

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 body clamps or a stainless steel mounting flange with two 3.2 mm by 30 degree wide slots on a 25 mm pitch. The stainless steel plunger can be supplied free or captive, with female M4 thread, or spring-loaded with a ball 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 calibrated travel & mounting option	
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
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

Infinite

Noise

< 0.02% FSO

Environmental Temperature Limits

Operating -40°C to +125°C standard

-20°C to +85°C buffered

Storage -40°C to +125°C

Sealing

IP67

EMC Performance

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

Vibration

IEC 68-2-6: 10 g

IEC 68-2-29: 40 g

Shock

350,000 hrs 40°C Gf

MTBF

Drawing List

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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Position feedback for industrial and scientific applications

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	

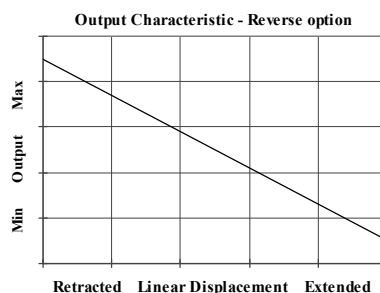
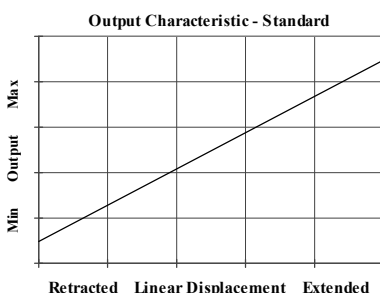
CONNECTOR/CABLE OPTIONS

Connector - M8 IEC 60947-5-2	IP67
Cable with M8 gland	IP67
Cable length >50 cm – please specify length in cm	

MOUNTING OPTIONS

Flange, Body Tube Clamp.

PUSH ROD OPTIONS – standard retained with M4x0.7 female thread
Sprung loaded (spring supplied loose), Dome end (sprung loaded) or Free.



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