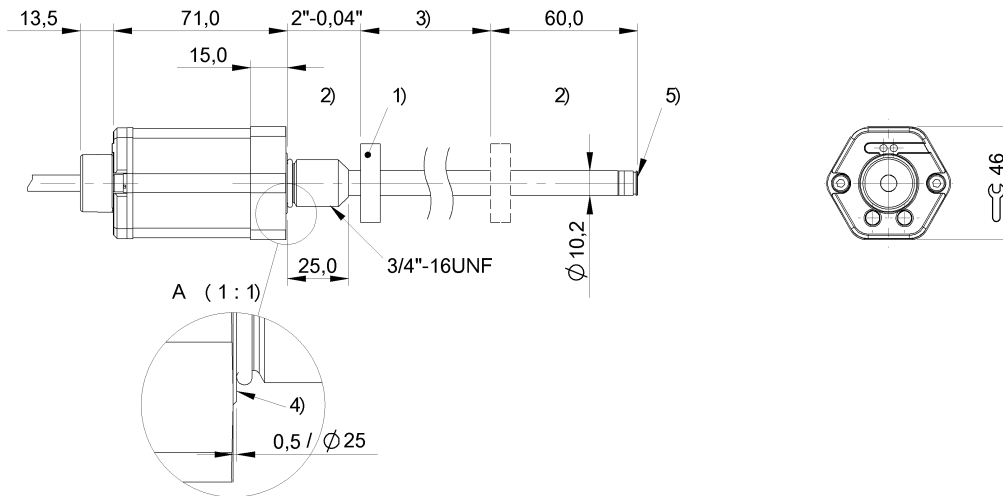


Magnetostrictive Sensors  
**BTL7-S502F-M1219-Z-MA42-KA05**  
**Order Code: BTL26K5**

**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**

<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Base type</b>	BTL7-S...-M....-Z-K...
<b>Magnets, number (factory setting)</b>	1
<b>Magnets, number max.</b>	1

**Electrical connection**

<b>Bending radius min., fixed cable</b>	5 x D
<b>Bending radius min., flexible cable</b>	15 x D
<b>Cable diameter D</b>	6.4...7 mm
<b>Cable length L</b>	5 m, drag chain compatible
<b>Connection</b>	Cable, 5.00 m, PUR
<b>Connection version</b>	axial
<b>Polarity reversal protected</b>	Ub up to 36 V
<b>Short-circuit protection</b>	to GND and to 36 V DC

**Electrical data**

<b>Current consumption max. at 24 V DC</b>	120 mA
<b>Galvanic isolation</b>	no
<b>Inrush current</b>	≤ 500 mA/25 ms
<b>Operating voltage Ub</b>	10...30 VDC
<b>Output signal adjustable</b>	no
<b>Output value</b>	Position in μm
<b>Overvoltage protection</b>	Ub up to 36 V
<b>Switch-on delay max.</b>	500 ms
<b>Synchronous mode</b>	yes
<b>Voltage-proof up to (GND to housing)</b>	500 V DC

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**Environmental conditions**

Ambient temperature	-40...85 °C
Cable temperature, drag chain	-5...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	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.	≤ 15 ppm/K at 50% of nominal stroke 500mm

**Functional safety**

MTTF (40 °C)	102 a
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**Interface**

Bits, number	24 Bit
Count direction	rising
Interface	SSI
Interface coding	Binary

**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	1330 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	1219 mm
Non-linearity max.	±30 µm
Repeat accuracy	≤ ± 5 µm (typical ± 2.5 µm)
Reproducibility	≤22 µm
Resolution, position	5 µm
Sampling frequency max.	317 Hz

**Wiring Diagrams**

PIN	
YE	+Clk
GY	+Data
PK	-Clk
RD	NC
GN	-Data
BU	GND
BN	10...30 V DC
WH	NC