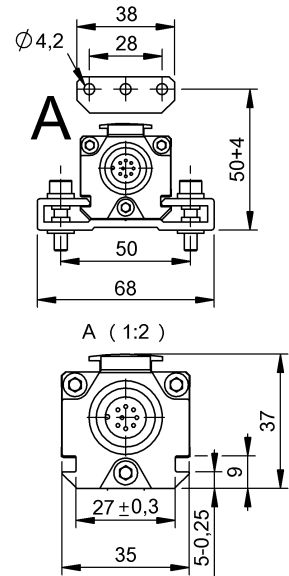
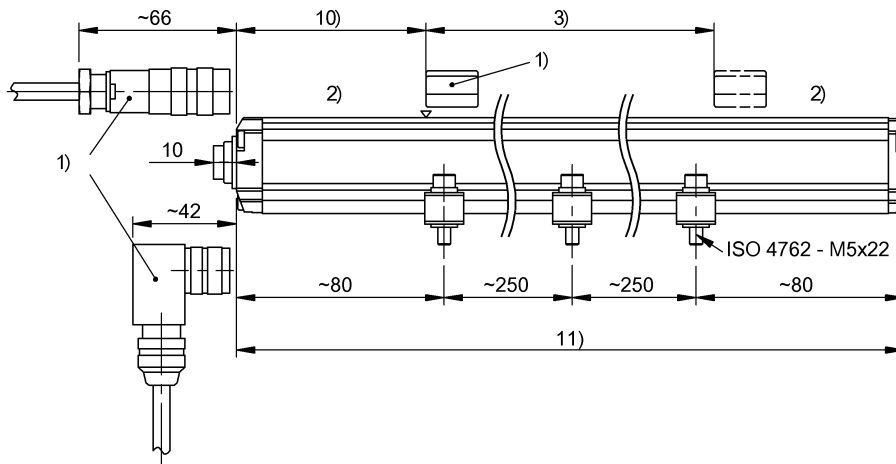


Magnetostrictive Sensors  
**BTL5-E10-M0050-P-S32**  
Order Code: BTL027W

**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

|                                   |   |
|-----------------------------------|---|
| 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 Ia rising               | ≥ 20.4 mA     |
| Error signal Ua falling              | ≤ 0 V         |
| Error signal Ua rising               | ≥ 10.2 V      |
| Galvanic isolation                   | yes           |
| Inrush current                       | ≤ 3 A/0.5 ms  |
| Operating voltage Ub                 | 20...28 VDC   |
| Overvoltage protection               | Ub up to 28 V |
| 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 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) | 77 a |
|--------------|------|

## Interface

|               |                           |
|---------------|---------------------------|
| Analog output | Analog, current 4...20 mA |
|---------------|---------------------------|

## Material

|                  |                     |
|------------------|---------------------|
| Housing material | Aluminium, Anodized |
|------------------|---------------------|

## Mechanical data

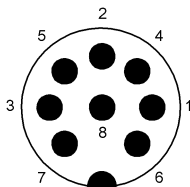
|            |         |
|------------|---------|
| Null point | 73.0 mm |
|------------|---------|

Range/Distance

|                    |            |
|--------------------|------------|
| Non-linearity max. | ±100 µm    |
| Repeat accuracy    | ≤ ± 0.2 µA |

|                                 |                 |
|---------------------------------|-----------------|
| Reproducibility                 | ≤4 µm           |
| Resolution                      | ≤ 0.2 µA        |
| Sampling rate, length-dependent | 1 kHz, standard |

Connector Drawings



Wiring Diagrams

| Pin |            |
|-----|------------|
| 1   | 4...20 mA  |
| 2   | GND output |
| 3   | NC         |
| 4   | NC         |
| 5   | NC         |
| 6   | GND        |
| 7   | +24 V DC   |
| 8   | NC         |