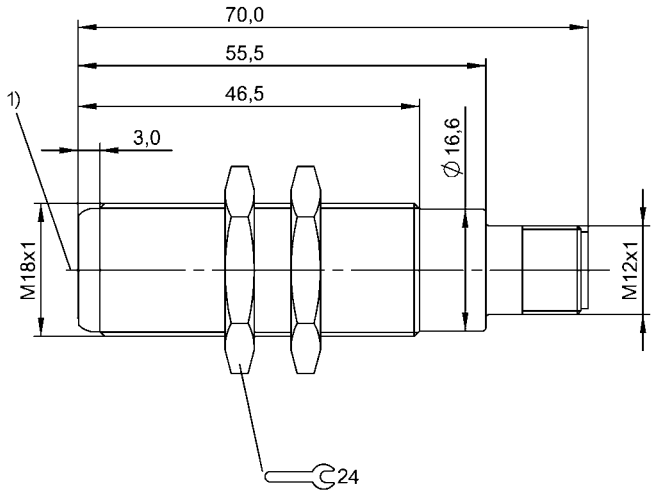
Photoelectric Sensors

BOS 18E-PS-1N2M-S4-D
Order Code: BOS0016



1) Optical axis

Basic features

Approval/Conformity	CE UKCA WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	18E
Style	Cylinder Straight optics

Display/Operation

Adjuster	no

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	1 µF
No-load current Io max. at Ue	20 mA
Operating voltage Ub	10...30 VDC
Output resistance Ra	33.0 kOhm
Protection class	II
Rated insulation voltage Ui	250 V AC
Rated operating current Ie	200 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	10 ms
Residual current Ir max.	50 µA
Ripple max. (% of Ue)	15 %
Switching frequency	100 Hz
Turn-off delay toff max.	5 ms
Turn-on delay ton max.	5 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	2.5 V

Environmental conditions

Ambient temperature	-5...75 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g_n, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP68

Functional safety

MTTF (40 °C)	909 a

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Interface

Switching output	PNP normally open (NO) Pin 4

Material

Housing material	1.4571 stainless steel
Material sensing surface	Glass

Mechanical data

Dimension	Ø 18 x 72 mm
Mounting part	Nut M18x1
Tightening torque max.	30 Nm 40 Nm

Optical features

Ambient light max.	10000 Lux
Beam characteristic	Focus, typical at 16 mm
Light spot size	Ø 5 mm at 20 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Fixed background suppression, not suitable for very dark objects
Switching function, optical	Light-on
Wave length	660 nm

Range/Distance

Hysteresis H max.	30.0 %
Range	0...40 mm
Rated operating distance Sn	40 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %

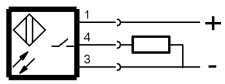
Remarks

Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.
Order accessories separately.
The sensor is functional again after the overload has been eliminated.
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