

Magnetostrictive Sensors
BTL5 -A/B- Series - Switching points

BALLUFF



BTL5-abcd-Mnnnn-f-lm

BTL5

Magnetostrictive linear position sensor Generation 5

a interface

F = Switching points

b Operating voltage

1 = 20 ... 28 V

c + d Interface characteristic 1 + 2

00 = 4 NPN switching outputs, open collector, freely programmable

10 = 4 PNP switching outputs, open collector, freely programmable

Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0050...M4000)

f Style

A = Mounting threads M18x1.5, for flat seal

B = Mounting threads M18x1.5, for O-Ring

l Connection type

S = Connector

m Connection type characteristic 1

115 = M12x1 connector with 8 pins

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Electrical connection

Polarity reversal protected	Ub up to 28 V
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Electrical data

Current consumption max. at 24 V DC	100 mA
Inrush current	≤ 3 A/0.5 ms
Operating voltage Ub	20...28 VDC
Output signal adjustable	using programming inputs
Overvoltage protection	Ub up to 28 V
Voltage-proof up to (GND to housing)	500 V DC

Environmental conditions

Ambient temperature	-40...85 °C
EN 55016-2-3, Radiation	For industrial and residential use
EN 60068-2-27, Continuous shock	100 g, 2 ms
EN 60068-2-27, Shock	100 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

Functional safety

MTTF (40 °C)	117 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	Aluminum, Anodized
Housing material	Aluminum
Housing material, surface protection	Anodized
Material flange	Stainless steel (1.3952)
Protection tube material	Stainless steel (1.4571)

Mechanical data

Installation length from contact surface	nnnn + 90 mm
Pressure rating max.	600 bar
Pressure rating, note	when installed in hydraulic cylinder
Tightening torque max.	100 Nm

Output/Interface

Switching output	4x PNP/NPN
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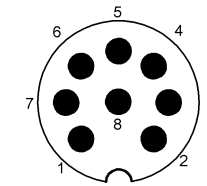
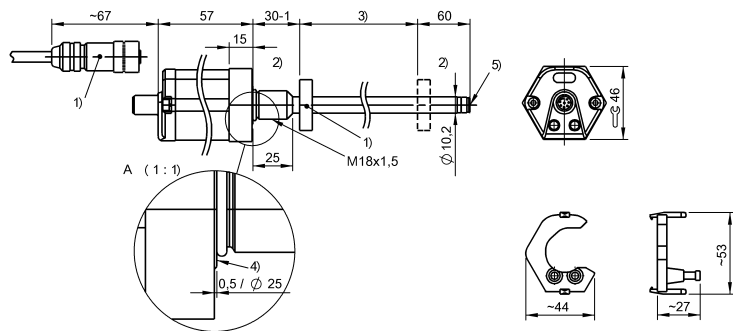
Range/Distance

Measuring length	25...4000 mm
Repeat accuracy	± 0.1 mm
Sampling frequency max.	1 kHz, standard

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BTL5-F110-Mxxxx-B-S115



Pin	
1	output 1
2	output 2
3	output 3
4	output 4
5	La
6	GND
7	+24 V DC
8	Lb

- 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