

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
Reference reflector	BOS R-22
Series	Q08M
Style	Square Connection 90°

Display/Operation

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

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

Electrical data

Load capacitance max. at Ue	0.1 μ F
No-load current I _o max. at Ue	10 mA
Operating voltage U _b	10...30 VDC
Output resistance R _a	33.0 kOhm
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 μ A
Ripple max. (% of U _e)	10 %
Switching frequency	400 Hz
Turn-off delay t _{off} max.	1.25 ms
Turn-on delay t _{on} max.	1.25 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	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 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h
IP rating	IP67

Functional safety

MTTF (40 °C) 1619 a

Interface

Switching output PNP normally open (NO)

Material

Housing material Zinc, Die casting, nickel-plated
 Material jacket PUR
 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

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

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.

Order accessories separately.

For additional information, refer to user's guide.

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.

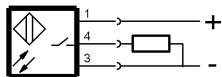
For more information about MTTF and B10d see MTTF / B10d Certificate

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



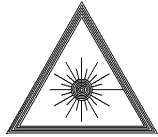
Wiring Diagrams



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1