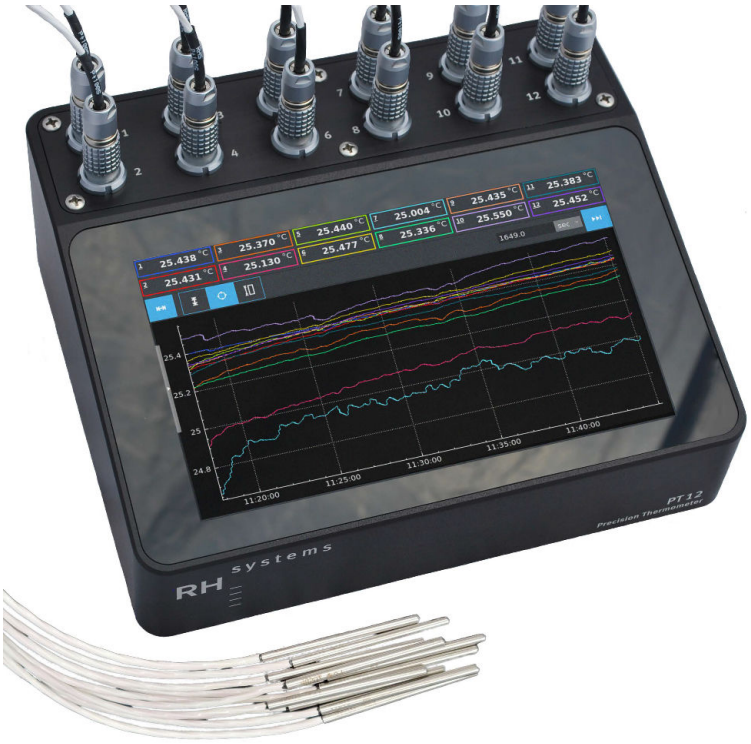
Multi-Channel Thermometer PT12



PT12 High Precision Multi-Channel Thermometer System

Features:

- Twelve channel temperature measurement
- High precision, stability and repeatability
- Internal temperature compensated high stability reference resistors
- PC software for easy GUI or command line system control and data acquisition
- Simple to setup, configure and use
- Touchscreen user interface with graphing
- Supports THERMOtelligent™ 100 Ω and 25.5 Ω Smart 4-wire PRTs

Typical Applications:

- Climate chamber validation
- Calibration Systems
- Temperature Calibration
- Temperature Control

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Multi-Channel Reference Thermometer

The PT12 is a highly precise and stable platinum resistance thermometer (PRT) based multi-channel temperature measurement system. Using a custom designed high-quality measurement circuit with full current reversal and multiplexed sampling, the PT12 provides 12 channels of low uncertainty temperature data for validation and calibration engineers.

Using one of three automatic or user selectable currents, the PT12 repeatedly scans all 12 channels. Employing a full reversal current source, the PT12 eliminates polarity sensitive errors normally inherent to DC measuring techniques. Accuracy is further enhanced by referencing all measurements to high stability, temperature compensated internal refence resistors.

The supplied software allows each channel to be individually programmed with ITS-90 or Callendar-Van Dusen coefficients for direct conversion of resistance measurements to temperature. The PT12 connects to a PC over the RS-232 interface.

Data Logging

Data may be logged automatically to a USB flash drive. If no drive is detected, data is logged to internal memory and may be copied to a USB drive when inserted at a later time.

Internal Reference Resistors

Measurements are compensated against drift using four high precision, high stability internal reference resistors. During each sampling sequence, the PT12 measures each reference resistor to define the measuring range and accurately determine the unknown values of each of the 12 channels. The result of this specific reference resistor measurement technique is a significant reduction in overall uncertainty.

Supports THERMOtelligent™ Smart 4-wire PRTs

THERMOtelligent™ Smart-Platinum Resistance Thermometers save you valuable time and decrease the possibility of measurement errors by eliminating the need to change calibration coefficients in the thermometer readout when temperature probes are changed.

An integrated microchip installed in the probe stores calibration coefficients and other information about the PRT. When the PRT is connected to the PT12, it automatically identifies itself and updates the PT12 with the calibration coefficients and other permanent information that is stored in the chip. Since the calibration coefficients are always kept in the THERMOtelligent™ PRT, the PRTs can be moved from channel to channel, or from one THERMOtelligent™-supported readout to another without requiring any reconfiguration.

The PT12 also works with any standard 4-wire 100 Ω or 25.5 Ω PRT. In the case of non-intelligent probes, coefficients may be easily entered by the operator through the touch screen. In addition, any 4-wire PRT can be converted to a THERMOtelligent™ Smart-PRT by RH Systems.

Touch Screen Interface

The PT12 is equipped with a full color touch screen capable of data display in both numeric and graph formats. Graph positioning and scaling uses intuitive pinch/zoom gesturing.

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