

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
Scope of delivery	2x nut M18x1 User manual
Series	18M
Style	Cylinder Straight optics

Display/Operation

Adjuster	1-turn potentiometer
Display	LED green: Power Error - LED green, flashing LED yellow: Light received Limit range - LED yellow, flashing
Setting	Rated switching distance (Sn)

Electrical connection

Connection	Connector, M12x1-Male, 4-pin
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	0.2 µF
No-load current I_o max. at Ue	21 mA
Operating voltage U_b	10...30 VDC
Protection class	II
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	100 mA
Rated operating voltage U_e DC	24 V
Ready delay t_v max.	20 ms
Residual current I_r max.	30 µA
Ripple max. (% of U_e)	15 %
Switching frequency	800 Hz
Turn-off delay t_{off} max.	0.63 ms
Turn-on delay t_{on} max.	0.63 ms
Utilization category	DC -13
Voltage drop U_d max. at I_e	2.5 V

Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6 Half-sinus, 100 gn, 2 ms, 3x8000
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h
Protection degree	IP67

Functional safety

MTTF (40 °C)	1299 a
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Material

Housing material	Brass, nickel plated
Housing material, surface protection	nickel plated
Material sensing surface	Glass, anti-glare
Surface protection	nickel plated

Mechanical data

Dimension	Ø 18 x 75 mm
Mounting	Nut M18x1
Tightening torque max.	15 Nm 30 Nm

Optical features

Ambient light max.	10000 Lux
Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light spot size	Ø 25 mm at 300 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, energetic
Switching function, optical	dark-on
Wave length	626 nm

Output/Interface

Switching output	PNP NC Pin 2
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Range/Distance

Hysteresis H max. (% of Sr)	10.0 %
Range	0...300 mm
Rated operating distance Sn	300 mm Adjustable
Temperature drift max. (% of Sr)	10 %

Remarks

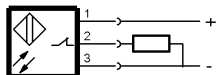
Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 For additional information, refer to user's guide.
 Order accessories separately.
 For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings



Wiring Diagrams



Opto Symbols

