


# Installation Information

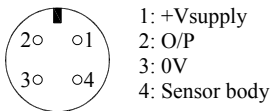
## LIPS<sup>®</sup> M113 SLIM-LINE LINEAR POSITION SENSOR

### INTRINSICALLY SAFE FOR HAZARDOUS MINING ENVIRONMENTS

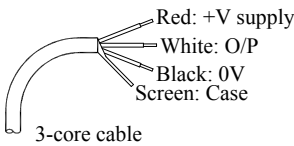
ATEX Qualified to Intrinsic Safety Standard Certificate number Sira 00ATEX2076X

Output Description:	Barrier Supply Voltage:	Barrier Output:	 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)
Voltage (BX002)	20-35V dc	0.5 to 9.5V	
Current Loop (BX003)	20-35V dc	4-20mA	

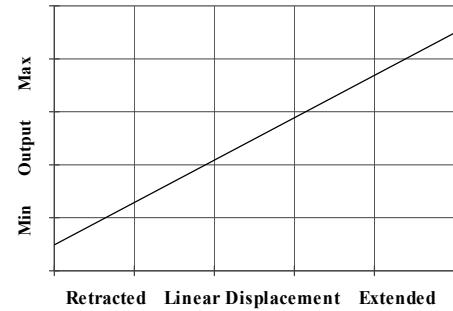
**Connector pin layout:**



**Conductor Identification:**



**Output Characteristic - Standard**



**Putting Into Service:**

The sensor must be used with a galvanically isolated three port barrier designed to supply the sensor with a nominal 5V and to transmit the buffered output to a safe area. Various Barrier output versions are available. The barrier parameters must not exceed:- **Ui = 11.4V Ii = 0.46A Pi = 0.51W**

The sensor is certified to be used with up to **150m** of cable with parameters not exceeding:-  
 Capacitance = **550 nF** total, Inductance = **0.66uH/m**

The performance of the sensor may be affected by voltage drops in long cables; these can be eliminated by using a 5 wire connection. The typical supply current is 10mA and the sensor output is ratiometric to the supply voltage at the sensor.

**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.  
 Target by M5x0.8 male thread or M5 rod eye.

**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 10 and 300 mm.  
 N.b. sensors supplied with cable, the free end must be appropriately terminated.

**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.