



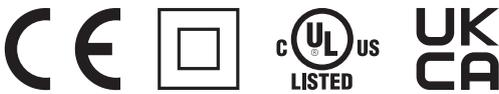
Thru-beam sensor

LD31/LV31/73c/76a/136



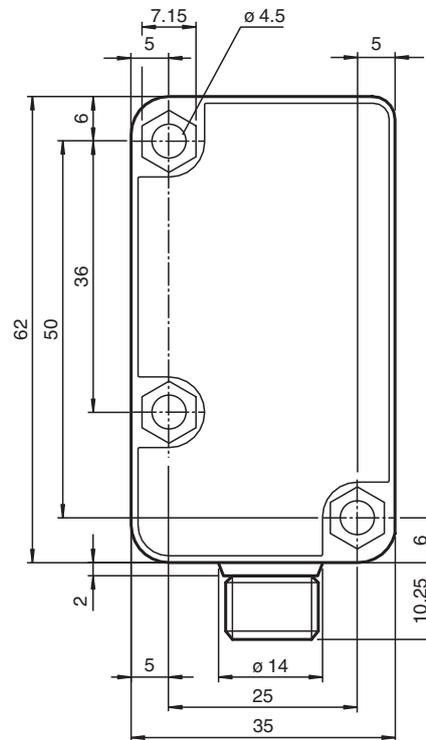
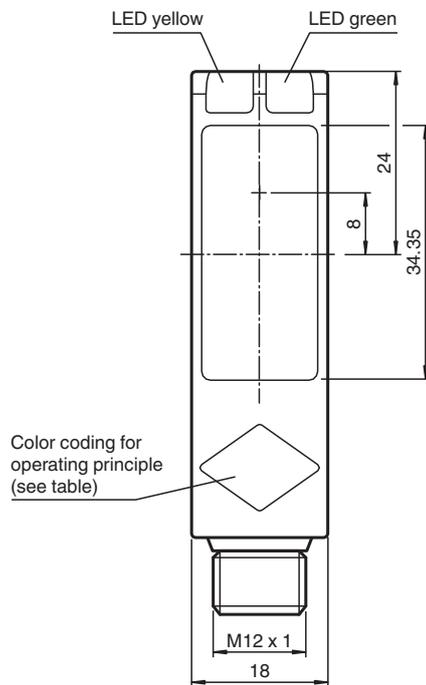
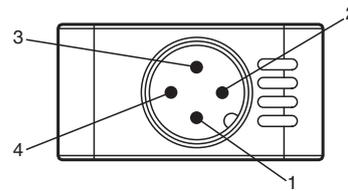
- Highly visible LED
- Powerful push-pull output
- Compact and stable housing
- Protection class II

Thru-beam sensor, 30 m detection range, red light, dark on, DC version, 2 push-pull outputs, emitter switch-off, M12 plug



Dimensions

Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru-beam sensor	grey
Diffusive mode sensor with background suppression	red



Technical Data

System components

Emitter LD31/73c/76a

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

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Technical Data

Receiver		LV31/73c/136
General specifications		
Effective detection range		0 ... 30 m
Threshold detection range		43 m
Light source		LED
Light type		modulated visible red light , 630 nm
Alignment aid		LED yellow: 1. LED illuminates: Sufficient light signal received, emitter and receiver alignment is correct 2. LED flashes: Reaching switching point 3. LED off: Light beam is interrupted or the alignment is out
Diameter of the light spot		approx. 800 mm at a distance of 30 m
Opening angle		Emitter: 1.5 ° , Receiver: 1.5 °
Ambient light limit		50000 Lux ; according to EN 60947-5-2
Functional safety related parameters		
MTTF _d		750 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: power on
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
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	Emitter: ≤ 18 mA Receiver: ≤ 18 mA
Input		
Test input		emitter deactivation at +U _B
Output		
Switching type		dark-on
Signal output		2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	U _d	≤ 1.5 V
Switching frequency	f	≤ 250 Hz
Response time		≤ 2 ms
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
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 240 V AC
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-30 ... 55 °C (-22 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		4-pin, M12 x 1 connector
Material		
Housing		Polycarbonate
Optical face		PMMA

