

1/8 DIN Strain, Process, and Temperature Meters

With Optional Relays and Analog Output

Panel Punches
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MONOGRAM[®]
SERIES

DP25B Series



Inputs

- ✓ Thermocouple
- ✓ RTD
- ✓ Process (DC Voltage and Current)
- ✓ Strain Gage

Options

- ✓ Relay Output with Adjustable Deadband
- ✓ Isolated or Non-Isolated Analog Output
- ✓ Patented Programmable Color Display
- ✓ Low-Voltage Power Options
- ✓ NEMA 4 Front Bezel

Panel Meters

The OMEGA[®] DP25B Series features the biggest, brightest display of any 1/8 DIN panel meter. The user can select the display color: **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 analog output. The scalable 0 to 10 Vdc, 0 to 20 mA, or 4 to 20 mA analog 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 gage, thermocouple, and RTD.

Specifications

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

Analog-to-Digital Technique: Dual slope

Internal Resolution: 15 bit

Polarity: Automatic

Read Rate: 3/second

Step Response: 2 seconds

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

Analog Output (Optional): 0 to 10V, 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 Vrms overvoltage protection



DP25B, shown actual size.

**BEZEL DESIGN
IS A REGISTERED
TRADEMARK**

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) RTDs.

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)	

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

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 H x 92 mm W (1.772 x 3.622")

Weight: 36 g (1.27 lb)

Specifications (Thermocouple Meter)

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 unauthorized changes in set-up.



DP25B-TC-GN, programmed for optional green display (no additional charge), shown 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 100 Ω Pt (0.00385 curves)
2-, 3- and 4-wire selectable

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

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% Rdg

Specifications (Process and Strain Meters)

Input Ranges: 0 to 100 mV, ± 50 mV, 0 to 10V, ± 5 V,
0 to 20 mA, 4 to 20 mA

Protection: 240 Vrms max for voltage input ranges;
200 mA for current ranges

Input Impedance: 100 M Ω for 100 mV or
 ± 50 mV range; 1 M Ω for 10V or ± 5 V range;
5 Ω for 20 mA current input

Analog-to-Digital Technique: Dual slope

Internal Resolution: 15 bit

Polarity: Automatic

Max Error Strain/Process: $\pm 0.03\%$ rdg

Span Temperature Coefficient: ± 50 ppm/°C

Warm-Up to Rated Accuracy: 30 min

Excitation Voltage: 24V @ 25 mA or 12V @ 50 mA;
10V @ 120 mA or 5V @ 60 mA



Select Your Color!

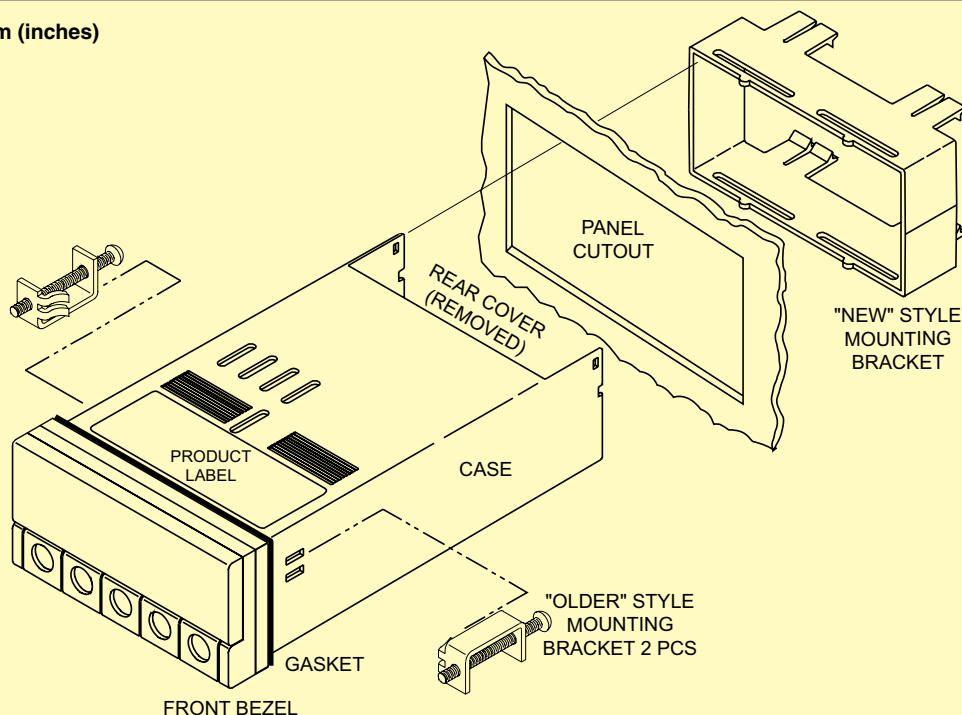
Program to display in **RED**,
AMBER, or **GREEN**.

