

1) Operating voltage, 2) Light reception



Basic features

Approval/Conformity	cULus CE UKCA 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	no
Display	LED green: Power Error - LED green, flashing LED yellow: Light received Limit range - LED yellow, flashing

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 μ F
No-load current I_o max. at Ue	30 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 μ A
Ripple max. (% of U_e)	15 %
Switching frequency	200 Hz
Turn-off delay t_{off} max.	2.5 ms
Turn-on delay t_{on} max.	2.5 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
IP rating	IP67

Photoelectric Sensors
BOS 18M-PS-ID24-S4
Order Code: BOS01J1



Functional safety

MTTF (40 °C) 2025 a

Interface

Switching output PNP normally open (NO) Pin 4

Material

Housing material Brass, nickel-plated

Housing material, surface protection nickel-plated

Material sensing surface PMMA, black

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. 30000 Lux

Beam characteristic Divergent

LED group per IEC 62471 Exempt Group

Light type LED infrared

Principle of optical operation Diffuse sensor, energetic

Switching function, optical Light-on

Wave length 850 nm

Range/Distance

Hysteresis H max. (% of Sr) 6.0 %

Range 0...80 mm

Rated operating distance S_n 80 mm

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, 100 x 100, 90 % remission, axial approach.

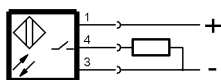
For more information about MTTF and B10d see MTTF / B10d Certificate

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



Opto Symbols

