

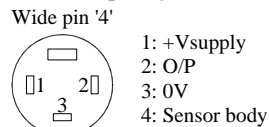
# Installation Information

## LIPS<sup>®</sup> X106 INTERNALLY MOUNTED CYLINDER SENSOR WITH EXTERNAL ELECTRONICS

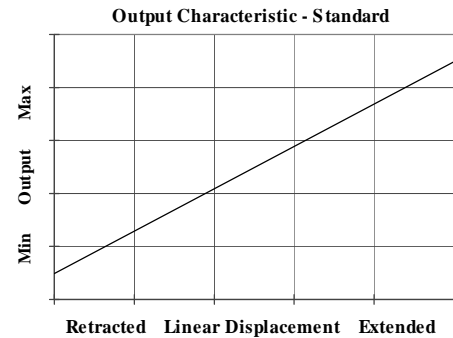
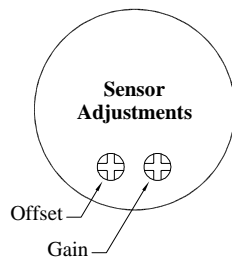
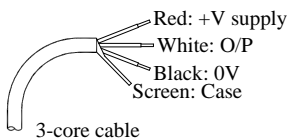
### INTRINSICALLY SAFE FOR HAZARDOUS GAS/VAPOUR ATMOSPHERES

ATEX Qualified to Intrinsic Safety Standard Certificate number Sira 00ATEX2076X			Ex II 1G EEx ia IIC T4 (Ta = -40°C to +80°C)		
Electronics Option	Output Description:	Supply Voltage: (Vs)	Output:	Load resistance:	Load connected to:
A	Voltage (ratiometric with supply)	5±0.5V	0.5 to 4.5V	2kΩ min	0V

**Connector pin layout:**



**Conductor Identification:**



**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:-

- Ui = 11.4V      Ii = 0.20A      Pi = 0.51W
- Ci = 1.36µF\*    Li = 710µH\* (Lxx option)
- Ci = 1.16µF      Li = 50µH (J option)

\*Figures for 1km cable where: Ci = 200pF/m & Li = 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

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.

**Use:** The sensor is designed to measure Linear 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.

**Maintenance:** No maintenance is required.

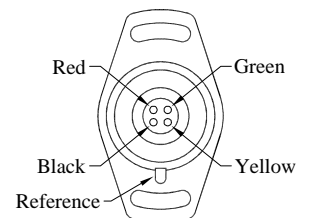
**Gain and Offset Adjustment:** (Where accessible - Typically ± 10% Min available)

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:** The sensor probe intended for internal mounting in hydraulic or pneumatic cylinders; retain with a grub screw and seal with 16x2.4 N70 O-ring provided. Install the target tube using the flange provided or adhere directly into the piston rod, the end of the target tube can be proud or flush with the piston end face as required. Mount electronics module externally on the cylinder via M18x1.5 thread or flange. The flange slots are 4.5mm by 30 degrees wide on a 48mm pitch.

To protect against fluid ingress seal the grub screw retaining the probe, also fit a 16 x 2.4 mm O ring on the flanged version. The threaded version is fitted with bonded seal. Water around the probe connections will impair operation.

**Probe Connections:** The user to solder the probe wires to the rear of electronics unit; connect colours as shown right, note reference mark in flange base or etched on threaded base. Take care not to over twist wires installing the threaded version.



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**Output Characteristic:** Target position at Start of normal travel is 4.5 mm from body face. The output increases as the target is moved away from the sensor body, the calibrated stroke is between 20 and 600 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.