High-Accuracy Digital Thermometer

Exceptional Performance and Versatility!

DP97

$2358

1 YEAR WARRANTY

- **Single or Dual Pt100 Inputs, A, B and A-B**
- **High Resolution 0.01°C**
- **Very High Accuracy and Stability**
- **Better Than 40 mK (0.04°C) System Accuracy (Based on DP97-Probe Calibration)**
- **PC Software Included**
- **Digital Matching of Calibrated Sensors**
- **Circuitry Self-Calibrates for Total Stability**
- **3- or 4-Wire Sensors with Automatic Recognition**
- **Readout Directly in °C, °F, Kelvin, and Ω**
- **RS232 (Remote Control and Measure) as Standard**
- **Programmable Analog Output**
- **Bench Mounting (Or Panel Option)**
- **Rechargeable Battery/AC Adaptor**

A precision portable thermometer for metrology and other exacting laboratory applications, the DP97 is a proven instrument used world-wide as a laboratory and site standard in pharmaceutical, medical, food, environmental testing, R&D, and general industrial applications. It is ideal as the reference standard for temperature calibration baths.

Based on a high resolution 20-bit analog-to-digital converter, all measurement computations are performed digitally without drift. The 5-digit LED display provides a readout to 0.01°C over the entire -199.99 to 849.99°C range; alternatively °F, Kelvin or Ω values can be displayed up to 999.99 units.

DP97, $2358, shown smaller than actual size.

Single or dual Pt100 3- or 4-wire sensors are accepted; the DP97 will automatically recognize and select 3- or 4-wire mode. Display of input A, B or A-B (differential) can be selected; a differential "zero function" allows sensor accuracy differences to be eliminated for accurate differential readings.

When used with the DP97-Probe1, the system has a temperature range of -50 to 250°C (-58 to 482°F), with an accuracy of ±0.04°C. When used with the DP97-Probe2, the system has a temperature range of 0 to 400°C (32 to 752°F), with an accuracy of ±0.04°C.

Specifications

[All values are valid for a nominal 110/240V, 50/60 Hz supply and 20°C (68°F) ambient temperature ±2°C (±35.6°F)].

General

Range/Sensor Type: Pt100 to IEC 751 (ITS 90), -199.99 to 849.99°C (327.98 to 1561.98°F), Ro = 100 Ω

Input Channels: 2, each with 3- or 4-wire connection and automatic recognition (with manual override)

Overall Instrument: ±0.02°C ±1 digit for range -200 to 500°C (-328 to 932°F)

Accuracy (4 Wire): ±0.005% reading ±1 digit for range 500 to 850°C (932 to 1562°F)

Overall System: Better than ±0.04°C (±32.07°F) with DP97-Probe1 precision probe

Accuracy (4 Wire): -50 to 250°C (-58 to 482°F) with DP97-SYS-CAL calibration

Linearization Conformity: ±0.01°C

Stability vs Ambient Temperature: 0.0025°C/°C (0.0045°F)

Warm-Up Time: Negligible under normal ambient conditions; 5 to 10 minutes for full stability unless stored at low temperature

Pt100 Sensor Current: 0.5 mA nominal

Display Resolution: 0.01°C, K, °F, Ω

Measurement Units: °C, °F, K, Ω (user selectable)

Measurement Modes: Input A or B or A-B (differential); null facility in A-B mode

Custom Calibration: Up to 10 calibration values can be allocated (via PC software) to channels A and B; values are retained in non-volatile memory until replaced by user

Null Function: Corrects differential temperature readout between the 2 sensors to zero

Sensor Lead Resistance: 25 Ω each lead maximum

Supply: Internal rechargeable batteries; AC line 110/220V, 50/60 Hz; adaptor included; battery charge life up to 12 hours dependent on pattern of usage; charger requirement 10 to 11.5 Vdc, 1 A

Power Consumption: 10 W nominal, 20 W max when battery is charging

Series Mode Rejection: 60 dB @ 50 Hz (50 mVrms applied)

Common Mode Rejection: 30 Vrms applied between input and earth produces no measurable effect

Ambient Temperature: 0 to 50°C (32 to 122°F) non-condensing; ensure stable temperature range for best accuracy; allow adequate warm-up time if moved from region of low ambient temperature prior to use

EMC Compliance: Meets EMC regulations RFI to BS EN 50081-1, 1992 and immunity to BS.EN 50082-1, 1992

CE Compliance: CE marked and compliant to current regulations

Display: 14 mm (0.6") LED, 5-digit, 999.99 range

Front Panel Controls: 5 x membrane keys for user functions

Input Connections: 2 x Pt100 via "D" connectors

Probes Common Specifications

Accuracy: Class 1/10 DIN = ±1/10 (0.3 + 0.005 |t|)°C per IEC60751 (alpha = 0.00385 Ω/Ω/°C)

