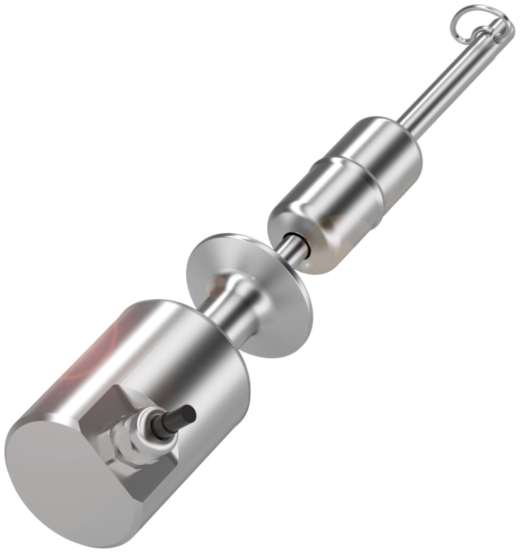
Magnetostrictive Sensors

BTL7 -SF- Series - Analog current



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

BTL7 -SF- Series - Analog current

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.	nnnn 1525: 600 ms nnnn ≥ 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

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	nnnn + 87mm
Pressure rating max.	300 bar
Pressure rating, note	when installed in hydraulic cylinder
Speed detectable max.	10 m/s

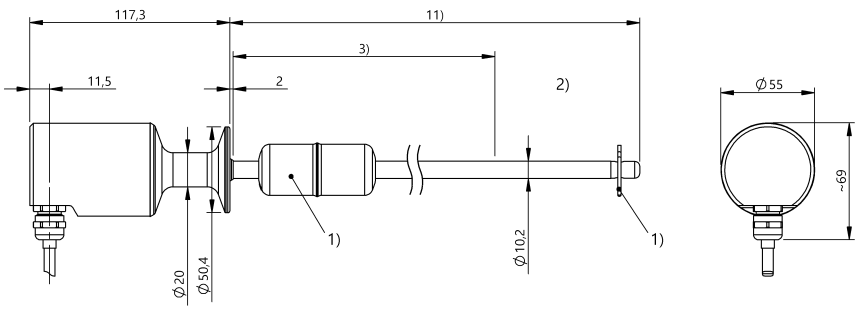
Output/Interface

Interface	Analog, current

Range/Distance

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

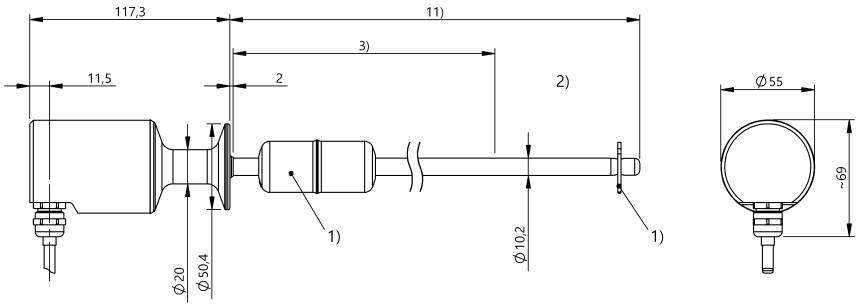
BTL7-E500-Mxxxx-SF-Fxx



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