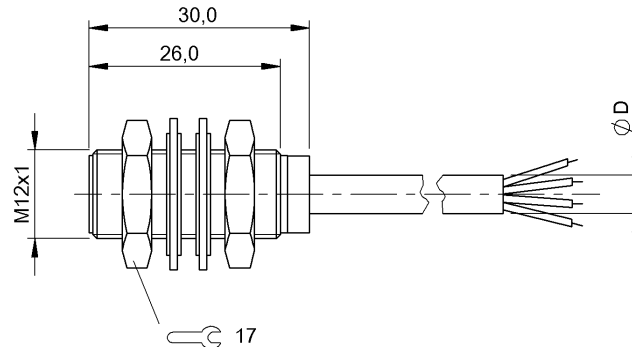




IND. CONT. EQ.  
 81U2  
 Class 2 Type 1



## Basic features

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

## Display/Operation

|                 |    |
|-----------------|----|
| Power indicator | no |
|-----------------|----|

## Electrical connection

|                                   |                      |
|-----------------------------------|----------------------|
| Cable diameter D                  | 4.60 mm              |
| Cable length L                    | 1 m                  |
| Conductor cross-section           | 0.25 mm <sup>2</sup> |
| Connection type                   | Cable, 1.00 m, PUR   |
| Number of conductors              | 4                    |
| Polarity reversal protected       | yes                  |
| Protection against device mix-ups | yes                  |
| Short-circuit protection          | yes                  |

## Electrical data

|                                                       |             |
|-------------------------------------------------------|-------------|
| Limit frequency –3 dB                                 | 1000 Hz     |
| Load resistance R <sub>L</sub> min.                   | 2000 Ohm    |
| Load resistance R <sub>T</sub> min.                   | 5000 Ohm    |
| No-load current I <sub>o</sub> max. at U <sub>e</sub> | 10 mA       |
| Operating voltage U <sub>b</sub>                      | 15...30 VDC |
| Rated insulation voltage U <sub>i</sub>               | 75 V DC     |
| Rated operating voltage U <sub>e</sub> DC             | 24 V        |
| Ripple max. (% of U <sub>e</sub> )                    | 15 %        |
| Slope U                                               | 2.50 V/mm   |
| Temperature output                                    | -9 mV/°C    |

## Environmental conditions

|                         |                                 |
|-------------------------|---------------------------------|
| Ambient temperature     | 0...60 °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 |
| Protection degree       | IP67                            |

## Functional safety

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

## Material

|                          |               |
|--------------------------|---------------|
| Housing material         | Brass         |
| Material jacket          | PUR           |
| Material sensing surface | PA 12         |
| Surface protection       | nickel plated |

Inductive Sensors  
**BAW M12ME-UAD50B-BP01**  
Order Code: BAW0011

**BALLUFF**

**Mechanical data**

|                   |              |
|-------------------|--------------|
| Dimension         | Ø 12 x 30 mm |
| Installation      | quasi-flush  |
| Size              | M12x1        |
| Tightening torque | 10 Nm        |

**Output/Interface**

|                           |                                              |
|---------------------------|----------------------------------------------|
| Analog output             | Analog, voltage 0...10 V Analog, temperature |
| Output characteristic     | falling on approach                          |
| Output voltage at SI max. | 10 V                                         |
| Output voltage at SI min. | 0 V                                          |
| Output voltage at Se      | 5 V                                          |

**Range/Distance**

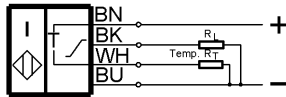
|                                       |          |
|---------------------------------------|----------|
| Linearity range SI                    | 1...5 mm |
| Measuring range                       | 1...5 mm |
| Non-linearity max.                    | ±160 µm  |
| Repeat accuracy per BWN               | ±10 µm   |
| Temperature drift max. from end value | ±5.0 %   |

**Remarks**

Values referenced to axial approach of St 37 target. For other materials correction factors are applied.  
The specified parameters apply to the temperature range of 0...+60 °C. Function is also guaranteed in the ranges -10...0 °C and +60...+70 °C.  
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.

**Wiring Diagrams**



## Technical Drawings

