

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



IND. CONT. EQ.
81U2
Class 2 Type 1



Display/Operation

Adjuster	1-turn potentiometer
Display	LED green: Power Error - LED green, flashing LED yellow: Light received Limit range - LED yellow, flashing
Setting	Sensitivity (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 Io max. at Ue	50 mA
Operating voltage Ub	10...30 VDC
Protection class	II
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	20 ms
Residual current Ir max.	30 µA
Ripple max. (% of Ue)	15 %
Switching frequency	800 Hz
Turn-off delay toff max.	0.63 ms
Turn-on delay ton max.	0.63 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	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
IP rating	IP67

Functional safety

MTTF (40 °C)	1022 a
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General data

Approval/Conformity	cULus CE EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-1
Scope of delivery	2x nut M18x1 User manual
Series	18M
Style	Cylinder Straight optics

Material

Housing material	Brass
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 data

Ambient light max.	10000 Lux
Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light type	LED infrared
Polarizing filter	no
Principle of optical operation	Retroreflective sensor
Switching function, optical	dark-on
Wave length	850 nm

Output/Interface

Switching output	PNP normally open (NO) Pin 4
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Range/Distance

Range	0...10 m
Rated operating distance Sn	10 m Adjustable

Remarks

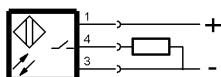
The sensor is functional again after the overload has been eliminated.
For additional information, refer to user's guide.
Order accessories separately.
For further information about the MTTF and B10d see MTTF / B10d certificate

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

