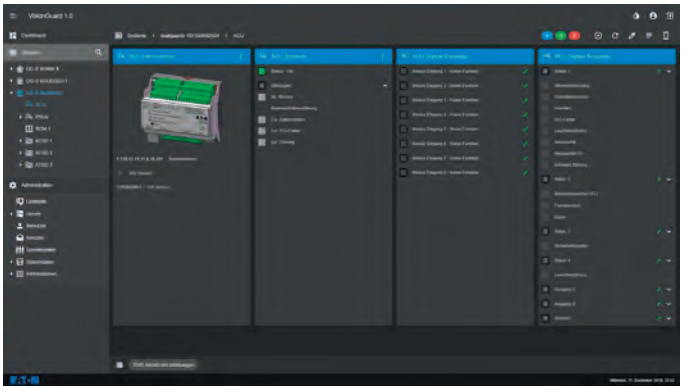
The system overview provides a quick view of the status of each system, with the messages "Normal operation", "Battery operation" and "Sum failure", including analog battery values.

Systems System overview



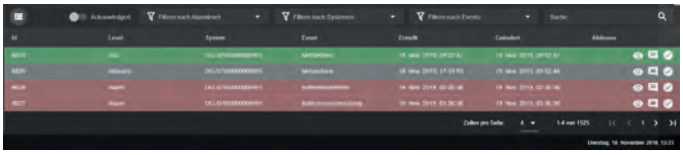
The system overview displays all the important status information of the system, with a focus on what is actually necessary.

Systems Detailed view



The detailed system view provides more detailed status information. In the detailed system view, all DualGuard-S / LoadStar-S or ZB-S components are clearly arranged in the form of an explorer structure. Clicking on a component will open widgets with detailed information.

Alarm list – the latest events



The events are arranged in different colors by category. A date/time stamp indicates when the event occurred. The filter function makes it easy to search for specific events.



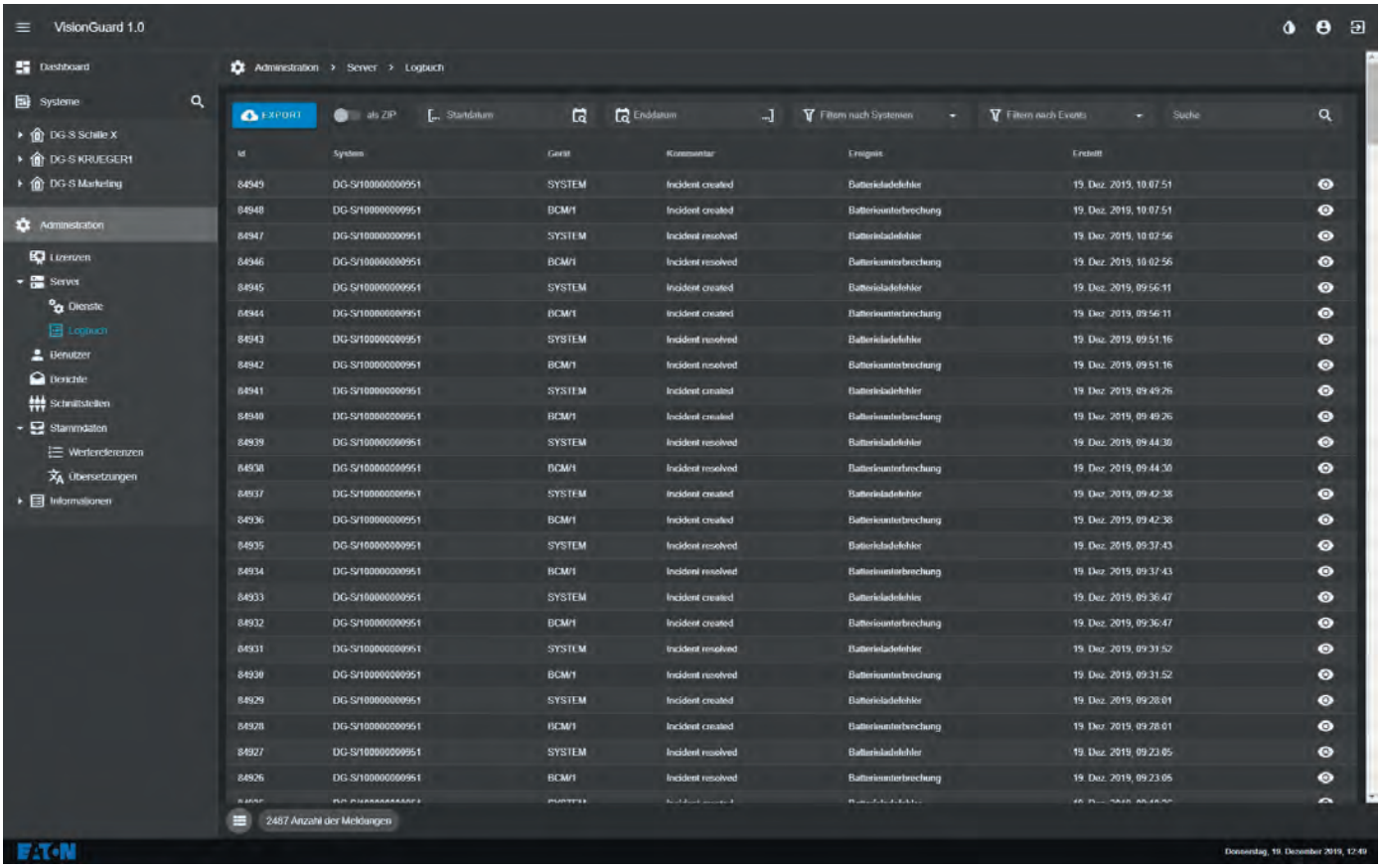
A convincing technology

...with orientation made easy

VisionGuard is the ideal monitoring solution for complex emergency lighting systems, from small projects to large-scale emergency lighting installations such as those found at airports. The software reduces the workload to a minimum, with fully automated processes and notification tools.

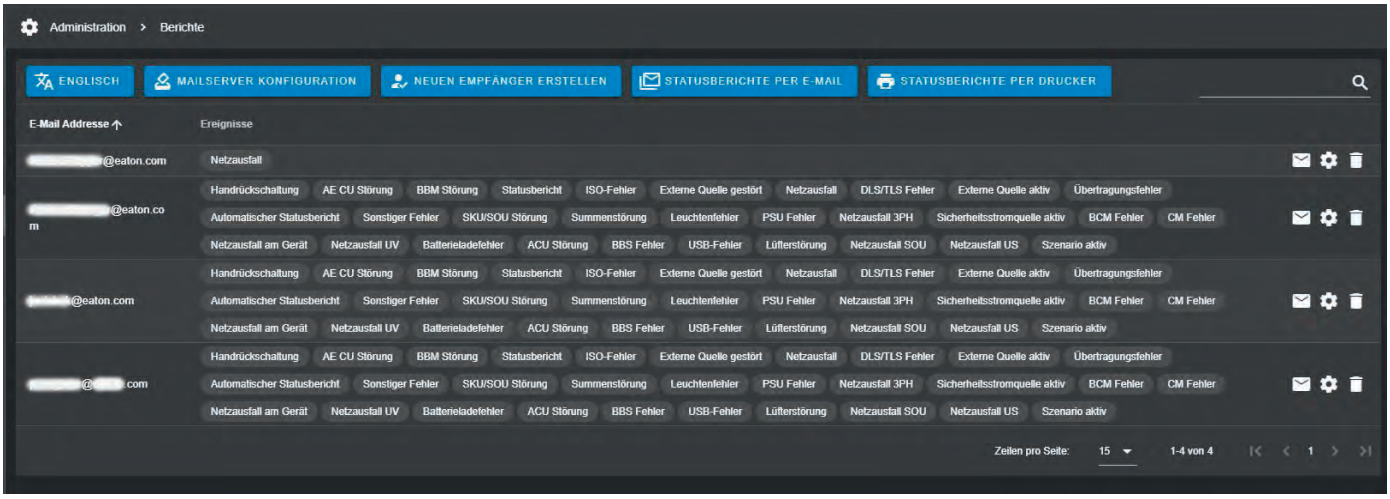
A user-friendly log book with filter function

All events are fully recorded in an electronic log book over a period of at least 4 years in accordance with DIN EN 50172 / DIN VDE V 0108-100-1. Comprehensive filter functions greatly simplify the retrieval of specific events.



