

1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception/limit area, 5) Sn



Basic features

Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	12M
Style	Cylinder Straight optics
Trademark	Global

Electrical data

Load capacitance max. at Ue	0.2 µF
No-load current I _o max. at Ue	20 mA
Operating voltage U _b	10...30 VDC
Rated insulation voltage U _i	75 V DC
Rated operating current I _e	100 mA
Rated operating voltage U _e DC	24 V
Ripple max. (% of U _e)	15 %
Switching frequency	1000 Hz
Turn-off delay t _{off} max.	0.5 ms
Turn-on delay t _{on} max.	0.5 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	1.5 V

Display/Operation

Adjuster	Potentiometer 270°
Display	LED green: Power Limit range - LED yellow, flashing LED yellow: Light received
Setting	Rated switching distance (S _n)

Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
Protection degree	IP67

Electrical connection

Cable diameter D	4.60 mm
Cable length L	2 m
Conductor cross-section	0.34 mm ²
Connection	Cable, 2.00 m, PVC
Number of conductors	3
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Functional safety

MTTF (40 °C)	1427 a
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Material

Housing material	Brass, nickel plated
Material jacket	PVC
Material sensing surface	PMMA
Surface protection	nickel plated

Mechanical data

Dimension	Ø 12 x 60 mm
Mounting	Nut M12x1
Tightening torque max.	7 Nm 15 Nm

Optical features

Ambient light max.	10000 Lux
Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light spot size	Ø 160 mm at 3 m
Light type	LED, red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Switching function, optical	dark-on
Wave length	644 nm

Output/Interface

Switching output	PNP normally closed (NC)
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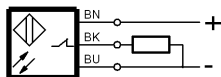
Range/Distance

Range	0...3 m
Rated operating distance Sn	3 m Adjustable
Temperature drift max. (% of Sr)	10 %

Remarks

Order accessories separately.
 For additional information, refer to user's guide.
 Polarizing filters prevent spurious switching due to reflecting and shiny parts.
 The sensor is functional again after the overload has been eliminated.

Wiring Diagrams



Opto Symbols

