

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



IND. CONT. EQ
 77HA
 for use in the secondary of
 a class 2 source of supply



Basic features

Approval/Conformity	cULus CE EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-22
Series	26K
Style	Square Connection can be rotated

Display/Operation

Adjuster	Potentiometer 270°
Display	Output function- LED yellow Error - LED red Switching dist. - dig. disp. Stability - LED green
Setting	Sensitivity (Sn)

Electrical connection

Connection	Connector, M12x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

No-load current I_o max. at U_e	40 mA
Operating voltage U_b	10...30 VDC
Protection class	II
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	200 mA
Rated operating voltage U_e DC	24 V
Ripple max. (% of U_e)	10 %
Switching frequency	2500 Hz
Turn-off delay t_{off} max.	0.2 ms
Turn-on delay t_{on} max.	0.2 ms
Utilization category	DC -13
Voltage drop U_d max. at I_e	2.4 V

Environmental conditions

Ambient temperature	-20...45 °C
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
Protection degree	IP67

Functional safety

MTTF (40 °C)	20 a
---------------------	------

Material

Housing material	ABS
Material sensing surface	PMMA

Mechanical data

Dimension	17 x 50 x 50 mm
Mounting	Screw M4

Optical features

Ambient light max.	3000 Lux
Average power Po max.	390 µW
Beam characteristic	Collimated
Laser class per IEC 60825-1	1
Light spot size	Ø 20 mm at 20 m
Light type	Laser 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	670 nm

Output/Interface

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

Range/Distance

Range	0...25 m
Rated operating distance Sn	25 m Adjustable

Remarks

For additional information, refer to user's guide.

Order accessories separately.

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

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.

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

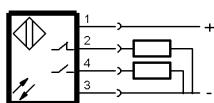
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

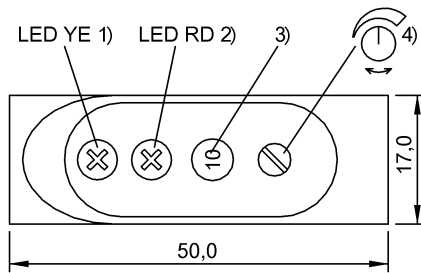
Connector Drawings



Wiring Diagrams



Help Views

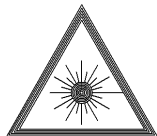


- 1) Output function
- 2) Stability
- 3) Switching dist. dig. displ.
- 4) Sensitivity

Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1