



BTL5-abcd-Mnnnn-f-lm

BTL5

Magnetostrictive linear position sensor Generation 5

a Interface

H = CANopen

b Operating voltage

1 = 20 ... 28 V

c Interface characteristic 1

1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2

Data transmission rate:

0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)

M0500 = metric in mm
(M0050...M4000)

f Form factor

WB = Pro Compact, inch threads 3/4"-16UNF, for O-Ring

l Connection type

K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

m Connection type characteristic 1

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

Magnetostrictive Sensors

BTL5 -WB- Series - CANopen

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Basic features

Approval/Conformity	CE UKCA cULus WEEE
Magnets, number (factory setting)	c = 1: 1 c = 2: 2 c = 3: 4
Magnets, number max.	4 minimum separation between magnets 65 mm.

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	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
Cable temperature, fixed routing	I = K, KA: -40 °C ... 90 °C I = F, FA: -40 °C ... 200 °C
Cable temperature, flexible routing	I = K, KA: -5 °C ... 90 °C
EN 55016-2-3, Radiation	Industrial areas
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	IP68/IP69K
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)	78 a
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Interface

Interface	CANopen
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Material

Cable flame-resistant	I = K, KA, F, FA: IEC 60332-1
Cable jacket, material	I = K, KA: PUR I = F, FA: PTFE
Housing material	1.4305 stainless steel
Material flange	1.4404 stainless steel 1.4429 stainless steel 1.4435 stainless steel 1.4571 stainless steel
Protection tube material	1.4571 stainless steel

Mechanical data

Installation length from contact surface	nnnn + 111 mm
Pressure rating max.	600 bar
Pressure rating, note	when installed in hydraulic cylinder
Speed detectable max.	10 m/s
Tightening torque max.	100 Nm

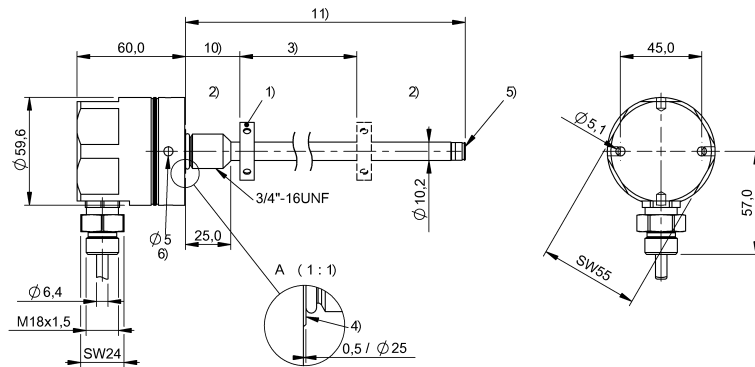
Range/Distance

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

Magnetostrictive Sensors
BTL5-WB- Series - CANopen

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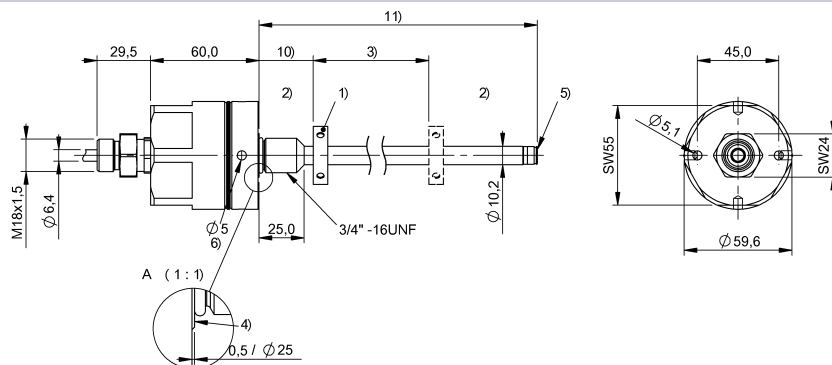
BTL5-Hxxx-Mxxxx-WB-Fxx



colour	
WH	CAN_GND
BN	+24 V DC
BU	GND
GY	CAN_HIGH
GN	CAN_LOW

- 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
- 6) for C-spanner $\varnothing$ 58-62
- 10) Null point
- 11) Installation length

BTL5-Hxxx-Mxxxx-WB-FAxx



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