

Strain, Process, and Temperature Meters With Optional Relays and Analogue Output

DP25B
Starts at
£164



Inputs

- ✓ Thermocouple
- ✓ RTD
- ✓ Process (DC Voltage and Current)
- ✓ Strain Gauge/Bridge

Options

- ✓ Relay Output with Adjustable Deadband
- ✓ Isolated or Non-Isolated Analogue Output
- ✓ Totally Programmable Colour Display
- ✓ Low-Voltage Power Options
- ✓ IP65 Front Panel

Panel Meters

The OMEGA® DP25B Series features the biggest, brightest display of any 1/8 DIN panel meter. The user can select the display colour: **RED, AMBER,** or **GREEN.**

Unparalleled accuracy in signal conditioning is available in this economical series of panel meters/controllers. The series has a 4-digit, 9-segment display plus optional dual 5 A, SPDT relays (Form "C") and a choice of isolated or non-isolated analogue output. The scalable 0 to 10 Vdc, 0 to 20 mA, or 4 to 20 mA analogue output can be used for retransmission of the display value or as a proportional control output, as required. The microprocessor-based DP25B series includes instruments for process (DC voltage and current) strain gauge, thermocouple, and RTD.

Common Specifications

Display: 4-digit, 9-segment, 21 mm (0.83") red, amber or green LED (programmable)

Analogue-to-Digital Technique: Dual slope

Internal Resolution: 15 bit

Read Rate: 3/second

Step Response: 1 second

Relay Outputs (optional): 2 Form "C" (SPDT) relays rated 5 A 250 Vac, programmable for active high/low alarms with latching/non-latching relays

Analogue Output (Optional): 0 to 10 V, 4 to 20 mA or 0 to 20 mA; can be assigned to a display range (scalable) or proportional control output with setpoint #1 when used as a control output

Power: 115 Vac or 230 Vac $\pm 10\%$, 10 to 32 Vdc, 26 to 56 Vdc; 8 W max (DP25B-TC or -RTD), 11 W max (DP25B-E or -S); 240 V RMS overvoltage protection

Isolation: Dielectric strength to 2500 V transient per 3 mm spacing based on EN 61010 for 260 Vrms or Vdc



DP25B, £164, shown close to actual size.

PATENTED

Covered by U.S. and International patents and pending applications

Thermocouple and RTD Models

The DP25B Series for thermocouple and RTD inputs is a versatile panel meter and limit alarm-in-one that is easily programmable. The DP25B-TC is selectable for J, K, T, or J DIN thermocouples. The DP25B-RTD accepts 100 Ω PT (0.00385 curve) RTD's.

DP25B-TC (Thermocouple)

Input Type	Range	Accuracy
J	-210 to 760°C (-346 to 1400°F)	0.5°C (0.9°F)
K	-270 to 1372°C (-454 to 2500°F)	
T	-210 to 400°C (-346 to 752°F)	
J DIN	-200 to 900°C (-328 to 1652°F)	

NMR: 60 dB

CMR: 120 dB

Operating Temperature: 0 to 50°C (32 to 122°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Relative Humidity: 90% @ 40°C (104°F) non-condensing

Dimensions: 48 H x 96 W x 152 mm D (1.89 x 3.78 x 6.0")

Panel Cutout: 45 x 92 mm (1.772 x 3.622")

Weight: 575 g (1.27 lb)

Thermocouple Meter Specifications

Input: Thermocouple Types J, K, T and J DIN

Relay Hysteresis:

Programmable from 0 to 9999

Accuracy: $\pm 0.50^\circ\text{C}$ (0.9°F) after 30 min warm-up

Temperature Coefficient: ± 50 PPM/°C

Input Resistance: 100 M Ω



Process and Strain Models

The DP25B-E process and strain meters accept a wide range of DC voltage and current inputs to cover any typical process application. They feature easy, front-panel scaling to virtually any engineering units, selectable excitation of 4 voltages to work with most transducers and transmitters, front panel and remote tare function for weighing applications, and a hardware lockout to prevent unauthorised changes in set-up.



DP25B-TC, £164, programmed for green display, shown larger than actual size.

DP25B-RTD (RTD)

Input Type	Range	Accuracy
RTD, 100 Ω Pt, 2, 3, 4-wire	-200 to 850°C (-328 to 1562°F)	0.5°C (0.9°F)

Specifications (RTD Temperature Meter)

Input: RTD 100Ω Pt (0.00385 curves)
2-, 3- and 4-wire selectable
Accuracy: ±0.50°C (0.9°F) after 30 min warm-up
Temperature Coefficient: ±50 PPM/°C
Input Resistance: 100 MΩ

DP25B-E (Process) / DP25B-S (Strain)

Input Type	Range	Accuracy
mV, V, mA	0 to 100 mV, ±50 mV, 0 to 10 V±5 V, 0 to 20 mA, 4 to 20 mA	0.02% R _{dg}

Specifications (Process and Strain Meters)

Input Ranges: 0 to 100 mV, ±50 mV, 0 to 10 V, ±5 V, 0 to 20 mA, 4 to 20 mA
Protection: 240 V rms max for voltage input ranges; 200 mA for current ranges
Input Impedance: 100 MΩ for 100 mV or ±50 mV range; 1 MΩ for 10 V or ±5 V range; 5 Ω for 20 mA current input
Internal Resolution: 15 bit
Polarity: Automatic
Max Error Strain/Process: ±0.03% rdg
Span Temperature Coefficient: ±50 ppm/°C
Warm-Up to Rated Accuracy: 30 min
Excitation Voltage: 24 V @ 25 mA or 12 V @ 50 mA; 10 V @ 120 mA or 5 V @ 60 mA



Select Your Colour!

