

# CS106

## Barometric Pressure Sensor

The CS106 barometer uses Vaisala's BAROCAP silicon capacitive sensor to measure barometric pressure over a 500 to 1100 millibar range. The CS106 outputs a linear signal of 0 to 2.5 Vdc, allowing it to be directly connected to Campbell Scientific dataloggers. The CS106 is compatible with all of our contemporary dataloggers and many of our retired dataloggers (e.g., CR510, CR10(X), CR23X).

### Construction and Mounting

The CS106 is encased in a plastic shell (ABS/PC blend) fitted with an intake valve for pressure equilibration. It includes a 2.5 ft cable and a terminal strip for datalogger power and signal connections. The CS106 is typically mounted next to the datalogger inside an ENC12/14 or larger enclosure. The ENC100 is available for housing the CS106 in its own enclosure.

### Ordering Information

#### Barometric Pressure Sensor

**CS106** Vaisala PTB110 Barometer (500 to 1100 mb), with 30 in. cable.

#### Accessories

*The following accessories are used when the barometer will be housed in a different enclosure than the datalogger.*

**ENC100** 6.7 in. by 5.5 in enclosure for housing only the CS106.

**CABLE5CBL-L** 5-conductor, 24 AWG cable with drain wire and Santoprene jacket. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).

#### Cable Termination Options (choose one)

- PT** Cable terminates in pigtailed for direct connection to datalogger's terminals.
- PW** Cable terminates in a connector for attachment to a prewired enclosure.



The ENC100 is a very small enclosure that can house one CS106. It includes a backplate, compression fitting, vent, and mounting bracket.



The CS106 includes a switching circuit that allows the datalogger to power the barometer only during measurement, which reduces power consumption. Sensor warm-up and measurement time is one second minimum.

### Manufacturer's Specifications

<b>Total Accuracy<sup>1</sup>:</b>	±0.3 mb @ +20°C ±0.6 mb @ 0° to 40°C ±1.0 mb @ -20° to +45°C ±1.5 mb @ -40° to +60°C
<b>Linearity:</b>	±0.25 mb
<b>Hysteresis:</b>	±0.03 mb
<b>Repeatability:</b>	±0.03 mb
<b>Calibration Uncertainty:</b>	±0.15 mb
<b>Long-Term Stability:</b>	±0.1 mb per year
<b>Operating Temperature:</b>	-40° to +60°C
<b>Dimensions:</b>	2.7" x 3.8" x 1.1" (6.8 cm x 9.7 cm x 2.8 cm)
<b>Weight:</b>	3.2 oz (90 g)
<b>Supply Voltage:</b>	10 to 30 Vdc
<b>Current Consumption:</b>	<4 mA (active), <1 µA (quiescent)
<b>Settling Time:</b>	1 second to reach full accuracy after power-up
<b>Response Time:</b>	500 ms to reach full accuracy after a pressure step

<sup>1</sup>The root sum squared (RSS) of end point non-linearity, hysteresis, repeatability, and calibration uncertainty.

