

1) Optical axis emitter 2) Optical axis receiver 3) Display and control panel 4) rotatable 270°



Display/Operation

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

Ready delay t_v max.	200 ms
Residual current I_r max.	10 μ A
Residual ripple max. (% of U_e)	8 %
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 V

Electrical connection

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

Environmental conditions

Ambient temperature	-25...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
IP rating	IP67

Electrical data

Load capacitance max. at U_e	1 μ F
No-load current I_o max. at U_e	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

Functional safety

MTTF (40 °C)	594 a
--------------	-------

General data

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

Material

Housing material	Zinc, Die casting Aluminum
Material sensing surface	PMMA
Surface protection	Powder coated

Mechanical data

Dimension	15 x 50 x 42.5 mm
Fastening detail	Screw M4

Optical data

Ambient light max.	10000 Lux
Beam characteristic	Divergent
Light type	Infrared
Principle of optical operation	Diffuse sensor, (energetic)

Switching function optical

Light-on
dark-on

Wave length

880 nm

Output/Interface

Switching output

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

Range/Distance

Hysteresis H max. (% of Sr)	20.0 %
Range	50...2000 mm
Rated operating distance Sn	2 m, Adjustable
Repeat accuracy max. (% of Sr)	1.0 %

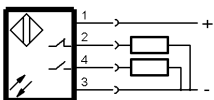
Remarks

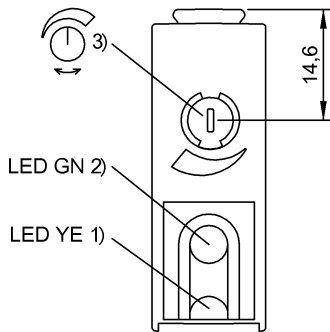
Order accessories separately.
 For additional information, refer to user's guide.
 Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.
 For further information about the 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 view



Wiring Diagram





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

Symbols for Optoelectronic Sensors

