

RIPS® P505 SLIM-LINE ROTARY SENSOR

High-resolution angle feedback for industrial and scientific applications

- **Non-contacting inductive technology to eliminate wear**
- **Angle set to customer's requirement**
- **Compact, durable and reliable**
- **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 P505 RIPS® (Rotary Inductive Position Sensor) is an affordable, durable, high-accuracy rotary sensor designed for industrial and scientific feedback applications, but requires a smaller footprint than the P500.

Like all Positek® sensors, the P505 provides a linear output proportional with input shaft rotation. Each unit 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.

It is particularly suitable for OEMs seeking good sensor performance for applications where space is important.

Overall performance, repeatability and stability are outstanding over a wide temperature range. The P505 has long service life and environmental resistance with a stainless steel body and shaft, the flange and servo mounts are anodised aluminium. The flange or servo mounting options make the sensor easy to install, the flange has two 3.2mm by 30 degree wide slots on a 25mm pitch. The P505 also offers a range of mechanical and electrical options. Environmental sealing is to IP67.

SPECIFICATION

Dimensions

Body diameter	19 mm
Body Length (to mounting face)	45.4 mm
Shaft	8 mm Ø 4 mm

For full mechanical details see drawing P505-11

Independent Linearity

≤ ± 0.25% FSO @ 20°C - up to 100°
≤ ± 0.1% FSO @ 20°C* available upon request.

*Sensors with calibrated travel up to 100°.

Temperature Coefficients

< ± 0.01%/°C Gain &
< ± 0.01%FS/°C Offset
> 10 kHz (-3dB)

Frequency response

Resolution

Infinite

Noise

< 0.02% FSO

Torque

< 15 mNm Static

Environmental Temperature Limits

Operating	-40°C to +125°C standard
	-20°C to +85°C buffered
	-40°C to +125°C

Storage

Sealing

IP67

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

P505-11

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 $\pm 8^\circ$ to $\pm 80^\circ$ in increments of 1 degree.
 Full 360° Mechanical rotation.

ELECTRICAL INTERFACE OPTIONS

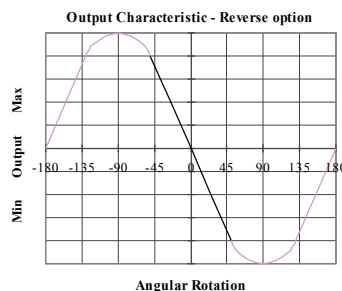
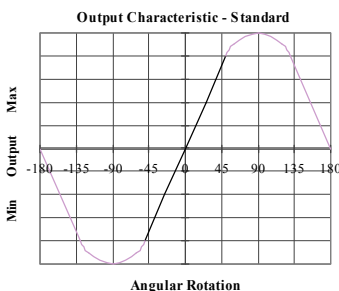
OUTPUT SIGNAL	SUPPLY INPUT	OUTPUT LOAD
Standard: 0.5-4.5V dc ratiometric	+5V dc nom. $\pm 0.5V$.	5k Ω min.
Buffered: 0.5-4.5V dc	+24V dc nom. + 9-28V.	5k Ω min.
0.5-9.5V dc	+24V dc nom. + 13-28V.	5k Ω min.
4-20mA	+24V dc nom. + 13-28V.	300R Max.
Supply Current	10mA typical, 20mA max. plus O/P current	

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, Servo.



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