

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



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



Basic features

Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Color sensor
Series	26K
Style	Square Connection can be rotated

Display/Operation

Adjuster	Key (2x)
Display	Output function- LED yellow (3x) Ready - LED green Tolerance level: LED red (3x)
Setting	Factory setting (Reset) Time function on/off Color tolerance level Color channel (output) Color (switchpoint) Color teach-in mode/Color scan Normal mode/ET

Electrical connection

Connection	Connector, M12x1-Male, 8-pin
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

Input function	Teach color (switchpoint) Key disable on/off Emitter on/off
No-load current I_o max. at U_e	40 mA
Operating voltage U_b	12...28 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.	300 ms
Ripple max. (% of U_e)	10 %
Switching frequency	500 Hz
Turn-off delay t_{off} max.	1.0 ms
Turn-on delay t_{on} max.	1.0 ms
Utilization category	DC -13
Voltage drop U_d max. at I_e	2.4 V

Environmental conditions

Ambient temperature	-10...55 °C
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
Protection degree	IP67

Functional safety

MTTF (40 °C)	7 a
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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.	5000 Lux
Beam characteristic	Focused
Color resolution tolerance	Adjustable in 5 steps
Light spot size	2 x 2 mm at 22 mm
Light type	White light
Principle of optical operation	Diffuse sensor, fixed focus

Output/Interface

Duration of time function	50 ms
Supplementary output	Acknowledgment output PNP
Switch function, supplementary output	Normally open (NO)
Switching output	3x PNP normally open (NO)
Time function	switch-off delay

Range/Distance

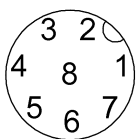
Range	15...30 mm
Sensing distance tolerance	±5 mm at 22 mm, tolerance level 3

Remarks

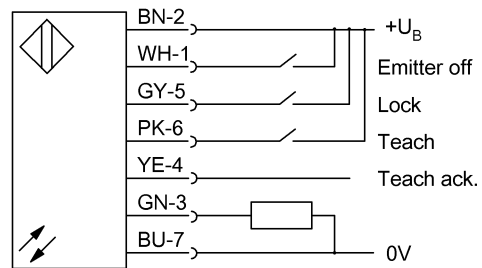
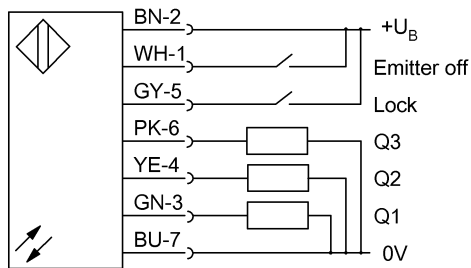
Do not press key using a pointed tool.
 Order accessories separately.
 For additional information, refer to user's guide.
 With connector, e.g. BKS-S 138-... total length = switch length +17.5 mm.
 Reference object (target): gray card, 100 x 100, 18 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 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.

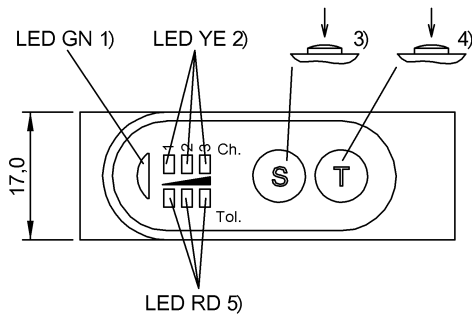
Connector Drawings



Wiring Diagrams



Help Views



- 1) Readiness
- 2) Output function
- 3) Confirm teach-in/selection
- 4) Function/mode select
- 5) Tolerance level indicator

Opto Symbols

