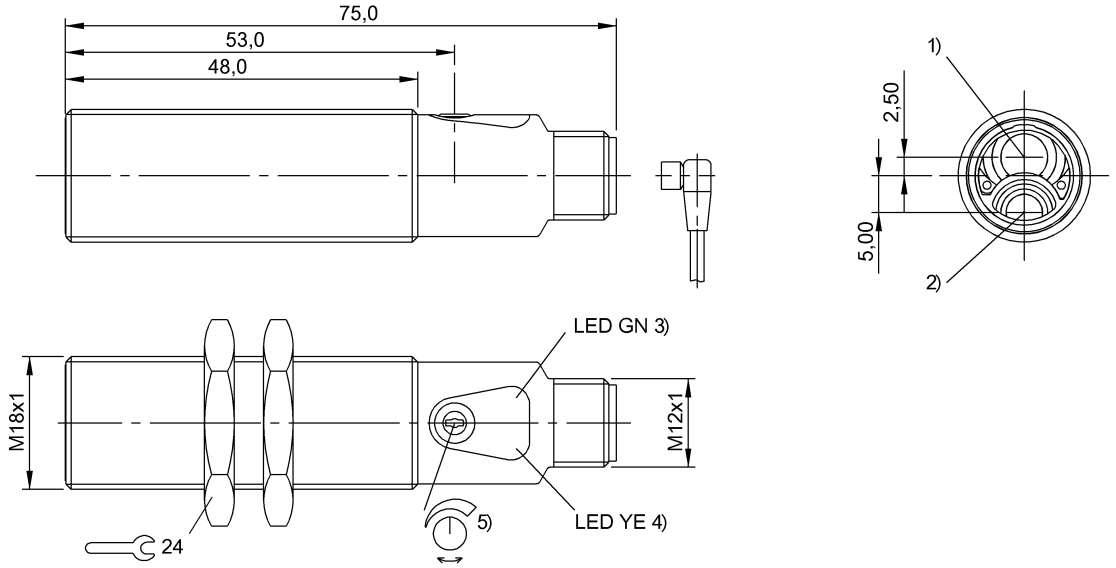
Photoelectric Sensors

BOS 18M-PA-RH23-S4
Order Code: BOS01J4



1) Optical axis receiver, 2) Optical axis emitter, 3) Power/short-circuit, 4) Output function/Error, 5) Sn

Basic features

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

Display/Operation

Adjuster	incremental encoder
Display	Output function- LED yellow LED green: Power Error - LED yellow, flashing Short circuit - 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	0.1 µF
No-load current Io max. at Ue	20 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.	200 ms
Residual current Ir max.	500 µA
Ripple max. (% of Ue)	15 %
Switching frequency	700 Hz
Turn-off delay toff max.	1 ms
Turn-on delay ton max.	1 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 g_n, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	301 a

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Interface

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

Material

Housing material	Brass
Material sensing surface	Glass

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	10 x 10 mm at 150 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light-on dark-on
Wave length	630 nm

Range/Distance

Distance deviation 18 % max. (% of Sr)	8 %
Hysteresis H max. (% of Sr)	5.0 %
Range	30...150 mm
Rated operating distance Sn	150 mm Adjustable
Repeat accuracy max. (% of Sr)	1.0 %
Temperature drift max. (% of Sr)	10 %

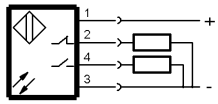
Remarks

The sensor is functional again after the overload has been eliminated.
Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.
For additional information, refer to user's guide.
Order accessories separately.
Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.
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