



1) LED 1, 2) LED 2, 3) Optical axis emitter



#### Basic features

Approval/Conformity	CE UKCA cULus WEEE Ecolab
Basic standard	IEC 60947-5-2
Operating mode	SIO Mode IO-Link Mode
Principle of operation	Photoelectric sensor
Reference receiver	BOS R254K-UII-RE10-S4
Scope of delivery	Mounting instruction
Secondary features for condition monitoring	Vibration monitoring Inclination monitoring and installation aid Internal temperature monitoring Internal humidity detection
Series	R254K
Style	Square

#### Display/Operation

Display	2x tricoloured - LED
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#### 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

**Electrical data**

Load capacitance max. at Ue	100 nF
No-load current I <sub>0</sub> max. at Ue	20 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Protection class	II
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>V</sub> max.	300 ms
Residual current I <sub>r</sub> max.	500 µA
Ripple max. (% of U <sub>e</sub> )	10 %
Utilization category	DC-13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

**Environmental conditions**

Ambient temperature	-40...70 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP67, IP6K9K

**Functional safety**

MTTF (40 °C)	273.6 a
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**IO-Link**

IO-Link Profil IDs	0x0001 SSP0 0x4000 Identification and Diagnosis
IO-Link function classes	0x800C Transducer Disable
Supported IO-Link Profiles	Common Profile Legacy Smart Sensor Profile

**Remarks**

Order accessories separately.

For additional information, refer to user's guide.

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.

**Interface**

Analog output	Analog, current 4...20 mA
Baud rate	COM3 (230,4 kBaud)
Interface	IO-Link 1.1
Process data IN	17 bytes
Process data OUT	1 byte
Process data cycle min.	5 ms
Switching output	Pin 2: PNP/NPN/push-pull NO/NC Pin 4: Push-pull NO/NC
Time function	Single pulse On/off delay

**Material**

Housing material	PA 12 PA PACM 12
Material sensing surface	PA PACM 12

**Mechanical data**

Dimension	20.4 x 60.3 x 49.5 mm
Mounting part	Screw M4

**Optical features**

Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light type	LED, red light
Principle of optical operation	Through-beam sensor (Emitter)
Wave length	633 nm

**Range/Distance**

Range	0 mm...20 m
Rated operating distance S <sub>n</sub>	20 m
Temperature drift max. (% of S <sub>r</sub> )	10 %

**Connector Drawings**

## Wiring Diagrams

Pin	
1	$L^+$ (Operating voltage +, SIO 10...30V, IO-Link 18...30 V)
2	I/Q (Digital input / digital output / analog output)
3	$L^-$ (Operating voltage - )
4	C/Q (IO-Link communication / digital output in SIO mode)

## Opto Symbols

