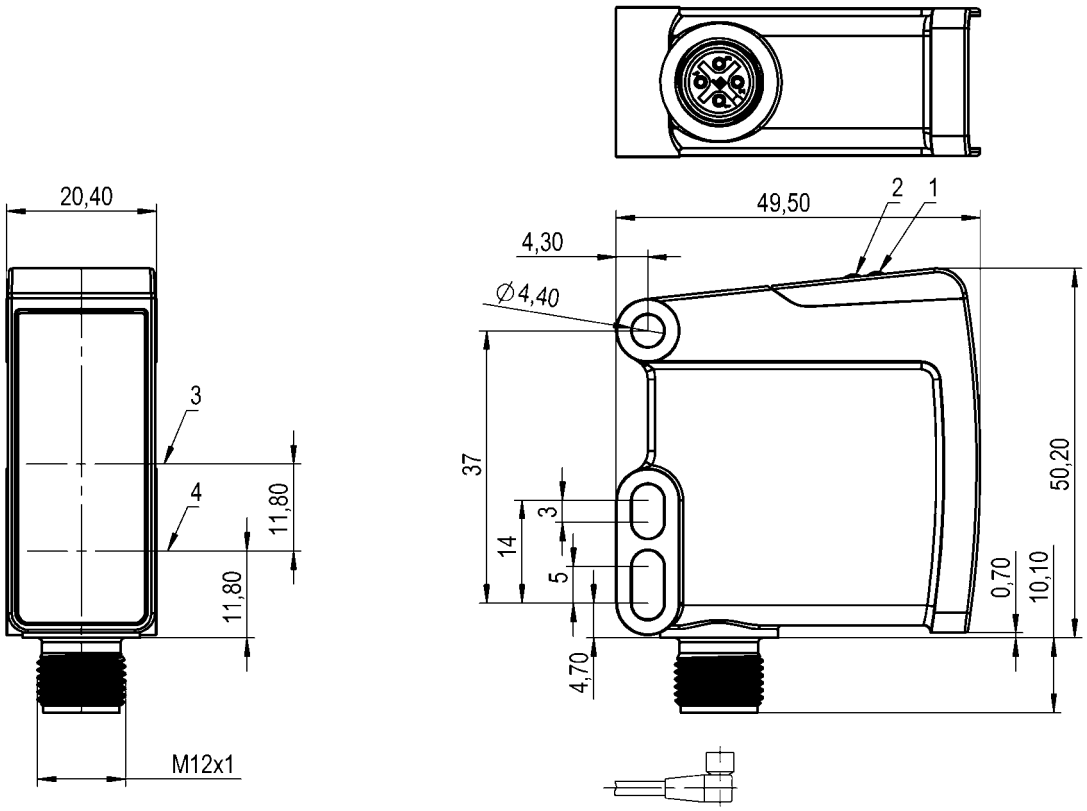
BOS R254K-UUI-PR10-S4
Order Code: BOS0286



1) LED 1, 2) LED 2, 3) Optical axis receiver, 4) 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 reflector	BOS R-1
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

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

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Electrical data

Load capacitance max. at Ue	100 nF
No-load current Io max. at Ue	20 mA
Operating voltage Ub	10...30 VDC
Protection class	II
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	300 ms
Residual current Ir max.	500 µA
Ripple max. (% of Ue)	10 %
Switching frequency	1 kHz 2 kHz (Speed mode)
Turn-off delay toff max.	0.5 ms
Turn-on delay ton max.	0.5 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	2.5 V

Environmental conditions

Ambient temperature	-40...70 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g_n, 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

IO-Link

IO-Link Profil IDs	0x0001 SSP0 0x0007 SSP2.4 0x0008 SSP2.5 0x0009 SSP2.6 0x4000 Identification and Diagnosis
IO-Link function classes	0x8001 Binary Data Channel 0x8007 Single Value Teach 0x8008 Two Value Teach 0x8009 Dynamic Teach 0x800C Transducer Disable
Supported IO-Link Profiles	Common Profile Legacy Smart Sensor Profile Smart Sensor Profile - Adjustable Switching Sensor

Interface

Analog output	Analog, current 4...20 mA
Baud rate	COM3 (230,4 kBaud)
Interface	IO-Link 1.1
Process data IN	1 byte
Process data OUT	1 byte
Process data cycle min.	3 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

Ambient light max.	10000 Lux
Beam characteristic	Divergent
LED group per IEC 62471	Exempt Group
Light spot size	200 x 200 mm at 8 m
Light type	LED, red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Switching function, optical	Light/dark switching
Wave length	633 nm

Range/Distance

Hysteresis H max. (% of Sr)	10 %
Hysteresis H typ. (% of Sr)	5 %
Range	8 m
Rated operating distance Sn	8 m Adjustable
Temperature drift max. (% of Sr)	10 %

Remarks

For additional information, refer to user's guide.
Order accessories separately.
The sensor is functional again after the overload has been eliminated.
For use with reflector BOS R-1
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.

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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