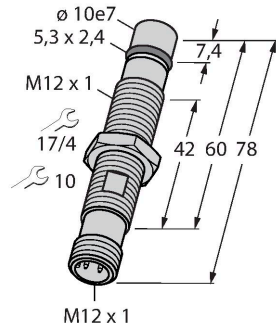


BID1.5-G120-AP6-H1141

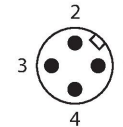
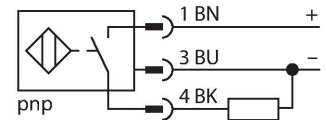
Inductive Sensor – For High Pressures



Features

- Threaded barrel, M12 x 1
- Stainless steel, 1.4301
- Admissible static pressure 500 bar
- Admissible peak pressure 1000 bar
- Suitable for use in high vacuum
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. This field is generated by an LC resonant circuit with a ferrite core. Pressure resistant inductive sensors withstand pressures of up to 1000 bar which makes them perfectly suited for position control in hydraulic cylinders.

Technical data

Type	BID1.5-G120-AP6-H1141
ID	1682000
General data	
Rated switching distance	1.5 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.32; Cu = 0.27; Ms = 0.45; stainless steel = 0.75
Repeat accuracy	≤ 7 % of full scale
Static pressure	≤ 500 bar
Dynamic pressure	≤ 500 bar
Vacuum-tight up to	10^{-8} Torr
Temperature drift	$\leq \pm 15$ %
Hysteresis	3 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{ss}	≤ 20 % U_{Bmax}
DC rated operating current I_o	≤ 200 mA
No-load current	≤ 10 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	≤ 2 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.6 kHz

Technical data

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	78 mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Plastic, ZrO ₂
Max. tightening torque of housing nut	40 Nm
Electrical connection	Connector, M12 x 1
Environmental conditions	
Ambient temperature	-25...+80 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	1053 years acc. to SN 29500 (Ed. 99) 30 °C

Mounting instructions

Mounting instructions/Description

The image contains three technical diagrams illustrating the mounting of a sensor. The top diagram is a side view of a square sensor with a central circular active area (highlighted in yellow) and a threaded mounting post. Dimension 'T' indicates the thickness of the sensor. The middle diagram shows two sensors mounted on a base, with dimension 'G' indicating the distance between their centers. The bottom diagram is a top view of two sensors mounted on a base, showing dimensions 'D' (distance between active areas), 'S' (distance from the edge to the active area), and 'W' (width of the base).

Distance D	3 × B
Distance W	3 × Sn
Distance T	3 × B
Distance S	1.5 × B
Distance G	6 × Sn
Diameter active area B	Ø 12 mm