

Magnetostrictive Sensors
BTL5 -P- Series - Profibus

BALLUFF



BTL5-abcd-Mnnnn-f-lm

BTL5

Magnetostrictive linear position sensor Generation 5

a interface

T = Profibus

b Operating voltage

1 = 20 ... 28 V

c + d Interface characteristic 1 + 2

10 = 1 magnet (1 - 4 magnets can be set)

Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0050...M4000)

f Style

P = Profile

l Connection type

S = Connector

m Connection type characteristic

103 = 1 x M8x1 connector with 3 pins + 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

Electrical connection

Polarity reversal protected	Ub up to 28 V
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Electrical data

Current consumption max. at 24 V DC	130 mA
Inrush current	≤ 3 A/0.5 ms
Operating voltage Ub	20...28 VDC
Output signal adjustable	with software tool
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
Temperature coefficient typ.	≤ 35 ppm/K at 50% of nominal stroke 500mm

Functional safety

MTTF (40 °C)	57 a
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General data

Approval/Conformity	CE cULus EAC WEEE
Magnets, number (factory setting)	1
Magnets, number max.	4 minimum separation between magnets 65 mm.

Material

Cover material	Aluminum, Die-cast, nickel plated
Housing material	Aluminum
Housing material, surface protection	Anodized

Mechanical data

Installation length	nnnn + 179 mm
Speed detectable max.	10 m/s

Output/Interface

Interface	Profibus
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Range/Distance

Linearity deviation	±30 µm
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Sampling frequency max.	1 kHz, standard

BTL5-Txxx-Mxxxx-P-S103

