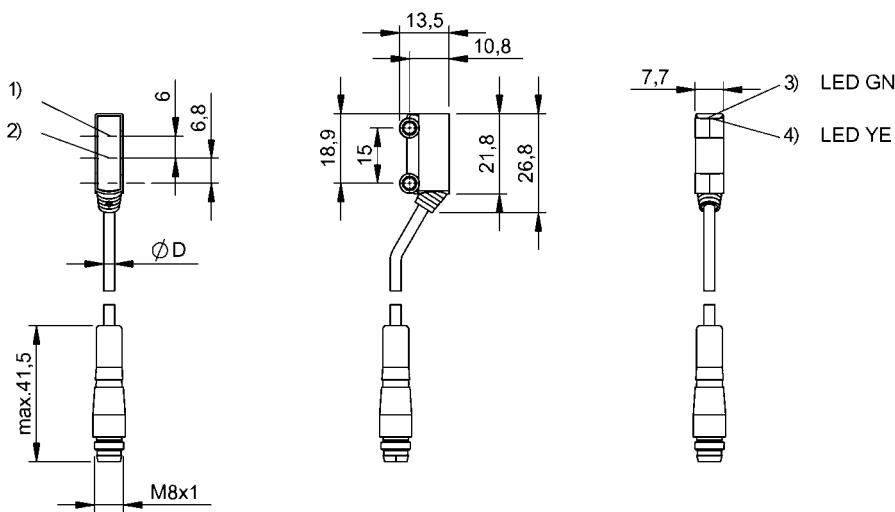


Photoelectric Sensors  
BOS R020K-PS-RF12-00,2-S49  
Order Code: BOS0217

**BALLUFF**



1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception



#### Basic features

Approval/Conformity	CE cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	R020K
Style	Square Connection 60°

#### Display/Operation

Display	LED green: Power LED yellow: Light received
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#### Electrical connection

Cable diameter D	2.40 mm
Cable length L	0.2 m
Connection	Cable with connector, M8x1-Male, 3-pin, 0.20 m, PVC
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

#### Electrical data

No-load current I <sub>0</sub> max. at U <sub>e</sub>	20 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Protection class	III
Rated insulation voltage U <sub>i</sub>	50 V DC
Rated operating current I <sub>e</sub>	50 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ripple max. (% of U <sub>e</sub> )	20 %
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
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

#### Environmental conditions

Ambient temperature	-25...50 °C
IP rating	IP67

#### Functional safety

MTTF (40 °C)	1547 a
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#### Interface

Switching output	PNP normally open (NO)
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#### Material

Housing material	ABS
Material jacket	PVC
Material sensing surface	PMMA

#### Mechanical data

Dimension	7.7 x 26.8 x 13.5 mm
Mounting part	Screw M3

#### Range/Distance

Range	1...60 mm
Rated operating distance Sn	60 mm

#### Optical features

Ambient light max.	5000 Lux
Beam characteristic	Focus, typical at 15 mm
Light spot size	Ø 4.5 mm at 40 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, HGA fixed
Special optical feature	Background suppression
Switching function, optical	Light-on
Wave length	660 nm

#### Remarks

Order accessories separately.

For additional information, refer to user's guide.

Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.

The sensor is functional again after the overload has been eliminated.

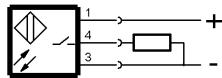
For more information about MTTF and B10d see MTTF / B10d Certificate

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

