



BTL6-abcd-Mnnnn-f-lm

BTL6

Magnetostrictive linear position sensor Generation 6

a interface

C = Current output 0.1 ... 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

Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0050...M5080)

f Style

PF = Flat profile

l Connection type

S = Connector

m Connection type characteristic 1

115 = M12x1 connector with 8 pins

Magnetostrictive Sensors

BTL6 -PF- Series - Analog current

BALLUFF

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	150 mA
Inrush current	≤ 3 A/0.5 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.	500 ms
Voltage-proof up to (GND to housing)	500 V DC

Environmental conditions

Ambient temperature	-25...70 °C
EN 55016-2-3, Radiation	For industrial and residential use
EN 60068-2-27, Continuous shock	50 g, 2 ms
EN 60068-2-27, Shock	50 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 with connector
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)	54 a
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General data

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

Material

Cover material	Zinc, Die casting
Housing material	Aluminum
Housing material, surface protection	Anodized

Mechanical data

Installation length	nnnn + 146 mm
Speed detectable max.	10 m/s

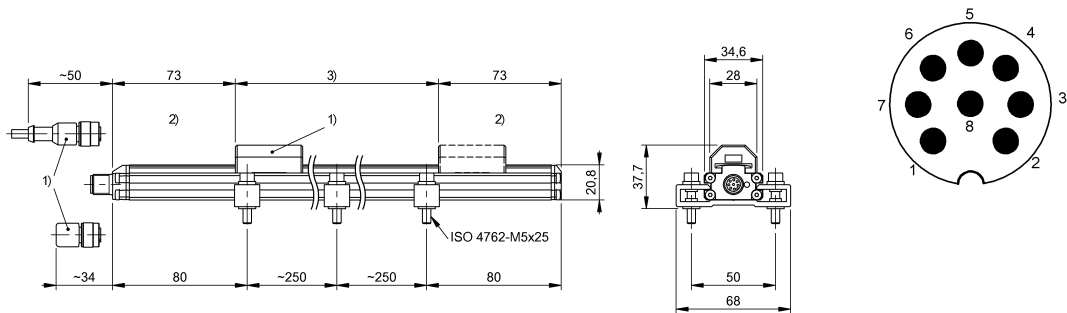
Output/Interface

Interface	Analog, current
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Range/Distance

Linearity deviation	nnnn = 0050...0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Measuring length	50...5080 mm
Repeat accuracy	nnnn ≤ 0250: 5 µm nnnn < 0250: 0.002% FS
Sampling frequency max.	nnnn = 0050...0600: 2000 Hz nnnn = 0601...1300: 1000 Hz nnnn = 1301...2700: 500 Hz nnnn = 2701...5080: 250 Hz

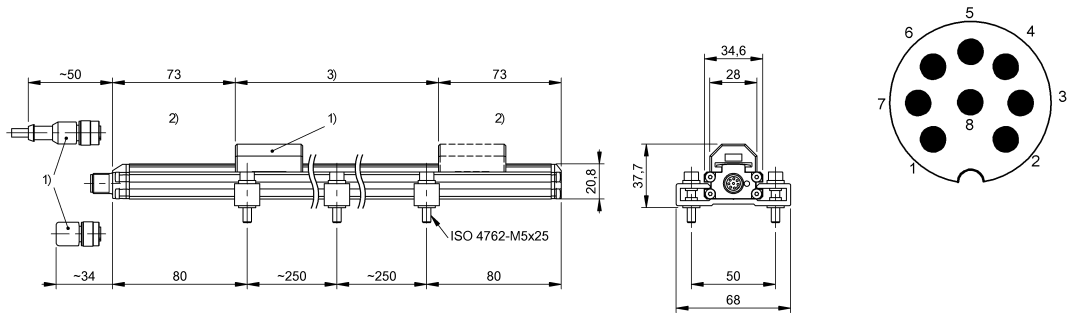
BTL6-E500-Mxxxx-PF-S115



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

Pin	
1	NC
2	0V
3	NC
4	La
5	4...20 mA
6	GND
7	+24 V DC

BTL6-C500-Mxxxx-PF-S115



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

Pin	
1	NC
2	0V
3	NC
4	La
5	0,1...20 mA
6	GND
7	+24 V DC
8	Lb