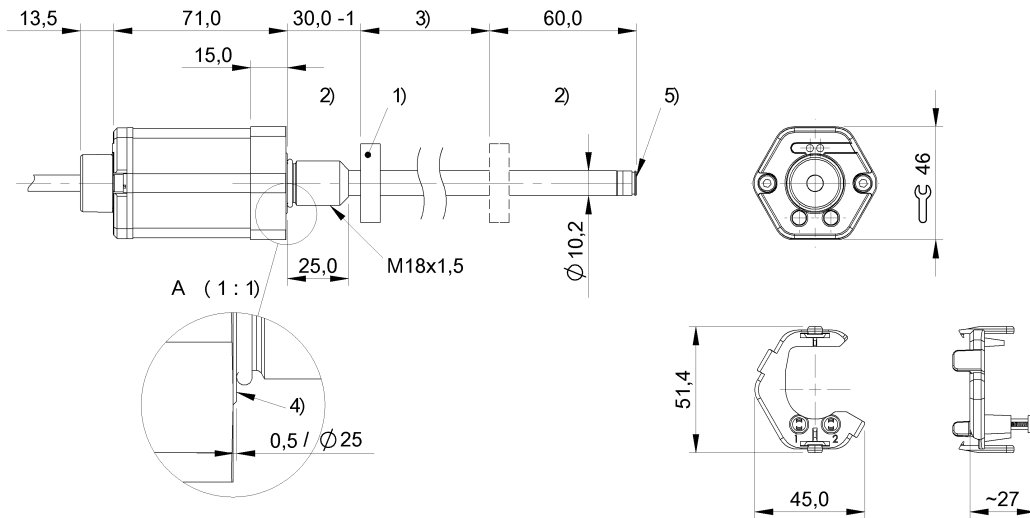


Magnetostrictive Sensors
BTL7-E501-M0150-B-SA316-KA05
Order Code: BTL0M1F

BALLUFF



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



Basic features

Approval/Conformity	CE UKCA cULus WEEE
Base type	BTL7-E501-M....-B-KA..
Base type deviation	Output 2 leading when adjusting
Magnets, number (factory setting)	1
Magnets, number max.	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	5 m, drag chain compatible
Connection	Cable, 5.00 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	180 mA
Error signal Ia falling	3.6 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	with calibration aid with software tool
Overvoltage protection	Ub up to 36 V
Switch-on delay max.	600 ms
Voltage-proof up to (GND to housing)	500 V AC

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Environmental conditions

Ambient temperature	-40...85 °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	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	IP68
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)	58 a
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Interface

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

Cable flame-resistant	IEC 60332-1
Cable jacket, material	PUR
Cover material	Aluminium, Die-cast, nickel plated
Housing material	Aluminium, Anodized
Housing material, surface protection	Anodized
Material flange	1.3960 stainless steel
O-ring material	FKM
Plug material	1.4571 stainless steel
Protection tube material	1.4571 stainless steel

Mechanical data

Installation length from contact surface	240 mm
Minimum distance of the magnets	65 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	150 mm
Non-linearity max.	±50 µm
Repeat accuracy	± 5 µm
Sampling frequency max.	4000 Hz

Wiring Diagrams

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