

# Generic Installation Information

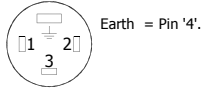
## G SERIES SENSORS

INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES

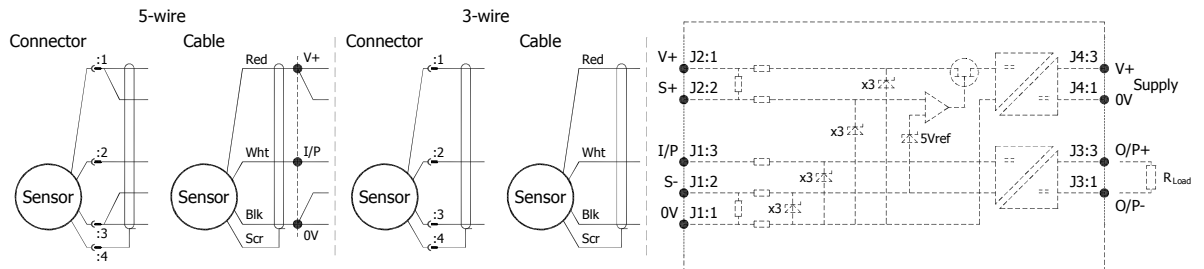
| CSA Qualified Intrinsically Safe Device<br>Certificate number 13.2588225 |                                      | Class I, Zone 0<br>Ex ia IIC T4 (Ta = -40°C to +80°C)<br>AEx ia IIC T4 / Ex ia IIC T4(Ta = -40°C to +80°C) |                  |
|--|--------------------------------------|--|------------------|
| Electronics Option   | Output Description:                  | Supply Voltage:<br>V <sub>s</sub> (tolerance)  | Load resistance: |
| A  | 0.5 - 4.5V (ratiometric with supply) | +5V (4.5 - 5.5V)   | 5kΩ min          |

### Connector Pin Layout:

DIN 43650 C



IEC 60947-5-2



### 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<sub>i</sub> = 11.4V**      **I<sub>i</sub> = 0.20A**      **P<sub>i</sub> = 0.51W**  
**C<sub>i</sub> = 1.36μF\***      **L<sub>i</sub> = 710μH\***      (with maximum length integral cable)  
**C<sub>i</sub> = 1.16μF**      **L<sub>i</sub> = 50μH**      (without integral cable)

\*Figures for 1km cable where: C<sub>i</sub> = 200pF/m & L<sub>i</sub> = 660nH/m

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: ≤ 660 nH/m for max. total of: 660 μH

### Use:

The sensor is designed to measure Linear or 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: Substitution of components may impair intrinsic safety

AVERTISSEMENT: La substitution de composants peut altérer la sécurité intrinsèque

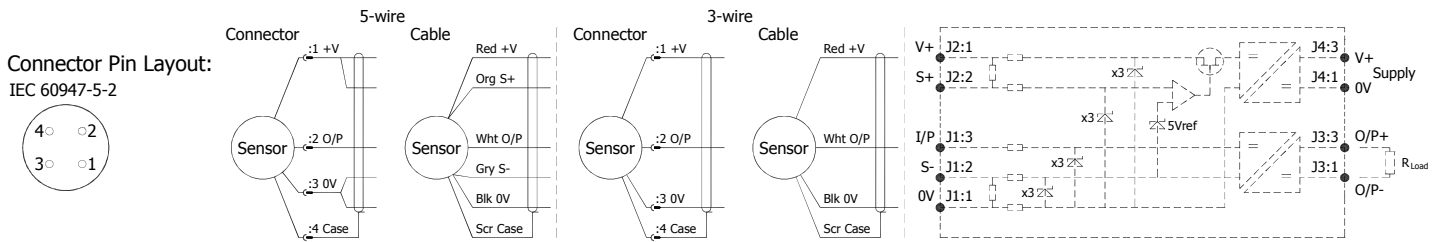
### Maintenance:

No maintenance is required.

# Installation Information

## LIPS<sup>®</sup> G117 SLIM-LINE LINEAR POSITION SENSOR

### INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES



Approval only applies to specified ambient temperature range and atmospheric conditions in the range: 0.80 to 1.10 Bar, oxygen ≤ 21%.

**The G117 is available with the following connections:-**

|      |                         |                 |                         |
|------|-------------------------|-----------------|-------------------------|
| IP67 | IEC 60947-5-2 Connector | Axial or Radial | Options 'J' or 'K'      |
| IP67 | Cable gland with cable  | Axial           | Options 'Lxx' or 'LQxx' |
| IP67 | Cable with boot         | Radial          | Options 'Ixx' or 'IQxx' |

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.

Cable Up to 150m of 0.2 mm<sup>2</sup>, screened, PUR jacket; 3 core cable 4 mm dia. black,  
5 core cable 4.6 mm dia. Blue.

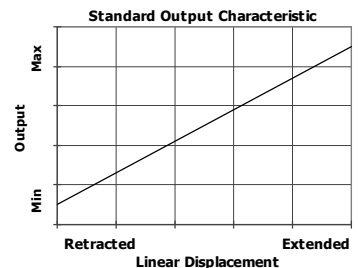
N.b. sensors supplied with cable, the free end must be appropriately terminated.

**Warning** - The M12 IEC 60947 connector may be rotated for purposes of convenient orientation of the connector and cable, however rotating the connector more than one complete revolution is not recommended.

**Repeated rotation of the connector will damage the internal wiring!**

**Mechanical Mounting:** Depending on options; Body can be mounted by M5x0.8 male thread, M5 rod eye or by clamping the sensor body - body clamps are available, if not already ordered. Target by M5x0.8 female thread or M5 rod eye. It is assumed that the sensor and target mounting points share a common earth.

**Output Characteristic:** Target is extended 2 mm from end of body at start of normal travel. The output increases as the target extends from the sensor body, the calibrated stroke is between 5 mm and 350 mm.



**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.