

# CS100

## Barometric Pressure Sensor

The CS100 barometer uses Setra's Setraceram™ capacitive sensor and IC analog circuit to measure barometric pressure over a 600 to 1100 millibar range. It outputs a linear signal of 0 to 2.5 Vdc, allowing it to be directly connected to a Campbell Scientific datalogger. This barometer is compatible with all of our contemporary dataloggers and many of our retired dataloggers (e.g., CR510, CR10(X), CR23X).

### Construction and Mounting

The CS100 is encased in a stainless steel and polyester case fitted with an 1/8 in. barbed fitting for pressure connection. It includes a 2.5 ft cable and a terminal strip for datalogger power and signal connections. This barometer is typically mounted next to the datalogger inside an ENC12/14 or larger enclosure. The very small ENC100 is available for housing the CS100 separately, in its own enclosure.

### High Altitude Version

A high altitude version of the CS100 can measure barometric pressure over a 500 to 1100 millibar range. Contact Campbell Scientific for more information.

### Ordering Information

#### Barometric Pressure Sensor

**CS100** Setra 278 Barometer (600 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 CS100. Includes a backplate, compression fitting, vent, and mounting bracket.

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



The CS100 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 are one second minimum.

### Manufacturer's Specifications

<b>Total Accuracy<sup>1</sup>:</b>	±0.5 mb @ +20°C ±1.0 mb @ 0° to 40°C ±1.5 mb @ -20° to +50°C ±2.0 mb @ -40° to +60°C
<b>Linearity:</b>	±0.4 mb
<b>Hysteresis:</b>	±0.05 mb
<b>Repeatability:</b>	±0.03 mb
<b>Resolution:</b>	±0.01 mb
<b>Long-Term Stability:</b>	±0.1 mb per year
<b>Response Time:</b>	<100 ms
<b>Operating Temperature:</b>	-40° to +60°C
<b>Dimensions:</b>	3.6 x 2.4 x 1.0 in.; 9.1 x 6.1 x 2.5 cm
<b>Weight:</b>	4.8 oz (135 g)
<b>Excitation:</b>	9.5 to 28 Vdc
<b>Current Consumption:</b>	<3 mA (active), <1 µA (sleep mode)
<b>Warm-up Time:</b>	<1 seconds
<b>Resolution:</b>	0.01 m s <sup>-1</sup>
<b>CE Compliance:</b>	CE compliant under the European Union's EMC directive

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

