S613 SUBMERSIBLE LARGE ANGLE TILT SENSOR

High-resolution tilt feedback for submerged and outdoor / offshore applications

- **Non-contacting inductive technology to eliminate wear**
- **Angle set to customer's requirement**
- **Compact and self-contained**
- **High durability and reliability**
- **High accuracy and stability**
- **Sealing to IP68 10 Bar**

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 S613 is an affordable, durable, high-accuracy tilt sensor designed for industrial and scientific feedback applications. The S613, like all Positek® sensors, is supplied with the output calibrated to the angle required by the customer, between 15 and 160 degrees and with full EMC protection built in. The sensor provides a linear output proportional with the rotation of the sensor. There is a machined registration mark to identify the calibrated mid point.

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 has a rugged stainless steel body and mounting flange. The flange has two 4.5mm by 30 degree wide slots on a 48mm pitch to simplify mounting and position adjustment. The S613 offers a range of electrical options.
Environmental sealing is to IP68 10 Bar.

SPECIFICATION

Dimensions	
Body diameter	35 mm, Flange 60mm
Body Length	44 mm standard, 50 mm buffered
For full mechanical details see drawing S613-11	
Independent Linearity / Hysteresis	
(combined error)	< ± 0.25° - up to 100°
Temperature coefficients	< ± 0.01%/°C Gain & < ± 0.01%FS/°C Offset
Response Time	250 mS @ 20°C typ.
Resolution	Infinite
Damping Ratio	0.2 : 1 (0.6 nom. @ 25°C)
Noise	< 0.02% FSO
Environmental Temperature Limits	
Operating	-20°C to +85°C all output options
Storage	-40°C to +125°C
Sealing	IP68 10 Bar
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	
S613-11	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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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 angle from ±7.5° to ±80°.

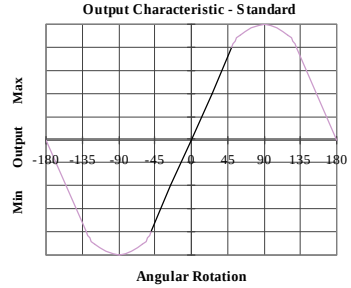
ELECTRICAL INTERFACE OPTIONS

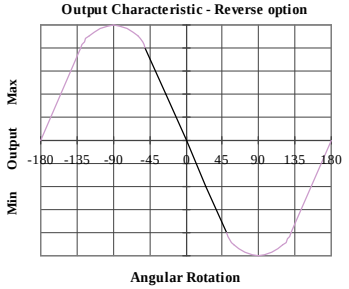
OUTPUT SIGNAL	SUPPLY INPUT	OUTPUT LOAD
Standard:		
0.5-4.5V dc ratiometric	+5V dc nom. ± 0.5V.	5kΩ min.
Buffered:		
0.5-4.5V dc	+24V dc nom. + 9-28V.	5kΩ min.
±5V dc	±15V dc nom. ± 9-28V.	5kΩ min.
0.5-9.5V dc	+24V dc nom. + 13-28V.	5kΩ min.
±10V dc	±15 V dc nom. ± 13.5-28V.	5kΩ min.
Supply Current	10mA 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.

CONNECTIONS

Cable with Pg7 gland — Axial IP68 10 Bar

Cable length > 50 cm - please specify length in cm.





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