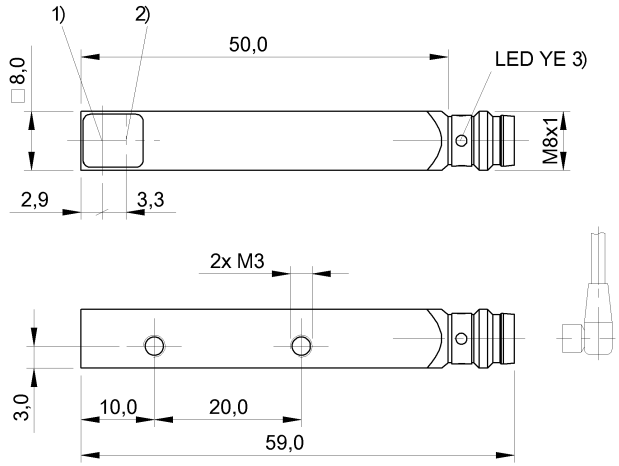
Photoelectric Sensors

BOS Q08M-PS-LR20-S49
Order Code: BOS01MP



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

Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-22
Series	Q08M
Style	Square Connection 90°

Display/Operation

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

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	0.1 µF
No-load current Io max. at Ue	10 mA
Operating voltage Ub	10...30 VDC
Output resistance Ra	33.0 kOhm
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
Ripple max. (% of Ue)	10 %
Switching frequency	400 Hz
Turn-off delay toff max.	1.25 ms
Turn-on delay ton max.	1.25 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	1.2 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 g_n, 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

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Functional safety

MTTF (40 °C)	1619 a

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

Ambient light max.	5000 Lux
Average power Po max.	390 µW
Beam characteristic	Divergent
Blind zone	25 mm
Laser class per IEC 60825-1	1
Light spot size	Ø 3.0 mm Light exit
Light type	Laser red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Pulse duration t max.	10.0 µs
Pulse frequency	10.8 kHz
Pulse power Pp max.	3.1 mW
Smallest part typ.	0.4 mm at 100 mm. R0 = 500 mm
Switching function, optical	dark-on
Wave length	655 nm

Range/Distance

Range	0...1 m
Rated operating distance Sn	1 m

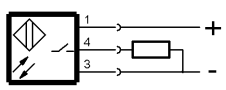
Remarks

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.
Polarizing filters prevent spurious switching due to reflecting and shiny parts.
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.

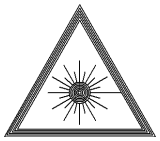
Connector Drawings

Wiring Diagrams (Schematic)



Opto Symbols

Warning Symbols



LASER CLASS 1 per IEC 60825-1