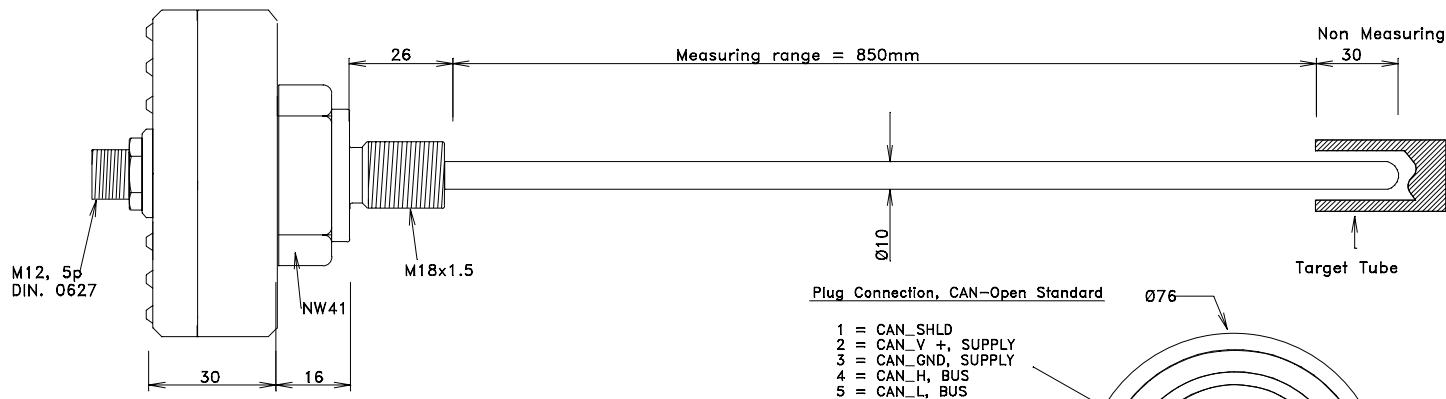


New position Sensor

Detection motion and position without a magnet



Example:



- * HBP Long stroke linear contactless displacement sensor is designed especially to detect position of Hydraulic Cylinder pistons, under extreme ambient conditions.
- * The Sensor is located in a pressureproof stainless steel pipe.
- * Operating according to Eddy current principle (non contact), Variable frequency Detection.
- * The transmitter house is Anodized aluminium, Sensor part is Stainless Steel (AISI304/316L).
- * All Components is completely sealed/potted in a PUR compound.
- * HALT tested (High Accelerated Lifetime Test) to secure long Lifetime.
- * Easy and Safe calibration can be done by a push button or by CAN Open Software.
- * CANopen interface, based on CAN ISO/IEC 7498, ISO 11898, and CiA DS301 Rev.3.0.

SPECIFICATIONS:

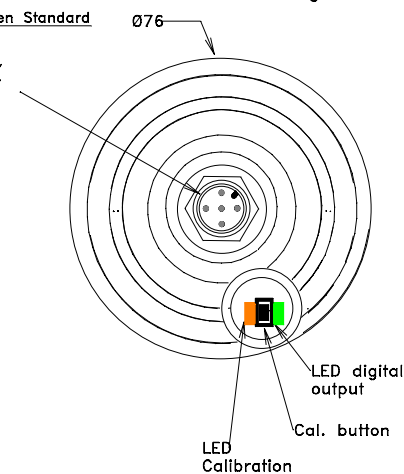
Supply voltage:	20...30V DC.
Current draw:	Max 80mA.
Measuring ranges:	850mm.
Output:	CANopen.
Baud rate:	Max 1Mbaud (depend on length of the Cable).
System resolution:	12Bit.
Data respons:	Standard 20mS.
Linearity:	Better than 0.2% FS (typ.0.1%).
Temp. range:	-40 to +85°C.
Temp. error:	Better than 0.01%/°C FS, (from 0 to 80°C)
EMC:	EN/IEC 61000, Industry.
Enclosure rating:	IP67.
Vibration:	10g. 5 to 2KHz, IEC 60068-2-6.
Shock:	100g/6ms, IEC 60068-2-27.
Pressure:	Max 450bar.

Note:

No magnet necessary, the Target tube Material is aluminium or steel.