Seamless recording of all events

The adjustable email function provides information about alarms and sends status reports after function testing with detailed information down to luminaire level



Email settings menu with adjustable alarm notifications

Monitoring software

VisionGuard – visualization software









Monitoring software

- A modern web-based client/server architecture: Use of standard web browser on the client PC, no special client software installation necessary
- Extremely versatile: full visualization, monitoring and programming of up to 500 emergency lighting systems with over 1,000,000 emergency luminaires
- Full monitoring, control and configuration of DualGuard-S (DG-S) / LoadStar-S (LS-S) and monitoring and control of ZB-S central battery systems, also in mixed operation.
- A modern project navigation offers a clear orientation even for large projects
- Transparent and user-friendly log books and extensive print functions provide a clear overview
- Automatic notifications: The integrated email function with numerous setting options conveniently sends information via email and thereby eliminates the need for in-person inspections
- Optional BACnet/IP interface (only for DG-S / LS-S): this allows easy connection to an external building management system (BMS) via the BACnet protocol
- Graphical representations of battery analog values in the history menu offer a clear representation in the form of diagrams over time
- Occurring faults can be conveniently forwarded to external applications via an integrated export function
- Battery block monitoring (only for DG-S / LS-S): graphic display of the optionally available individual battery block monitoring with single battery block voltage and single battery block temperature

VisionGuard - system hardware / software requirements:

Server	Standard Windows PC (tower, rack), virtual machine
Operating system	Windows® 10 (64 Bit), Windows® Server 2016 , Windows® Server 2019
Processor	Min. Intel i5 or AMD Ryzen 5
Working memory	Min. 8 GB RAM (recommended 16GB RAM)
Hard drive (recommended)	256 GB SSD
Resolution	Full HD 1920 x 1080 or higher
Client	Standard PC workstation, Moblie devices (Tablet PC, Smartphone)
Graphics	DirectX 12
Software	Standard web browser, such as Edge, Chrome, Firefox, Safari
Display	Min. 19"
Ideal resolution	Full HD 1920 x 1080 or higher
Peripheral devices	Keyboard, mouse, printer

VisionGuard

- Multi-user operation: Modern web-based client/server architecture that can be accessed independently and in parallel (only DG-S / LS-S) from different workstations
- Dongle-free software licensing
- Optionally available as a certificate with download link and license key, or VisionGuard software on USB stick with license key
- Tiered versions, from 3 to 500 emergency lighting systems
- Modern web-based dashboard design with widgets (graphic window system)
- Responsive web-design, for different display sizes
- Optimized for Full HD (1920 x 1080 dpi)
- Full visualization, control and configuration of DualGuard-S (DG-S) / LoadStar-S (LS-S) systems down to the level of the luminaires
- Full monitoring and control of ZB-S central battery systems
- A modern project navigation enables a clear arrangement of all connected emergency lighting systems in a navigation tree with freely configurable levels
- User access control with four user roles (supervisor, administrator, power user and user)
- Detailed e-mail function (Status Mail Report and Alarm E-Mailing)
- Advanced printing functions
- Cyber security certified (Eaton)
- BACnet/IP Interface for external BMS optionally available (only DG-S / LS-S, for ZB-S in preparation)
- History function of analogue battery data
- Export function for external applications
- Substation Setup: Clear representation of a DG-S / LS-S central battery system with connected DG-S / LS-S substations
- Battery block monitoring (only DG-S / LS-S): Graphic display of the optionally available battery block Individual monitoring with battery block voltage and battery block temperature

Volume licensing

Basic version for 3 devices
Basic version for 10 devices
Basic version for 25 devices
Basic version for 50 devices
Basic version for 100 devices
Basic version for 500 devices
Options: BACnet/IP Interface for external Building Management System (BMS) (only DG-S / LS-S)



24" TFT display

Large TFT flat screen with IPS display and high resolution (1920 x 1200) for displaying the VisionGuard visualization, monitoring and programming software via a PC system.

PC-Miditower

A powerful PC system for installing and operating the VisionGuard visualization, monitoring and programming software. Includes WIN 10 Prof. (64 Bit), unlicensed VisionGuard preinstalled (must be purchased optionally), PC: high-performance Intel i5 processor, 16 GB RAM / 64 Bit, 256 GB SSD, 1 TB HD, mouse and keyboard.

Software order information

Part no.	Included with delivery	Article no.
VisionGuard basic version 3	Certificate with download link and license key	40071362800
VisionGuard basic version 3 / USB	VisionGuard Software on USB-Stick with license key file	40071362801
VisionGuard basic version 10	Certificate with download link and license key	40071362805
VisionGuard basic version 10 / USB	VisionGuard Software on USB-Stick with license key file	40071362806
VisionGuard basic version 25	Certificate with download link and license key	40071362810
VisionGuard basic version 25 / USB	VisionGuard Software on USB-Stick with license key file	40071362811
VisionGuard basic version 50	Certificate with download link and license key	40071362815
VisionGuard basic version 50 / USB	VisionGuard Software on USB-Stick with license key file	40071362816
VisionGuard basic version 100	Certificate with download link and license key	40071362820
VisionGuard basic version 100 / USB	VisionGuard Software on USB-Stick with license key file	40071362821
VisionGuard basic version 500	Certificate with download link and license key	40071362825
VisionGuard basic version 500 / USB	VisionGuard Software on USB-Stick with license key file	40071362826
VisionGuard BACnet/IP Interface for external BMS (only DG-S)	Certificate with download link and licence key	40071362835
VisionGuard BACnet/IP Interface for external BMS (only DG-S) / USB	VisionGuard Software on USB-Stick with BACnet/IP Interface license key file	40071362836

Hardware order information

Part no.	Included with delivery	Article no.
PC-Miditower	with high-performance Intel i5 processor, incl. optical mouse and WIN 10 Prof. (64 bit), unlicensed VisionGuard software pre-installation included	40071362880
24" TFT display	IPS display with 1920 x 1200 native resolution	40071347155
Inkjet printer colour	Multifunction printer with inkjet (colour), scan and copy function	40071340753
Laser printer colour	High quality colour laser printer DIN A4	40071362850



A software for giant tasks

The high performance CGVision visualisation software controls and monitors even large-scale safety lighting systems with maximum reliability. This is backed up by CEAG, a company belonging to Cooper Industries, with over 40 years of expertise and experience. As market leader we are always aware of our special responsibility. Because where we are active, light means life!

The monitoring tool for really large-scale tasks: up to 480 individual emergency lighting systems with over one million light points can be kept in view on a monitor in the control room. With larger buildings in particular such as airports, universities, museums, sports centres and industrial facilities, the software is the ideal partner for optimal and therefore also economical operation of the complete safety lighting.

Web server solutions can only achieve a fraction of this compared to CGVision. Complexity and configurability are the strengths with which the CEAG software convinces. The management of the complete safety lighting is implemented with exemplary clarity and efficiency.

Every safety luminaire counts

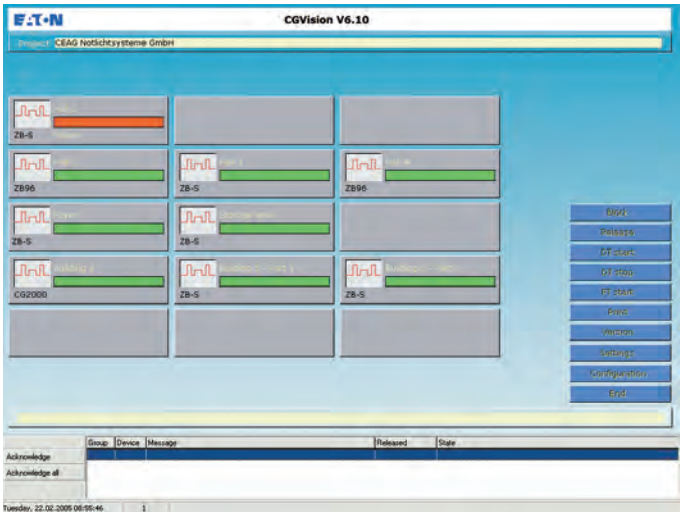
Because when the worst comes to the worst, only 100 percent protection is enough. Every operator must document such cases. CGVision records all relevant details in an electronic inspection book. Status printouts can be implemented automatically and according to set times.

