1/8 DIN Strain, Process, and Temperature Meters
With Optional Relays and Analog Output

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 ±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

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)

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>-210 to 760°C (-346 to 1400°F)</td>
<td>0.5°C (0.9°F)</td>
</tr>
<tr>
<td>K</td>
<td>-270 to 1372°C (-454 to 2500°F)</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-210 to 400°C (-346 to 752°F)</td>
<td></td>
</tr>
<tr>
<td>J DIN</td>
<td>-200 to 900°C (-328 to 1652°F)</td>
<td></td>
</tr>
</tbody>
</table>

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: ±0.50°C (0.9°F) after 30 min warm-up
Temperature Coefficient: ±50 PPM/°C
Input Resistance: 100 MΩ
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.

**Specifications**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTD, 100 Ω Pt, 2-, 3- and 4-wire</td>
<td>-200 to 850°C (-328 to 1562°F)</td>
<td>0.5°C (0.9°F)</td>
</tr>
</tbody>
</table>

**Specifications (RTD Temperature Meter)**

**Input:** RTD 100 Ω 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

**Specifications (Process and Strain Meters)**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>mV, V, mA</td>
<td>0 to 100 mV, ±50 mV, 0 to 10 V, ±5 V, 0 to 20 mA, 4 to 20 mA</td>
<td>0.02% Rdg</td>
</tr>
</tbody>
</table>

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

**Analog-to-Digital Technique:** Dual slope

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

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**Select Your Color!**

Program to display in **RED**, **AMBER**, or **GREEN**.
Comes complete with operator's manual.

Ordering Examples:
- **DP25B-E**, process meter.

**OUTPUT OPTIONS**

<table>
<thead>
<tr>
<th>ORDER SUFFIX</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A</td>
<td>Analog output</td>
</tr>
<tr>
<td>-AI-R</td>
<td>Isolated analog output</td>
</tr>
<tr>
<td>-R</td>
<td>Dual 5 A relays</td>
</tr>
<tr>
<td>-AR</td>
<td>Analog and relay options</td>
</tr>
</tbody>
</table>

**POWER OPTIONS**

<table>
<thead>
<tr>
<th>ORDER SUFFIX</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>-230</td>
<td>230 Vac</td>
</tr>
<tr>
<td>-DC10/32</td>
<td>10 to 32 Vdc</td>
</tr>
<tr>
<td>-DC26/56</td>
<td>26 to 56 Vdc</td>
</tr>
</tbody>
</table>

**ACCESSORY**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>DPP-5</td>
<td>1⁄8 DIN panel punch</td>
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</tbody>
</table>

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