



## Thru-beam sensor

### LA29/LK29-Z-F1/31/116-SET



- Robust, compact photoelectric sensor for single-beam gate protection
- Very high detection range
- No measurable emitted interference on all frequencies
- Not sensitive to ambient light, even with energy saving lamps
- Adjustable timer functions
- Version with accessories in scope of delivery

## Thru-beam sensor



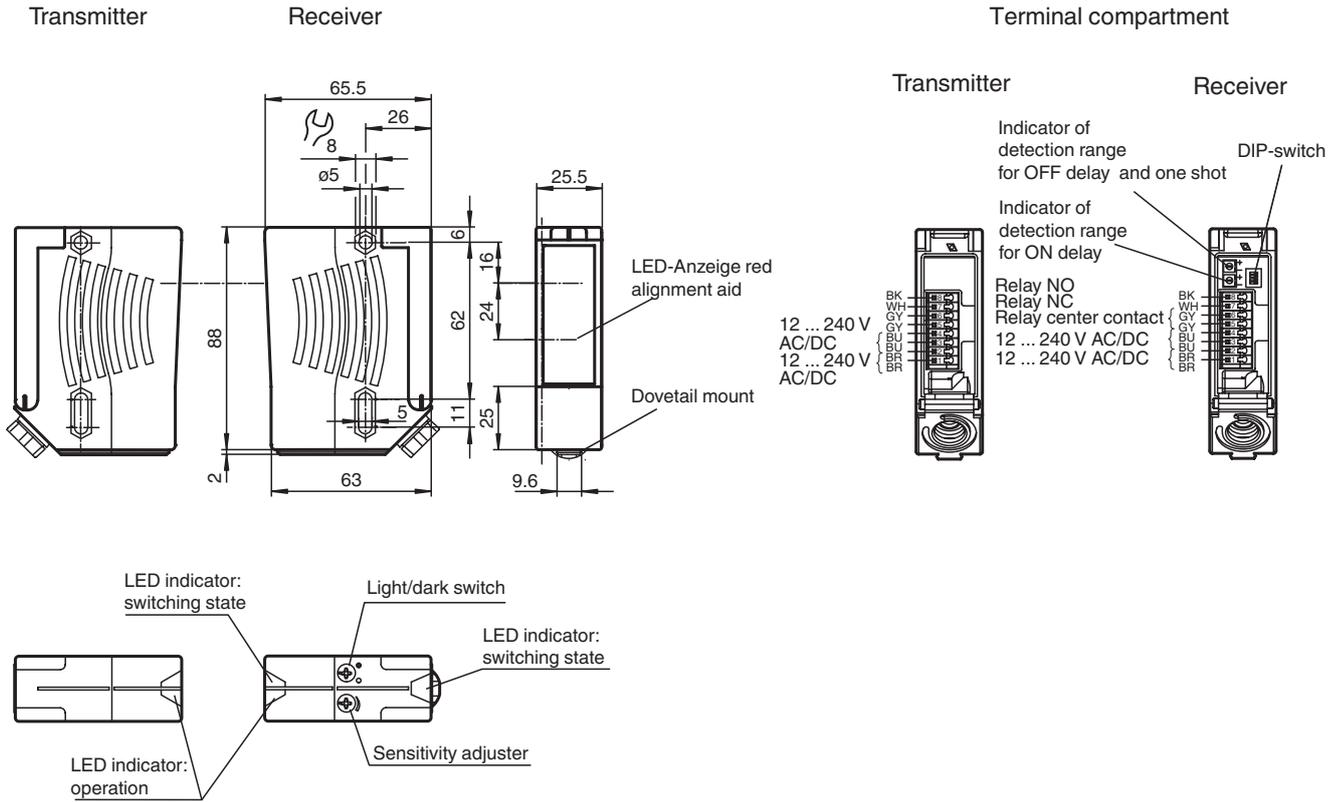
### Function

Series 29 is a range of low-cost and, most importantly, reliable photoelectric sensors for monitoring industrial doors, elevators, and automatic gates. Their high degree of protection makes them the ideal solution for tasks outdoors and at thresholds, and in harsh environments. These "universal-voltage sensors" can be operated with any supply voltage from 24 V to 240 V, and with direct current or alternating current.

