

# LIPS<sup>®</sup> P112 GAUGE HEAD POSITION SENSOR

Position feedback for industrial and scientific applications

- **Gauge head positioning for industrial and scientific applications**
- **Non-contacting inductive technology to eliminate wear**
- **Travel set to customer's requirement**
- **Compact 19 mm diameter body, durable and reliable**
- **High accuracy and stability**
- **Sealing to IP67**



As a leading designer and manufacturer of linear, rotary, tilt and intrinsically safe position sensors, Positek<sup>®</sup> has the expertise to supply a sensor to suit a wide variety of applications.

Our P112 LIPS<sup>®</sup> (Linear Induction Position Sensor) is an affordable, durable high-accuracy sensor for gauge head positioning in industrial and scientific applications. The P112, like all Positek sensors, provides a linear output proportional to displacement. Each sensor is supplied with the output calibrated to the travel required by the customer, from 10mm to 50mm and with full EMC protection built in.

It is particularly suitable for OEMs seeking good sensor performance for arduous applications such as industrial machinery where cost is important.

Overall performance, repeatability and stability are outstanding over a wide temperature range. The sensor is very robust, the body and plunger being made of stainless steel for long service life and environmental resistance.

The plunger is spring loaded with a domed end. The P112 is easy to install with a long 1/2 inch UNF mounting thread and is supplied with two lock nuts for positioning. Environmental sealing is to IP67.

## SPECIFICATION

### DIMENSIONS

Body diameter	19 mm
Body Length (excluding thread)	205 mm
Mounting Thread Length	59 mm

*For full mechanical details see drawing P112-11*

<b>Spring Force</b>	1.5 - 4.5 N approx.
<b>Power Supply</b>	+5V dc nom. $\pm$ 0.5%, 10mA typ 20mA max
<b>Output Signal</b>	0.5-4.5V dc ratiometric, Load: 2k $\Omega$ min.
<b>Independent linearity</b>	< $\pm$ 0.25% @ 20°C
<b>Temperature coefficients</b>	< $\pm$ 0.01%/°C Gain & < $\pm$ 0.01%FS/°C Offset
<b>Typical overall accuracy</b>	< $\pm$ 0.5% / FSO
<b>Frequency response</b>	> 10 KHz (-3dB)
<b>Resolution</b>	Infinite
<b>Noise</b>	< 0.02% FSO
<b>Environmental Temperature Limits</b>	
Operating	-40 to +125°C
Storage	-40 to +125°C
<b>Sealing</b>	IP67
<b>EMC Performance</b>	EN 61000-6-2, EN 61000-6-3
<b>Vibration</b>	IEC 68-2-6: 10g
<b>Shock</b>	IEC 68-2-29: 40 g
<b>MTBF</b>	350,000 hrs 40°C Gf

### Drawing List

P112-11

Sensor Outline

*Drawings, in AutoCAD<sup>®</sup> dwg or dxf format, available on request.*

**Do you need a position sensor made to order to suit a particular installation requirement or specification? We'll be happy to modify any of our designs to suit your needs - please contact us with your requirements.**

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## How Positek's PIPS<sup>®</sup> technology eliminates wear for longer life

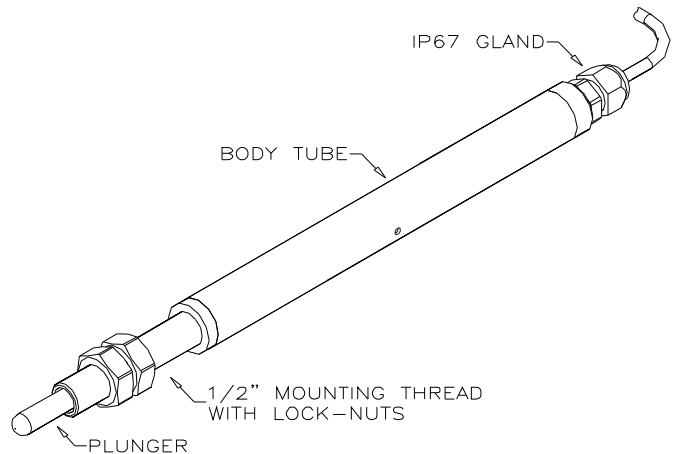
Positek's **PIPS<sup>®</sup>** technology (Positek Inductive Position Sensor) is a major advance in displacement sensor design. PIPS<sup>®</sup>-based displacement transducers have the simplicity of a potentiometer with the life of an LVDT/RVDT.

PIPS<sup>®</sup> technology combines the best in fundamental inductive principles with advanced micro-electronic integrated circuit technology. A PIPS<sup>®</sup> sensor, based on simple inductive coils using Positek's ASIC control technology, directly measures absolute position giving a DC analogue output signal. Because there is no contact between moving electrical components, reliability is high and wear is eliminated for an exceptionally long life.

PIPS<sup>®</sup> overcomes the drawbacks of LVDT technology – bulky coils, poor length-to-stroke ratio and the need for special magnetic materials. It requires no separate signal conditioning.

Our LIPS<sup>®</sup> range are linear sensors, while RIPS<sup>®</sup> are rotary units and TIPS<sup>®</sup> are for detecting tilt position. Ask us for a full technical explanation of PIPS<sup>®</sup> technology.

We also offer a range of ATEX-qualified intrinsically-safe sensors.

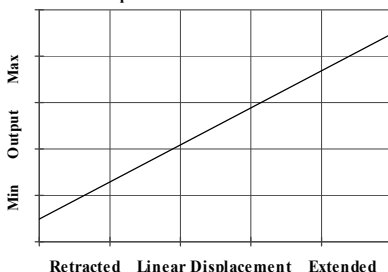


### TABLE OF OPTIONS

**MEASUREMENT RANGE:** Factory-set to any length from 10 to 50 mm in increments of 1mm.

**CABLE LENGTH**  
Cable length >50cm – please specify length in cm

Output Characteristic - Standard



Output Characteristic - Reverse option

