

1) Optical axis, 2) Display and control panel, 3) rotatable 270°



Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	21M
Style	Square Connection can be rotated

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

Display/Operation

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

Photoelectric Sensors
BOS 21M-PA-PK10-S4
Order Code: BOS00TN

BALLUFF

Electrical data

Load capacitance max. at Ue	1 µF
No-load current I _o max. at Ue	35 mA
Operating voltage U _b	10...30 VDC
Protection class	II
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.	200 ms
Residual current I _r max.	10 µA
Ripple max. (% of U _e)	8 %
Switching frequency	1000 Hz
Turn-off delay t _{off} max.	0.5 ms
Turn-on delay t _{on} max.	0.5 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	2 V

Environmental conditions

Ambient temperature	-25...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g _n , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	595 a
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Interface

Switching output	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
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Material

Housing material	Zinc, Die casting, Powder coated Aluminium
Material sensing surface	Glass
Surface protection	Powder coated

Mechanical data

Dimension	15 x 50 x 42.5 mm
Mounting part	Screw M4

Optical features

Ambient light max.	10000 Lux
Beam characteristic	Divergent
Light type	LED, red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Special optical feature	Coaxial optics
Switching function, optical	Light-on dark-on
Wave length	650 nm

Range/Distance

Range	0...4 m
Rated operating distance S _n	4 m, Adjustable

Remarks

Order accessories separately.

For additional information, refer to user's guide.

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.

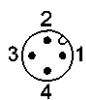
The sensor is functional again after the overload has been eliminated.

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

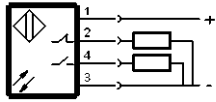
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

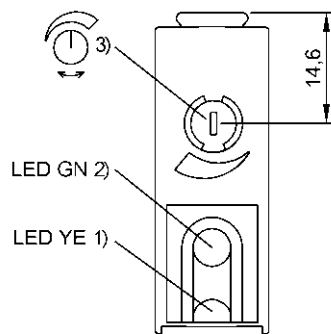
Connector Drawings



Wiring Diagrams (Schematic)



Help Views



- 1) Output function
- 2) Stability
- 3) Sensitivity

Opto Symbols

