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WHEN MEASUREMENTS MATTER

Smart Temp

SDI-12/RS-485 Temperature Sensor

High Precision Digital Temperature Sensor

Overview

The Smart Temp is a high precision digital temperature sensor that meets USGS guidelines. It features the ability to automatically sample temperature and calculate minimum, maximum, and average temperatures on a flexible time scale.

This sensor is ideal for high-accuracy readings in water, soil, and air. It features fully-potted components, robust PVC Type II housing, and marine-grade stainless steel, making the sensor ideal for harsh environments. Model 51163 is small enough to easily deploy through standard 1" (2.5cm) PVC conduit with 8" (20.3cm) factory bend corners. It also offers a loop hole which can be used to mount weights or pull the sensor through pipes or other small areas.

SDI-12 output provides universal compatibility with any SDI-12-enabled data logger and low power applications, or use the standard SDI-12 command set over an RS-485 physical interface for applications that require long cable runs or many sensors.

Benefits and Features

- Automatic minimum, maximum, and average calculations
- RS-485 and SDI-12 interfaces (auto-detecting)
- SDI-12 Ver 1.4 compliant
- Firmware updates through RS-485
- NIST certification available
- High-accuracy temperature measurement
- Extremely low current draw
- Works in water, soil, or air
- Suitable for freshwater or marine applications
- Rugged housing and fully potted electronics - no risk of leaking
- Celsius and Fahrenheit output
- No calibration required

Specifications

Sensor	Silicon bandgap temperature sensor
Output	SDI-12 v.1.4 and RS-485
Measurement Range	-40° F to +140° F (-40° C to +60° C)

Accuracy	±0.18° F (±0.1° C) from 23° F to 122° F (-5° C to +50° C). ±0.2° C outside this range.
Resolution	0.01° C
Current Draw	Idle: 10 µA (SDI-12), 0.6 mA (RS485). Sample: 6mA for 10 ms. Transmit/receive: 6mA for ~ 100 ms (depends on length of data). Peak: 30 mA for 1 ms during initial power-on.
Units	Celsius, Fahrenheit, and Kelvin
Dimensions	4.95" (125.7 mm) L x 0.7" (17.8 mm) ⌀ (#51126). 3.56" (90.4 mm) L x 0.70" (17.8 mm) ⌀ (#51163).

For comprehensive details, visit: www.campbellsci.ca/smart-temp

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