

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



### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Operating mode	SIO Mode IO-Link Mode
Principle of operation	Photoelectric sensor
Reference emitter	BOS 18MR-XU-RS20-S4
Series	18MR
Style	Cylinder Optics 90°

### Electrical data

Load capacitance max. at Ue	0.2 µF
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
Residual current I <sub>r</sub> max.	30 µA
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	800 Hz
Turn-off delay t <sub>off</sub> max.	0.63 ms
Turn-on delay t <sub>on</sub> max.	0.63 ms
Utilization category	DC -13

### Display/Operation

Adjuster	Potentiometer 270°
Display	Run - LED green Communication - Green LED, flashing LED yellow: Light received Limit range - LED yellow, flashing
Setting	Rated switching distance (Sn)

### 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

### 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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### IO-Link

IO-Link Profil IDs	N/A
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Photoelectric Sensors  
**BOS 18MR-PAI-RE20-S4**  
**Order Code: BOS027U**

**BALLUFF**

**Interface**

<b>Baud rate</b>	38.4 kBaud
<b>Interface</b>	IO-Link 1.1
<b>Process data OUT</b>	1 byte
<b>Process data cycle min.</b>	4 ms
<b>Profile</b>	Smart Sensor
<b>Switching output</b>	PNP PNP NO/NC Pins 4-2

**Material**

<b>Housing material</b>	Brass, nickel-plated
<b>Housing material, surface protection</b>	nickel-plated
<b>Material sensing surface</b>	Glass
<b>Surface protection</b>	nickel-plated

**Mechanical data**

<b>Dimension</b>	Ø 18 x 92 mm
<b>Mounting part</b>	Nut M18x1
<b>Tightening torque max.</b>	15 Nm

**Optical features**

<b>Ambient light max.</b>	10000 Lux
<b>Beam characteristic</b>	Divergent
<b>Light type</b>	LED, red light
<b>Principle of optical operation</b>	Through-beam sensor (receiver)
<b>Switching function, optical</b>	Light/dark switching
<b>Wave length</b>	645 nm

**Range/Distance**

<b>Range</b>	0...20 m
<b>Rated operating distance Sn</b>	20 m

**Remarks**

For additional information, refer to user's guide.

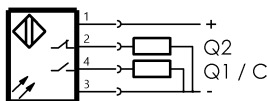
For more information about MTTF and B10d see MTTF / B10d Certificate

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**

