

## Basic features

### Approval/Conformity

CE  
 UKCA  
 CSA  
 IECEx  
 WEEE

### Ex marking

ATEX: II 1/2GD Ex d IIC T6 Ga/  
 Gb Ex t IIIIC T85 °C Da IP68 -50  
 °C ≤ Ta ≤ +65 °C  
 II 1/2GD Ex d IIC T5 Ga/Gb Ex t  
 IIIIC T100°C Da IP68 -50 °C ≤ Ta  
 ≤ +80 °C  
 IECEx: Ex d IIC T6 Ga/Gb Ex t  
 IIIIC T85 °C Da IP68 Tamb -50 °C  
 to +65 °C  
 Ex d IIC T5 Ga/Gb Ex t IIIIC 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 IIIIC T85 °C Da IP68 -50  
 °C ≤ Ta ≤ +65 °C  
 II 1/2GD Ex d IIC T5 Ga/Gb Ex t  
 IIIIC T100°C Da IP68 -50 °C ≤ Ta  
 ≤ +80 °C  
 IECEx: Ex d IIC T6 Ga/Gb Ex t  
 IIIIC T85 °C Da IP68 Tamb -50 °C  
 to +65 °C

Ex d IIC T5 Ga/Gb Ex t IIIIC T100  
 °C Da IP68 Tamb -50 °C to +80  
 °C  
 NEC: Class I, Division 1, Groups  
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 Enclosure Type 4X/6P  
 Class I, Zone 1, AEx d IIC T\* Ga/  
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 IP68-50°C to +65°C (T6) or -50°C  
 to +80°C (T5)

Magnets, number max. 1

## Electrical connection

**Connection** Clamping terminal, 7-pin  
 radial  
**Connection version**  
**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-E57-M0381-J-M01-TA**  
**Order Code: BTL2CK1**



**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
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**Interface**

Analog output	Analog, current 20...4 mA/falling
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**Material**

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

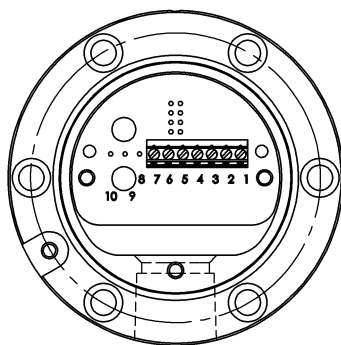
**Mechanical data**

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	381 mm
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

