

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

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

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