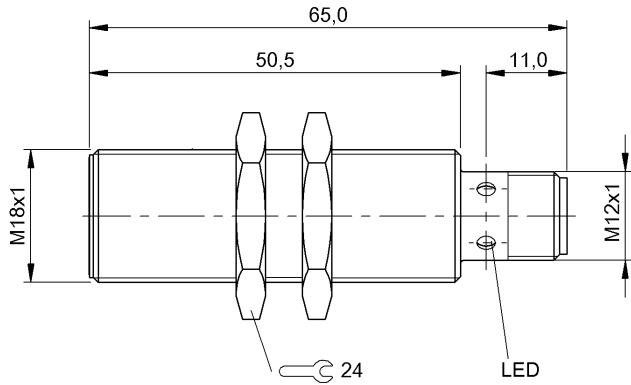




#### Basic features

|                     |                                |
|---------------------|--------------------------------|
| Approval/Conformity | CE<br>UKCA<br>cULus<br>WEEE    |
| Basic standard      | IEC 60947-5-2<br>IEC 60947-5-7 |

#### Display/Operation

|                    |                      |
|--------------------|----------------------|
| Function indicator | Adjustment indicator |
| Power indicator    | no                   |

#### Electrical connection

|                                   |                            |
|-----------------------------------|----------------------------|
| Connection                        | M12x1-Male, 3-pin, A-coded |
| Polarity reversal protected       | yes                        |
| Protection against device mix-ups | yes                        |
| Short-circuit protection          | yes                        |

#### Electrical data

|                               |             |
|-------------------------------|-------------|
| Limit frequency –3 dB         | 500 Hz      |
| Load resistance RL max.       | 500 Ohm     |
| No-load current Io max. at Ue | 10 mA       |
| Operating voltage Ub          | 10...30 VDC |
| Protection class              | II          |
| Rated insulation voltage Ui   | 250 V AC    |
| Rated operating voltage Ue DC | 24 V        |
| Ripple max. (% of Ue)         | 15 %        |
| Slope I                       | 5.00 mA/mm  |

#### Environmental conditions

|                         |                                 |
|-------------------------|---------------------------------|
| Ambient temperature     | -10...70 °C                     |
| Contamination scale     | 3                               |
| EN 60068-2-27, Shock    | Half-sinus, 30 gn, 11 ms        |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min |
| IP rating               | IP67                            |

#### Functional safety

|              |       |
|--------------|-------|
| MTTF (40 °C) | 640 a |
|--------------|-------|

#### Interface

|                           |                           |
|---------------------------|---------------------------|
| Analog output             | Analog, current 0...20 mA |
| Output characteristic     | falling on approach       |
| Output current at SI max. | 20 mA                     |
| Output current at SI min. | 0 mA                      |
| Output current at Se      | 10 mA                     |

#### Material

|                          |                      |
|--------------------------|----------------------|
| Housing material         | Brass, nickel-plated |
| Material sensing surface | PBT                  |

#### Mechanical data

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 18 x 65 mm       |
| Installation      | for flush mounting |
| Mounting length   | 50.5 mm            |
| Size              | M18x1              |
| Tightening torque | 25 Nm              |

Range/Distance

|                    |          |
|--------------------|----------|
| Linearity range SI | 1...5 mm |
| Measuring range    | 1...5 mm |

|                                       |         |
|---------------------------------------|---------|
| Non-linearity max.                    | ±120 µm |
| Repeat accuracy per BWN               | ±8 µm   |
| Temperature drift max. from end value | ±5.0 %  |

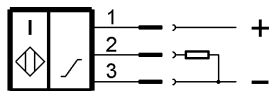
Remarks

With connector, e.g. BKS-S 20-... total length = switch length +18 mm.  
Values referenced to axial approach of St 37 target. For other materials correction factors are applied.  
Load resistance RL max. applies for Ub min. 16V.  
When used in Balluff clamping holders, Ua may be reduced by max. 10%.  
Scattering (e.g. due to manufacturing tolerances) is described by the tolerance T at Se. This can be approximated using the formula:  $T = (sl_{max} + sl_{min}) / 20 = \pm xx \text{ mm}$ .  
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 (Schematic)



Technical Drawings

