



1) LED function indicator, 2) LED function indicator, 3) Optical axis



### Basic features

Approval/Conformity	CE UKCA WEEE cULus Ecolab
Basic standard	IEC 60947-5-2
Operating mode	SIO Mode IO-Link Mode
Principle of operation	Photoelectric sensor
Reference emitter	BOS R080K-XM-RS10-00,3-S4
Scope of delivery	Mounting instruction
Series	R080K
Style	Square with M18 Bullnose

### Electrical data

Load capacitance max. at Ue	100 nF
No-load current I <sub>o</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 %
Switching frequency	1 kHz 2 kHz (Speed mode)
Turn-off delay t <sub>off</sub> max.	0.5 ms
Turn-on delay t <sub>on</sub> max.	0.33 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

### Display/Operation

Display	2x tricoloured - LED
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### Electrical connection

Cable diameter D	3.85...4.15 mm
Cable length L	300 mm
Connection	Cable with connector, M12x1- Male, 4-pin, 300 mm, PVC
Contact, surface protection	Gold plated
Number of conductors	4
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

### Environmental conditions

Ambient temperature	-10...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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Smart Automation and Monitoring System  
Photoelectric Sensors  
**BOS R080K-UIM-RE10-00,3-S4**  
Order Code: BOS028J

**BALLUFF**

### IO-Link

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

### Interface

<b>Analog output</b>	Analog, current 4...20 mA
<b>Baud rate</b>	COM3 (230,4 kBaud)
<b>Interface</b>	IO-Link 1.1
<b>Process data IN</b>	1 byte
<b>Process data OUT</b>	1 byte
<b>Process data cycle min.</b>	3 ms
<b>Switching output</b>	Pin 2: PNP/NPN/push-pull NO/NC Pin 4: Push-pull NO/NC
<b>Time function</b>	Single pulse On/off delay

### 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.

### Material

<b>Housing material</b>	PA 12 PA PACM 12
<b>Material jacket</b>	PVC, Flame-resistant
<b>Material sensing surface</b>	PA PACM 12

### Mechanical data

<b>Dimension</b>	19 x 44.1 x 37.5 mm
<b>Mounting part</b>	Screw M3
<b>Weight</b>	25.8 g

### Optical features

<b>Ambient light max.</b>	10000 Lux
<b>Light type</b>	Red light
<b>Principle of optical operation</b>	Through-beam sensor (receiver)

### Range/Distance

<b>Hysteresis H max. (% of Sr)</b>	10 %
<b>Hysteresis H typ. (% of Sr)</b>	5 %
<b>Range</b>	0...20 m
<b>Rated operating distance Sn</b>	20 m Adjustable
<b>Temperature drift max. (% of Sr)</b>	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

