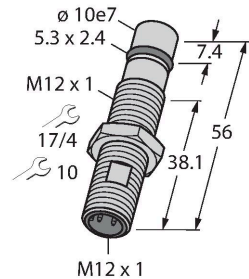


BID1.5-G120KK-AP6-H1141

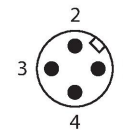
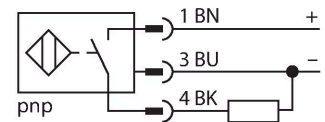
Inductive Sensor – For High Pressures



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



Technical data

Type	BID1.5-G120KK-AP6-H1141
ID	1682001
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

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

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	56 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 × 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 shows a side view of the sensor with dimension T. The middle diagram shows two sensors mounted on a plate with dimension G. The bottom diagram shows two sensors mounted on a plate with dimensions D, S, and W.

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