

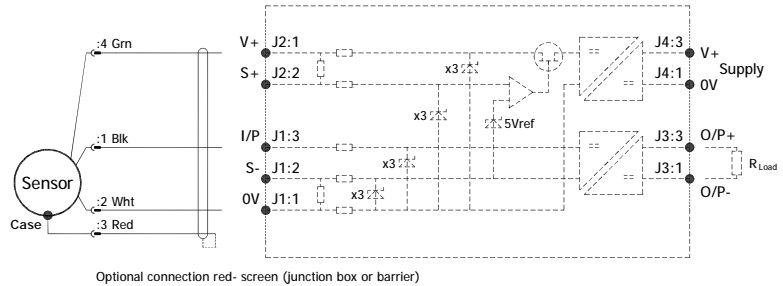
Installation Information

LIPS[®] X520 350 BAR SUBMERSIBLE STAND-ALONE ROTARY POSITION SENSOR

INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES

ATEX /IECEX Qualified to Intrinsic Safety Standard Certificate numbers SIRA 13ATEX2371X IECEX SIR 13.0154X		Ex II 1G Ex ia IIC T4 Ga (Ta = -40°C to +80°C)	
Electronics Version	Output Description:	Supply Voltage: V _s (tolerance)	Load resistance:
EX07	0.5 - 4.5V (ratiometric with supply) [Output code 'A']	+5V (4.5 - 5.5V)	5kΩ min

Connector Pin Layout:
MC BH 4 M (face view)



Putting Into Service: The sensor must be used with a galvanic isolation barrier designed to supply the sensor with a nominal 5V and to transmit the sensor output to a safe area. The barrier parameters must not exceed:-

- U_i = 11.4V I_i = 0.20A P_i = 0.51W
- C_i = 1.36μF* L_i = 860μH* (with cable) *Figures for 1km cable
- C_i = 1.16μF L_i = 50μH (without cable)

The sensor is certified to be used with up to 1000m of cable, cable characteristics must not exceed:-
 Capacitance: ≤ 200 pF/m for max. total of: 200 nF
 Inductance: ≤ 810 nH/m for max. total of: 810 μH

Approval only applies to specified ambient temperature range and atmospheric conditions in the range: 0.80 to 1.10 Bar, oxygen ≤ 21%.
 The performance of the sensor may be affected by voltage drops associated with long cable lengths; For cable lengths exceeding 10 metres a five wire connection is recommended to eliminate errors introduced by cable resistance and associated temperature coefficients.

N.b. Cable free end must be appropriately terminated, including preventing water ingress into the cable. The sensor is sealed to IP68 350 Bar.

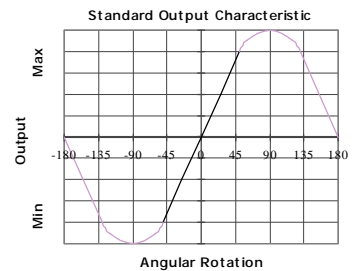
Use: The sensor is designed to measure rotary displacement and provide an analogue output signal.

Assembly and Dismantling: The unit is not to be serviced or dismantled and re-assembled by the user. **Warning Do not tamper with any of the case screws; the oil fill will be compromised!**

Maintenance: No maintenance is required. Any cleaning must be done with a damp cloth.

Mechanical Mounting: Flange mounted with two M5 screws through slot which allow +/- 15° angular adjustment. The sensor should be mounted with minimal axial and radial loading on the shaft for optimum life. It is recommended that the shaft is coupled to the drive using a flexible coupling. Tests indicate that life in excess of 16 million cycles can be achieved with 1kg side and end load.

Output Characteristic: The sensor has full rotational freedom and two sectors, 180° apart, over which linear response can be achieved. At the mid point of the calibrated range the output signal will be half full scale deflection, the shaft flat will be opposite to the filler screw in the flange base. In the calibrated range the output increases as the shaft is rotated in an anti-clockwise direction viewed from the shaft. The calibrated output is factory set to be between 15° and 160°.



Incorrect Connection Protection levels: Not protected – the sensor is not protected against either reverse polarity or over-voltage. The risk of damage should be minimal where the supply current is limited to less than 50mA.