

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

DP63700-AC



DP63700-AC
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

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 online

True RMS Voltage/Current Inputs

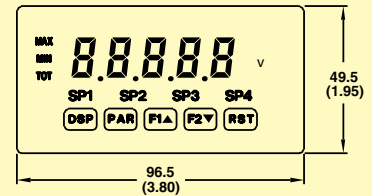
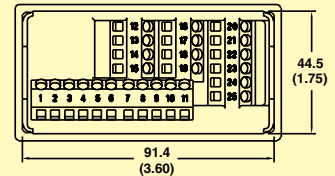
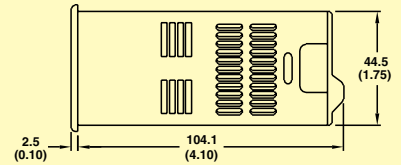
Input Range	Accuracy*	Max DC Blocking	Impedance (60 Hz)	Continuous Overload	Resolution
200 mV	0.1% of rdg + 0.4 mV	±10V	686 kΩ	30V	0.01 mV
2V	0.1% of rdg + 2 mV	±50V	686 kΩ	30V	0.1 mV
20V	0.1% of rdg + 20 mV	±300V	686 kΩ	300V	1 mV
300V	0.2% of rdg + 0.3V	±300V***	686 kΩ	300V	0.1 V
200 μA	0.1% of rdg + 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 (inch)

To Order

Model No.	Description (Display Meter Only, No Outputs)
DP63700-AC	AC inputs, red display, 85 to 250 Vac, 50/60 Hz
DP63700-AC-GN	AC inputs, green display, 85 to 250 Vac, 50/60 Hz
DPP-5	½ DIN panel punch

Optional Plug-in Output Cards (Field Installable)

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

* Free DP6-SOFT software download available online.

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.