

### BTL7-abcd-Mnnnn-f-lm

#### BTL7

Magnetostrictive linear position sensor Generation 7

#### a interface

C = Current output 0 ... 20 mA  
E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising  
70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm  
(M0025...M2500: for rod diameter 10.2 mm)

#### f Style

SF = Level transducer, 1.5" Tri-Clamp

#### l Connection type

F = Cable out radial (PTFE)

#### m Connection type characteristic 1

(length in meters)  
02, 05, 10, 15, 20, 50, 100

# Magnetostrictive Sensors

## BTL7 -SF- Series - Analog current

# BALLUFF

### Basic features

Approval/Conformity	CE 3-A EAC WEEE
Magnets, number (factory setting)	1
Magnets, number max.	1

### Electrical connection

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
Inrush current	≤ 500 mA/10 ms
Load resistance RL max.	500 Ohm
Operating voltage Ub	10...30 VDC
Output signal adjustable	using programming inputs
Overvoltage protection	Ub up to 36 V
Switch-on delay max.	nxxx 1525: 600 ms nxxx ≥ 1525: 1000 ms
Voltage-proof up to (GND to housing)	500 V AC

### Environmental conditions

Ambient temperature	-40...85 °C
Cable temperature, fixed routing	-40 °C ... 200 °C
EN 55016-2-3, Radiation	For industrial and residential use
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
Process temperature max. (1 hr.)	130 °C
Relative Luftfeuchtigkeit	≤ 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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### Material

Cable flame-resistant	IEC 60332-1
Cable jacket, material	PTFE
Housing material	Stainless steel (1.4404)
Material flange	Stainless steel (1.4404) electro-polished
Protection tube material	1.4404 stainless steel

### Mechanical data

Installation length from contact surface	nxxx + 87mm
Pressure rating max.	300 bar
Pressure rating, note	when installed in hydraulic cylinder
Speed detectable max.	10 m/s

### Output/Interface

Interface	Analog, current
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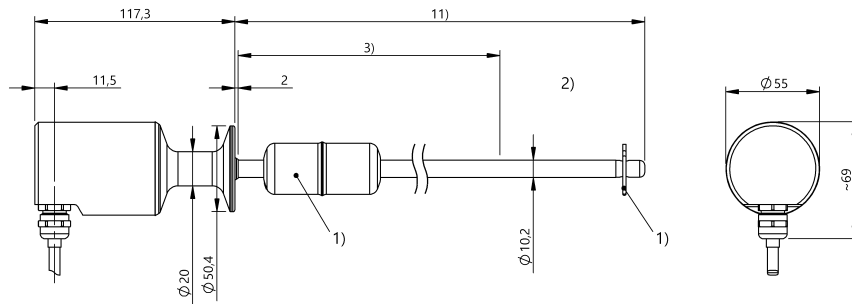
### Range/Distance

Linearity deviation	nxxx = 0050...0500: ± 50 µm nxxx = 0501...2500: ± 0.01% FS
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Sampling frequency max.	nxxx = 0050...0250: 4000 Hz nxxx = 0251...0600: 2000 Hz nxxx = 0601...1300: 1000 Hz nxxx = 1301...2500: 500 Hz

Magnetostrictive Sensors  
**BTL7 -SF- Series - Analog current**

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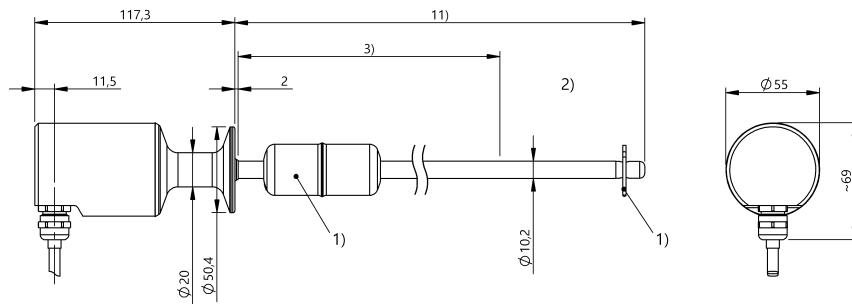
**BTL7-E500-Mxxxx-SF-Fxx**



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

- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length

**BTL7-C570-Mxxxx-SF-Fxx**



colour	
YE	20...0 mA
GY	0 V
PK	10...0 V
RD	La
GN	0...10 V
BU	GND
BN	+24 V DC
WH	Lb

- 1) not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length