

## FREQUENTLY ASKED QUESTIONS

# Precision Pressure Transducers and Barometers

### **Q: I'm only interested in the analog output and don't want to bother with computer configuration. Do I have to use the PPT, PPT2 or PPTR/E with a computer?**

A: These transducers are configured at the factory to provide 0 – 5 VDC analog output the moment they are powered on. No digital interface is required if the factory default settings provide the update rate you require.

### **Q: I like the IPT, HPA/B, PPT, PPT2 or PPTR/E family's overall features, but for my application, I need something different from what your spec sheet lists. Do you offer customized configurations that will meet my needs?**

A: Honeywell supplies a number of customized transducer configurations for customers who need nonstandard units. It is impossible to provide a precise answer to the question of cost because this depends on the nature of the modification and the quantity desired. Please contact your local sales representative for more information.

### **Q: What is the technology of the sensing element in IPT, HPA/B, PPT, PPT2 or PPTR/E transducers?**

A: The IPT, HPA/B, PPT, PPT2 and PPTR/E family use a micromachined silicon die with piezoresistive strain gauges. These die are manufactured in our facility in Minnesota. Honeywell was one of the first companies to develop highly stable and repeatable pressure sensors using this technology, and we believe our piezoresistive sensors continue to offer the best performance in the world today.

### **Q: Is there a factory calibration service?**

A: Honeywell will perform recalibrations for any IPT, PPT, PPT2, HPA/B or PPTR/E transducer. Please submit a Return Material Authorization Request to initiate the process.

### **Q: Can I calibrate the PPT, PPT2, HPA/B or PPTR/E at my facility?**

A: The PPT2, PPT2, HPA/B and PPTR/E can be calibrated by the user for null and sensitivity using the digital communication interface. Please refer to the respective User's Manual.

### **Q: Do you supply Calibration Certificates?**

A: Calibration Certificates are available with any unit, and are generally specified in the model code when the order is placed. All of our calibration equipment has traceability to NIST standards.

### **Q: What about media compatibility?**

A: The IPT, HPA/B, PPT and PPT2 models are suitable for non-condensing, non-corrosive and non-combustible gases. The PPTR/E models are suitable for liquid and gaseous media compatible with 316 stainless steel.

### **Q: When I turn on my differential PPT or PPT2 unit, I get 2.5V on the analog output with zero applied pressure. Why?**

A: PPT and PPT2 differential units provide true  $\pm$  differential measurements, sometimes referred to as compound measurements. For PPT and PPT2 differential transducers, the 0 V analog output corresponds to the -FS pressure and the 5 V analog output corresponds to the +FS pressure; yielding 2.5 V when no pressure is applied.

### **Q: What is the difference between the absolute, gauge, and differential pressure type?**

A: The absolute PPT is a single port device. Internally, one side of the silicon diaphragm sees a hermetically sealed (welded) vacuum reference. All pressures are measured with respect to that reference. For example, at sea level an absolute PPT will provide a reading of approximately 14.7 psia.

The gauge PPT is a two port device. Instead of supplying a vacuum reference to one side of the silicon diaphragm, it is plumbed to the outside world. Movement of the PPT gauge diaphragm is only characterized in one direction. For a gauge PPT to operate properly, the pressure at port P1 must always be greater than the pressure at port P2.

The differential PPT is also a two port device. Except for different electrical biasing of the sensor signal conditioning circuitry, it is identical to the gauge PPT. However, the movement of the differential diaphragm is characterized in both directions. Port P1 may be either positive or negative with respect to port P2. For example, a 5 psi differential PPT will provide readings from -5 to +5 psi.

### **Q: How often should my transducers be recalibrated?**

A: Honeywell does not specify a recalibration interval. Recalibration is often performed on an interval dictated by a company's quality system. The operating environment should be considered as well as the customer's application and long term accuracy requirements.

### **Q: How do I request to return material to Honeywell?**

A: Please submit a Return Material Authorization Request to initiate the process. You will receive a series of emails providing acknowledgment of submittal, approval or rejection, and disposition of the hardware.

### **Q: Who are your authorized distributors?**

A: You can search the Dealer Locator for an authorized distributor and local sales representative.

### **Q: Can I replace the pressure fittings in the field?**

A: It is not uncommon for our customers to replace fittings out in the field. At the factory, we torque all pressure fittings to 10 in-lbs. All of our fittings are custom-machined to compress an o-ring around the pressure sensor ports. The pressure sensor tubes have different diameters and use different o-rings.

For more information about return material requests, please visit [aerospace.honeywell.com/returns](http://aerospace.honeywell.com/returns).

For more information about our dealer network, please visit [aerospace.honeywell.com/dealerlocator](http://aerospace.honeywell.com/dealerlocator).