

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



## Basic features

Approval/Conformity	cULus CE UKCA WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	Q08M
Style	Square Connection 90°

## Display/Operation

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

Connection	Connector, M8x1-Male, 3-pin
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

## Electrical data

Load capacitance max. at Ue	0.5 µF
No-load current I <sub>o</sub> max. at Ue	15 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	20 ms
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	500 Hz
Turn-off delay t <sub>off</sub> max.	1 ms
Turn-on delay t <sub>on</sub> max.	1 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	0.7 V

## Environmental conditions

Ambient temperature	-5...55 °C
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 g <sub>n</sub> , 3x5 h
IP rating	IP67

## Functional safety

MTTF (40 °C)	997.4 a
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Photoelectric Sensors  
**BOS Q08M-PS-KD20-S49**  
Order Code: BOS01RJ

**BALLUFF**

**Interface**

Switching output PNP normally open (NO)

**Material**

Housing material Zinc, Die casting, nickel-plated  
Material sensing surface PMMA  
Surface protection nickel-plated

**Mechanical data**

Dimension 8 x 59 x 8 mm  
Mounting part Screw M3

**Optical features**

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 645 nm

**Range/Distance**

Range 1...60 mm  
Rated operating distance  $S_n$  60 mm

**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.

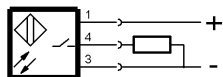
For more information about MTTF and B10d see MTTF / B10d Certificate

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**

