



## Barometric Pressure Sensor (BP40 Series)

### Features

- MEMS element (MicroElectroMachined System)
- High quality low power electronics
- Fully calibrated and compensated
- Frequency output
- Sealed housing with weather proof vent

### Applications

- General meteorology
- Applied meteorology
- Environmental studies
- Scientific research
- Atmospheric pressure corrections and compensations

The BP40 series Barometric Pressure sensors are designed to measure atmospheric pressure in the range 800 to 1050 hecto-Pascals (hPa). The sensors use an MEMS (MicroElectroMachined System) element that has been laser trimmed for accuracy. This provides a highly accurate and stable sensor at a reasonable cost.

The housing is fully sealed to protect the electronics from the weather, and includes a Gortex vent that allows the pressure changes to be detected without allowing moisture into the sensor electronics.

A two point factory calibration ensures high accuracy over the operating range.

### Specifications

**Model:**

BP40

**Cable Type:**

3-core shielded

**Cable Length:**

0.75 metre

**Sensing Element:**

MEMS (MicroElectroMachined System)

**Measurement Units:**

hectoPascals (hPa)



*Weather Maestro Weather Station with BP40 installed in the cabinet to increase accuracy of vapour pressure and TWL calculations. Can also be used to calibrate on site scientific instruments*

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Version 130326



**Operating range:**

800 to 1100 hPa

**Resolution:**

0.1 hPa

**Overall Accuracy:**

±0.5 hPa

**Temperature drift:**

Typically ±0.3 hPa over 80°C temperature range; -10°C to +70°C

**Calibration method:**

Two point calibration

**Linearity error:**

Better than 0.1 hPa for operating range

**Long Term Stability:**

Less than +/- 1 hPa drift per annum

**Reliability:**

Typically five (5) years operation before factory recalibration recommended.

**Housing:**

IP66 housing

**Operating Conditions:**

Temperature: -10°C to +70°C

Humidity: 0% to 100%

**Supply Voltage:**

5.5 to 15 Volts DC

**Current Drain:**

<2.0 mA.

**Output:**

- +5 Volt square wave frequency
- Linearly proportional across 300 hPa range
- 10Hz = 800 hPa
- 70Hz = 1100 hPa
- Above 10Hz (800 hPa); + 0.2Hz = + 1hPa

**Sensor mounting:**

The sensor is normally housed in the LH35 weather station cabinet. Housing must be vented to atmosphere, but provide a 'static pressure' environment to remove pressure effects of wind over the sensor aperture.

