

# Generic Installation Information

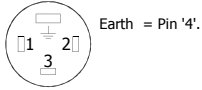
## G SERIES SENSORS

INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES

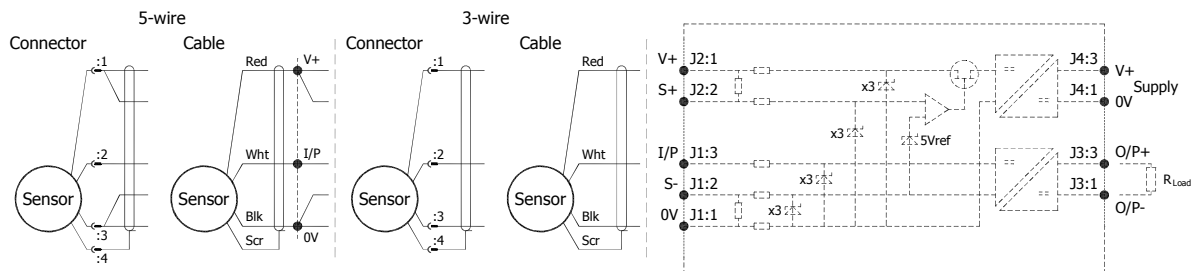
CSA Qualified Intrinsically Safe Device Certificate number 13.2588225		Class I, Zone 0 Ex ia IIC T4 (Ta = -40°C to +80°C) AEx ia IIC T4 / Ex ia IIC T4(Ta = -40°C to +80°C)	
Electronics Option	Output Description:	Supply Voltage: V <sub>s</sub> (tolerance)	Load resistance:
<b>A</b>	0.5 - 4.5V (ratiometric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

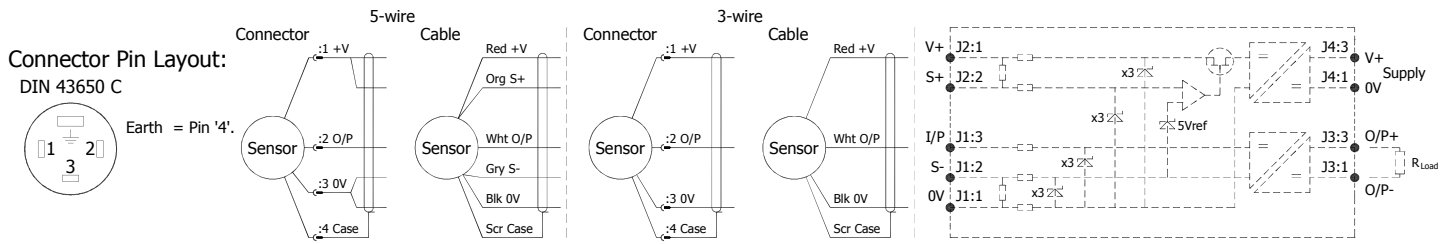
AVERTISSEMENT: La substitution de composants peut altérer la sécurité intrinsèque

### Maintenance:

No maintenance is required.

# Installation Information

## LIPS<sup>®</sup> G133 MID STROKE LINEAR POSITION SENSOR INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES



51Approval only applies to specified ambient temperature range and atmospheric conditions in the range: 0.80 to 1.10 Bar, oxygen ≤ 21%.

**The G133 is available with the following connections:-**

IP65	DIN 43650 C Connector	Axial	Option 'J'
IP67	Cable gland with cable	Axial	Options 'Lxx' 'LQxx', 'Mxx' or 'MQxx'

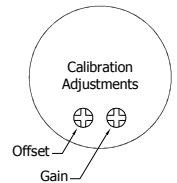
The performance of the sensor may be affected by voltage drops associated with long cable lengths; For cable lengths exceeding 10 metres a five wire connection is recommended to eliminate errors introduced by cable resistance and associated temperature coefficients.

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.

**Gain and Offset Adjustment:** (Where accessible - Typically ± 10% Min available)

To adjust the gain or offset use a small potentiometer adjuster or screwdriver 2mm across. Do not apply too much force on the potentiometers.



**Mechanical Mounting:** Flange mounted or by clamping the sensor body - body clamps are available, if not already ordered. The flange slots are 4.5 mm by 30 degrees wide on a 48 mm pitch.

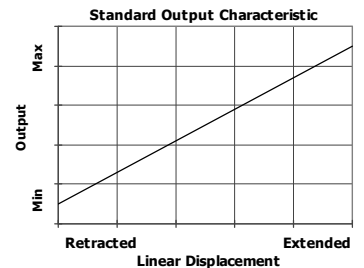
**Output Characteristic:** Plunger extended, at start of normal travel, from mounting face by:

Standard body : 42.5 mm\*

Flanged body : 28 mm\*

\*Note: where ball end option is fitted add 5 mm.

The output increases as the plunger extends from the sensor body, the calibrated stroke is between 28 mm and 100 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.