Control in its most cost-efficient form.





Clarity counts

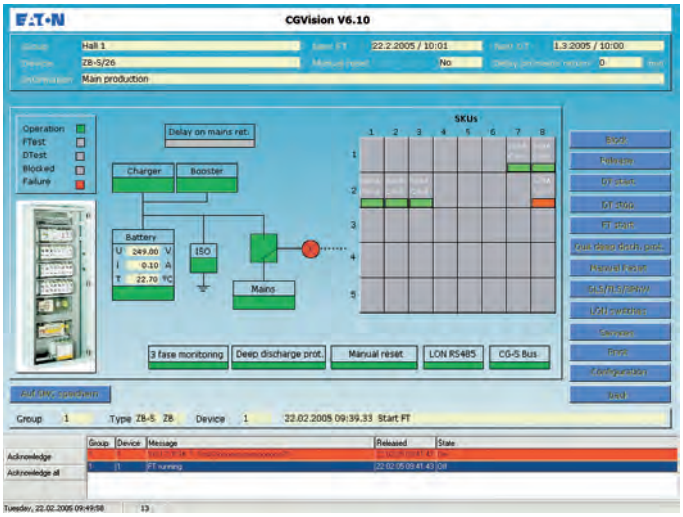


In the main group screen, up to 15 buildings (or other device groups) can be defined. With green everything is fine, red means that a defect has occurred.

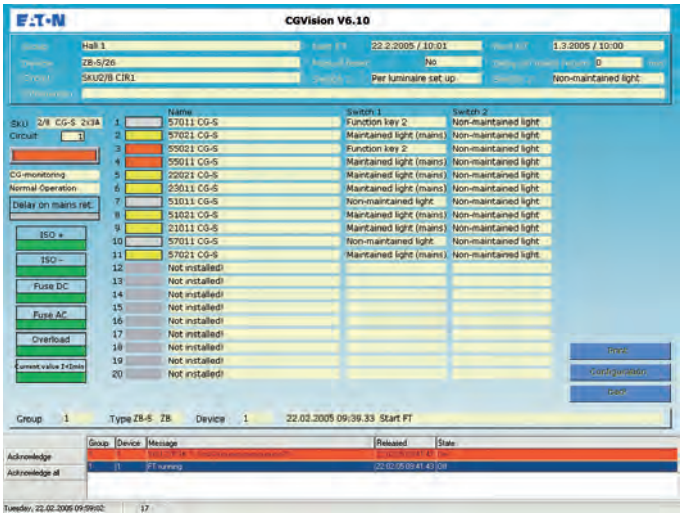


The device group affected by the defect can be opened as simply as that. A maximum of 480 emergency lighting systems with up to 32 devices per group can be visualised here.

Intuitive operating concept



Red signalises a problem. The device image gives a quick overview and supplies detailed, highlighted status information.



The software recognises colours on the circuit level as well. What is the luminaire status? Are the maximum of 20 luminaires switched off or defective? One glance is enough.



Documenting, controlling, reacting

CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

If an 'emergency light defect' is reported, the error can be localised conveniently and safely on the screen. The display shows in which subsystem the defect has occurred, which circuit module is affected, the position specification of the luminaire and how the switching type was programmed. The software interface is no cryptic intellectual challenge but can be operated highly intuitively.

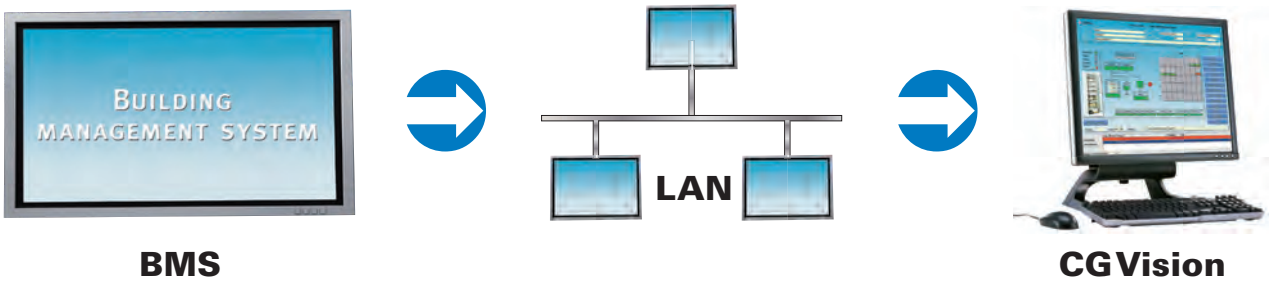
It is also possible to integrate a detailed building plan into the software that precisely positions the safety luminaires with a coloured status display at their locations. Safety-relevant controls of the work of house technicians or external service providers can be implemented directly on the screen. If the display changes from red to yellow, the light point again functions perfectly.

But the graphical display possibilities do not end there: even the location-specific display as part of an aerial view is possible. You cannot get an overview quicker than this.

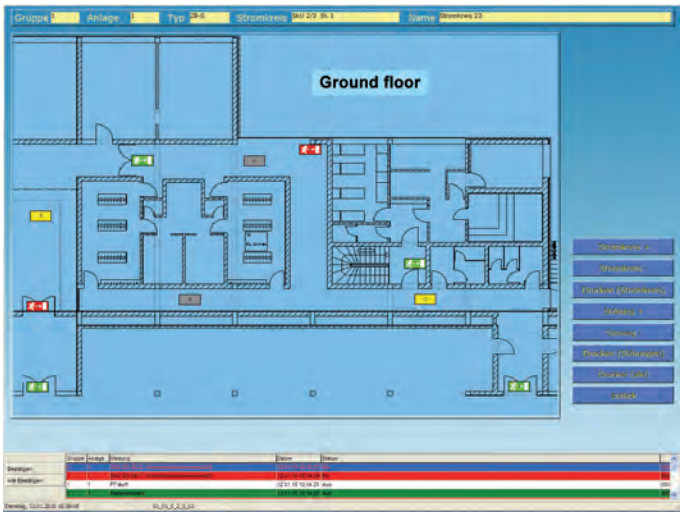
More comfort with an interface to building technology

CGVision and the emergency lighting systems can be connected without complex installations via existing LAN and telecommunication cables. The most common interfaces for building technology are offered. A connection to the building control systems is also simple: CGVision offers an OPC interface for this, or optionally a BACnet interface.

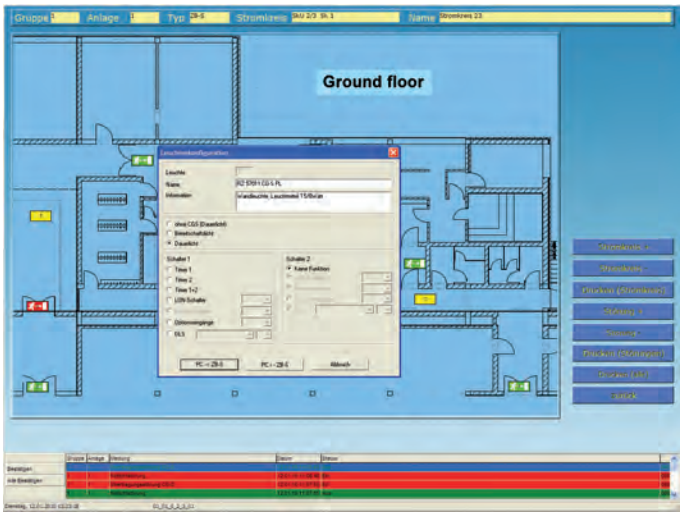
The software is also optimal for decentral solutions: various locations can be controlled via the company-internal intranet without limitations. In this way, efficiency and economy are united as one.



