



LIPS[®] P118 SHORT STROKE SLIM-LINE LINEAR POSITION SENSOR

Position feedback for industrial and scientific applications

- **Non-contacting inductive technology to eliminate wear**
- **Travel set to customer's requirement**
- **Compact 19 mm diameter body**
- **High durability and reliability**
- **High accuracy and stability**
- **Sealing to IP67**



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

Our P118 LIPS[®] (Linear Inductive Position Sensor) is an affordable, durable, accurate position sensor designed for a wide range of industrial applications. It is particularly suitable for OEMs seeking good sensor performance in situations where a small diameter, short-bodied sensor is needed and cost is important. The unit is compact and space-efficient, being responsive along almost its entire length, and like all Positek[®] sensors provides a linear output proportional to travel. Each unit is supplied with the output calibrated to the travel required by the customer, from 2 to 50mm and with full EMC protection built in.

Overall performance, repeatability and stability are outstanding over a wide temperature range.

The sensor has a compact 19 mm diameter stainless steel body, is easy to install and set up. Mounting options include flange, M5 rod eye bearings and body clamps. The plunger can be supplied free or captive, with a female M4 thread, an M5 rod eye, magnetic tip, or spring-loaded with a dome end. The P118 also offers a range of mechanical and electrical options, environmental sealing is to IP67.

SPECIFICATION

Dimensions

Body diameter: 19 mm
Body length dependant on selected calibrated travel, selected electrical output, cable/connector orientation and mounting option:

Body Length (Axial version/Standard Output Signal):		
Calibrated Travel	Standard	Flange mounted
2 mm to 10 mm	72.5 mm	78 mm
11 mm to 20 mm	82.5 mm	88 mm
21 mm to 30 mm	92.5 mm	98 mm
31 mm to 50 mm	112.5 mm	118 mm

Body Length (Axial version/Buffered Output Signal):		
Calibrated Travel	Standard	Flange mounted
2 mm to 10 mm	77.5 mm	83 mm
11 mm to 20 mm	87.5 mm	93 mm
21 mm to 30 mm	97.5 mm	103 mm
31 mm to 50 mm	117.5 mm	123 mm

Body Length (Radial version/Standard Output Signal):		
Calibrated Travel	Standard	Flange mounted
2 mm to 10 mm	91.5 mm	97 mm
11 mm to 20 mm	101.5 mm	107 mm
21 mm to 30 mm	111.5 mm	117 mm
31 mm to 50 mm	131.5 mm	137 mm

Body Length (Radial version/Buffered Output Signal):		
Calibrated Travel	Standard	Flange mounted
2 mm to 10 mm	96.5 mm	102 mm
11 mm to 20 mm	106.5 mm	112 mm
21 mm to 30 mm	116.5 mm	122 mm
31 mm to 50 mm	136.5 mm	142 mm

Plunger: Ø 6mm

For full mechanical details see drawing P118-11

Independent Linearity ≤ ± 0.25% FSO @ 20°C

≤ ± 0.1% FSO @ 20°C available upon request.

*Sensors with calibrated travel of 10 mm and above.

Temperature Coefficients < ± 0.01%/°C Gain &

< ± 0.01%FS/°C Offset

> 10 kHz (-3dB)

Frequency Response Infinite

Resolution < 0.02% FSO

Noise < 0.02% FSO

Environmental Temperature Limits

Operating -40°C to +125°C standard

-20°C to +85°C buffered

-40°C to +125°C

Storage IP67

Sealing EN 61000-6-2, EN 61000-6-3

EMC Performance IEC 68-2-6: 10 g

Vibration IEC 68-2-29: 40 g

Shock 350,000 hrs 40°C Gf

MTBF P118-11 Sensor Outline

Drawings, in AutoCAD[®] 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.



For further information please contact:

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P118-17j



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How Positek's PIPS[®] technology eliminates wear for longer life

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

PIPS[®] technology combines the best in fundamental inductive principles with advanced micro-electronic integrated circuit technology. A PIPS[®] 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[®] 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[®] range are linear sensors, while RIPS[®] are rotary units and TIPS[®] are for detecting tilt position. Ask us for a full technical explanation of PIPS[®] technology.

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

TABLE OF OPTIONS

CALIBRATED TRAVEL: Factory set to any length from 0-2mm to 0-50mm (e.g. 36mm).

ELECTRICAL INTERFACE OPTIONS

OUTPUT SIGNAL	SUPPLY INPUT	OUTPUT LOAD
Standard: 0.5-4.5V dc ratiometric	+5V dc nom. ± 0.5V.	5kΩ min.
Buffered: 0.5-4.5V dc	+24V dc nom. + 9-28V.	5kΩ min.
0.5-9.5V dc	+24V dc nom. + 13-28V.	5kΩ min.
4-20mA	+24V dc nom. + 13-28V.	300R Max.
Supply Current	10mA typical, 20mA max. plus O/P current	

CONNECTOR/CABLE OPTIONS

Connector - 4-pole M8 IEC 61067-2-104 Axial/ Radial, IP67
Cable[†] with M8 gland Axial/Radial, IP67
Cable length >50 cm – please specify length in cm

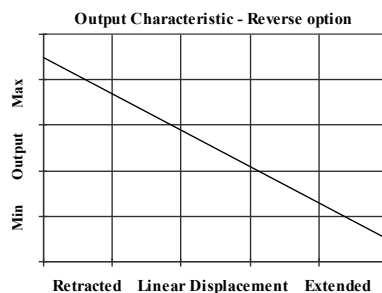
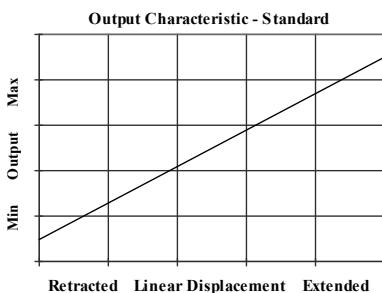
MOUNTING OPTIONS

Flange, Body Tube Clamp (axial or radial versions),
M5 rod eye bearings (radial versions only).

PUSH ROD OPTIONS – Retained[†] or Free with M4x0.7 female thread, M5 rod eye bearing or Magnetic tip, Spring loaded with or without[#] Dome end.

[†] standard, retained with female thread.

[#] spring supplied loose.



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