



mm S125

Description

- 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, has the expertise to supply a sensor to suit a wide variety of applications. Our S125 LIPS® (Linear Inductive Position Sensor) is a deep water version of the S115 sensor. It remains an affordable, durable, high-accuracy position sensor designed for applications where the sensor would be completely submerged during normal operation, up to a pressure of 350Bar. The unit is highly compact and space-efficient, being responsive along almost its entire length. Like all sensors, the S125 provides a linear output proportional to displacement. 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 female 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.

Specifications

DIMENSIONS	
Body diameter	40 mm electronics & 35 mm
Body length (Axial version)	measurement length + 184 mm
Body length (Radial version)	measurement length + 189 mm
Push rod extension	measurement length + 7mm, OD 12.65mm
For full mechanical details see drawing S125-11	
Independent linearity	< ± 0.25% up to 450mm @ 20°C < ± 0.5% over 450mm @ 20°C
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 to +85°C standard -20 to +85°C buffered
Storage	-40 to +125°C
Sealing	IP68 350Bar
EMC Performance	EN 61000-6-2, EN 61000-6-3
Vibration	IEC 68-2-6: 10g
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.	



How PIPS® technology eliminates wear for longer life

PIPS® technology (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 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

MEASUREMENT RANGE: 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 OPTIONS Micro Mini Wetmate 4 pin MCBH-4-MP SS
Axial or Radial, IP68 350 Bar

Mating connector Cable length 50 cm standard.

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

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