Graphical display possibilities

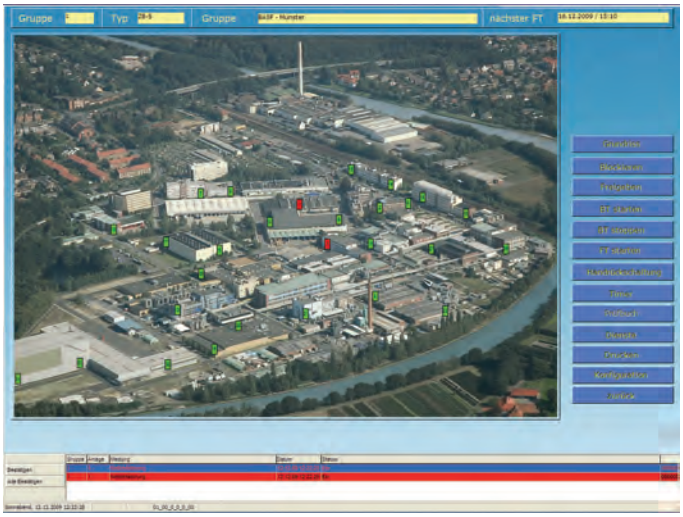


Clear and concise display of the luminaires in the layout plans is also optionally possible. A special graphics tool enables the simple import of CAD plans in .dwg or .dxf format.

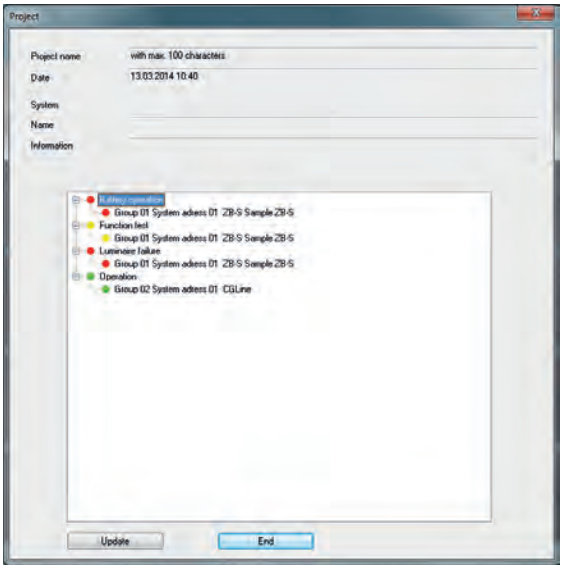


The luminaires can be reprogrammed with respect to their switching types, e.g. from maintained light to standby light with only a few clicks of the mouse in the layout image.

Orientation becomes child's play



Display of the emergency lighting systems in an aerial view or area plan simplifies orientation enormously!



In addition, all systems can be displayed clearly within an Explorer structure along with detailed information.



Technology that always pays for itself ...

... and not only because our light saves lives.

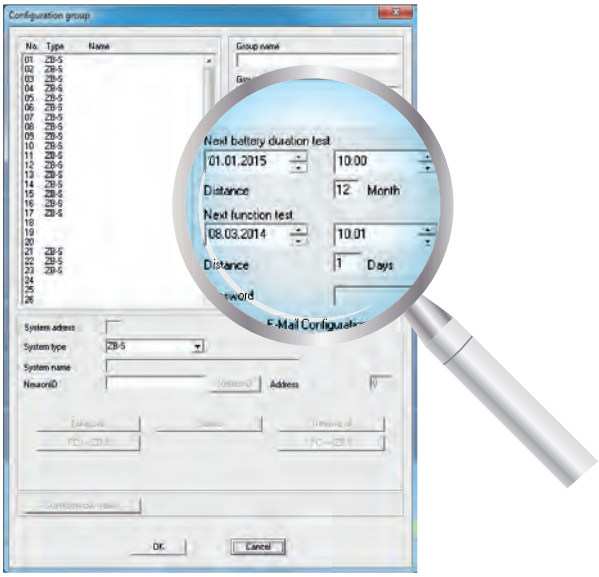
CGVision is the ideal tool for the central monitoring and fully automated inspection of complex emergency lighting systems. The workload is reduced enormously because control rounds are no longer necessary. The team of technicians or external service providers are only then required when a defect is reported. Personnel-intensive resources are therefore spared.

Decentral implementation in particular where several locations are interconnected via intranet pays for itself rapidly. If, for example, the safety lighting systems of six locations are monitored centrally at one location, thanks to the powerfully functional CEAG software this is possible by only one person. The person responsible has all light points in view from one control room and also has their functional efficiency under control, even at a distance of 500 kilometres. Previously, this task would have occupied more than half a dozen technicians.

Fully automatic functions optimise work and time invested

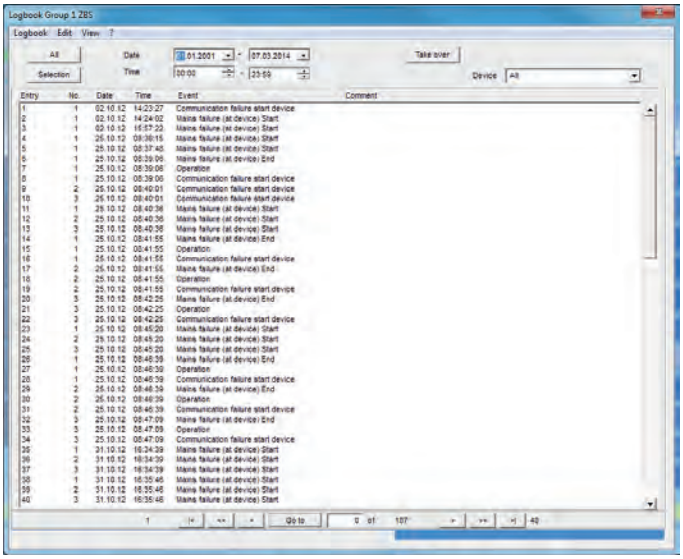


Time-controlled, automatic system status printouts

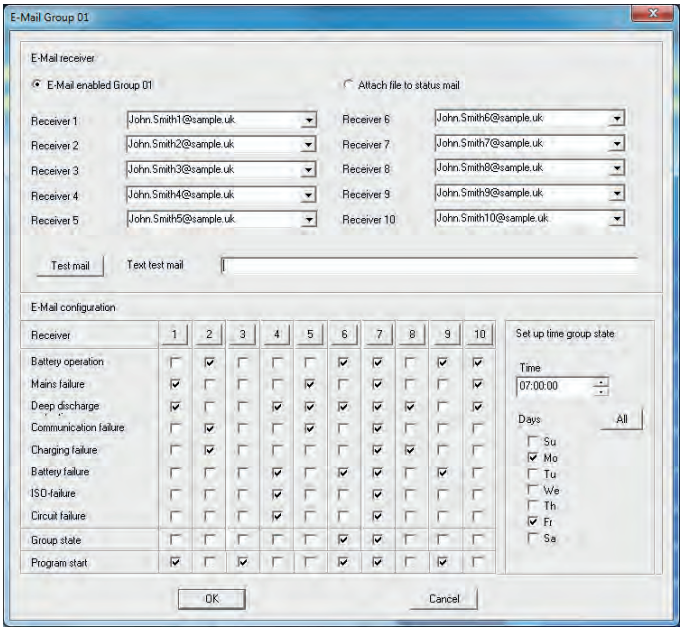


Self-executing tests

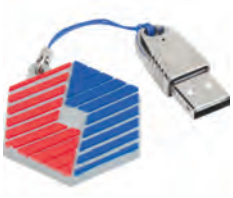
Professional functions for total convenience

