



# 1/8 DIN Digital Panel Meters For AC True RMS Voltage and Current

DP63700-AC  
Starts at  
**\$317**

Panel punches  
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DP63700-AC,  
\$317, shown  
smaller than  
actual size.

- ✓ AC True RMS Voltage and Current Meter
- ✓ 1/8 DIN (50 x 97 mm)
- ✓ 5-Digit, LED Display 14 mm (0.56")
- ✓ Green or Red Sunlight-Readable Display
- ✓ 4 Voltage Ranges (300 Vac Max) and 5 Current Ranges (5 A Max)
- ✓ Field-Upgradeable Option Cards
- ✓ 3-Way Isolation: Power, Input and Outputs
- ✓ NEMA 4X (IP65)

The DP63700 Series panel meters offer many features and performance capabilities to suit a wide range of industrial applications. Models include AC true RMS voltage/current inputs. The optional plug-in output cards allow the opportunity to configure the meter for present applications while providing easy upgrades for future needs. The meters have a bright 14 mm (0.56") LED display. The unit is available with a red, sunlight-readable or a standard green LED. The intensity of display can be adjusted from dark-room- to sunlight-readable, making it ideal for viewing in bright light applications.

The meters provide a max and min reading memory with programmable capture time. The capture time is used to prevent detection of false max or min readings which may occur during start-up or unusual process events.

The meters have up to 4 setpoint outputs, implemented on plug-in option cards. The plug-in cards provide dual form "C" relays (5A), quad form "A" (3A), or either quad-sinking or quad-sourcing open collector logic outputs. The setpoint alarms can be configured to suit a variety of control and alarm requirements. Communication and bus capabilities are also available as option cards. These include RS232, RS485, and MODBUS®.

## Specifications

**Display:** 5-digit, 14 mm (0.56") red sunlight-readable or standard green LEDs, (-19999 to 99999)

### Power:

#### AC Versions:

**AC Power:** 85 to 250 Vac, 50/60 Hz, 15 VA

**Isolation:** 2300 Vrms for 1 min to all inputs and outputs

**Keypad:** 3 programmable function keys, 5 keys total

**A/D Converter:** 16-bit resolution

### Update Rates:

**A/D Conversion Rate:** 20 readings/s

**Step Response:** 200 ms max to within 99% of final readout value (digital filter and internal zero correction disabled); 1 s max to within 99% of final readout value (digital filter disabled)

**Display Update Rate:** 1 to 20 updates/s

**Setpoint Output On/Off Delay Time:** 0 to 3275 seconds

**Analog Output Update Rate:** 0 to 10 s

**Max/Min Capture Delay Time:** 0 to 3275 seconds

**Memory:** Non-volatile EEPROM retains all programmable parameters and display values

## Environmental Conditions

### Operating Temperature Range:

0 to 50°C (32 to 122°F) [0 to 45°C (32 to 113°F) with all 3 plug-in cards installed]

### Storage Temperature Range:

-40 to 60°C (-40 to 140°F)

### Operating and Storage Humidity:

0 to 85% max RH non-condensing

### Altitude:

Up to 2000 meters

### Connections:

High-compression, cage-clamp terminal block

**Construction:** This unit is rated for NEMA 4X (IP65) outdoor use, IP20 touch-safe, Installation Category II, Pollution Degree 2, 1-piece bezel/case, flame-resistant, synthetic rubber keypad—panel gasket and mounting clip included

**Weight:** 295 g (10.4 oz)

## True RMS AC Voltage/Current

**Isolation to Option Card Commons and User Input Commons:** 125 Vrms

**Isolation to AC Power Terminals:** 250 Vrms

250 Vrms

### Maximum Crest Factor (Vp/VRMS):

5 @ FS Input

**Input Coupling:** AC, or AC and DC

**Input Capacitance:** 10 pF

**Common Mode Voltage:** 125 Vac working

**Common Mode Rejection:**

(DC to 60 Hz) 100 dB

**Output Modules:** For complete specifications, see LDP63100 Series, page M-100

## True RMS Voltage/Current Inputs

| Input Range | Accuracy*            | Max DC Blocking | Impedance (60 Hz) | Continuous Overload | Resolution |
|-------------|----------------------|-----------------|-------------------|---------------------|------------|
| 200 mV      | 0.1% of rdg + 0.4 mV | ±10V            | 686 kΩ            | 30V                 | 0.01 mV    |
| 2V          | 0.1% of rdg + 2 mV   | ±50V            | 686 kΩ            | 30V                 | 0.1 mV     |
| 20V         | 0.1% of rdg + 20 mV  | ±300V           | 686 kΩ            | 300V                | 1 mV       |
| 300V        | 0.2% of rdg + 0.3V   | ±300V***        | 686 kΩ            | 300V                | 0.1 V      |
| 200 μA      | 0.1% of rdg + 0.4 μA | ±15 mA          | 1.11 kΩ           | 15 mA               | 0.01 μA    |
| 2 mA        | 0.1% of rdg + 2 μA   | ±50 mA          | 111 Ω             | 50 mA               | 0.1 μA     |
| 20 mA       | 0.1% of rdg + 20 μA  | ±150 mA         | 11.1 Ω            | 150 mA              | 1 μA       |
| 200 mA      | 0.1% of rdg + 0.2 mA | ±500 mA         | 1.1 Ω             | 500 mA              | 10 μA      |
| 5 A         | 0.5% of rdg + 5 mA   | ±7 A***         | 0.02 Ω            | 7 A**               | 1 mA       |

