

# Installation Information

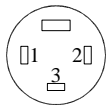
## LIPS® 106 Internally Mounted Cylinder Sensor With External Electronics



Electronics Option	A	B	C	D	E	F	H
<b>Output Description:</b>	Voltage ratiometric with supply	Voltage	Voltage	Voltage	2 wire 4 to 20mA	3 wire 4 to 20mA Sink	3 wire 4 to 20mA Source
<b>Supply Voltage (Vs):</b>	5±0.5V	±13 to 17V	13 to 28V	±13 to 17V	18 to 28V	13 to 28V	13 to 28V
<b>Output:</b>	0.5 to 4.5V	±5V	0.5 to 9.5V	±10V	4 to 20mA	4 to 20mA	4 to 20mA
<b>Load resistance: (inclusive of leads for 4 to 20mA versions)</b>	2kΩ min	1kΩ min	5kΩ min	5kΩ min	R <sub>L</sub> = V <sub>s</sub> -18/20mA 300Ω @ 24V	R <sub>L</sub> = V <sub>s</sub> -5/20mA 950Ω @ 24V	300Ω max
<b>Load connected to:</b>	0V	0V	0V	0V	In supply lead	V <sub>s</sub>	0V

### Connector pin layout:

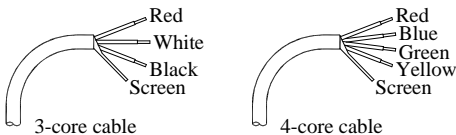
Wide pin '4'



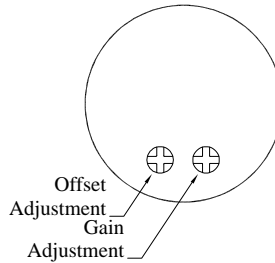
- 1: +V supply
- 2: O/P
- 3: 0V
- 4: Sensor body 'A','C','E-H',  
-V supply options 'B' or 'D'

### Cable conductor colours:

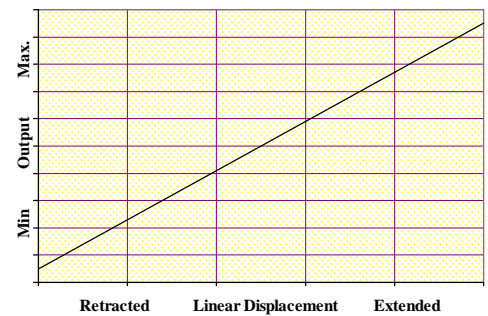
- Red: +V supply
- White/Blue: O/P
- Black/Green: 0V
- Yellow: -V supply options 'B' or 'D'
- Screen: Sensor body



### Sensor Adjustments



### Output Characteristic



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

To adjust the gain or offset remove the tap-tite screw from the cover and insert a small potentiometer adjuster or screwdriver 2mm across, 30mm long. The trim potentiometers are accessed through holes in the cover; the other electronics are protected from damage by an inner lid. Do not apply too much force on the potentiometers.

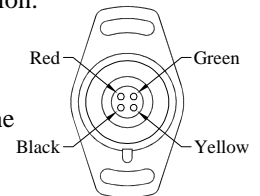
### Mechanical Mounting:

The sensor probe intended for internal mounting in a hydraulic cylinder; 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.

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.



### 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:-

- A **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.
- B & D Supply leads diode protected. Output must not be taken outside ± 12V.
- C Supply leads diode protected. Output must not be taken outside 0 to 12V.
- E, F & H Protected against any misconnection within the rated voltage.

### For further information, please contact:

Everight Precision Technologies Corporation  
102 Commerce Dr., Unit 8, Moorestown, NJ 08057  
www.everightsensors.com info@everightsensors.com  
phone: 856-727-9500 fax: 610-672-9663

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