

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



## Basic features

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

## 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)

## 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 I <sub>o</sub> max. at Ue	12 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Protection class	II
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	20 ms
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	1000 Hz
Turn-off delay t <sub>off</sub> max.	0.5 ms
Turn-on delay t <sub>on</sub> max.	0.5 ms
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	1.5 V

## Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

## 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	Laser 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.

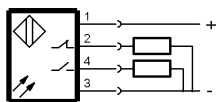
For more information about MTTF and B10d see MTTF / B10d Certificate

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

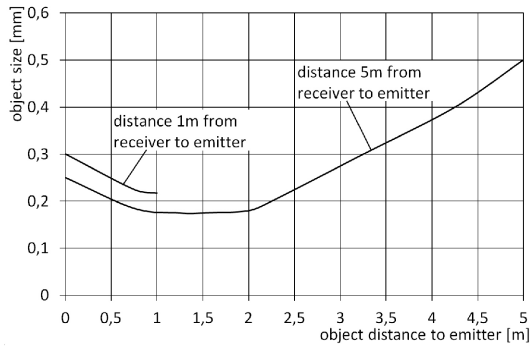


## Wiring Diagrams

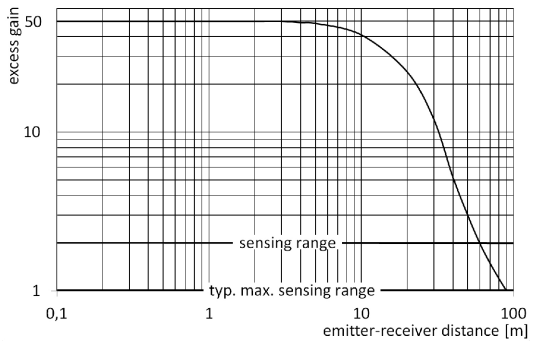


**Technical Drawings**

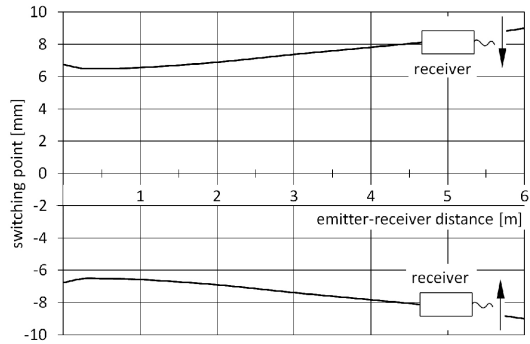
Small part detection



Excess gain



Sensing area for lateral approach



**Opto Symbols**

