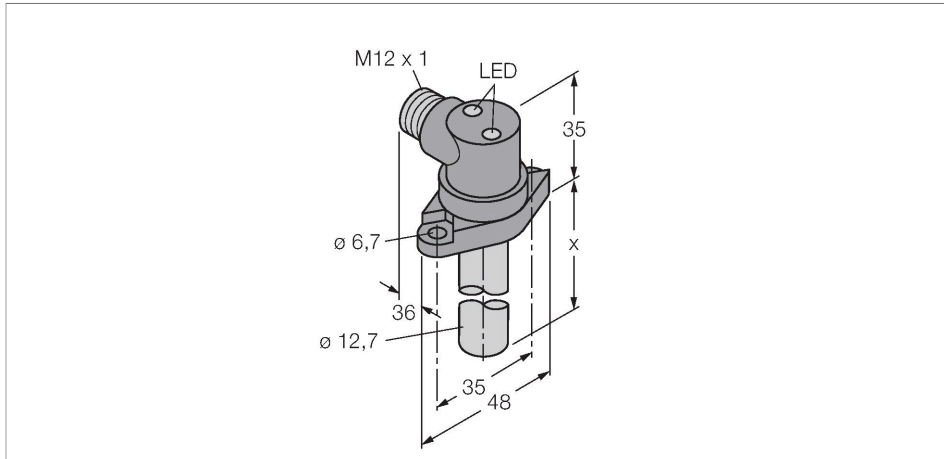


BI2-CRS317-AP4X2-H1141/S34

Inductive Sensor – For High Pressures



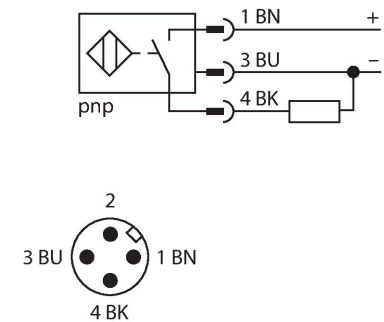
Technical data

| | |
|---|--|
| Type | BI2-CRS317-AP4X2-H1141/S34 |
| Ident. no. | 4571690 |
| Special version | S34 corresponds to: Weld-field immune proximity sensors |
| Rated switching distance | 2 mm |
| Mounting conditions | Flush |
| Secured operating distance | $\leq (0.81 \times S_n)$ mm |
| Correction factors | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy | ≤ 2 % of full scale |
| Static pressure | ≤ 200 bar |
| Dynamic pressure | ≤ 100 bar |
| Admissible contact medium | electrically conductive |
| Temperature drift | $\leq \pm 10$ % |
| Hysteresis | 3...15 % |
| Ambient temperature | -25...+70 °C |
| Operating voltage | 10...65 VDC |
| Residual ripple | ≤ 10 % U_{ss} |
| DC rated operational current | ≤ 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_o | ≤ 1.8 V |
| Wire breakage/Reverse polarity protection | yes / Complete |

Features

- Smooth barrel, stainless steel, 1.4305
- $\varnothing 12.7$ mm
- Housing, GD-Zn, chromated
- Admissible pressure static/dynamic 200/100 bar
- Magnetic-resistant (insensitive to magnetic DC and AC fields)
- DC 3-wire, 10...65 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.

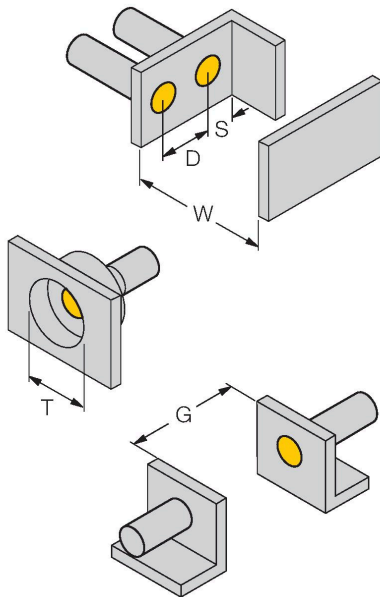
Technical data

| | |
|--------------------------------|--|
| Output function | 3-wire, NO contact, PNP |
| Switching frequency | 0.03 kHz |
| Design | Smooth barrel, 12.7 mm |
| Probe length | 31.7 mm, probe length x |
| Housing material | Metal, 1.4305 (AISI 303) |
| Active area material | Plastic, PA12-GF30 |
| Connector housing | metal, GdZn, chromated |
| Tightening torque fixing screw | 7.3 Nm |
| Electrical connection | Connector, M12 × 1 |
| 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 |

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

Mounting instructions

Mounting instructions/Description



| | |
|------------------------|-----------|
| 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.