

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



**Basic features**

Approval/Conformity	CE UKCA cULus 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 <sub>o</sub> max. at Ue	25 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Protection class	II
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	20 ms
Residual current I <sub>r</sub> max.	30 µA
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	800 Hz
Turn-off delay t <sub>off</sub> max.	0.63 ms
Turn-on delay t <sub>on</sub> max.	0.63 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

**Environmental conditions**

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 Half-sinus, 100 g <sub>n</sub> , 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) 889 a

## Interface

Switching output PNP normally closed (NC)  
 PNP normally open (NO) Pins 4-2

## 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 part 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 50 mm at 600 mm  
 Light type LED, red light  
 Principle of optical operation Diffuse sensor, energetic  
 Switching function, optical Light-on  
 dark-on  
 Wave length 626 nm

## Range/Distance

Hysteresis H max. (% of Sr) 10.0 %  
 Range 0..600 mm  
 Rated operating distance Sn 600 mm, Adjustable  
 Temperature drift max. (% of Sr) 10 %

## Remarks

Order accessories separately.

For additional information, refer to user's guide.

The sensor is functional again after the overload has been eliminated.

Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.

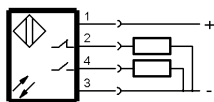
For more information about MTTF and B10d see MTTF / B10d Certificate

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 (Schematic)



## Opto Symbols

