



1) not included in scope of delivery, 2) Non-usable area, 3) Nominal length = Measuring length, 4) Mounting surface, 5) Internal threads M4x4/6 deep, 6) LED function indicator, 7) Ø6.1 for hook wrench Ø74, 10) Null point, 11) Installation length, 12) Cable length



Basic features

Approval/Conformity	CE UKCA IECEX WEEE
Ex marking	ATEX: II 3 G Ex ec IIC T4 Gc II 2 D Ex tb IIIC T135°C Db IP6x -40°C ≤ Ta ≤ +60°C IECEX: Ex ec IIC T4 Gc Ex tb IIIC T135°C Db IP6x -40°C ≤ Ta ≤ +60°C ATEX: II 3 G Ex ec IIC T4 Gc II 2 D Ex tb IIIC T135°C Db IP6x -40°C ≤ Ta ≤ +60°C IECEX: Ex ec IIC T4 Gc Ex tb IIIC T135°C Db IP6x -40°C ≤ Ta ≤ +60°C
Magnets, number (factory setting)	1
Magnets, number max.	1
Measuring units, number	2

Electrical connection

Bending radius min., fixed cable	5 x D
Bending radius min., flexible cable	15 x D
Cable diameter D	6.4...7 mm
Cable length L	2 m, in EX applications only fixed cable routing permitted
Connection	Cable, 2.0 m, PUR
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	150 mA
Error signal Ia falling	3.6 mA
Galvanic isolation	no
Inrush current	≤ 500 mA/10 ms per unit
Operating voltage Ub	10...30 VDC
Output signal adjustable	with software tool
Oversvoltage protection	Ub up to 36 V
Switch-on delay max.	600 ms
Voltage-proof up to (GND to housing)	500 V AC

Magnetostrictive Sensors
BTL7-E505-M0100-TB2-NEX-KA02
Order Code: BTL2MZA



Environmental conditions

Ambient temperature	-40...60 °C
Cable temperature, fixed routing	-40...90 °C
Cable temperature, flexible routing	-5...90 °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	IP67
Relative humidity	≤ 90 %, non-condensing
Storage temperature	-40...70 °C
Surface temperature max.	135 °C
Temperature coefficient typ.	≤ 20 ppm/K at 50% of nominal stroke 500mm

Functional safety

MTTF (40 °C)	33 a
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Interface

Analog output	2x Analog, current 20...4 mA
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Material

Cable flame-resistant	IEC 60332-1
Cable jacket, material	PUR
Cover material	Aluminium, Anodized
Housing material	Aluminium, Anodized
Housing material, surface protection	Anodized
Material flange	1.4404 stainless steel
O-ring material	FKM
Plug material	1.4571 stainless steel
Protection tube material	1.4571 stainless steel

Mechanical data

Housing diameter	74.0 mm
Installation length from contact surface	190 mm
Mounting part	Threaded flange M18x1.5
Null point	30.0 mm
Pressure rating max.	600 bar
Protection tube diameter	10.2 mm
Tightening torque max.	100 Nm

Range/Distance

Measuring length	100 mm
Non-linearity max.	±200 µm
Repeat accuracy	± 5 µm
Sampling frequency max.	500 Hz

Wiring Diagrams

colour	
YE	20...4 mA
GY	0 V
PK	NC
RD	La
GN	NC
BU	GND
BN	+24 V DC
WH	Lb