

# T100-SERIES

## Reference Thermometers

### QUICK SPECS

- Temperature Ranges from -200 to 450°C
- Ideally suited as a Secondary Standard Reference PRT
- Exceptional stability and low drift
- Calibrated Uncertainties from 9 to 21mK (0.009°C to 0.021°C)
- Custom diameters and lengths available, contact Isotech with your requirements
- SMART connectors, DIN, Lemo, or Gold plated Spade terminations available

The T100 series provide full range Platinum Resistance Thermometers (PRTs) for use in every application from standards calibration to site temperature measurement. If our 'off the shelf' range will not suit your needs we are able to supply custom manufactured thermometers to almost any specification.

Thermometers can be supplied calibrated or uncalibrated. Calibration is normally carried out in our group calibration laboratory. However calibration can be arranged to suit your particular needs and we regularly submit thermometers for calibration to customer approved laboratories throughout the world.

## T100-250-1

### order codes

- T100-250-1D Supplied with 5 pin DIN plug
- T100-250-1S Supplied with SMART connector
- T100-250-1L Supplied with Lemo connector

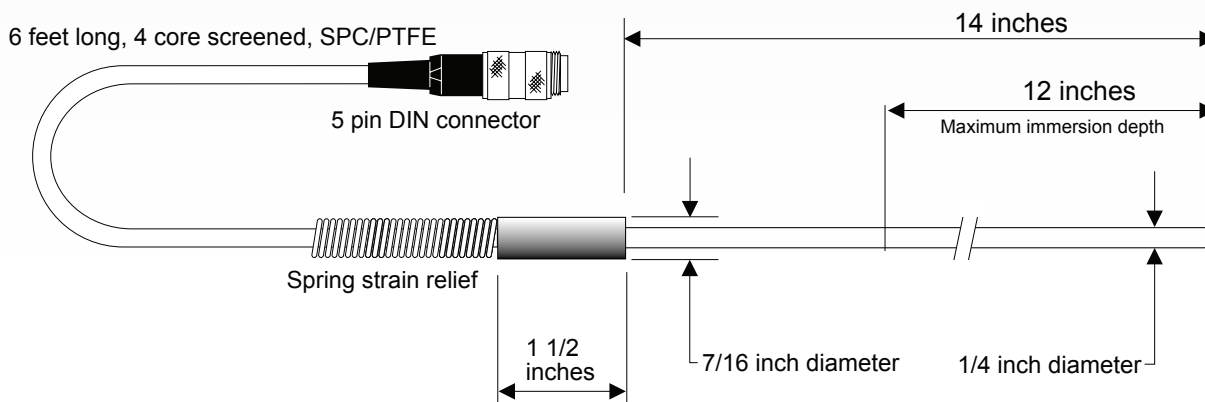
-196°C to  
+250°C

## T100-450-1

### order codes

- T100-450-1D Supplied with 5 pin DIN plug
- T100-450-1S Supplied with SMART connector
- T100-450-1L Supplied with Lemo connector

-196°C to  
+450°C



# T100-SERIES Reference Thermometers

## specifications

	T100-250	T100-450
Temperature Range	-200 to 250°C	-200 to 450°C
Nominal Resistance at 0.01°C	100 ohms	100 ohms
Accuracy	See Calibration Table	See Calibration Table
Probe Diameter	6.35 mm (1/4") Standard	6.35 mm (1/4") Standard
Probe Length	355 mm (14") Standard	355 mm (14") Standard
Sensing Length	25 mm (1")	25 mm (1")
Rtpw Repeatability;	0.004°C after ten thermal shocks from ambient to max temperature	0.004°C after ten thermal shocks from ambient to max temperature
Rtpw Drift:	0.003°C after 300 Hours at 250°C	0.006°C after 300 Hours at 450°C
Sheath Material	316 SS	316 SS
Minimum Immersion	100mm (4")	100mm (4")
Maximum Immersion	300 mm (12")	300 mm (12")
Self Heating Error in Water Bath at 0°C	Typically less than 5mK at 1mA	Typically less than 5mK at 1mA
Response Time in Water	Typically 8 Seconds to 63% of final value	Typically 8 Seconds to 63% of final value
Lead Wires	6 Feet of 26 AWG, stranded silver plated copper, braided shield over all four wires with FEP teflon jacket	6 Feet of 26 AWG, stranded silver plated copper, braided shield over all four wires with FEP teflon jacket
Terminations	Bare Wire, Gold Plated Spade, DIN, Lemo and SMART connectors available	Bare Wire, Gold Plated Spade, DIN, Lemo and SMART connectors available

## Calibrated Probe Accuracy

Includes, short term repeatability, stability, drift, hysteresis and calibration uncertainty

	-196°C	-38°C	0 01°C	30°C	157°C	232°C	420°C	660°C
T100-250	0.011	0.009	0.009	0.009	0.01	0.012	N/A	N/A
T100-450	0.013	0.01	0.01	0.01	0.011	0.012	0.014	N/A

## Recommended Meters



### F100 Precision Thermometer

- $\pm 0.02^\circ\text{C}$  ( $\pm 20\text{mK}$ ) Accuracy
- Accuracy of  $\pm 0.02^\circ\text{C}$  over full range
- Resolution of  $0.001^\circ\text{C}$
- Range of  $-200^\circ\text{C}$  to  $+850^\circ\text{C}$
- Stability of  $<0.005^\circ\text{C}$  per year
- Common inputs for both "SMART" and passive
- Single or differential measurement
- 2 channel models



### F200 Precision Thermometer

- $\pm 0.01^\circ\text{C}$  ( $\pm 10\text{mK}$ ) Accuracy
- Accuracy of  $\pm 0.01^\circ\text{C}$  over full range
- Resolution of  $0.001^\circ\text{C}$
- Range of  $-200^\circ\text{C}$  to  $+962^\circ\text{C}$
- Stability of  $<0.005^\circ\text{C}$  per year
- Common inputs for both "SMART" and passive
- Single or differential measurement
- 2 or 8 channel models



### Milli-K Precision Secondary Thermometer 9 mK (0.009°C)

Resolution of 0.1mK (0.0001°C)

- For PRT's, Thermistors & TC's
- Data Logging
- USB Host: Mouse, Keyboard, Memory Stick
- Graphical Display
- 4-20mA current loop with optional 24V loop supply
- Accuracy to 4mk over full range