POSITEK LIMITED

LIPS® S125 350 BAR SUBMERSIBLE STAND-ALONE LINEAR POSITION SENSOR

Position feedback for industrial and scientific applications

- **Non-contacting inductive technology to eliminate wear**
- **Travel set to customer's requirement**
- **Compact and self-contained**
- **High durability and reliability**
- **High accuracy and stability**
- **Sealing to IP68 350Bar**

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 S125 LIPS® (Linear Inductive Position Sensor) is an affordable, durable, high-accuracy linear sensor designed for arduous underwater applications such as ROVs. The unit is highly compact and space-efficient, being responsive along almost its entire length. Like all Positek® sensors, the S125 provides a linear output proportional to travel. Each sensor is supplied with the output calibrated to the travel required by the customer, from 5 to 800mm and with full EMC protection built in. The sensor is very robust, the body and push rod being made of stainless steel for long service life and environmental resistance. Overall performance, repeatability and stability are outstanding over a wide temperature range. The sensor is easy to install with mounting options including stainless steel M8 rod eye bearings and body clamps. The push rod can be supplied free or captive, with male M8 thread, an M8 rod eye or dome end, captive push rods can be spring extended or retracted on sensors with up to 300mm of travel. The S125 also offers a wide range of mechanical and electrical options, environmental sealing is to IP68 350Bar.

SPECIFICATION

Dimensions	
Body diameter	40 mm electronics & 35 mm
Body length (Axial version)	calibrated travel + 184 mm
Body length (Radial version)	calibrated travel + 189 mm
Push rod extension	calibrated travel + 7 mm, OD 12.6 mm
For full mechanical details see drawing S125-11	
Independent Linearity	≤ ± 0.25% FSO @ 20°C - up to 450 mm ≤ ± 0.5% FSO @ 20°C - over 450 mm ≤ ± 0.1% FSO @ 20°C* available upon request.
*Sensors with calibrated travel from 10 mm up to 400 mm.	
Temperature Coefficients	< ± 0.01%/°C Gain & < ± 0.01%FS/°C Offset
Frequency Response	> 10 kHz (-3dB) > 300 Hz (-3dB) 2 wire 4 to 20 mA
Resolution	Infinite
Noise	< 0.02% FSO
Environmental Temperature Limits (Non Icing)	
Operating	-35°C to +85°C standard -20°C to +85°C buffered
Storage	-40°C to +125°C
Sealing	IP68 350Bar
EMC Performance	EN 61000-6-2, EN 61000-6-3
Vibration	IEC 68-2-6: 10 g
Shock	IEC 68-2-29: 40 g
MTBF	350,000 hrs 40°C Gf
Drawing List	
S125-11	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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ACS REGISTRARS Quality Assurance ISO 9001 UKAS MANAGEMENT SYSTEMS 229

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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 5 to 800 mm in increments of 1mm.

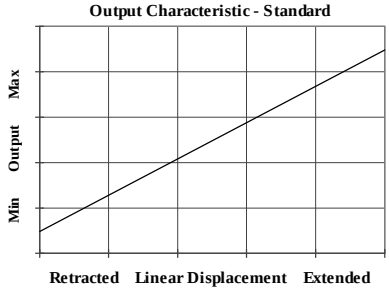
ELECTRICAL INTERFACE OPTIONS

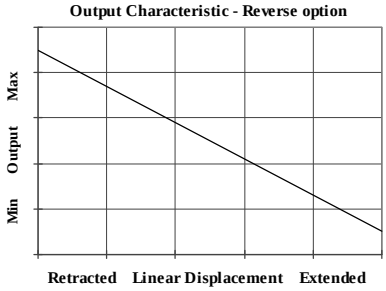
OUTPUT SIGNAL	SUPPLY INPUT	OUTPUT LOAD
Standard:		
0.5-4.5V dc ratiometric	+5V dc nom. ± 0.5V.	5kΩ min.
Buffered:		
0.5-4.5V dc	+24V dc nom. + 9-28V.	5kΩ min.
±5V dc	±15V dc nom. ± 9-28V.	5kΩ min.
0.5-9.5V dc	+24V dc nom. + 13-28V.	5kΩ min.
±10V dc	±15 V dc nom. ± 13.5-28V.	5kΩ min.
Supply Current	10mA typical, 20mA maximum.	
4-20mA (2 wire)	+24 V dc nom. + 18-28V.	300Ω @ 24V.
(3 wire sink)	+24 V dc nom. + 13-28V.	950Ω @ 24V.
(3 wire source)	+24 V dc nom. + 13-28V.	300Ω max.

CONNECTOR Wet mate 4 pin MC BH-4-M (axial or radial)
Supplied with mating connector and 0.5 m cable as standard.
Mating connector with longer lengths available.

MOUNTING OPTIONS
M8 rod eye bearing (radial versions), Body Tube Clamp/s (axial or radial versions).

PUSH ROD OPTIONS – standard retained with M8x1.25 male thread, M8 rod eye bearing, Dome end, Spring extended or Free.





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