

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



Display/Operation

Adjuster	Potentiometer 10-turn
Setting	Rated switching distance (Sn)

Electrical connection

Connection	M12x1-Male, 4-pole, A-coded
Contact, surface protection	Gold plated
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Contamination scale	3
Hysteresis H max. (% of Sr)	5.0 %
Load capacitance max. at Ue	0.1 µF
No-load current I ₀ max. at Ue	30 mA
Polarity reversal protected	yes
Protection class	II
Pulse duration t max.	10000 µs
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
Repeat accuracy max. (% of Sr)	1.0 %
Residual current I _r max.	10 µA
Residual 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

Environmental conditions

Ambient temperature	-5...55 °C
IP rating per IEC 60529	IP67

General data

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

Material

Housing material	Brass
Material sensing surface	PMMA
Surface protection	nickel plated

Mechanical data

Dimension	Ø 18 x 75 mm
Distance deviation 6 % max. (% of Sr)	25.0 %
Fastening detail	Nut M18x1
Tightening torque max.	15 Nm 30 Nm

Optical data

Ambient light max.	10000 Lux
Average power P _o max.	390 µW
Beam characteristic	Focus, typical at 100 mm
Laser class per IEC 60825-1	1

Light spot size	0.05 x 0.1 mm at focal point
Light type	Laser Red light
Principle of optical operation	Diffuse sensor, Triangulation
Smallest part typ.	50 µm at focal point
Special optical feature	Background suppression
Switching function optical	Light/Dark switching
Wave length	660 nm

Range/Distance

Distance deviation 18 % max. (% of Sr)	12 %
Measuring range	30...150 mm
Range	30...150 mm
Rated operating distance Sn	150 mm, Adjustable
Temperature drift max. (% of Sr)	15 %

Output/Interface

Switching output	PNP Normally closed (NC) PNP Normally open (NO) (Pins 4-2)
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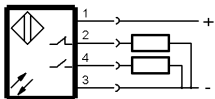
Remarks

Order accessories separately.
 For additional information, refer to users guide.
 The sensor is functional again after the overload has been eliminated.
 Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.

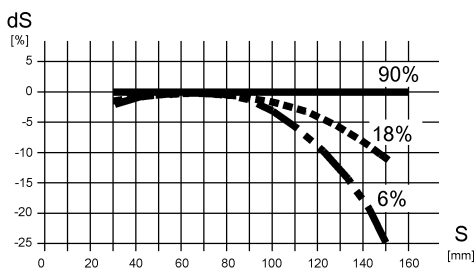
Connector view



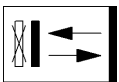
Wiring Diagram



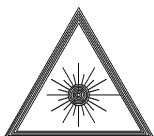
Diagram



Symbols for Optoelectronic Sensors



Warning Symbols



LASER CLASS 1 per IEC 60825-1