

RPT 410

## Barometric Pressure Sensor

- High stability - 100ppm per annum
- Accuracy: better than  $\pm 0.015$  inHg
- Voltage or frequency output
- Supply voltage 9.5 to 24 Vdc
- Current consumption less than 6mA
- On/Off control with external trigger



The RPT 410 Resonant Silicon Pressure Transducer (RPT) utilizes Druck's resonant silicon technology that has been field proven in many applications in air data flight and test, precision portable and bench calibrators, and high performance wind tunnels.

The multi layer sensor structure consists of a resonator and pressure sensitive diaphragm micro-machined from single-crystal silicon, thus achieving the highest level of performance stability.

The sensor is available with either a voltage or frequency output proportional to the barometric pressure range. Microprocessor based thermal error correction assures accurate performance over a wide temperature range. An external trigger feature allows the device to be "shut down", thus conserving power in remote battery operated installations.

Druck's RPT 410 is ideally suited for weather stations monitoring atmospheric trends, engine test cells, data buoys, ships ballast systems, as well as a highly stable barometric pressure reference transfer standard.

**SPECIFICATION**

**Pressure Measurement**

Operating Pressure Ranges  
 17.5 to 32.5 inHg  
 600 to 1100 mbar (hPa)  
 Other engineering units can be specified.

Overpressure  
 42 inHg (1.4 bar)

Pressure Containment  
 44 inHg (1.5 bar)

Excitation Voltage  
 9.5 to 24 Vdc at 6mA nominal

Supply Voltage Sensitivity  
 Less than 0.1 mbar effect over excitation voltage range

Frequency Output (RPT 410F)  
 TTL square wave 600 to 1100 Hz (others available)

Voltage Output (RPT 410V)  
 0 to 2.5 Vdc (4-wire)  
 0 to 5 Vdc (4-wire)  
 Other output voltages available

**Performance Specifications**

Long Term Stability  
 ±0.00295 inHg (0.1 mbar) (100 ppm) per year

Operating Temperature Range  
 -40° to 140°F

Settling Time  
 1 second to reach full accuracy after power up

Response Time (100% response)  
 300 ms

Resolution  
 RPT 410V - 0.00059 inHg (0.02 mbar)  
 RPT 410F - 0.000295 inHg (0.01 mbar)

Current Consumption  
 RPT 410V - <6mA  
 RPT 410F - <8mA  
 Less than 0.1 microamp in shutdown mode

Safety  
 CE marked  
 EMC emissions: BS EN50081-1  
 EMC immunity: BS EN61000-6-2

**Physical Specification**

Weight  
 4.5 ounces (125 grams)

Pressure Connection  
 10-32 UNF with barbed hose fitting

Electrical Connection  
 Terminal block connector

External Trigger On/Off voltage  
 On: 1 to 24 Vdc  
 Off: 0 Vdc

**CALIBRATION STANDARDS**

Pressure transducers manufactured by Druck are calibrated against precision pressure calibration equipment which is traceable to international standards.

**ORDERING INFORMATION**

- Please state the following:  
 (1) Model number RPT 410F or RPT 410V  
 (2) Pressure range and units  
 (3) Accuracy Option A (if required)  
 (4) Output voltage (RPT 410V only)

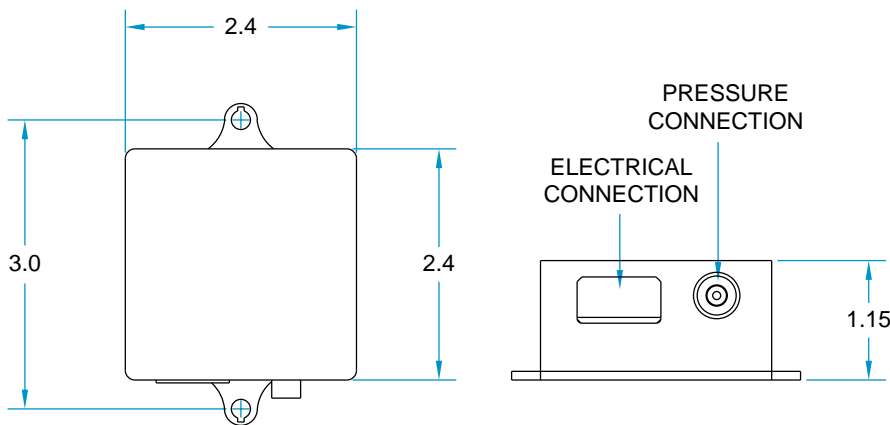
*Continuing development sometimes necessitates specification changes without notice.*

*Druck is an ISO 9001 registered company.*

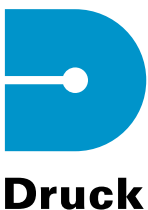


STANDARD ACCURACY		OPTION A ACCURACY		TEMPERATURE RANGE
inHg	mbar	inHg	mbar	
±0.015	±0.5	±0.015	±0.5	at 68°F
±0.030	±1.0	±0.015	±0.5	14° to 122°F
±0.059	±2.0	±0.030	±1.0	-4° to 140°F
±0.074	±2.5	±0.059	±2.0	-40° to 140°F

**INSTALLATION DRAWINGS:** Dimension in inches



PIN No.	Frequency Version	Voltage Version
1	Frequency out	Positive output
2	Positive supply	Positive supply
3	Negative supply	Negative supply
4	-	Negative output
5	External trigger	External trigger



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