

1) Emitter, 2) Optical axis, 3) Receiver, 4) Operating voltage, 5) Output function



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



### Basic features

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

### Electrical connection

<b>Cable diameter D</b>	2.40 mm
<b>Cable length L</b>	2 m
<b>Conductor cross-section</b>	0.20 mm <sup>2</sup>
<b>Connection</b>	Cable, 2.00 m, PVC
<b>Number of conductors</b>	3
	2
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### Display/Operation

<b>Display</b>	LED green: Power LED yellow: Light received
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**Electrical data**

Operating voltage <b>Ub</b>	10...30 VDC
Rated operating current <b>Ie</b>	100 mA
Rated operating voltage <b>Ue DC</b>	24 V
Ready delay <b>t<sub>v</sub> max.</b>	100 ms
Ripple max. (% of <b>Ue</b> )	10 %
Switching frequency	800 Hz
Turn-off delay <b>t<sub>off</sub> max.</b>	0.63 ms
Turn-on delay <b>t<sub>on</sub> max.</b>	0.63 ms
Voltage drop <b>U<sub>d</sub> max. at Ie</b>	2 V

**Environmental conditions**

Ambient temperature	-25...55 °C
Protection degree	IP67

**Functional safety**

MTTF (40 °C)	2659 a
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**Material**

Housing material	PC PBT
Material jacket	PVC
Material sensing surface	PMMA

**Remarks**

Actuation object (target): gray card, 200 x 200, lateral approach.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 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.

**Mechanical data**

Dimension	7.7 x 26.8 x 13.5 mm
Mounting	Screw M3

**Optical features**

Ambient light max.	5000 Lux
Light spot size	Ø 23 mm at 500 mm
Light type	LED, red light
Principle of optical operation	Through-beam sensor
Switching function, optical	Light-on
Wave length	880 nm

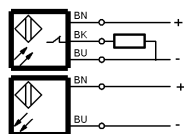
**Output/Interface**

Switching output	PNP normally closed (NC)
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**Range/Distance**

Range	0...2 m
Rated operating distance <b>S<sub>n</sub></b>	2 m

**Wiring Diagrams**



**Opto Symbols**