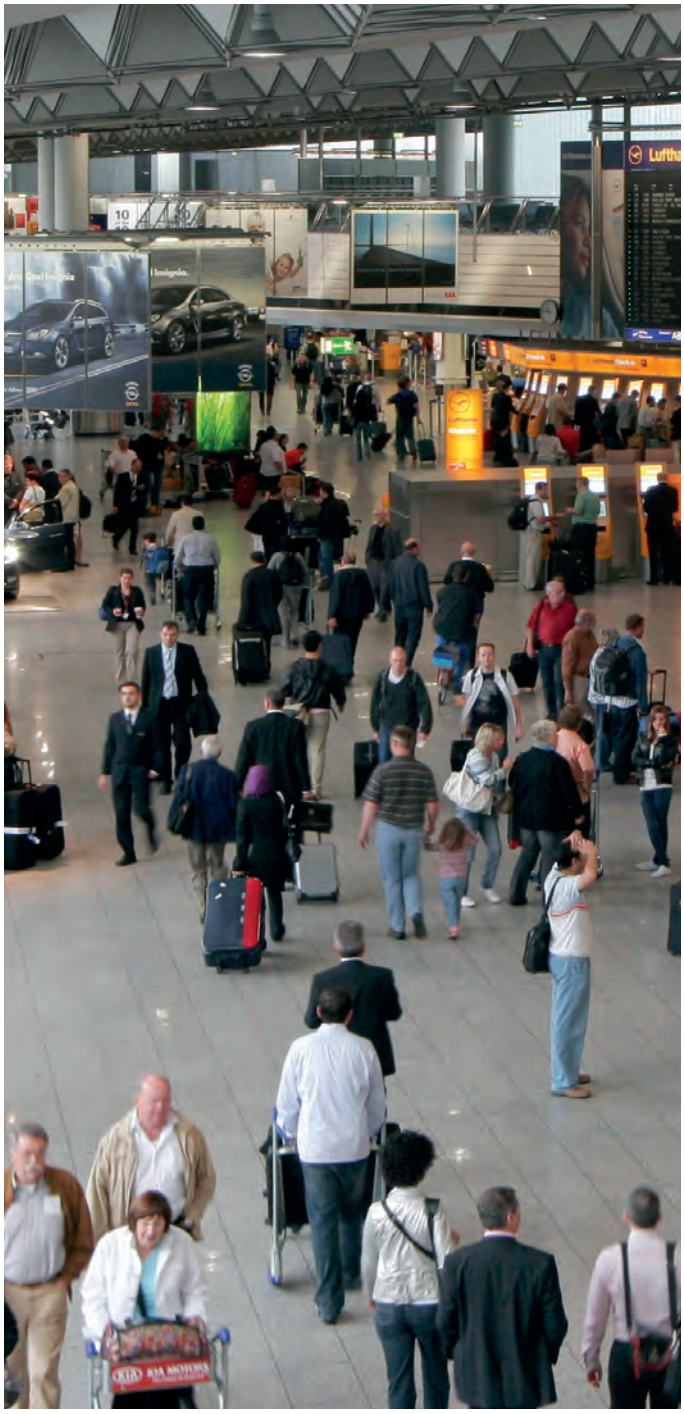


Innovative inspection books with intuitive operation



Notification per e-mail





The correct license for your application

13

CGVision visualisation software is available in three different packages in the Basic or Pro versions.

The packages essentially differ with the CG-S interface for connecting the existing emergency light systems to the CG-S bus. All packages have dongle licenses for all EGA devices that can be connected to CGVision (ZB96/Euro ZB.1/GVL24.1/CG48 or ZVL220, optionally available CG-S/IP router+ 1P required)

Package I contains a CG-S/IP interface, for connecting CG-S based systems such as ZB-S, AT-S+ or CG2000 via ethernet (IP network). For this purpose optional CG-S/IP-Router are necessary.

Package II does not contain a CG-S interface, e.g. only with use of a CGLine+ self-contained luminaire system via CGLine+ Web-Controller.

Package III contains a CG-S/USB interface for connecting CG-S based systems via a standard 2-wire bus line (CG-S bus).

All **Pro Packages** contain in addition to the Basic Packages convenient layout programming enabling the display of the systems in building plans or aerial views, or the display of emergency luminaires circuit-related in building layouts. The image format is typically .bmp format. Converting a .dwg based AutoCAD file is also possible. Positioning luminaires in the layout is via drag & drop.

Overview CGVision licences

	Basic Package I	Basic Package II	Basic Package III	Pro Package I	Pro Package II	Pro Package III
CG-S/IP interface	X	-	-	X	-	-
EGA licences	X	X	X	X	X	X
CGLine 400 licences	X	X	X	X	X	X
CGLine+ licences	X	X	X	X	X	X
Ethernet I/O licences	X	X	X	X	X	X
CG-S/USB interfacebox	-	-	X	-	-	X
Graphic visualisation of the devices	-	-	-	X	X	X
Visualisation in a building layout	-	-	-	X	X	X

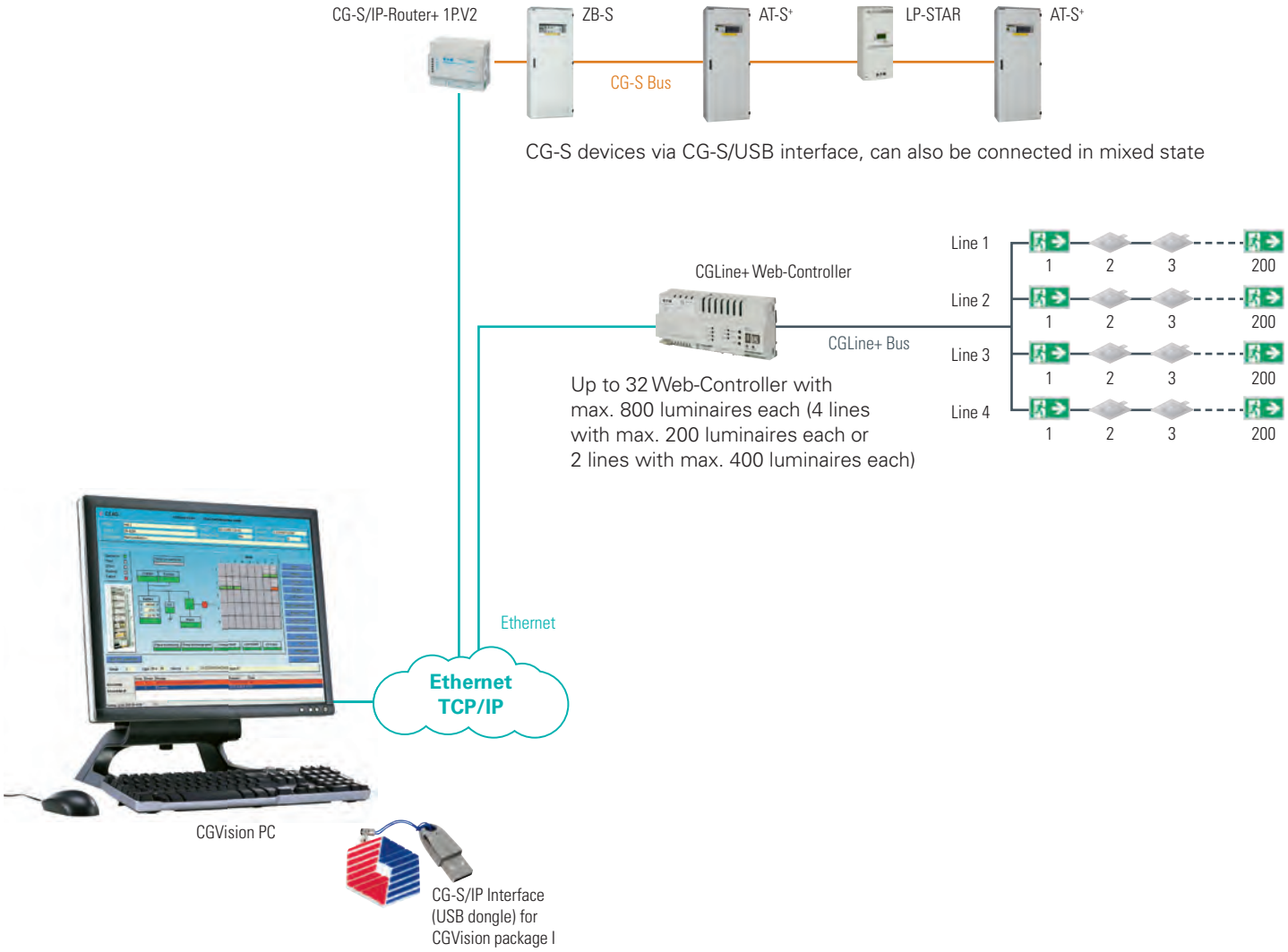
Phase out planned: CGVision Package I

CGVision Package I (Basic or Pro) contains the CG-S/IP interface (USB dongle) enabling CG-S bus-based emergency light systems such as ZB-S, LP-STAR, AT-S+ and CG2000 to be connected to the CGVision visualisation software with the aid of CG-S/IP routers (optionally available) via an ethernet-based network (TCP/IP).

