



7000 RTD Temperature Calibrator

High Accuracy Temperature Reference Resistance & RTD Calibrator

A hand held instrument that combines a precision **Digital Thermometer** (using RTD probes) with an **RTD/Ohms Calibrator**.

Compact and easy to use, it solves the problem of making high accuracy temperature measurements without using bulky mains powered instrumentation.

Powered from internal long life re-chargeable batteries or an external mains adapter, it is equally valuable in laboratory, workshop or the field. It can also be used as an external temperature reference for dry block and other precision temperature baths.



Features

- **Temperature:** Accuracy 0.05 deg C (0.09 deg F) Resolution 0.01 deg C (0.02 deg F)
- **Resistance:** Accuracy 0.03 ohms, Resolution 0.01ohms
- 2, 3 and 4 Wire Connections
- Read and Simulate deg C, deg F, deg K, and Ohms
- Ramp & Step
- PT100 plus 7 other RTD types
- User programmable
- Supplied in protective carrying case



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Specification

MONITOR MODE (4 WIRE) FUNCTIONS

1. Check RTD probes by measuring their resistance at known temperatures.
2. Measure general resistance values.
3. Indicate temperature when connected to an RTD probe.
4. Be pre-programmed with a particular RTD's characteristics to allow very high accuracy.

Excitation current: 1mA on all ranges
 Resistance range: 0.01 ohms to 2.6K ohms
 Resolution: 0.01 ohms
 Accuracy: See tables below
 Auto re-calibration: Every 0.6 secs.
 Temperature stability: Better than 0.0015%/degC
 Max/Min values: Logged automatically

The 7000 may be used with a calibrated and certified probe to produce a highly accurate thermometer. The performance can be further enhanced by programming the actual characteristic of the probe into the unit.

SIMULATOR MODE (4 WIRE) FUNCTIONS

1. Output resistance of precise known value.
2. Simulate an RTD value from an RTD table chart.
3. Simulate an RTD value using the internal table.

Excitation current: 0.6mA to 1.5mA.
 Resistance range: 0.01 to 2.6K ohms
 Resolution: 0.01 ohm
 Accuracy: See tables below
 Auto re-calibration: Every 0.6 secs
 Temperature stability: Better than 0.0015%/degC.

Enhanced performance may be achieved by programming the unit to simulate the characteristic of a particular probe.

Five fixed step points (0, 25, 50, 75, 100%) are available between a user set minimum (0%) and a maximum (100%). Programmable ramp function is also available.

Standard RTD types (Non standard RTD types user programmable)

Element	Alpha Coeff.	Celsius		Fahrenheit	
		Range	Accuracy	Range	Accuracy
Pt 100 DIN	0.003850	-200 to 250	0.05 degC	-330 to 480	0.10 degF
Pt 100 DIN	0.003850	-250 to 850	0.07 degC	-480 to 1560	0.14 degF
Pt 100 US	0.003916	-100 to 250	0.05 degC	-150 to 480	0.10 degF
Pt 100 US	0.003916	-250 to 457	0.07 degC	-480 to 850	0.14 degF
Pt 200 DIN	0.003850	-200 to 300	0.05 deg C	-330 to 570	0.10 degF
Nil 120	0.006720	-100 to 200	0.05 degC	-150 to 390	0.10 degF
Nil 11000	0.006720	-100 to 200	0.50 degC	-150 to 390	0.90 degF
	Range ohms	Monitor	Generator		
	20 to 400	0.03 ohms	0.03 ohms		
Resistance	400 to 800	0.10 ohms	0.10 ohms		
accuracy	800 to 1200	0.20 ohms	0.20 ohms		
	1500 to 2600	0.50 ohms	0.50 ohms		

General Information

Operating temperature range: -10 to 50°C
 Battery power: NiCad rechargeable
 Mains power: External mains adapter.
 Battery life: > 30hrs
 Case: Impact resistant ABS
 Size: 165mm x 90mm x 45 mm
 Weight: 0.40 kg

Ordering Information

RTD Temperature Calibrator	7000
Mains Adapter 230V AC	7633
Mains Adapter 110V AC	7633
NPL Traceable Calibration Certificate	9183
UKAS Calibration Certificate	9194