

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



Basic features

Approval/Conformity	cULus CE UKCA EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference emitter	BOS 18M-..-LS20-..
Series	18M
Style	Cylinder Straight optics

Electrical data

Load capacitance max. at Ue	0.1 µF
No-load current I_o max. at Ue	12 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
Ripple max. (% of U_e)	15 %
Switching frequency	1000 Hz
Turn-off delay t_{off} max.	0.5 ms
Turn-on delay t_{on} max.	0.5 ms
Voltage drop U_d max. at I_e	1.5 V

Display/Operation

Adjuster	Potentiometer 270°
Display	LED green: Power Error - LED green, flashing Limit range - LED yellow, flashing LED yellow: Light received
Setting	Sensitivity (Sn)

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

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

Functional safety

MTTF (40 °C)	1208 a
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Interface

Switching output	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
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Photoelectric Sensors
BOS 18M-PA-LE20-S4
Order Code: BOS01NJ

BALLUFF

Material

Housing material	Brass, nickel-plated
Material sensing surface	Glass
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
Light type	Red light
Principle of optical operation	Through-beam sensor (receiver)
Smallest part typ.	Ø 0.2 mm at 1.5 m. R0 = 5 m
Switching function, optical	Light-on dark-on

Range/Distance

Range	0...60 m
Rated operating distance Sn	60 m Adjustable

Remarks

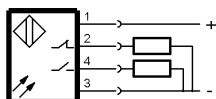
The sensor is functional again after the overload has been eliminated.
For additional information, refer to user's guide.
Order accessories separately.
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

Connector Drawings

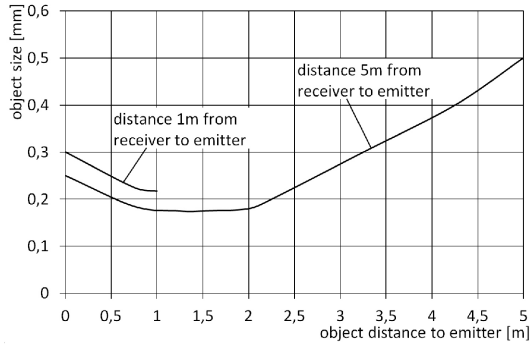


Wiring Diagrams

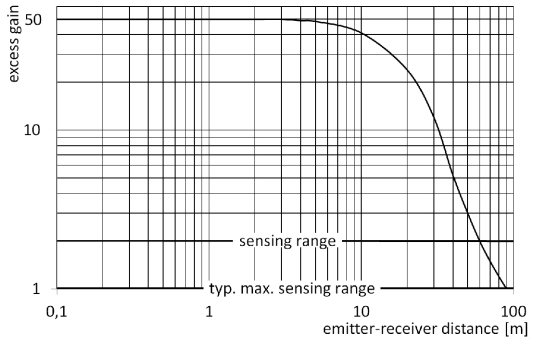


Technical Drawings

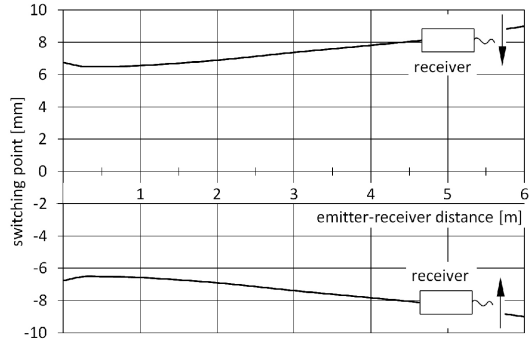
Small part detection



Excess gain



Sensing area for lateral approach



Opto Symbols

