Precision Thermometers

F200 Series

The F200 series 3/4 wire PRT Precision Thermometers comprises of two models: Model F200 accepts 4 wire PRTs, Model F201 accepts both 3 & 4 wire PRTs.

High Performance 2 or 8 channel, 3 and 4 wire Precision Digital Thermometers for use with calibrated and uncalibrated Pt100 probes, with great new features for increased usability and lower life-costs.

Using calibrated probes with the F200 thermometer series you choose between storing calibration data into memory in the instrument or into the probe's proprietary 'SMART' connector. Calibration data stays permanently with the probe in this connector, which the F200 series instantly recognizes, ensuring best measurement accuracy.

Key features

- Accuracy: up to ±0.01°C over full range
- Resolution: 0.001 °C
- Temperature Range: -200°C to +850°C
- Stability: <0.005°C per year
- Common inputs for both 'SMART' and passive connectors
- Single or differential measurement
- RS232 interface
- ITS90, EN60751 and CvD temperature conversion
- Clear vacuum fluorescent display in °C, °F, K or Ω
- Self calibrating against traceable external reference
- ULOG software

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Calibration

Using a built-in calibration routine, the operator can re-calibrate the F200 instrument range using a calibrated, traceable reference resistor. This feature is password protected. Other features have been included for F200 range when using SMART probes, like the Temperature Watchdog and the Calibration Status Monitor. The Temperature Watchdog, continuously monitors the temperature of SMART probes and, if any are used outside their specified working range, the probe history record is updated. This way you can see at a glance if your probes have ever been used outside their calibrated range, as this may affect their calibration validity. The Calibration Status monitor alerts you with an on-screen message when a SMART probe is due for recalibration.

Applications

The F200 series is used in a variety of industries and applications where precision combined with portability is required.

Where temperature profiling, calibration or validation is required the F200 series 3/4 PRT models may provide the solution that you are looking for.

Specification

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Temperature range	-200°C to +850°C, depending on PRT used
Instrument accuracy	F200/ F201(4 wire):<±0.01°C (±10mK)
	F201 (3 wire):<±0.05°C (±50mK)
Resolution	0.001°C
Repeatability	±2 least significant digits (±0.002°C), included in accuracy
Stability	Long term: typically <0.002Ω per year (<0.005°C for Pt100)
Temperature co-efficient	<0.00005°C per °C ambient change
Data entry format	ITS 90 coefficients, Callender van Dusen coefficients, or EN60751 for un-calibrated probes
Probe current	1 mA constant current source
Probe ctypes	Pt100 to EN60751 with nominal R0=100Ω and 25Ω high alpha probes up to 0.00392
Cable cLength	Maximum 100 metres of 4-core 19/0.15 SPC/PTFE screened cable
Thermometer input connectors	2 off (2 ch.) or 8 off (8 ch.) 5 pin industrial DIN socket can be used with passive or proprietary 'Smart connector'
Communications	Galvanically isolated RS232C: 4KV isolation. Baud rate 9600
Operating conditions	0°C to 50°C, 10-90% RH non-condensing
Power requirements	90 to 264VAC universal IEC 320 input on rear panel, 47-63 Hz, 30VA max
Dimensions	Height: front 100mm, rear 63mm, width: 168mm, depth: 215mm
Weight	1 kg (2.2 lbs)