



BTL5-abcd-Mnnnn-fg-ij-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

J = Flange 18h6

g Form factor characteristic

- = Rod diameter 10.2 mm

i Variant

DEX = Ignition protection category "d" / pressure-proof encapsulation

j Variant characteristic

C = float plug

l + m connection type + connection type characteristic 1

TA12 = Clamp with 1/2"-14 NPT (cable entry)

Basic features

Approval/Conformity	CE CSA IECEX WEEE UKCA CCC Ex
Ex marking	ATEX: II 1/2GD Ex db IIC T6 Ga/Gb Ex ta IIIC T85°C Da IP68 Tamb -50°C to +65°C II 1/2GD Ex db IIC T5 Ga/Gb Ex ta IIIC T100°C Da IP68 Tamb -50°C to +80°C IECEX: Ex db IIC T6 Ga/Gb Ex ta IIIC T85°C Da IP68 Tamb -50°C to +65°C Ex db IIC T5 Ga/Gb Ex ta IIIC T100°C Da IP68 Tamb -50°C to +80°C NEC: Class I, Division 1, Groups ABCD Class II, Division 1, Groups EFG Class III Enclosure Type 4X/6P Class I, Zone 1, AEx d IIC T* Ga/Gb Ex d IIC T* Gb IP68-50°C to +65°C (T6) or -50°C to +80°C (T5) CCC: Ex db IIC T6/T5 Ga/Gb, Ex ta IIIC T85°C/T100°C Db
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...80 °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
Relative humidity	≤ 90 %, non-condensing
Storage temperature	-50...100 °C
Temperature coefficient typ.	≤ 35 ppm/K at 50% of nominal stroke 500mm

Functional safety

MTTF (40 °C)	84 a
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Interface

Interface	CANopen
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Material

Housing material	1.4404 stainless steel
Protection tube material	1.4571 stainless steel

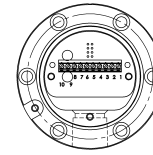
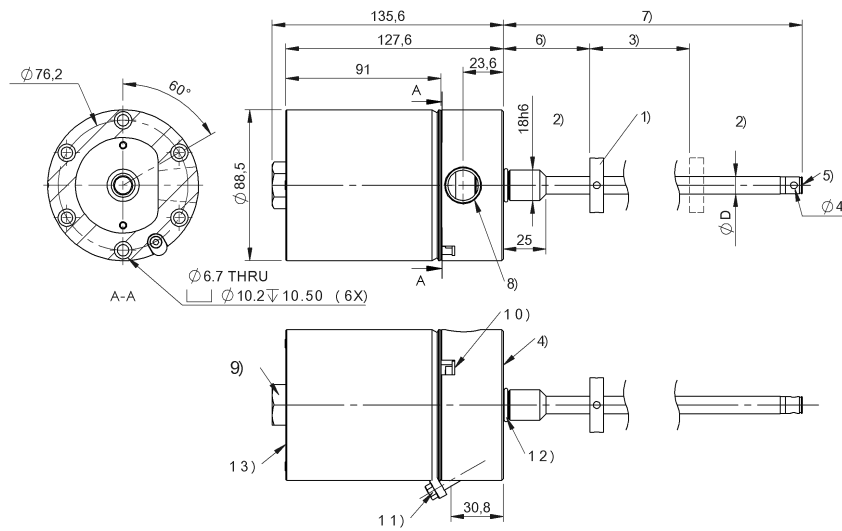
Mechanical data

Installation length from contact surface	nnnn + 128 mm
Pressure rating max.	600 bar
Pressure rating, note	when installed in hydraulic cylinder
Tightening torque max.	3.5 Nm

Range/Distance

Linearity deviation	±30 µm
Measuring length	25...4000 mm
Repeat accuracy	± 2 LSB
Sampling frequency max.	1 kHz, standard

BTL5-Hxxx-Mxxxx-J-DEXC-TA12



PIN	
1	CAN GND
2	CAN Low
3	CAN High
4	GND
5	+24V DC
6	CAN GND
7	CAN Low
8	CAN High
9	NC
10	NC

- 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) Null point
- 7) Installation length
- 8) 1/2" - 14 NPT (cable entry)
- 9) 15/16" or 24 mm wrench
- 10) External Housing GND
- 11) Cover fastening screw
- 12) O-ring
- 13) Part label, metal