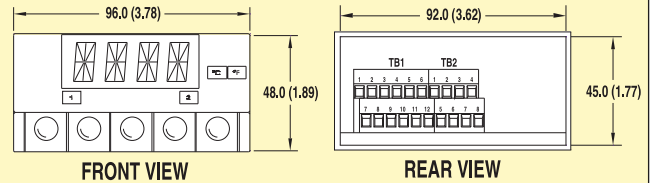
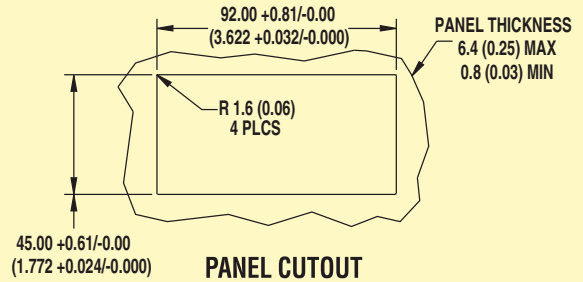
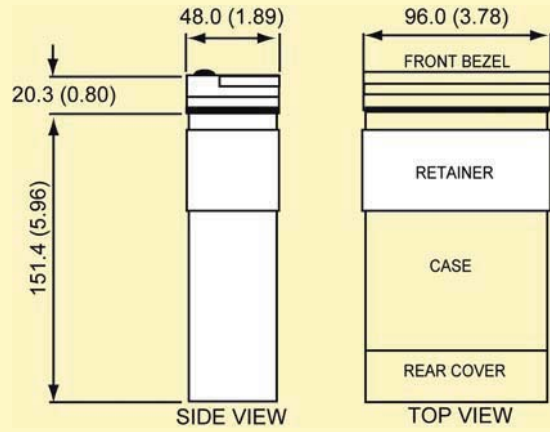
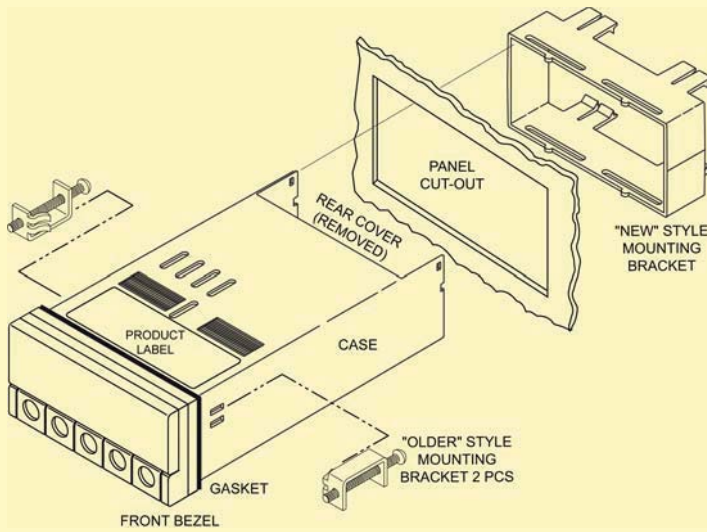
Program to display in **RED**,
AMBER, or **GREEN**.

Totally Programmable Colour Displays

The OMEGA® DP25B Series meters and controllers have totally programmable colour displays—for **RED**, **AMBER**, or **GREEN**.



Dimensions: mm (in)



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To Order (Specify Model Number)

Model No.	Price	Description
DP25B-TC	£164	Thermocouple
DP25B-RTD	164	RTD
DP25B-E	164	Process (DC voltage and current)
DP25B-S	164	Strain input

Power Options*

Order Suffix	Add'l Price	Power
-GN	N/C	Green LED display
-230	N/C	230 Vac
-DC10/32	£64	10 to 32 Vdc
-DC26/56	80	26 to 56 Vdc

Output Options*

Order Suffix	Add'l Price	Power
-A	£54	Analogue output
-AI-R	107	Isolated analogue output
-R	47	Dual 5 A relays
-AR	101	Analogue and relay options

Accessory

Model No.	Price	Description
EE-2683	£28	Ref. Book: Micro Controller-Based Temperature Monitoring and Control

* Not field installable. For "-AI" option, the "-R" option is required. Comes with complete operator's manual.

Ordering Examples: DP25B-TC-DC10/32-AR, thermocouple indicator for J, K, T or J DIN input, low-voltage power, analogue output and dual 5 A relays, £164 + 64 + 54 + 47 = £329.
DP25B-E, process meter, £164.

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