

1) Non-usable area, 2) Not included in scope of delivery, 3) Nominal length = Measuring length, 4) Mounting surface, 5) Internal threads M4x4/6 deep, 6) Null point, 7) Installation length



Basic features

Approval/Conformity	CE UKCA cULus WEEE
Magnets, number (factory setting)	1
Magnets, number max.	1

Electrical connection

Connection	Connector, M12x1, 5-pin
Connection version	axial
Polarity reversal protected	Ub up to 36 V
Short-circuit protection	to GND and to 36 V DC

Electrical data

Current consumption max. at 24 V DC	120 mA
Error signal Ia rising	3.6 mA
Galvanic isolation	no
Inrush current	≤ 500 mA/10 ms
Operating voltage Ub	10...30 VDC
Output signal adjustable	using programming inputs
Overvoltage protection	Ub up to 36 V
Switch-on delay max.	600 ms
Voltage-proof up to (GND to housing)	500 V AC

Environmental conditions

Ambient temperature	-40...85 °C
EN 55016-2-3, Radiation	For industrial and residential use
EN 60068-2-27, Continuous shock	150 g, 2 ms
EN 60068-2-27, Shock	150 g, 6 ms
EN 60068-2-6, Vibration	20 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.	≤ 30 ppm/K at 50% of nominal stroke 500mm

Functional safety

MTTF (40 °C)	90 a
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Interface

Analog output	Analog, current 4...20 mA
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Magnetostrictive Sensors
BTL7-E500-M0305-W-ZR1C
Order Code: BTL1TUM



Material

Housing material	1.4305 stainless steel
Material flange	1.4404 stainless steel
	1.4429 stainless steel
	1.4435 stainless steel
	1.4571 stainless steel
O-ring material	FKM
Protection tube material	1.4571 stainless steel

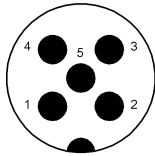
Mechanical data

Housing diameter	65 mm
Installation length from contact surface	416 mm
Mounting part	Threaded flange 3/4-16UNF
Null point	50.8 mm
Pressure rating max.	600 bar
Protection tube diameter	10.2 mm
Tightening torque max.	100 Nm

Range/Distance

Measuring length	305 mm
Non-linearity max.	±50 µm
Repeat accuracy	± 10 µm
Sampling frequency max.	2000 Hz

Connector Drawings



Wiring Diagrams

Pin	
1	+24 V DC
2	0 - 10 V
3	GND
4	0 V
5	NC

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