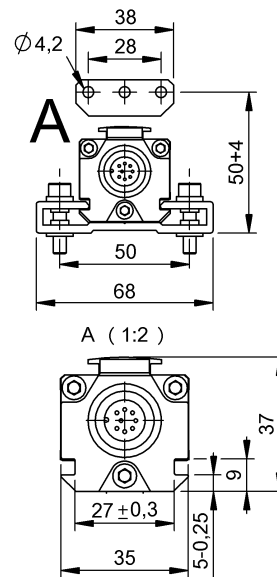
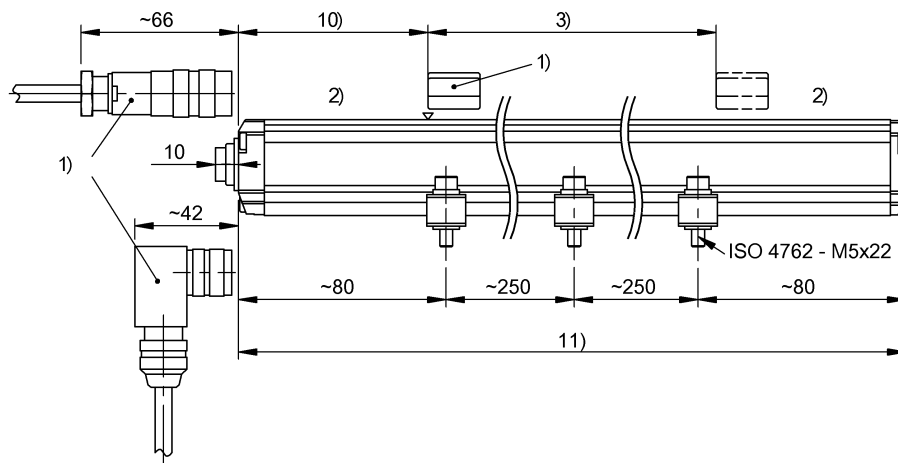


Magnetostrictive Sensors  
**BTL5-A11-M0280-P-S32**  
 Order Code: BTL0TYC

**BALLUFF**



1) not included in scope of delivery, 2) Non-usable area, 3) Nominal length = Measuring length, 10) Null point, 11) Installation length



#### Basic features

|                                   |                            |
|-----------------------------------|----------------------------|
| Approval/Conformity               | CE<br>cULus<br>EAC<br>WEEE |
| Magnets, number (factory setting) | 1                          |
| Magnets, number max.              | 1                          |

#### Electrical connection

|                             |                            |
|-----------------------------|----------------------------|
| Connection                  | Connector, M16x0.75, 8-pin |
| Connection version          | axial                      |
| Polarity reversal protected | Ub up to 28 V              |

#### Electrical data

|                                      |               |
|--------------------------------------|---------------|
| Current consumption max. at 24 V DC  | 150 mA        |
| Error signal Ua falling              | ≤ -1 V        |
| Error signal Ua rising               | ≥ 11 V        |
| Galvanic isolation                   | yes           |
| Inrush current                       | ≤ 3 A/0.5 ms  |
| Operating voltage Ub                 | 20...28 VDC   |
| Output current max.                  | 5 mA          |
| Output signal adjustable             | no            |
| Overvoltage protection               | Ub up to 28 V |
| Ripple Ua max.                       | 5 mV          |
| Voltage-proof up to (GND to housing) | 500 V DC      |

#### Environmental conditions

|                                     |                                           |
|-------------------------------------|-------------------------------------------|
| Ambient temperature                 | -40...85 °C                               |
| EN 55016-2-3, Radiation             | Industrial areas                          |
| EN 60068-2-27, Continuous shock     | 100 g, 2 ms                               |
| EN 60068-2-27, Shock                | 100 g, 6 ms                               |
| EN 60068-2-6, Vibration             | 12 g, 10...2000 Hz                        |
| EN 61000-4-2, ESD                   | Severity Level 3                          |
| EN 61000-4-3, RFI                   | Severity Level 3                          |
| EN 61000-4-4, Burst                 | Severity Level 3                          |
| EN 61000-4-5, Surge                 | Severity Level 2                          |
| EN 61000-4-6, High-frequency fields | Severity Level 3                          |
| EN 61000-4-8 Magnetic fields        | Severity Level 4                          |
| IP rating                           | IP67, with connector                      |
| Relative humidity                   | ≤ 90 %, non-condensing                    |
| Storage temperature                 | -40...100 °C                              |
| Temperature coefficient typ.        | ≤ 35 ppm/K at 50% of nominal stroke 500mm |

#### Functional safety

|              |      |
|--------------|------|
| MTTF (40 °C) | 93 a |
|--------------|------|

#### Interface

|               |                                                   |
|---------------|---------------------------------------------------|
| Analog output | Analog, voltage 0...10 V Analog, voltage 10...0 V |
|---------------|---------------------------------------------------|

Material

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Cover material                       | Aluminium, Die-cast, nickel plated |
| Housing material                     | Aluminium, Anodized                |
| Housing material, surface protection | Anodized                           |

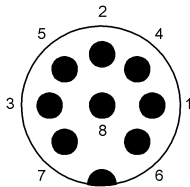
Mechanical data

|                |                 |
|----------------|-----------------|
| Mounting part  | Mounting clamps |
| Null point     | 73.0 mm         |
| Overall Length | 426 mm          |

Range/Distance

|                                 |                 |
|---------------------------------|-----------------|
| Measuring length                | 280 mm          |
| Non-linearity max.              | ±100 µm         |
| Repeat accuracy                 | ≤ 0.1 mV        |
| Repeatability                   | ≤4 µm           |
| Resolution                      | ≤ 0.1 mV        |
| Sampling rate, length-dependent | 1 kHz, standard |

Connector Drawings



Wiring Diagrams (Schematic)

| Pin |            |
|-----|------------|
| 1   | NC         |
| 2   | GND output |
| 3   | 10...0 V   |
| 4   | NC         |
| 5   | 0...10 V   |
| 6   | GND        |
| 7   | +24 V DC   |
| 8   | NC         |