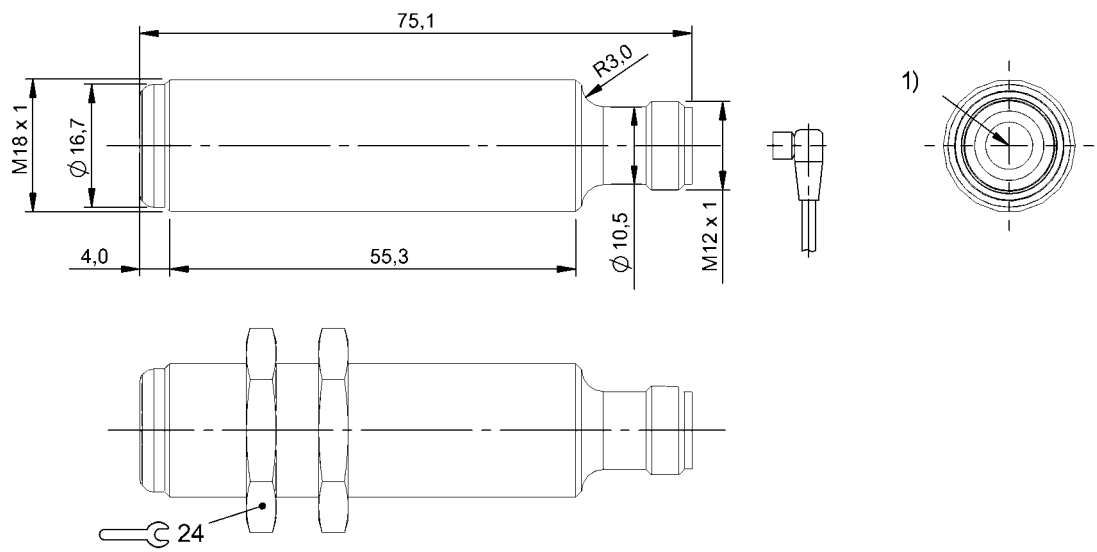


Photoelectric Sensors  
BOS 18E-PA-RE20-S4  
Order Code: BOS01KM



1) Optical axis receiver



Basic features

|                        |                                       |
|------------------------|---------------------------------------|
| Approval/Conformity    | Ecolab<br>CE<br>UKCA<br>cULus<br>WEEE |
| Basic standard         | IEC 60947-5-2                         |
| Principle of operation | Photoelectric sensor                  |
| Reference emitter      | BOS 18E-X-RS20-S4                     |
| Series                 | 18E                                   |
| Style                  | Cylinder<br>Straight optics           |

Display/Operation

|          |    |
|----------|----|
| Adjuster | no |
|----------|----|

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                        | 0.1 µF      |
| No-load current I <sub>o</sub> max. at Ue          | 30 mA       |
| Operating voltage U <sub>b</sub>                   | 10...30 VDC |
| 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        |
| Ripple max. (% of U <sub>e</sub> )                 | 15 %        |
| Switching frequency                                | 400 Hz      |
| Turn-off delay t <sub>off</sub> max.               | 1.25 ms     |
| Turn-on delay t <sub>on</sub> max.                 | 1.25 ms     |
| Utilization category                               | DC -13      |
| Voltage drop U <sub>d</sub> max. at I <sub>e</sub> | 2.5 V       |

Environmental conditions

|                         |                                                                                                 |
|-------------------------|-------------------------------------------------------------------------------------------------|
| Ambient temperature     | -25...70 °C                                                                                     |
| Contamination scale     | 3                                                                                               |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6<br>Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000     |
| EN 60068-2-6, Vibration | 10...2000 Hz, amplitude 1 mm, 30 g <sub>n</sub> , 3x5 h<br>10...55 Hz, amplitude 1 mm, 3x30 min |
| IP rating               | IP68/IP67                                                                                       |
| IP rating per DIN 40050 | IPx9K                                                                                           |

Functional safety

|              |       |
|--------------|-------|
| MTTF (40 °C) | 648 a |
|--------------|-------|

Interface

|                  |                                 |
|------------------|---------------------------------|
| Switching output | PNP normally closed (NC)        |
|                  | PNP normally open (NO) Pins 4-2 |

Material

|                          |                        |
|--------------------------|------------------------|
| Housing material         | 1.4404 stainless steel |
| Material sensing surface | Glass                  |

Mechanical data

|                        |              |
|------------------------|--------------|
| Dimension              | Ø 18 x 75 mm |
| Mounting part          | Nut M18x1    |
| Tightening torque max. | 40 Nm        |

Optical features

|                                |                                |
|--------------------------------|--------------------------------|
| Ambient light max.             | 10000 Lux                      |
| Light type                     | LED, red light                 |
| Principle of optical operation | Through-beam sensor (receiver) |
| Switching function, optical    | dark-on/light-on               |

Range/Distance

|                                  |          |
|----------------------------------|----------|
| Range                            | 0...20 m |
| Rated operating distance Sn      | 20 m     |
| Temperature drift max. (% of Sr) | 10 %     |

Remarks

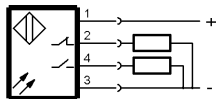
The sensor is functional again after the overload has been eliminated.  
For additional information, refer to user's guide.  
Order accessories separately.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

Connector Drawings



Wiring Diagrams



Opto Symbols

