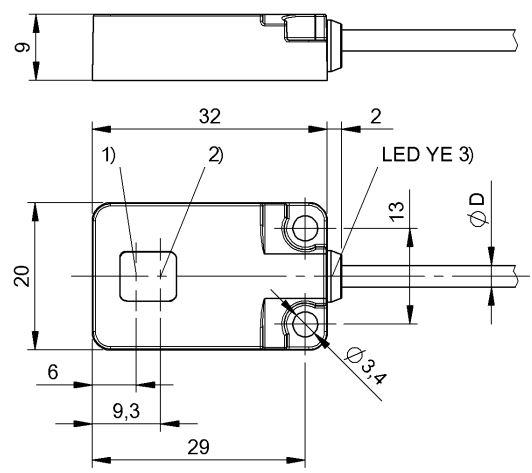


Photoelectric Sensors
BOS R01E-PO-KD20-02
Order Code: BOS021Z



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



Basic features

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

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	2 m
Connection	Cable, 2.00 m, PUR
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	0.05 µF
No-load current Io max. at Ue	10 mA
Operating voltage Ub	10...30 VDC
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	150 ms
Residual current Ir max.	50 µA
Switching frequency	500 Hz
Turn-off delay toff max.	1 ms
Turn-on delay ton max.	1 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	0.7 V

Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 100 gn, 2 ms, 3x8000 Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	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	IP69K

Interface

Switching output	PNP normally closed (NC)
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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	dark-on
Wave length	650 nm

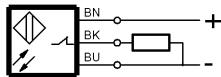
Range/Distance

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

Remarks

Order accessories separately.
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.
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.

Wiring Diagrams



Opto Symbols