\* Conditions for accuracy specification: 20 minutes warm-up, 18 to 28°C (64 to 82°F) temperature range, 10 to 75% RH non-condensing, 50 Hz to 400 Hz sine wave input, 1% to 100% of range. Add 0.1% reading + 20 counts error over 0 to 50°C (32 to 122°F) range, 0.2% reading + 10 counts error for crest factors up to 3, add 1% reading up to 5, 0.5% reading + 10 counts of DC component and 1% reading + 20 counts error over 20 Hz to 10 KHz range.

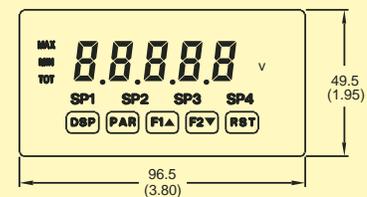
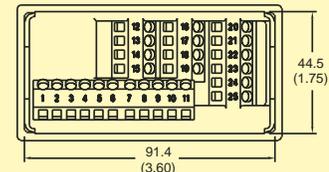
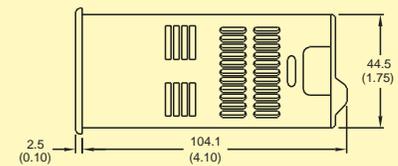
\*\* Non-repetitive surge rating: 15 A for 5 seconds

\*\*\* Inputs are directly coupled to the input divider and shunts. Input signals with high DC component levels may reduce the usable range.

Note: Recommended minimum clearance (behind the panel) for mounting clip installation is 53.4 (2.1) H x 127 (5) W.



Dimensions: mm (in)



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## To Order (Specify Model Number)

| Model No.     | Price | Description (Display Meter Only, No Outputs)       |
|---------------|-------|--|
| DP63700-AC    | \$317 | AC inputs, red display, 85 to 250 Vac, 50/60 Hz    |
| DP63700-AC-GN | 334   | AC inputs, green display, 85 to 250 Vac, 50/60 Hz  |
| DPP-5         | 525   | ½ DIN panel punch                                  |
| EE-1319       | 85    | Reference Book: Grounding and Shielding Techniques |



## Optional Plug-in Output Cards (Field Installable)

| Model No.  | Price | Description   |
|--|-------|---|
| <b>Setpoint Alarms (Only 1 Alarm Card Can Be Installed Into Base Meter)</b>          |       |   |
| LDP6-CDS10   | \$37  | Dual setpoint relay output card   |
| LDP6-CDS20   | 37    | Quad setpoint relay output card   |
| LDP6-CDS30   | 37    | Quad setpoint sinking open collector output card                          |
| LDP6-CDS40   | 37    | Quad setpoint sourcing open collector output card                         |
| <b>Analog Output</b>   |       |   |
| LDP6-CDL10   | \$74  | Analog output card  |
| <b>Communications (Only 1 Communications Card Can Be Installed Into Base Meter)*</b> |       |   |
| LDP6-CDC10   | \$48  | RS485 serial communications output card with terminal block               |
| LDP6-CDC1C   | 48    | Extended RS485 serial communications output card with dual RJ11 connector |
| LDP6-CDC20   | 48    | RS232 serial communications output card with terminal block               |
| LDP6-CDC2C   | 48    | Extended RS232 serial communications output card with 9-Pin D connector   |
| LDP6-CDC40   | 58    | MODBUS communications card  |
| LDP6-CDC4C   | 58    | Extended MODBUS communications card with dual RJ11 connector              |



\* Free DP6-SOFT software download available at [omega.com/dp63700](http://omega.com/dp63700).

Comes complete with operator's manual.

Note: Adding option cards—meters can be fitted with up to 3 optional plug-in cards, however, only 1 card from each function type can be installed at a time. The function types include setpoint alarms, analog output and communications. The cards can be installed initially or at a later date. Each optional plug-in card is shipped with installation and programming instructions.

Ordering Example: DP63700-AC, AC inputs, red display, 85 to 250 Vac, 50/60 Hz, LDP6-CDC20, RS232 serial communications output card with terminal block, \$317 + 48 = \$365.

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