



Smart PT SDI-12/RS-485 Pressure, Temperature, and Digital Crest Gauge Sensor



Accurate Results for a Wide Variety of Applications

Overview

Stevens' Smart PT is a ceramic membrane pressure and temperature sensor that delivers accurate results for a wide range of fluid level measurement applications. In addition to simple instantaneous measurements, this smart sensor features the ability to capture peak crest levels, and to automatically sample and report basic statistics on a configurable time interval.

A corrosion-resistant stainless steel housing and potted electronics make Smart PT extremely durable and long lasting for submersible water applications.

Smart PT is available with a vented or absolute pressure sensing module. Both versions come equipped with user specified length of cable. The vent tube provides an atmospheric reference which compensates for variations in barometric pressure.

In addition to programmable corrections for local variations in Earth's gravitational field, Smart PT also compensates

automatically for the water temperature-density dependency.

Every Smart PT provides both SDI-12 and RS-485 digital interfaces. Compatible with existing power and data logging instruments, the sensor can easily be deployed for data collection at remote monitoring sites.

Unique Abilities

- › Average and standard deviation outputs on up to 3600 autosampled data points over configurable time window. Data is stored until requested using the M2 command.
- › Crest gauge function automatically captures minimum and maximum level and number of seconds since the event.
- › Smart autosampling can provide smoothing and oversampling.
- › Custom offsets.
- › Environmental corrections for local gravitational field and changes in fluid density due to temperature.

Benefits and Features

- › $\pm 0.1\%$ full scale accuracy
- › Aluminum oxide ceramic membrane
- › Depth scales available from 2 meters (6.6 feet) up to 200 meters (660 feet)
- › Rugged housing and fully potted electronics - no risk of leaking
- › Vented or non-vented cable, user specified length
- › Low power consumption
- › Overpressure tolerant



Specifications

Supply Voltage	6 - 28 Vdc (12 Vdc typical)
Current Consumption	SDI-12: Average one measurement per minute: 0.9 mA. RS-485: Average one measurement per minute: 1.5 mA. Peak current, during response to host: 30 mA
Output	SDI-12 (Version 1.4) and RS-485. Selectable output: Pressure in bar, kPa, psi or water depth in m, cm, ft. Temperature in °C or °F.
Operating Temperature	-20 °C to 80 °C (-4 °F to 176 °F)
Storage Temperature	-40 °C to 80 °C (-40 °F to 176 °F)
Pressure Accuracy	± 0.1% of full scale 0-2m: 2mm 0-4m: 4mm 0-10m: 10mm 0-20m: 20mm

Temperature Accuracy	± 0.25 °C (0.45 °F)
Wiring	Red: 6 - 28 Vdc Black: GROUND Blue: SDI-12 White: RS-485 A/+ Green: RS-485 B/-
Cable	High durability polyurethane (26 AWG)
Pipe Threading	M14-1
Dimensions	91 mm x 22 mm (3.6" x 0.9")
Body Material	316L Stainless Steel
Weight	Probe: 120 g (4.2 oz.). Cable: 40 g per m (0.4 oz. per ft.).
Resolution	SDI-12: 0.001 m; 0.1 cm; 1 mm

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



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