

1) Optical axis receiver 2) Optical axis emitter 3) Power/short-circuit 4) Output function/Error 5) Sn



Display/Operation

Adjuster	10-turn potentiometer
Display	Output function- LED yellow LED green: Power Error - LED yellow, flashing Short circuit - LED green, flashing
Setting	Rated switching distance (Sn)

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

Electrical connection

Connection	Connector, M12x1 connector, 4-pin
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

General data

Approval/Conformity	cULus CE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	18M
Style	Cylinder Straight optics

Electrical data

Load capacitance max. at Ue	0.1 µF
No-load current I _o max. at Ue	50 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.	100 ms
Residual current I _r max.	10 µA
Ripple max. (% of U _e)	15 %
Switching frequency	500 Hz
Turn-off delay t _{off} max.	1 ms
Turn-on delay t _{on} max.	1 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	2.5 V

Material

Housing material	Brass
Material sensing surface	Glass

Mechanical data

Dimension	Ø 18 x 75 mm
Mounting	Nut M18x1
Tightening torque max.	15 Nm 30 Nm

Optical data

Ambient light max.	10000 Lux
Beam characteristic	Divergent

Photoelectric Sensors
BOS 18M-PA-RH22-S4
 Ordercode: BOS014W

LED group per IEC 62471	Exempt Group
Light spot size	27 x 27 mm at 300 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light-on dark-on
Wave length	630 nm

Hysteresis H max. (% of Sr)	6.0 %
Range	30...300 mm
Rated operating distance Sn	300 mm, Adjustable
Repeat accuracy max. (% of Sr)	1.0 %

Remarks

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.
 Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 Order accessories separately.
 For additional information, refer to user's guide.

Output/Interface

Switching output	PNP normally open (NO) PNP NC Pins 4-2
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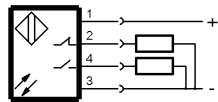
Range/Distance

Distance deviation 18 % max. (% of Sr)	typ. 18 %
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Connector view



Wiring Diagram



Symbols for Optoelectronic Sensors