### Application

- Monitoring closing edges of automatic industrial doors and elevators
- Monitoring the swing range of automatic gates
- Detecting and tracking objects in material handling

**Dimensions**



**Technical Data**

<b>System components</b>	
Emitter	LA29-F1/116
Receiver	LK29-Z-F1/31/116
<b>General specifications</b>	
Effective detection range	0 ... 65 m
Threshold detection range	90 m
Light source	LED
Light type	modulated visible red light , 660 nm
Alignment aid	LED red (in receiver lens) illuminated constantly: beam is interrupted, flashes: reaching switching point, off: sufficient stability control
Transmitter frequency	F1 = 25 kHz
Diameter of the light spot	approx. 1.3 m at 65 m
Opening angle	Emitter 1.2°, Receiver 5°
Ambient light limit	50000 Lux
<b>Functional safety related parameters</b>	
MTTF <sub>d</sub>	490 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %
<b>Indicators/operating means</b>	
Operation indicator	LED green
Function indicator	LED yellow: 1. LED lit constantly: signal > 2 x switching point (function reserve) 2. LED flashes: signal between 1 x switching point and 2 x switching point 3. LED off: signal < switching point
Control elements	sensitivity adjustment (Adjustment to < 25% of the effective operating range) , Light-on/dark-on changeover switch
<b>Electrical specifications</b>	

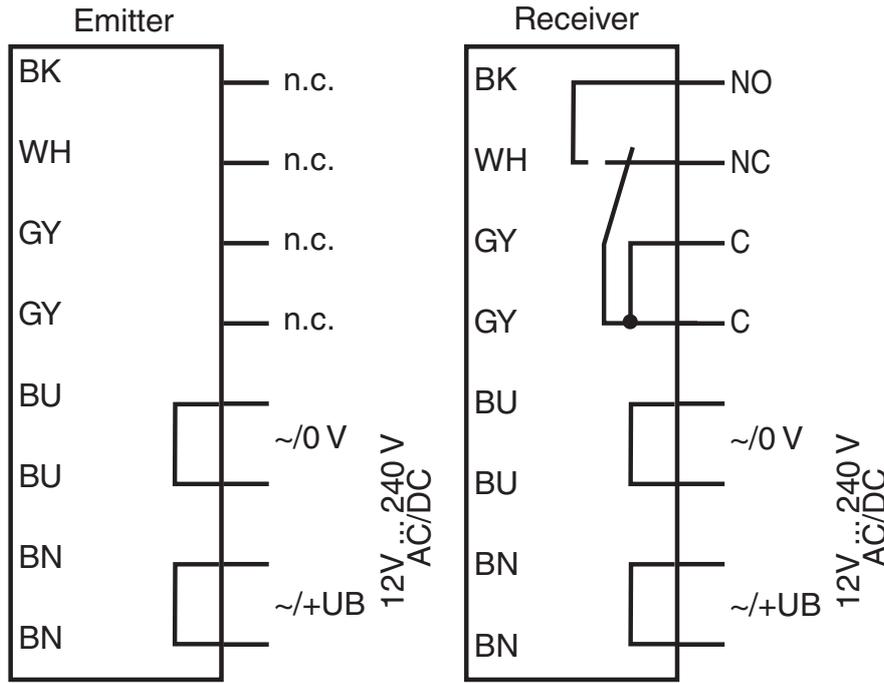
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

## Technical Data

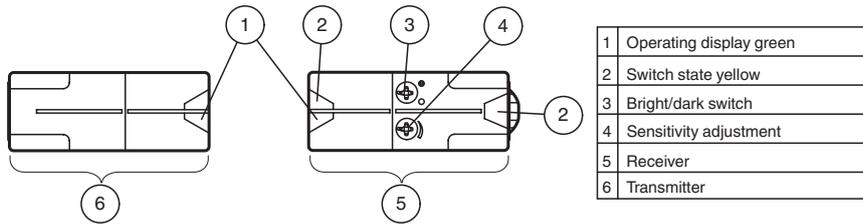
Operating voltage	$U_B$	12 ... 240 V AC/DC
Power consumption	$P_0$	≤ 3.5 VA
<b>Output</b>		
Switching type		light/dark on, switchable . (selectable, light/dark switching is only activated if the receiver has 'dark on' selected.)
Signal output		Relay, 1 alternator
Switching voltage		max. 250 V AC/DC
Switching current		max. 2 A
Switching power		DC: max. 50 W AC: max. 500 VA
Switching frequency	f	25 Hz
Response time		20 ms
Timer function		ON delay (GAN), OFF delay (GAB), one shot (IAB), ON delay-OFF delay (GAN-GAB), programmable adjustment range 0.1 ...10 s
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		
Protection class		II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 230 V AC Caution! The protection class 2 is only valid when the terminal compartment is closed.
CCC approval		Certified by China Compulsory Certification (CCC)
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 75 °C (-40 ... 167 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP67
Connection		terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm <sup>2</sup> , Insulation stripping 7.5 ... 8.5 mm , M16 x 1.5 cable gland
Material		
Housing		plastic
Optical face		Plastic pane
Mass		200 g (emitter and receiver)
Dimensions		
Height		88 mm
Width		25.8 mm
Depth		65.5 mm
<b>General information</b>		
Scope of delivery		2x OMH-RLK29-HW

**Connection Assignment**

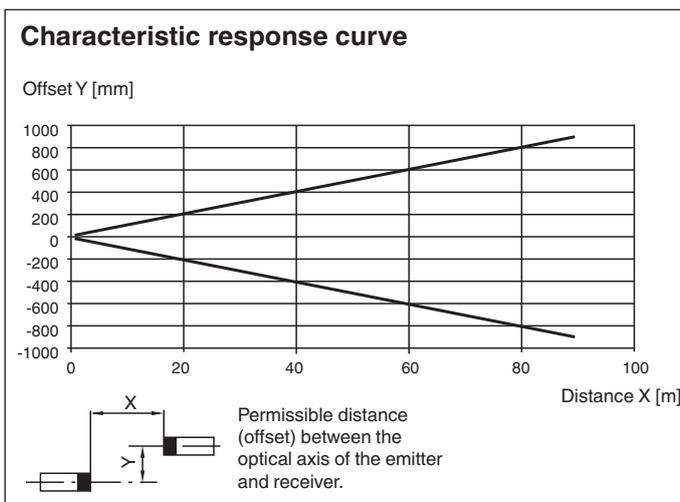


The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

**Assembly**

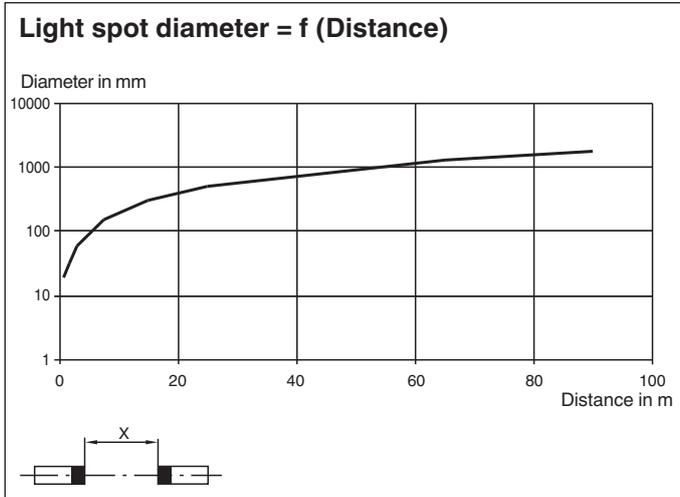
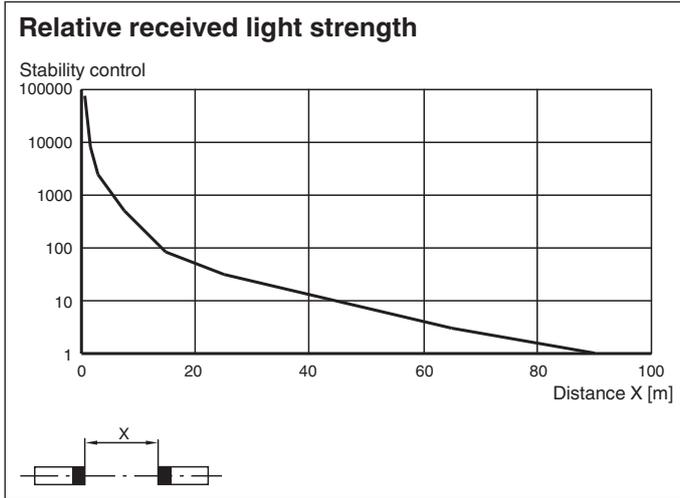


**Characteristic Curve**



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**Characteristic Curve**



**Application**

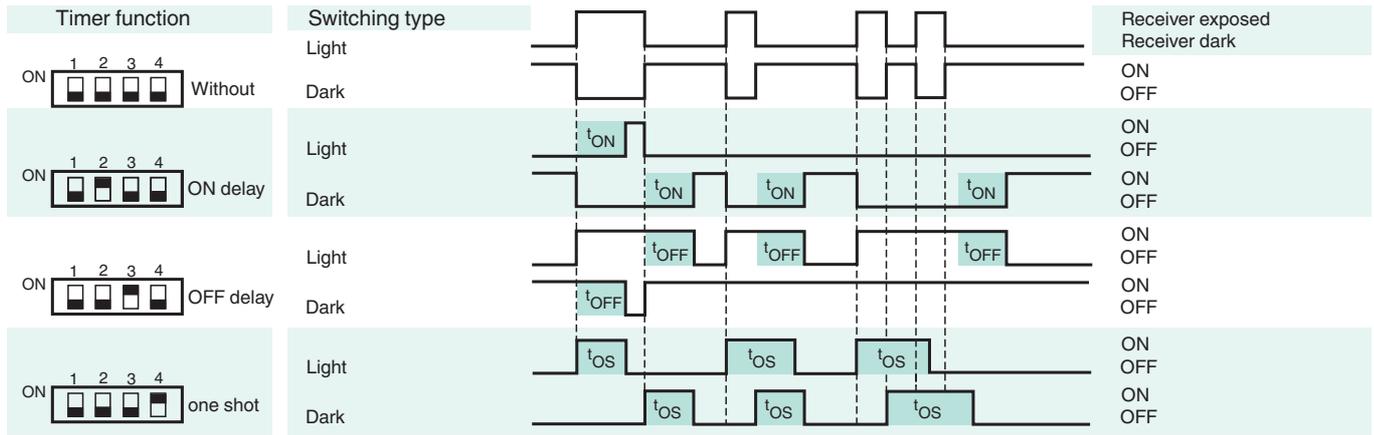


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**Kit component**

	<b>OMH-RLK29-HW</b>	Mounting bracket for rear wall mounting
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**Timer functions**



Time  $t_{ON}$ ,  $t_{OFF}$  and  $t_{OS}$  are adjustable from 0.1 to 10 seconds.  
 The Light-/Dark-Switch (Left, outer switch) is shown in the "Dark ON" position.

Type	Description	Notes
-Z	OFF delay timer	Adjustable time interval (0.1 s - 10 s)
	one shot timer	
	ON delay timer	
	ON delay timer / OFF delay timer	
	ON delay timer / one shot timer	

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