

1) Optical axis, 2) Sn, 3) Output function



Basic features

Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	12M
Style	Cylinder Straight optics
Trademark	Global

Display/Operation

Adjuster	Potentiometer 270°
Display	Output function- LED yellow
Setting	Sensitivity (Sn)

Electrical connection

Connection	Connector, M12x1-Male, 4-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 _o max. at Ue	20 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	200 mA
Rated operating voltage U _e DC	24 V
Ready delay t _v max.	100 ms
Residual current I _r max.	50 µA
Ripple max. (% of U _e)	15 %
Switching frequency	200 Hz
Turn-off delay t _{off} max.	2.5 ms
Turn-on delay t _{on} max.	2.5 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	2.5 V

Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
Protection degree	IP67

Material

Housing material	Brass, nickel plated
Material sensing surface	PMMA
Surface protection	nickel plated

Photoelectric Sensors
BOS 12M-PO-1QA-S4-C
Order Code: BOS00RJ

BALLUFF

Mechanical data

Dimension	Ø 12 x 70 mm
Mounting	Nut M12x1
Tightening torque max.	15 Nm

Optical features

Ambient light max.	5000 Lux
Beam characteristic	Divergent
Light type	LED, red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Switching function, optical	Light-on
Wave length	660 nm

Output/Interface

Switching output	PNP NC Pin 2
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Range/Distance

Range	0...1.5 m
Rated operating distance S_n	1.5 m Adjustable
Temperature drift max. (% of S_r)	10 %

Remarks

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

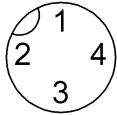
Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

The sensor is functional again after the overload has been eliminated.

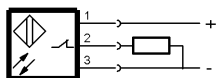
Order accessories separately.

Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.

Connector Drawings



Wiring Diagrams



Opto Symbols

