



# DP45 Single Input Temperature Meter



Instruction  
Sheet

M1985/1094

## Unpacking

Remove the Packing List and verify that you have received all equipment, including the following (quantities in parentheses):

- DP45 (1)
- unit of measure adhesive label (1 sheet)
- Operator's Manual (1)

If you have any questions about the shipment, please call the OMEGA Customer Service Department.

When you receive the shipment, inspect the container and equipment for signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

### NOTE

The carrier will not honor damage claims unless all shipping material is saved for examination. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

## Description

The OMEGA® DP45 Single Input Temperature Meter has the flexibility of being able to be converted to a six-input unit (using an SB45 Switch Box as an option). The DP45 can take thermocouple or 3-wire RTD inputs - 1° resolution for thermocouple inputs and 0.1° resolution for RTD inputs.

The DP45 case is the standard 1/8 DIN size. The unit is pending CSA and UL approval. Table 1 gives the range codes and resolutions for RTD and Thermocouple inputs.

Table 1					
Thermocouple Input			RTD Input		
Input	Range	Resolution	Input	Range	Resolution
J	0° to 600°C	1°	P1C	-100° to 100.0°C	0.1°
KC1	0° to 400°C	1°	P2C	0° to 100.0°C	0.1°
KC2	0° to 1200°C	1°	P3C	0° to 199.9°C	0.1°
R	0° to 1700°C	1°	P4C	0° to 500°C	1°
S	0° to 1700°C	1°	P1F	-100° to 199.9°F	0.1°
JF	0° to 1000°F	1°	P2F	-100° to 1000°F	1°
KF	0° to 1999°F	1°			

## Panel Cutout

Figure 1 shows the cutout dimensions required for the DP45.

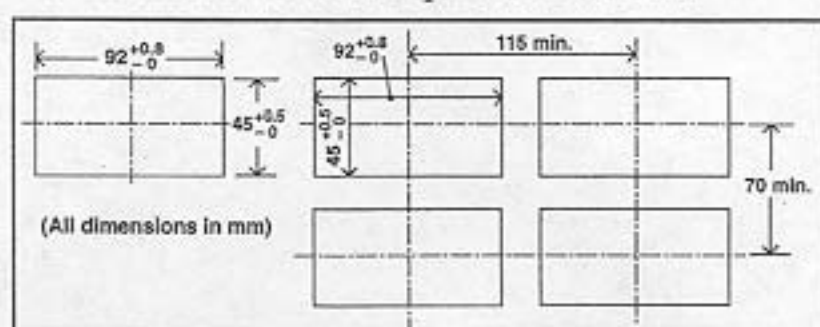


Figure 1. Cutout Dimensions

## Installation

Insert the DP45 into the panel until it clicks into place. Panel should be 0.04" to 0.14" (1.0 to 3.5mm) thick.



## Wiring

Figure 2 shows the wiring terminals of the DP45.

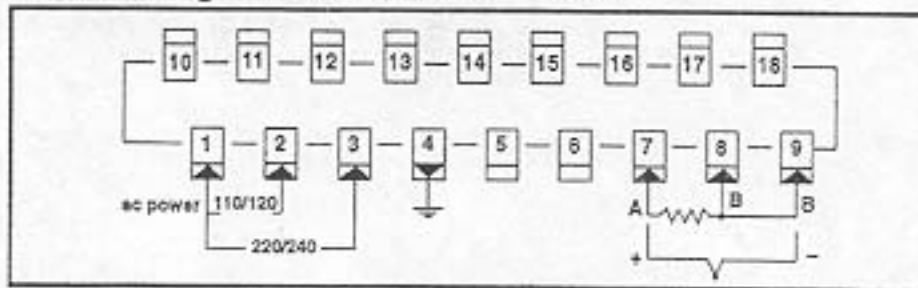


Figure 2. Power and Input Wiring Configuration

**Power Wiring**    110V/120Vac - use terminals 1 & 2;    220V/240Vac - use terminals 1 & 3  
 Ground - use terminal 4

**Input Wiring**    Thermocouple Input

Confirm the type of thermocouple (J, K, R or S) and lead wire, then connect the positive wire to terminal 7 and the negative lead to terminal 9. (Input resistance: 200kΩ minimum and external resistance is 100Ω max.)

RTD (Pt 100) Input

Connect A of RTD to terminal 7 and B's of RTD to terminals 8 & 9. RTD lead wire resistance must be 5Ω maximum and each of the three lead wires must all be of the same resistance.

## Specifications

<b>Display:</b>	Digital Red LED 14.3mm high
<b>Indication Tolerance:</b>	±0.5% + 1 digit of measuring range (R and S input effective measuring range: 400°C minimum)
<b>A/D Conversion:</b>	Dual-slope integration
<b>Sampling Cycle:</b>	4 times per second

<b>Input</b>	
<b>Thermocouple:</b>	J, K, R and S
<b>Cold Junction Temperature Compensation Range:</b>	5° to 45°C/2°C max. (R & S = 5°C max.)
<b>Burn-out Circuit:</b>	Standard Feature
<b>Input Resistance:</b>	200kΩ min.
<b>External Resistance Range:</b>	100Ω max.
<b>RTD:</b>	Pt100 - JIS/DIN
<b>Amperage:</b>	1mA
<b>Lead Wire Tolerable Resistance:</b>	5Ω max/wire

<b>Operating</b>	
<b>Operating Ambient Temperature:</b>	-10° to 50°C
<b>Operating Ambient Humidity Range:</b>	90% RH max.

<b>Power Supply:</b>	100-110/200-220V ± 10%, 50/60 Hz 110-120/220-240V ± 10%, 50/60 Hz
<b>Power Consumption:</b>	Approx. 3VA
<b>Insulation Resistance:</b>	500Vdc, 20MΩ minimum between input terminal and power supply terminal 500Vdc; 20MΩ minimum between power supply terminal and earth terminal.
<b>Dielectric Strength:</b>	one minute at 500Vac between input terminal and power supply terminal; one minute at 1500Vac between power supply terminal and earth terminal

<b>Installation and General</b>	
<b>Installation:</b>	Flush in panel
<b>Panel Thickness:</b>	0.04" to 0.14" (1.0 to 3.5mm)
<b>External Dimensions : (H x W x D)</b>	1.9" x 3.8" x 4.4" (48 x 96 x 112mm)
<b>Panel Depth:</b>	3.9" (100mm)
<b>Panel Cutout (H x W):</b>	1.8" x 3.6" (45 x 92mm)
<b>Dimensions:</b>	See below
<b>Weight:</b>	9.5 oz (270g) approximately

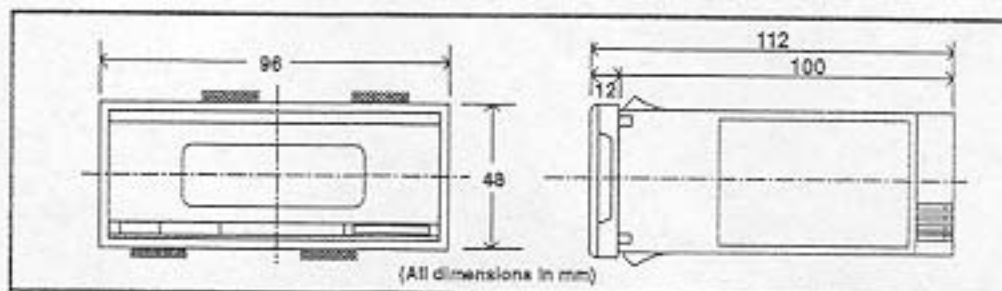


Figure 3. Dimensions



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2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

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