

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



Basic features

Approval/Conformity	CE cULus WEEE UKCA
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-9
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_0 max. at U_e	20 mA
Operating voltage U_b	10...30 VDC
Protection class	III
Rated insulation voltage U_i	50 V DC
Rated operating current I_e	50 mA
Rated operating voltage U_e DC	24 V
Ripple max. (% of U_e)	20 %
Switching frequency	800 Hz
Turn-off delay t_{off} max.	0.63 ms
Turn-on delay t_{on} max.	0.63 ms
Voltage drop U_d max. at I_e	2.5 V

Environmental conditions

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

Functional safety

MTTF (40 °C)	3378 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	0...3 m
Rated operating distance Sn	3 m

Optical features

Ambient light max.	5000 Lux
Beam characteristic	Divergent
Blind zone	25 mm
Light spot size	Ø 10 mm at 100 mm
Light type	LED, red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Switching function, optical	dark-on
Wave length	660 nm

Remarks

Order accessories separately.

For additional information, refer to user's guide.

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

Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.

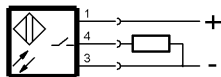
For more information about MTTf and B10d see MTTf / B10d Certificate

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 (Schematic)



Opto Symbols