Stainless Steel Sheath:

Leadwire: 4 conductor, stranded 26 AWG, 2 m (6.5'), PTFE insulated with 9-pin connector

DP97-PROBE1: 250 mm L (10") x 6 mm D (¼"); for use -50 to 250°C (-58 to 482°F)

DP97-PROBE2: 350 mm L (14") x 6 mm D (¼"); for use -50 to 450°C (-58 to 842°F)

Mechanical

Mechanical/Case: Metal, bench-top; optional panel mounting kit

Dimensions: 145 L x 66 W x 240 mm D (5.7 x 2.6 x 9.4")

Weight: 1.5 kg (4.0 lb) approximately

Communications

RS232 (Standard): Remote control and measure; isolated, 9600 Baud, 8 data, no parity, 1 stop-bit

PC Software: Running in Windows® allows (standard) programming of custom calibration and preview of set values from a PC; provides a print facility and can store sets of correction values

Analog Output: Analog 0 to 1 Vdc between standard programmable lower and upper set limits; non-isolated

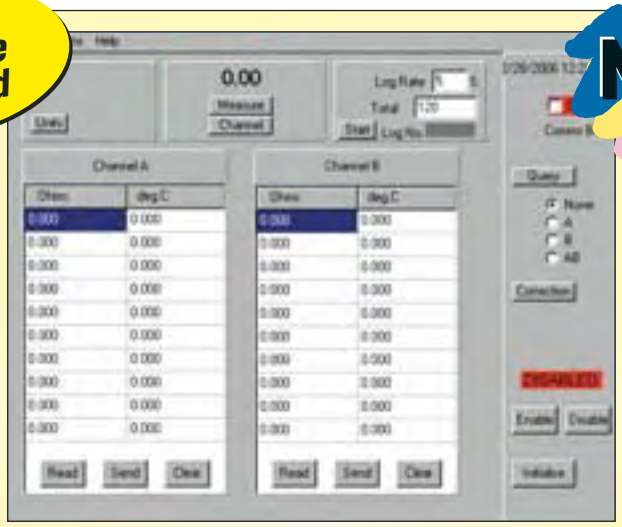
Accuracy: 0.5% rdg

OMEGA CARE℠ Extended Warranty Program

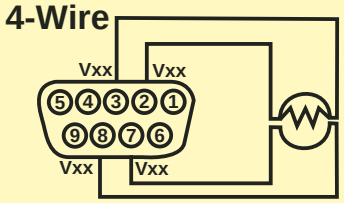
OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

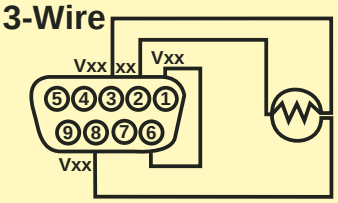
PC Software Included

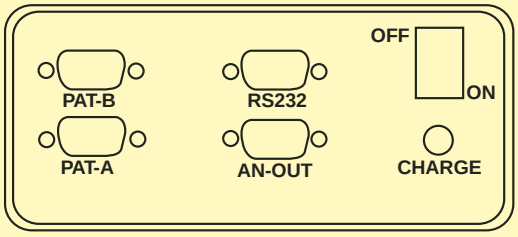
NEW®



- **User-Friendly Operation**
- **Remote Control and Measurement**
- **Programming and/or Editing of Pt100 Sensor Calibration Correction Values**
- **Reads Correction Values in Instrument Memory**
- **Load/Save/Print Correction Values**
- **Log Readings to File with Date/Time/User Name/Probe Reference Number/Channel A/ Channel B (Optional)**
- **Includes Help File**







BACK PANEL

AVAILABLE FOR FAST DELIVERY!

To Order ***(Specify Model Number)***

Model No.	Price	Description
DP97	**$2358**	High-accuracy digital thermometer

Accessories

Model No.	Price	Description
DP97-PROBE1	**$135**	Precision Pt100 probe, temperature range -50 to 250°C (-58 to 482°F)
DP97-PROBE2	**154**	Precision Pt100 probe, temperature range -50 to 450°C (-58 to 842°F)
DP97-SW	**17**	Replacement software
DP97-CONN	**3**	Replacement 9-pin connector
PSU-DP97	**280**	Replacement power supply

Comes complete with software, power adaptor, 9-pin connector and operator's manual.

Ordering Example: DP97**, high-accuracy digital thermometer, **DP97-PROBE1,** $2358 + 135 = **$2493.

OCW-3,** OMEGACARE℠ extends standard 1-year warranty to a total of 3 years **($350),** $2493 + 350 = **$2843.

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Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

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- **Pressure, Strain and Force**

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

- **Heaters**

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters