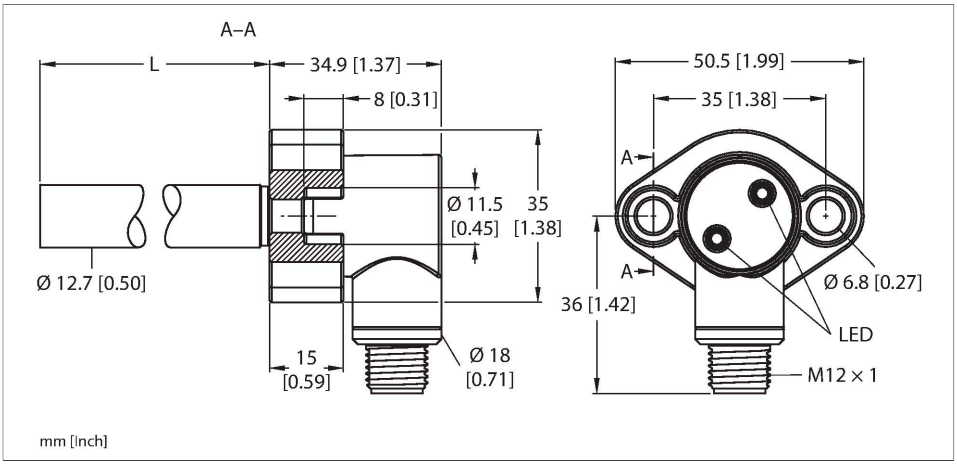
BI1.5-CRS730C-AP6X2-H1141
Inductive Sensor – For High Pressures



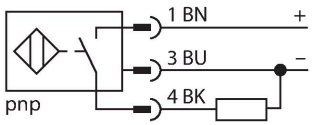
Technical data

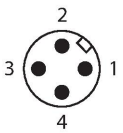
Type	BI1.5-CRS730C-AP6X2-H1141
ID	4279089
General data	
Rated switching distance	1.5 mm
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Static pressure	≤ 310 bar
Dynamic pressure	≤ 206 bar
Permissible contact medium	electrically conductive
Hysteresis	3…15 %
Electrical data	
Operating voltage U_B	10…30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
DC rated operating current I_e	≤ 200 mA
No-load current	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_e	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP

Features

- Smooth barrel, stainless steel, 1.4305
- Ø 12.7 mm
- Housing, GD-Zn, chromated
- Special high pressure seal and active ceramic surface
- Permissible dynamic pressure 206 bar; static overpressure 310 bar
- 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 purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.

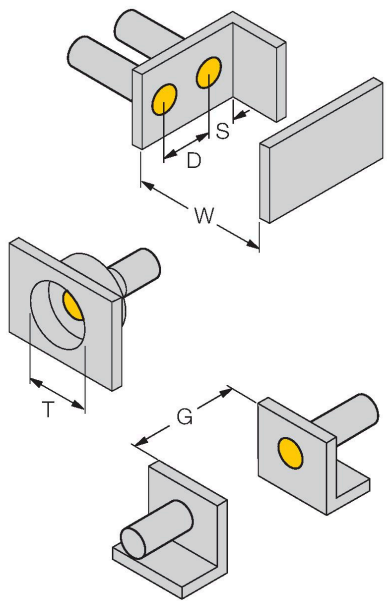
Technical data

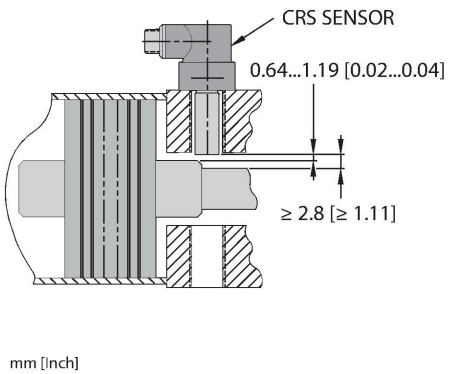
Pressure-resistant inductive sensors withstand high pressures which makes them perfectly suited for position control in hydraulic cylinders.

Switching frequency	0.03 kHz
Mechanical data	
Design	Smooth barrel, 12.7 mm
Probe length	73 mm, probe length x
Housing material	Metal, 1.4305 (AISI 303)
Active area material	Ceramic
Connector housing	metal, GdZn, chromated
Tightening torque fixing screw	7.3 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25…+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Yellow
Included in delivery	2 x socket head screw 1/4"-20 NPT, 5/8" long

Mounting instructions

Mounting instructions/Description





mm [Inch]

Distance D	2 x 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 12.7 mm

The mounting receptacle and the O-ring supplied with the sensor are approved for high static and dynamic pressure. To ensure that the application is pressure-resistant, the mounting surface must also be designed accordingly. Ensure that the mounting surface is dry and free of dust during installation. Please also consider that oil can be displaced from the hydraulic system when the sensor probe is introduced, in which case the mounting surface will be moistened. Should this occur, a proper seal will not be established.

Recommended clearances:
0.64…1.19 mm to the hydraulic cylinder end position buffers being detected to allow for tolerances and wear.

>2.8 mm to the hydraulic cylinder piston rod to ensure that the sensor output switches off.