

1) Optical axis emitter, 2) Optical axis receiver, 3) Output function



Basic features

Approval/Conformity	CE UKCA cULus Ecolab WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	R01E
Style	Square Connection 90°

Electrical data

Load capacitance max. at Ue	0.05 µF
No-load current I_o max. at Ue	10 mA
Operating voltage U_b	10...30 VDC
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.	150 ms
Residual current I_r max.	50 µA
Switching frequency	500 Hz
Turn-off delay t_{off} max.	1 ms
Turn-on delay t_{on} max.	1 ms
Utilization category	DC -13
Voltage drop U_d max. at I_e	0.7 V

Display/Operation

Display	Limit range - LED yellow, flashing LED yellow: Light received
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Electrical connection

Cable diameter D	3.00 mm
Cable length L	0.2 m
Connection	Cable with connector, M8x1-Male, 3-pin, 0.20 m, PUR
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 100 gn, 2 ms, 3x8000
EN 60068-2-6, Vibration	Half-sinus, 30 gn, 11 ms, 3x6 10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h 10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67
IP rating per DIN 40050	Housing IP69K, Connector IP67

Interface

Switching output	NPN normally open (NO)
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Photoelectric Sensors
BOS R01E-NS-KD20-00,2-S49
Order Code: BOS0220

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Material

Housing material	1.4404 stainless steel
Material jacket	PUR
Material sensing surface	PA

Mechanical data

Dimension	20 x 32 x 9 mm
Mounting part	Screw M3

Optical features

Ambient light max.	5000 Lux
Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light spot size	Ø 3.0 mm Light exit
Light type	LED, red light
Principle of optical operation	Diffuse sensor, energetic
Switching function, optical	Light-on
Wave length	650 nm

Range/Distance

Hysteresis H max. (% of Sr)	8.0 %
Range	1...100 mm
Rated operating distance S _n	100 mm
Repeat accuracy max. (% of Sr)	0.2 %
Temperature drift max. (% of Sr)	10 %

Remarks

Order accessories separately.

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

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

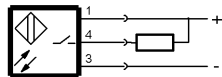
For additional information, refer to user's guide.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

Connector Drawings



Wiring Diagrams



Opto Symbols