Any number of ZB-S, AT-S+ or CG2000 systems, also in mixed state, can be connected to a CG-S/IP router+ 1P.V2. In CGVision the systems must however be assigned own device groups.

In addition, the CGVision Package I version contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision.

CGVision Package I application example



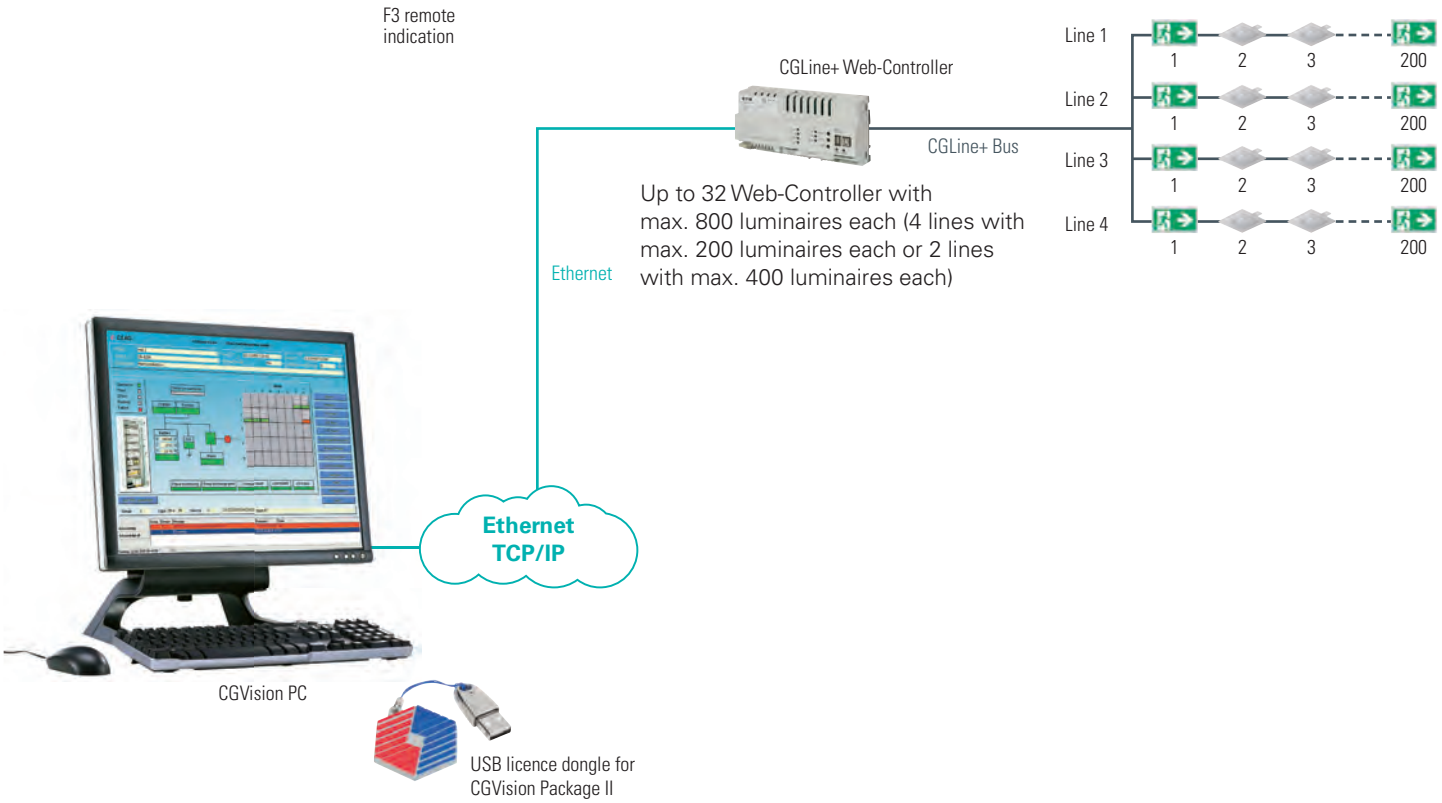
Phase out planned: CGVision Package II

CGVision Package II (Basic or Pro) does not contain the CG-S interface.

The package contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision. Thus only visualisation of EGA devices or CGLine+ self-contained luminaires without CG-S bus-based devices is possible.

The license for the I/O Ethernet module is also provided, enabling visualisation of devices from other manufacturers via potential-free contacts.

CGVision Package II application example



Phase out planned: CGVision Package III

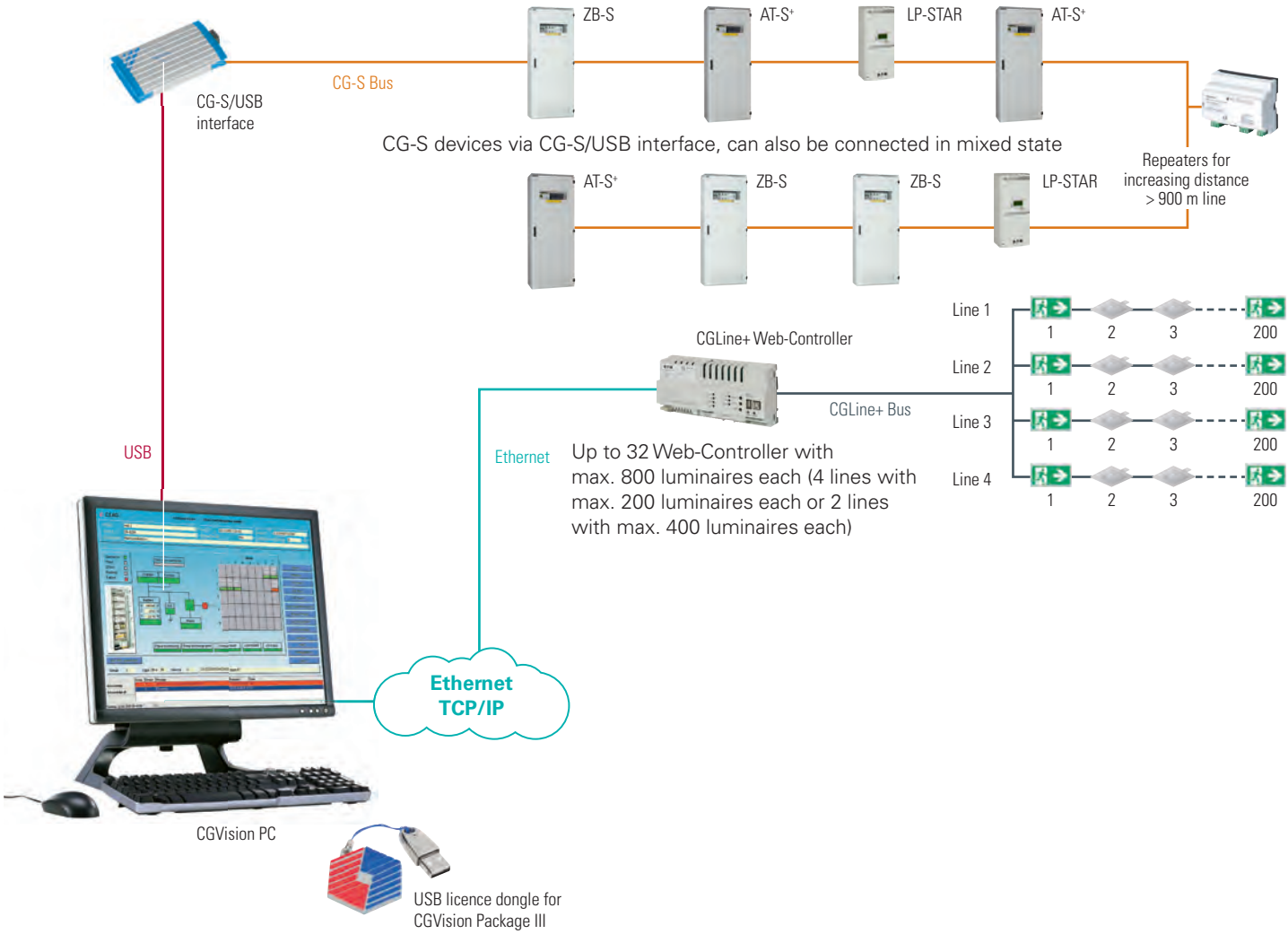
CGVision Package III (Basic or Pro) contains the CG-S/USB interface (USB box), enabling CG-S bus-based emergency light systems such as ZB-S, LP-STAR, AT-S+ and CG2000 to be connected to the CGVision visualisation software via a standard bus cable.