Totally Programmable Color Displays

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

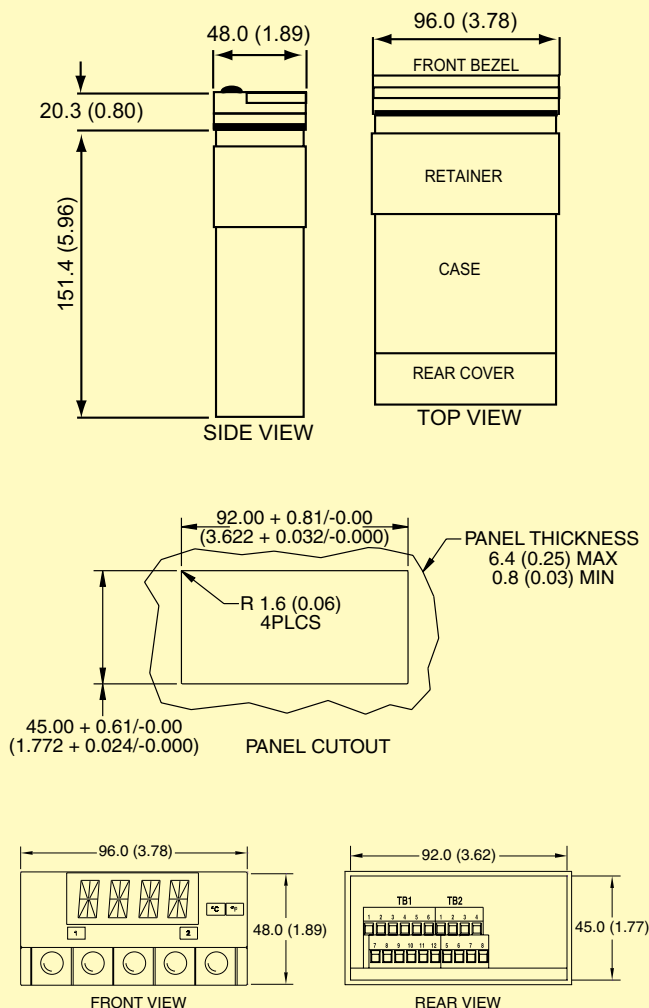


Dimensions: mm (inches)



Visit omega.com/panelpunches.

Dimensions: mm (inches)



To Order Visit omega.com/dp25b_tc for Pricing and Details

MODEL NO.	DESCRIPTION
DP25B-TC	Thermocouple
DP25B-RTD	RTD
DP25B-E	Process (DC voltage and current)
DP25B-S	Strain input

POWER OPTIONS*

ORDER SUFFIX	POWER
-230	230 Vac
-DC10/32	10 to 32 Vdc
-DC26/56	26 to 56 Vdc

OUTPUT OPTIONS*

ORDER SUFFIX	POWER
-A	Analog output
-AI-R	Isolated analog output
-R	Dual 5 A relays
-AR	Analog and relay options

ACCESSORY

MODEL NO.	DESCRIPTION
DPP-5	1/8 DIN panel punch

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

Ordering Examples: DP25B-TC-DC10/32-AR, thermocouple indicator for J, K, T or J DIN input, low-voltage power, analog output and dual 5 A relays.

DP25B-E, process meter.