

Basic features

Approval/Conformity

CE
 UKCA
 CSA
 IECEx
 WEEE

Ex marking

ATEX: II 1/2GD Ex d IIC T6 Ga/
 Gb Ex t IIIC T85 °C Da IP68 -50
 °C ≤ Ta ≤ +65 °C
 II 1/2GD Ex d IIC T5 Ga/Gb Ex t
 IIIC T100°C Da IP68 -50 °C ≤ Ta
 ≤ +80 °C
 IECEx: Ex d IIC T6 Ga/Gb Ex t
 IIIC T85 °C Da IP68 Tamb -50 °C
 to +65 °C
 Ex d IIC T5 Ga/Gb Ex t IIIC T100
 °C Da IP68 Tamb -50 °C to +80
 °C
 NEC: Class I, Division 1, Groups
 ABCD
 Class II, Division 1, Groups EFG
 Class III
 Enclosure Type 4X/6P
 Class I, Zone 1, AEx d IIC T* Ga/
 Gb
 Ex d IIC T* Gb
 IP68-50°C to +65°C (T6) or -50°C
 to +80°C (T5)
 ATEX: II 1/2GD Ex d IIC T6 Ga/
 Gb Ex t IIIC T85 °C Da IP68 -50
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 to +80°C (T5)

Magnets, number max. 1

Electrical connection

| | |
|-----------------------------|--------------------------|
| Connection | Clamping terminal, 7-pin |
| Connection version | radial |
| Polarity reversal protected | Ub up to 28 V |

Electrical data

| | |
|--------------------------------------|---------------|
| Current consumption max. at 24 V DC | 150 mA |
| Error signal Ia falling | 20.4 mA |
| Error signal Ia rising | 3.6 mA |
| Error signal Ua falling | -0.5 V |
| Error signal Ua rising | 10.5 V |
| Error signal output 1 | ≥ 5.1 V |
| Galvanic isolation | no |
| Inrush current | ≤ 3 A/0.5 ms |
| Operating voltage Ub | 10...30 VDC |
| Overvoltage protection | Ub up to 28 V |
| Voltage-proof up to (GND to housing) | 500 V DC |

Magnetostrictive Sensors
BTL5-E50-M0222-J-M01-TA
Order Code: BTL2L9M



Environmental conditions

| | |
|-------------------------------------|---|
| Ambient temperature | -40...80 °C |
| EN 55016-2-3, Radiation | For industrial and residential use |
| 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 | IP68 |
| Relative humidity | ≤ 90 %, non-condensing |
| Storage temperature | -50...85 °C |
| Temperature coefficient typ. | ≤ 35 ppm/K at 50% of nominal stroke 500mm |

Functional safety

| | |
|--------------|------|
| MTTF (40 °C) | 58 a |
|--------------|------|

Interface

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

Material

| | |
|--------------------------------------|------------------------|
| Housing material | Aluminium, Anodized |
| Housing material, surface protection | Anodized |
| Material flange | 1.4404 stainless steel |
| Protection tube material | 1.4571 stainless steel |

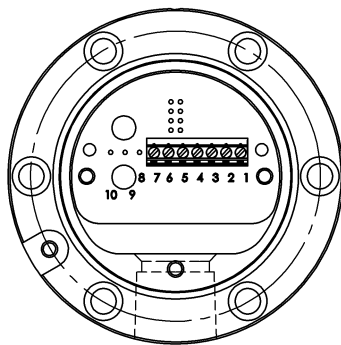
Mechanical data

| | |
|--------------------------|-------------------------|
| Housing diameter | 55 mm |
| Mounting part | Flange Ø18h6 plus holes |
| Null point | 50.8 mm |
| Pressure rating max. | 600 bar |
| Protection tube diameter | 10.2 mm |
| Tightening torque | 3.5 Nm |

Range/Distance

| | |
|---------------------------------|-----------------|
| Measuring length | 222 mm |
| Non-linearity max. | ±100 µm |
| Repeat accuracy | ± 5 µm |
| Reproducibility | ≤5 µm |
| Sampling rate, length-dependent | 1 kHz, standard |

Connector Drawings



Wiring Diagrams

| PIN | |
|-----|--------------|
| 1 | 4...20mA |
| 2 | GND Output |
| 3 | NC |
| 4 | GND |
| 5 | 10...30 V DC |
| 6 | NC |
| 7 | NC |

Help Views