Any number of ZB-S, CGLine+, AT-S+ or CG2000 systems, also in mixed state, can be connected. In CGVision the systems must however be assigned own device groups.

Increasing the distance of the bus cable is possible via optionally available repeaters or routers.

In addition, the CGVision Package III version contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision.

CGVision Package III application example



Phase out planned: CGVision

Visualisation software CGVision

Monitoring and programming software

- Extremely diverse: complete visualisation, monitoring and programming of up to 480 emergency lighting systems with over 1,000,000 emergency luminaires
- Ideal orientation: luminaire texts and supplementary information fields for each luminaire as well as the display of emergency lighting systems and luminaires in aerial views or layouts makes orientation child's play
- Clear and user-friendly inspection books as well as extensive printing functions offer convenient information possibilities
- Automatic notification: an integrated e-mail function with many setting possibilities informs conveniently per e-mail. Thus control rounds are no longer necessary



Operating system	Windows® 7 (32 Bit/64 Bit), Windows® 10 (32/64 Bit), Windows® Server 2012 (no server/client)
Processor	at least 2 GHz
RAM	at least 4 GB RAM / 32 Bit or 8 GB RAM / 64 Bit recommended
Hard disk	10 GB free hard disk storage
Graphics board	at least 128 MB (no shared memory)
Drives	CD-ROM / DVD
Monitor	at least 17" (min. 1280 x 1024 dpi)
Mouse, keyboard	1 x each
USB port	1 x (CG-S interface/dongle license)
	1 x USB for printer

CGVision



- Detailed system information are available at every time
- Simple menu guidance
- Up to 480 emergency lighting devices are monitor- and programmable, a segmentation in up to 15 groups of devices is possible (one device group per device family)
- Up to 32 pcs. CGLine+ WEB-Controller with up to 25,600 CGLine+ luminaires are monitor- and programmable
- Up to 8 pcs. CGLine WEB-Interfaces with up to 3,200 self contained luminaires are monitor- and programmable
- Free input of texts and additional information at each level (up to 100 signs) and cognition of destination for luminaires (ZB-S/CG 2000 up to 20 signs)
- Inquiry of the current working conditions of all mounted systems
- Clearly-presented display in explore structure (tree structure) possible
- Constant display of the 5 latest events in an alarm list
- Localised failure display about each emergency circuit and luminaries with destination data in plain text in connection with function tests
- Always current information on charging unit and battery
- Storage and retrieval possibility of all log book entries over a period of 4 years at least
- Free programmable function- and duration test
- Configurable automatic print functions
- Integrated e-mail client program with status information for each device group
- Up to 10 e-mail recipients each device group configuring
- Connection of a building management system (BMS) via integrated OPC-server possible
- Optional BACnet server (only for ZB-S / CG2000) for BACnet based BMS available

Overview CGVision licences

	Basic Package I	Basic Package II	Basic Package III	Pro Package I	Pro Package II	Pro Package III
CG-S/IP interface	X	-	-	X	-	-
EGA licences	X	X	X	X	X	X
CGLine 400 licences	X	X	X	X	X	X
CGLine+ licences	X	X	X	X	X	X
Ethernet I/O licences	X	X	X	X	X	X
CG-S/USB interfacebox	-	-	X	-	-	X
Graphic visualisation of the devices	-	-	-	X	X	X
Visualisation in a building layout	-	-	-	X	X	X

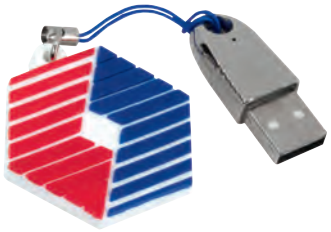
Features of all packages

- CGLine+ Licence (release via USB-dongle) for visualisation of CGLine+ self-contained luminaires via CGLine+ WEB-Controller on CGVision. Up to 32 pcs. CGLine PC-interfaces with up to 25,600 pcs. CGLine+ self-contained luminaires can be controlled and monitored.
- CGLine Licence (release via USB-dongle) for visualisation of CGLine self-contained luminaires via CGLine WEB-interface on CGVision. Up to 8 pcs. CGLine PC-interfaces with up to 3,200 pcs. CGLine self-contained luminaires can be controlled and monitored.
- Ethernet I/O-License (released via USB-dongle) for visualisation of devices via pot.-free In-/Outputs. 8 digital inputs for visualisation and 7 relay outputs 24V, to control of diverse functions, e.g. Start function test.

In addition all CGVision Software Pro Packages contain:

- Graphic visualisation of the devices in a .bmp graphic, e.g. area plan, aerial map
- Circuit orientated visualisation of luminaires in a building layout

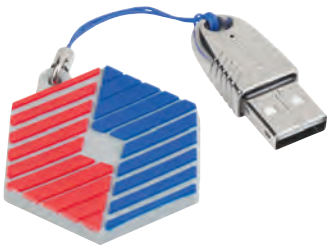
Licence (Dongle) Basic Package I



Special features of CGVision Software Basic Package I

- CG-S/IP-Interface (USB-dongle) for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, LP-STAR, CG 2000) via an ethernet (TCP/IP), directly via the LAN-interface (RJ45) of the PC. For the connection of CEAG emergency lighting systems with STAR-Technology via an ethernet, CG-S/IP-Routers+ 1P are necessary, which are optionally available.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

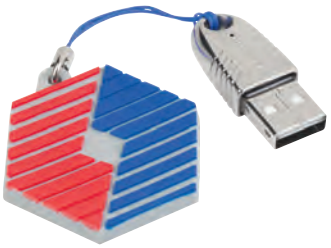
Licence (Dongle) Basic Package II



Special features of CGVision Software Basic Package II

- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

Licence (Dongle) Basic Package III



Special features of CGVision Software Basic Package III

- CG-S/USB-Interfacebox for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, CG 2000) via a conventional two-conductor cable data bus.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

Phase out planned: CGVision

Visualisation software CGVision

Licence BACnet-Server (Dongle)

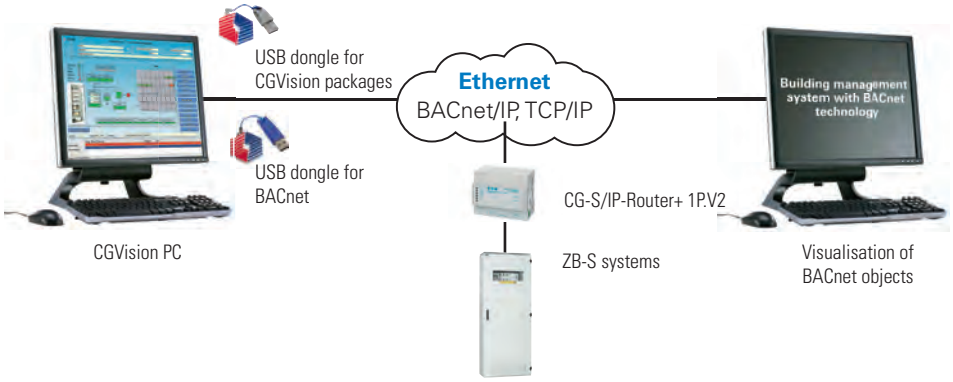


BACnet Server for CGVision

BACnet Server for CGVision to connect a BACnet based BMS to CGVision with ZB-S/CG2000 systems via BACnet/IP. The BACnet Server provides event-driven BACnet-objects with relevant status indications of ZB-S/CG2000 systems with STAR technology.

The BACnet interface provides following information each ZB-S/CG2000 system:

- 35 status information (e.g. mains failure, battery operation, luminaire sum failure etc.)
- 3 sum messages, mirroring of free programmable relay contacts
- 4 analogue battery values (Battery voltage, charge-/discharge current, temperature, capacity)
- 4 ZB-S control commands (e.g. start function test)
- 16 switch commands, to switch circuits or luminaires, which are programmed to LON-switch



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24" TFT screen

Generous TFT high resolution flat screen for display of CGVision visualisation, monitoring and programming software via a PC system.

