High Precision Digital RTD Thermometer/Data Logger
With USB Port

DP9601 Series

DP9601 shown smaller than actual size.

- ✔ **Reference Standard Thermometer for Pt100 Sensors**
- ✔ **High Accuracy ± 0.01°C Pt100**
- ✔ **40 Millikelvin (0.040°C) System Accuracy**
- ✔ **Simple, Fast Digital Matching to Calibrated Sensors, Up to 10 Points Per Channel Retained in Memory**
- ✔ **Alpha Numeric Display**
- ✔ **Resolution 0.01°C for Pt100 Inputs**
- ✔ **Data Logging**
- ✔ **Wide Temperature Range**
- ✔ **Readout Directly In °C, °F, K, Ω**
- ✔ **Two Sensor Input Ports**
- ✔ **Channel A, B or A-B Reading**
- ✔ **USB Serial Communications**
- ✔ **USB Flash Drive Port**
- ✔ **Supplied with PC Software**
- ✔ **Programmable Analog Retransmission Output**
- ✔ **Rechargeable Lithium Ion Battery/ Mains Powered**

The DP9601 provides precise platinum resistance thermometer temperature measurement and logging for exacting applications in both laboratory and site locations. It is an exceptionally accurate and stable digital thermometer particularly suitable for use with thermal calibration baths as a reference standard. Applications include medical, pharmaceutical, food, environmental testing, R&D and educational establishments.

Displayed values and user information are indicated on a bright clear LED screen with diffused backlighting. Data can be displayed in °C, °F, K, Ω as required; nine front panel push keys, the only user controls, are used in conjunction with the display screen. It is this arrangement which makes for very simple and "friendly" operation.

There are two input ports for 3- or 4-wire Pt100 sensors; the instrument automatically recognizes 3- or 4-wire configurations. The measured temperature can be displayed directly from one of the inputs or differentially between the two inputs. Differential temperature and the two individual channel temperatures are displayed simultaneously.

A flash drive USB port is provided to allow data to be stored and/or exported. PC software running in Windows® is provided as standard; it allows programming of custom calibration, remote control and measure and logging functions.

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Specifications

Inputs/Ranges/Sensors

Type: Pt100 to IEC 751 (ITS 90 refers) -200 to 850ºC (-328 to 1562ºF) R_o = 100 Ω 3- or 4-wire connection with automatic recognition (with manual override)

Overall Accuracy: ±0.01ºC ±0.0005% of span

Linearisation Conformity: Better than ±0.01ºC

Stability (vs Ambient Temperature): Better than 0.0025ºC per 1ºC ambient change

Warm-Up: Negligible under normal ambient conditions. Allow 5 to 10 minutes for full stability unless stored at low temperature, then 30 minutes minimum

Pt100 Sensor Current: 0.5 mA

Resolution of Data Display: 0.01

Variable Filter: Sampling rate selectable between 4 and 64 (measurements averaged per reading)

Measurement Units: ºC, ºF, K, Ω

Measurement Modes: A, B or A-B

Custom Calibration: Up to 10 calibration values can be allocated to Pt100 input A & B; values are retained in non-volatile memory until replaced by user; ITS 90 or IPTS 68 coefficients can be used for custom calibration

Smart Sensor Connection: Correction values stored in connector

Null Function: Corrects differential temperature readout between two sensors to zero

Sensor Lead Resistance: 5 Ω each lead maximum

Logging: 8000 readings

Supply: Internal lithium Ion rechargeable batteries; mains 90 to 260V 50/60 Hz universal adaptor included; battery charge life up to 12 hours with full charge

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

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

Display: 128 x 64 pixel character OLED screen with diffused backlighting; wide viewing angle, high contrast (adjustable)

Front Panel Controls: 9 membrane push-keys to control all instrument functions

Mechanical/Case: Metal bench top case/adjustable tilt

Dimensions: Overall 190 W x 70 H x 250 mm D (7.5 x 2.75 x 9.85")

Weight: 3 kg (6.61 lb) approximately

Input Connections: 2 x Pt100 via D type connectors

USB Serial: Isolated, 38400 Baud, 8 data, no parity, 1 stop bit

Communications: Remote control and measure

PC Software (Standard): Supplied as standard on CD-ROM. Remote control and measure: log readings to file/download to PC/programming corrections

Analog Output (Standard): User programmable, 0 to 1 Vdc

Application Note: *Inputs are not isolated in the instrument, which is primarily designed for laboratory applications and site calibration of industrial temperature sensors. Probes connected to the instrument must therefore be isolated from high voltage pick-up.*

Precision Pt100 Probes: 304 Stainless steel probes, 6 mm diameter with 2 m (6.6') screened PTFE lead Pt100 Probes and connector

DP9600-L250: 250 mm (9.85") L, -50 to 250ºC (-58 to 482ºF)

DP9600-H450: 350 mm (13.75") L, -50 to 450ºC (-58 to 842ºF)

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

To Order *Visit omega.com/dp9601 for Pricing and Details*

Model No.	Description
DP9601	High precision digital RTD thermometer

Accessories

Model No.	Description
DP9600-L250	Precision Pt100 RTD probe, -50 to 250ºC (-58 to 482ºF), 250 mm (9.85")
DP9600-H450	Precision Pt100 RTD probe, -50 to 450ºC (-58 to 842ºF), 350 mm (13.75")
DP9600-INSTRUMENT-CAL	Calibration for instrument alone (no NIST)
DP9600-SYS-CAL	Calibration of instrument and sensor together at five points (no NIST)
DP9600-SYS-COR-CAL	Calibration of instrument and sensor together at five points, after initial calibration of sensor only and programming of corrections (no NIST)
DP9600-TBLK4	Terminal block for connection of 3- or 4-wire Pt100s

Comes complete with software, power adaptor, 9-pin connector and operator's manual.
Ordering Example: *DP9601, high precision digital RTD thermometer, and **DP9600-H450** probe.*
OCW-2, *OMEGACARE[SM] extends standard 1-year warranty to a total of 3 years.*