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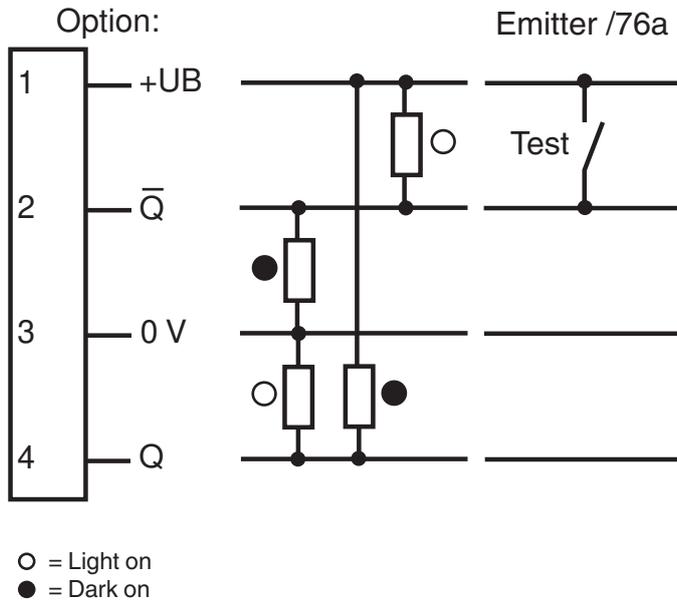
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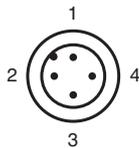
Technical Data

Mass	Emitter: 24 g Receiver: 24 g
Dimensions	
Height	62 mm
Width	18 mm
Depth	35 mm

Connection Assignment



Connection Assignment

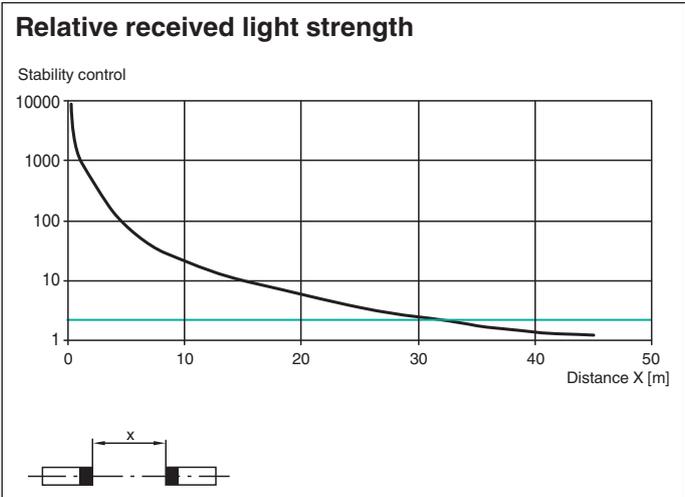
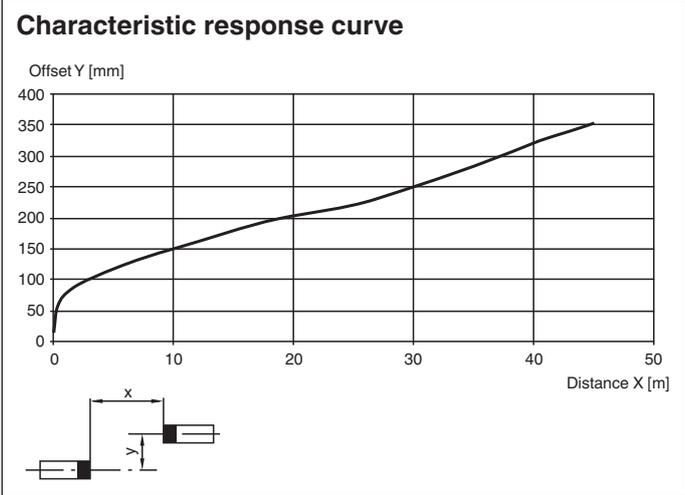


Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

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Characteristic Curve



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