PC miditower

High performance PC system for installation and operation of CGVision visualisation, monitoring and programming software, incl. WIN 10 Prof. (64 Bit), PC: High performance processor, 8 GB RAM / 64 Bit, 256 GB SSD, 1 TB HDD and mouse.

Ordering specifications software

Scope of delivery	Order No.
CGVision Basic Package I (including CG-S/IP-Interface)	40071361020
CGVision Basic Package II (EGA components to be ordered separately)	40071361022
CGVision Basic Package III (including CG-S/USB-Interface, EGA components to be ordered separately)	40071361024
CGVision Pro Package I (including CG-S/IP-Interface and visualisation in a building layout)	40071361021
CGVision Pro Package II (including visualisation in a building layout, EGA components to be ordered separately)	40071361023
CGVision Pro Package III (including CG-S/USB-Interface and visualisation in a building layout, EGA components to be ordered separately)	40071361025

Ordering specifications optional licenses

Scope of delivery	Order No.
CGVision CEAG BACnet-Server (dongle) with 1000 data points, version: USB-Port	40071360336

Hardware order information

Part no.	Included with delivery	Article no.
PC-Miditower	with high-performance Intel i5 processor, includes optical mouse and WIN 10 Prof. (64 bit), CGVision software pre-installation included	40071347144
24" TFT display	IPS display with 1920 x 1200 native resolution	40071347155
Inkjet printer colour	optional	40071340753
Laser printer colour	High quality colour laser printer DIN A4	40071362850

4-channel repeater for CG-S bus



CG-S bus components

- Powerful amplifier modules for expansion of bus structure
- Signal amplification and regeneration
- Generation of CG-S network segments
- Active interference suppression with logical filter function (router)
- Expansion of network capacity
- With diagnosis function
- Visualise without limits with transmission via TCP/IP
- Use existing ethernet-based corporate networks
- Any media possible (copper, LAN, WLAN, glass fibre)
- Convenient networking via standard network components

CG-S bus repeater

- 4-channel repeater for connecting of CG-S bus networks and expansion of network capacity of a CG-S bus network via physical division into two or more CG-S bus network segments.

Order specifications CG-S Bus (ZB-S, CG2000)

Scope of delivery	Order No.
4-channel repeater for CG-S bus	40071070583

CG-S/IP router+ 1P.V2



CG-S/IP router+ 1P.V2 connection box



CG-S/USB Interfacebox



CG-S/IP router+ 1P.V2

- CG-S/IP router+ 1P.V2 for connection of CEAG emergency lighting systems with CG-S bus to CGVision via an existing on-site ethernet (with TCP/IP). Simple, building-wide connection of decentrally located emergency lighting systems with STAR technology with coupling of CG-S/IP routers+ 1P.V2 configured as clients via ethernet. Connection to CGVision can either be implemented via a USB port with the CG-S/USB interface box and a CG-S/IP router+ 1P.V2, or directly via the LAN interface of the PC. The CG-S/IP interface is required for this. Management of all CG-S network components is implemented via any CG-S/IP router+ 1P.V2 in the network configured as a configuration server and administering all participants in a channel list with their IP addresses.
- CG-S/IP-router+ connection box incl. CG-S/IP router+ 1P.V2 and 24V/1.25A DC power supply for external mounting.
- CG-S/IP interface for operation of CEAG emergency lighting systems with CG-S bus technology and CG-S/IP router+ 1P.V2 via ethernet to CGVision visualisation, monitoring and programming software. The CG-S/IP interface enables connection of the emergency lighting systems via CG-S/IP router+ 1P.V2 through the ethernet directly via the LAN interface of the PC.

Order specifications CG-S Bus/Ethernet

Scope of delivery	Order No.
CG-S/IP interface soft license (MAC-address required for order)	40071362852
CG-S/IP router+ 1P.V2 (Ethernet)	40071361090
CG-S/IP router+ 1P.V2-connection box incl. CG-S/IP router+ 1P.V2 (ethernet) and 24V/DC power supply	40071361092

Order specifications CG-S Bus (ZB-S, CG2000)

Scope of delivery	Order No.
CG-S/USB interface box, surface mounted housing, without license key, replacement part	40071347137



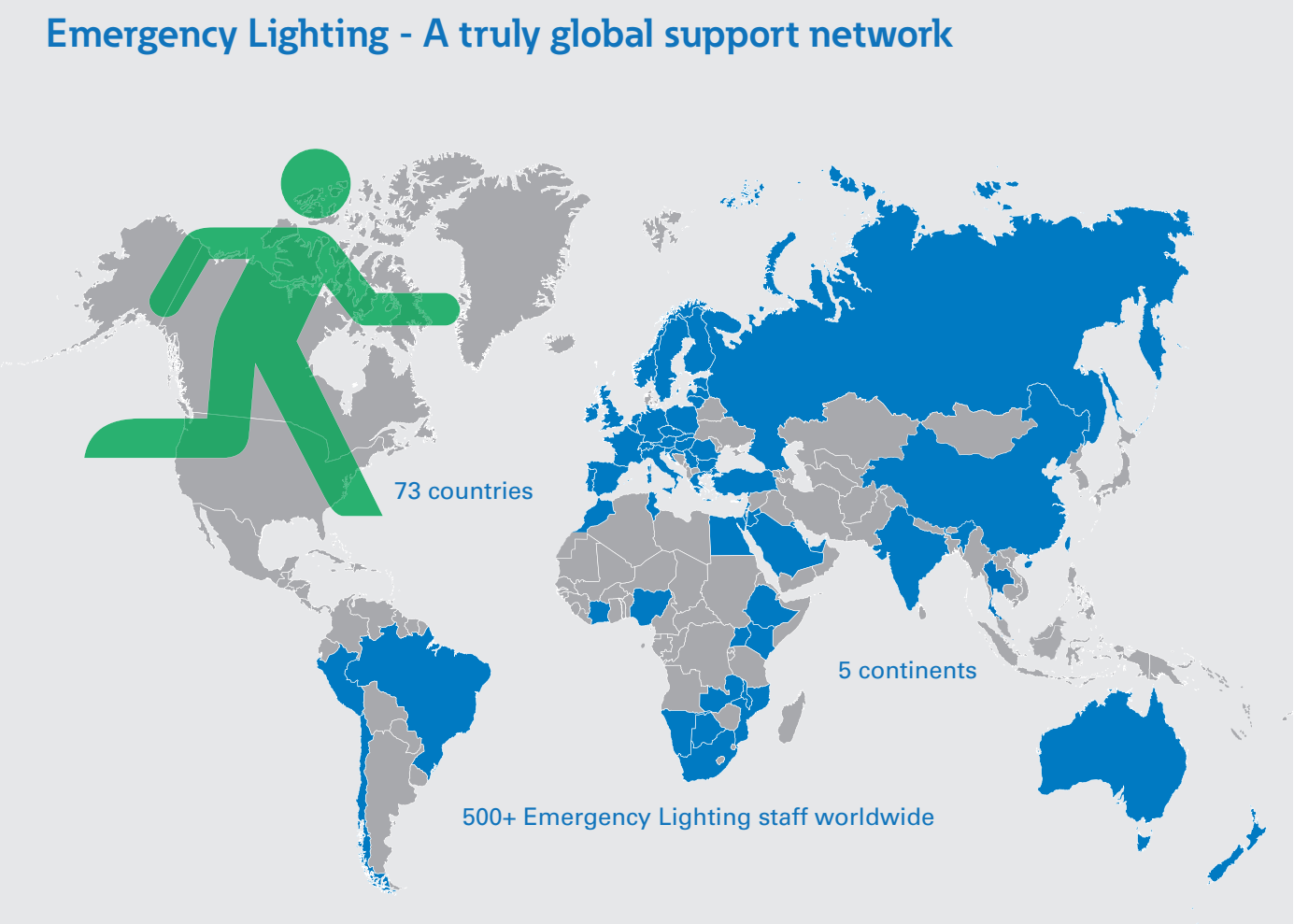
CEAG contact person

You can find further information at www.eaton.com

We are also available for you personally.

Our technical sales representatives are available on-site for creating interesting and economic emergency lighting concepts according to specific requirements and complying with valid regulations.

Emergency Lighting - A truly global support network



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