

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



**Basic features**

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

**Electrical data**

<b>Load capacitance max. at Ue</b>	0.05 µF
<b>No-load current I<sub>o</sub> max. at Ue</b>	10 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Ready delay t<sub>v</sub> max.</b>	150 ms
<b>Residual current I<sub>r</sub> max.</b>	50 µA
<b>Switching frequency</b>	500 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	1 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	1 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	0.7 V

**Display/Operation**

<b>Display</b>	Limit range - LED yellow, flashing LED yellow: Light received
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**Electrical connection**

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

**Environmental conditions**

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

**Interface**

<b>Switching output</b>	PNP normally open (NO)
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Photoelectric Sensors  
**BOS R01E-PS-KD20-00,2-S49**  
Order Code: BOS021J

**BALLUFF**

**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 <sub>n</sub>	100 mm
Repeat accuracy max. (% of Sr)	0.2 %
Temperature drift max. (% of Sr)	10 %

**Remarks**

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.

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.

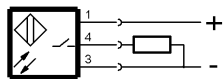
For additional information, refer to user's guide.

Order accessories separately.

**Connector Drawings**



**Wiring Diagrams**



**Opto Symbols**