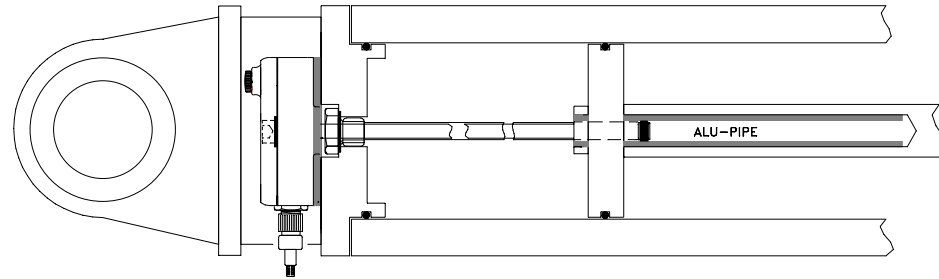
Installation and user application/calibration require that the Target of use is the same as the target used for calibration.

Connector M12 5p, female is not include.

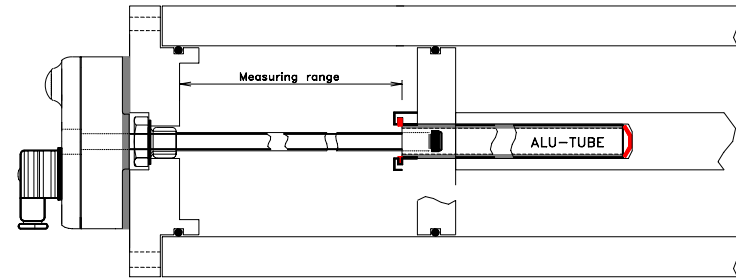


Mounting examples

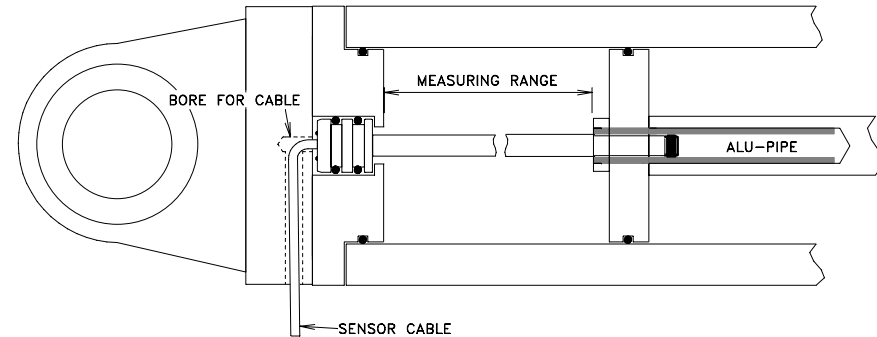
Bolt in type



External type



Split type

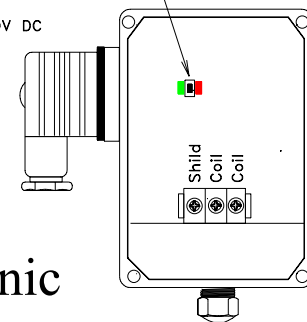


PLUG CONNECTION:

- 1 = SUPPLY, +15 to 30V DC
- 2 = COMMON -, 0V DC
- 3 = OUT, 4-20mA
- ⊥ = GND

Calibration's push button

Split Electronic



Note:

The Target pipe/tube could be Steel (only the hole in the piston shaft).



HB Products Long Stroke Non-Contact Precision inductive displacement and Position sensor is a very Reliable Sensors for tough environments, it offers shorter body lengths and faster response compared to LVDT's and magnetostrictive types

All parts inside the sensor are protected and secured by potting/casting with a spec. Potting material to avoid any abnormal movements.



Sensor Coil



High pressure type Hydraulic



High pressure Sensor pipe/tube



True Position Measurement with Inductive Eddy Current Technology

Principle:

The Precision Eddy Current noncontact measuring systems have been used for more than 30 years to measuring displacement and distance.

Eddy current transducer performance is dependent on the impedance coupling between the electromagnetic field in the sensor coil and the eddy currents in the conductive target (see Figure below). Sensor performance is related to the change in sensor coil impedance over the calibrated range of target motion.

Target Material:

The electrical parameters of target material resistivity and permeability determine the performance capability of inductive measuring systems. Both magnetic and nonmagnetic materials can provide high output sensitivity in terms of impedance change per unit of target displacement. One excellent target is aluminum, steel have a lower output and need more accurate circuit tuning (the circuit must be calibrated to accommodate the reduced signal from the sensor).

Installation and user application details require that the target of use be the same as the target of calibration.

Temperature Compensation is dynamic and measured automatically by the sensor Coil.

Signal converter

