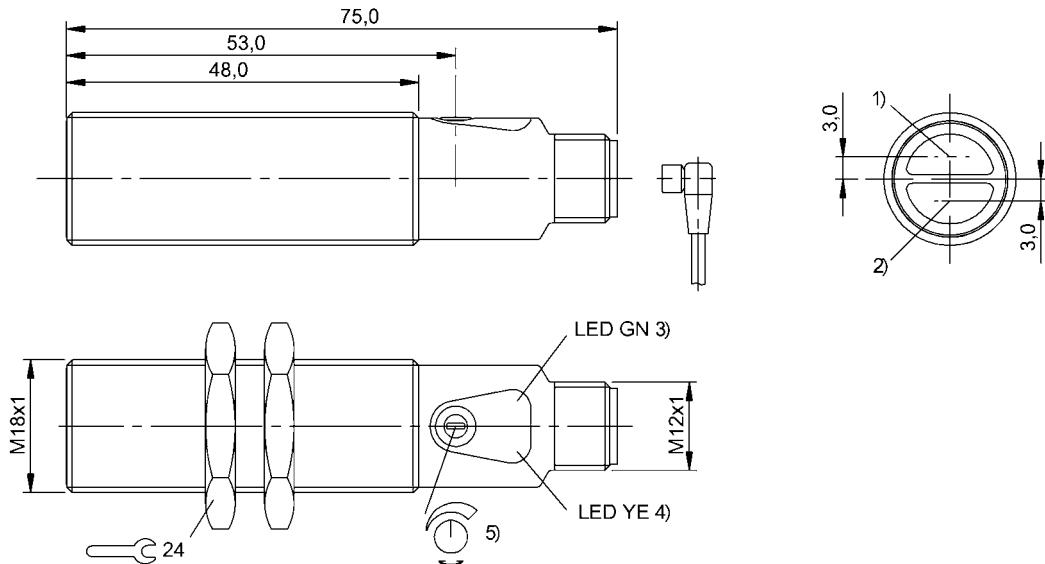


Photoelectric Sensors
BOS 18M-PA-IR20-S4
Order Code: BOS01F0

BALLUFF



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



Basic features

Approval/Conformity	cULus CE UKCA WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-1
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	Sensitivity (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 μ F
No-load current I ₀ max. at Ue	50 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	800 Hz
Turn-off delay t _{off} max.	0.63 ms
Turn-on delay t _{on} max.	0.63 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 g _n , 11 ms, 3x6 Half-sinus, 100 g _n , 2 ms, 3x8000
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 g _n , 3x5 h
IP rating	IP67

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Functional safety

MTTF (40 °C) 872 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

Remarks

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.

Optical features

Ambient light max. 10000 Lux
Beam characteristic Divergent
LED group per IEC 62471 Exempt Group
Light spot size Ø 300 mm at 7 m
Light type LED infrared
Polarizing filter no
Principle of optical operation Retroreflective sensor
Switching function, optical Light-on
dark-on
Wave length 850 nm

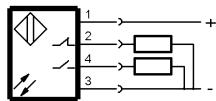
Range/Distance

Range 0...10 m
Rated operating distance Sn 10 m Adjustable

Connector Drawings



Wiring Diagrams



Opto Symbols

