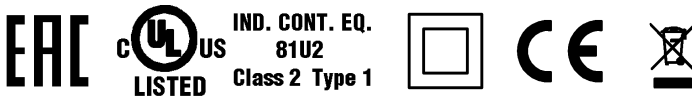


1) Optical axis, 2) Display and control panel, 3) rotatable 270°



Basic features

Approval/Conformity	cULus CE EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Contrast 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	button
Display	Output function- LED yellow Error - LED red+green, alt. Stability - LED green
Setting	Teach-in mode normal/fine Time function on/off Light-on/dark-on Contrast (switching point)

Electrical data

Input function	Key disable on/off Teach Contrast (switching point)
Load capacitance max. at Ue	1 µF
No-load current I _o max. at Ue	30 mA
Operating voltage U _b	10...30 VDC
Protection class	II
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)	15 %
Switching frequency	5000 Hz
Turn-off delay t _{off} max.	0.1 ms
Turn-on delay t _{on} max.	0.1 ms
Utilization category	DC -13
Voltage drop U _d max. at I _e	2 V

Environmental conditions

Ambient temperature	-10...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

Functional safety

MTTF (40 °C)	334 a
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Remarks

Do not press key using a pointed tool.

Order accessories separately.

For additional information, refer to user's guide.

Reference object (target): Color bar card, 100 x 100, contrast yellow/white and blue/black, lateral approach of color bars.

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 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.

Material

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

Mechanical data

Dimension	12 x 50 x 42.5 mm
Mounting	Screw M4

Optical features

Ambient light max.	10000 Lux
Beam characteristic	Focused
Light spot size	Ø 3.5 mm at 19 mm
Light type	White light
Principle of optical operation	Diffuse sensor, focused
Special optical feature	Coaxial Optics
Switching function, optical	Light/dark switching
Wave length	400...700 nm

Output/Interface

Duration of time function	20 ms
Switching output	PNP normally open/normally closed (NO/NC)

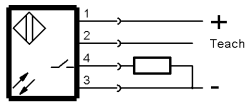
Range/Distance

Range	17...21 mm
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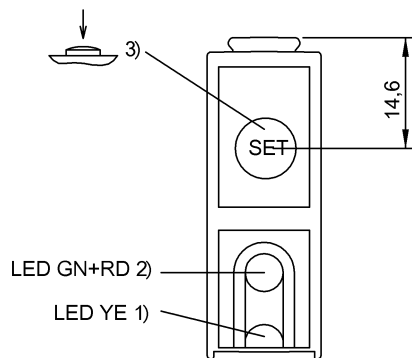
Connector Drawings



Wiring Diagrams



Help Views



- 1) Output function
- 2) stability/error
- 3) Sn, light/dark, T on/off

Opto Symbols

