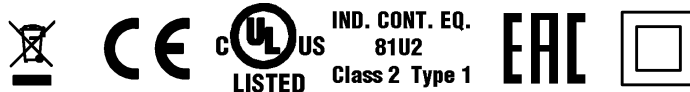


1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception/limit area, 5) Sn



### Basic features

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

### Display/Operation

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

### Electrical connection

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

### Electrical data

<b>Load capacitance max. at Ue</b>	0.2 $\mu$ F
<b>No-load current I<sub>o</sub> max. at Ue</b>	25 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Protection class</b>	II
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Ready delay t<sub>v</sub> max.</b>	20 ms
<b>Residual current I<sub>r</sub> max.</b>	30 $\mu$ A
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	800 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	0.63 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	0.63 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	2.5 V

### Environmental conditions

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

**Functional safety**

MTTF (40 °C)	1066 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	Light-on dark-on
Wave length	626 nm

**Output/Interface**

Switching output	NPN normally open (NO) NPN NC Pins 4-2
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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**

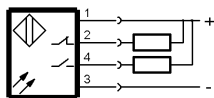
Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.  
 The sensor is functional again after the overload has been eliminated.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 For more information about MTTF and B10d see MTTF / B10d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

