

# RPT410F Barometric Pressure Sensor

## Key Features

Advanced resonant silicon pressure sensor

Digital processing from sensor element to datalogger ensures high resolution and accuracy

Accurate to  $\pm 0.5\text{mB}$  from  $-10^\circ\text{C}$  to  $+50^\circ\text{C}$

Exceptional long-term stability

Can be used in continuous mode – or in triggered mode to reduce power consumption

Direct connection to all current Campbell Scientific dataloggers

## Typical Applications

Automatic weather stations

Scientific Research

Environmental monitoring

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## For accurate, solid-state measurement of barometric pressure

### Specifications

Operating Range: 600mB to 1100mB (hPa)

Temperature Range:  $-40^\circ\text{C}$  to  $+60^\circ\text{C}$

Humidity Range: Non-condensing

Total Accuracy:

$-10^\circ\text{C}$  to  $+50^\circ\text{C}$   $\pm 0.5\text{ mB}$

$-20^\circ\text{C}$  to  $+60^\circ\text{C}$   $\pm 1.5\text{ mB}$

$-40^\circ\text{C}$  to  $+60^\circ\text{C}$   $\pm 2.0\text{ mB}$

Drift:  $< \pm 0.11\text{mB}$  per year (100ppm)

Supply voltage: 9V to 24V DC

Current Consumption:  $< 8\text{mA}$  ON,  $< 10\mu\text{A}$  OFF

Output Frequency:  
600Hz to 1100Hz

Frequency Output:  $\pm 2.5\text{V}$  square wave (relative to power ground)

External Trigger Voltages:

ON 1 to 24V DC

OFF 0V DC

(Internal jumpers allow setting of continuous or triggered mode)

Warm-up Time:  $< 2$  seconds ( $-40^\circ\text{C}$  to  $+60^\circ\text{C}$ )

Size: 60 x 60 x 29mm (excludes mounting lugs)

Weight: 125g

Mounting Hole Centres: 76.2mm (3 inches)  
(mounts directly into Campbell Scientific Enclosures)

### Description

The RPT410F Resonant Silicon Pressure Transducer (RPT) uses advanced sensor technology, proven for highly accurate and stable barometric pressure measurement.

The sensor uses a frequency output corresponding to the barometric pressure range. Accuracy is maintained over a wide temperature range, and current consumption can be conserved by an external trigger shut-down function, controlled by the datalogger.

### Construction and Mounting

The RPT410F is housed in a semi-sealed, low maintenance case fitted with an intake port for pressure sensing. Mounting would normally be with the datalogger in a vented enclosure such as the ENC 12/14. Desiccant must be used in the enclosure to protect the sensor from condensation

For highest accuracy, an external 'zero-pressure' port can be supplied to special order.

