

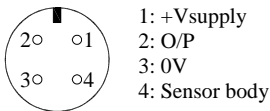
# Installation Information

## LIPS<sup>®</sup> M101 STAND-ALONE LINEAR POSITION SENSOR

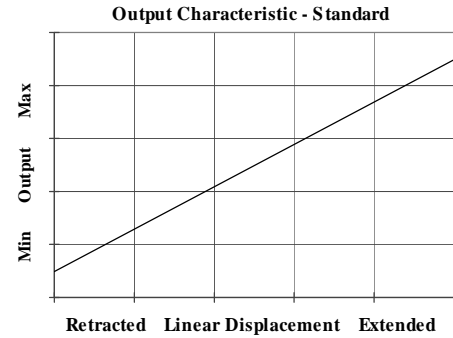
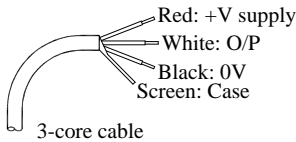
### INTRINSICALLY SAFE FOR HAZARDOUS MINING ENVIRONMENTS

ATEX Qualified to Intrinsic Safety Standard Certificate number Sira 00ATEX2076X			EX I/II M1/1GD EEx ia I/IIC T4 (Ta = -40°C to +80°C) Ex iaD 20 T135°C (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:-

- 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\* (Ixx or Lxx options)
- C<sub>i</sub> = 1.16µF      L<sub>i</sub> = 50µH (J or K options)

\*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

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:** accumulated dust layer must not exceed a depth of 50mm.

**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.

**Output Characteristic:** Target is extended 9 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 50 and 600 mm.

**Warning - the connector on 'J' or 'K' coded sensors can 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 lead to damage to the internal wiring.**

**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.