

1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception, 5) Sn



IND. CONT. EQ
 4R97
 for use in the secondary of
 a class 2 source of supply



Basic features

Approval/Conformity	CE cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	R020K
Style	Square Connection 60°

Display/Operation

Adjuster	3-turn potentiometer
Display	LED green: Power LED yellow: Light received
Setting	Rated switching distance (Sn)

Electrical connection

Cable diameter D	2.40 mm
Cable length L	0.2 m
Connection	Cable with connector, M8x1-Male, 4-pin, 0.20 m, PVC
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

No-load current I_0 max. at U_e	20 mA
Operating voltage U_b	10...30 VDC
Protection class	III
Rated insulation voltage U_i	50 V DC
Rated operating current I_e	50 mA
Rated operating voltage U_e DC	24 V
Ripple max. (% of U_e)	20 %
Switching frequency	800 Hz
Turn-off delay t_{off} max.	0.5 ms
Turn-on delay t_{on} max.	0.5 ms
Voltage drop U_d max. at I_e	2.5 V

Environmental conditions

Ambient temperature	-20...50 °C
Protection degree	IP67

Functional safety

MTTF (40 °C)	3487 a
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Material

Housing material	ABS
Material jacket	PVC
Material sensing surface	PMMA

Mechanical data

Dimension	7.7 x 32.5 x 13.5 mm
Mounting	Screw M3

Optical features

Ambient light max.	5000 Lux
Beam characteristic	Focus, typical at 15 mm
Light spot size	Ø 4.4 mm at 80 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light-on

Wave length 660 nm

Output/Interface

Switching output PNP normally open (NO) Pin 4

Range/Distance

Range 1...150 mm
 Rated operating distance S_n 150 mm

Remarks

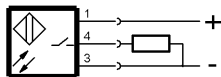
Order accessories separately.
 For additional information, refer to user's guide.
 Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 For more information about MTTF and B10d see MTTF / B10d Certificate

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



Opto Symbols

