



# Standard Barometer

Resides inside a weather-  
proof enclosure

## Overview

The CS100 measures barometric pressure for the range of 600 to 1100 mb. This range equates to from below sea level (as in a mine) up to 12,000 feet above sea level. Designed for use in

environmental applications, the CS100 is compatible with all Campbell Scientific dataloggers.

## Benefits and Features

- › Optimized to mount in Campbell Scientific enclosures
- › Low power consumption
- › Three-year warranty
- › 500 to 1100 millibar and 800 to 1100 millibar versions also available by special order—contact Campbell Scientific
- › Integral switching circuit limits power consumption to the measurement cycle

## Technical Description

The CS100 is a Campbell Scientific version of Setra's model 278 barometer. It uses Setra's Setraceram capacitive sensor and IC analog circuit to measure barometric pressure. The CS100 includes a 0.76 m (2.5 ft) cable and a terminal strip for datalogger power and signal connections.

The CS100 is encased in a stainless steel and polyester case fitted with an 1/8 in. barbed fitting for pressure connection. It has an internal switching circuit that allows the logger to power the barometer only during measurement, which reduces power usage.



## 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** 17 cm (6.7 in) by 14 cm (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 Campbell Scientific prewired enclosure.



The CS100 is typically mounted next to the datalogger inside an ENC12/14 or larger enclosure. The ENC100 (shown above) is available for housing the barometer in its own enclosure.

## Manufacturer's Specifications

- › Accuracy<sup>1</sup>:  $\pm 0.5$  mb @  $+20^{\circ}\text{C}$ ;  $\pm 1.0$  mb @  $0^{\circ}$  to  $40^{\circ}\text{C}$ ;  $\pm 1.5$  mb @  $-20^{\circ}$  to  $+50^{\circ}\text{C}$ ;  $\pm 2.0$  mb @  $-40^{\circ}$  to  $+60^{\circ}\text{C}$
- › Linearity:  $\pm 0.4$  mb
- › Hysteresis:  $\pm 0.05$  mb
- › Repeatability:  $\pm 0.03$  mb
- › Resolution:  $\pm 0.01$  mb
- › Long-Term Stability:  $\pm 0.1$  mb per year
- › Response Time:  $< 100$  ms
- › Excitation: 9.5 to 28 Vdc
- › Current Consumption:  $< 3$  mA (active);  $< 1$   $\mu\text{A}$  (sleep mode)
- › Warm-up Time:  $< 1$  s
- › Operating Temperature Range:  $-40^{\circ}$  to  $60^{\circ}\text{C}$
- › Dimensions: 9.1 x 6.1 x 2.5 cm (3.6 x 2.4 x 1.0 in)
- › Cable Diameter: 0.8 cm (0.3 in)
- › Cable Length: 0.8 m (2.5 ft)
- › Weight: 135 g (4.8 oz)

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