

DIGITAL PROCESS OR STRAIN GAGE PANEL METERS WITH BUILT IN EXCITATION

DP63800 Process Meters DP63900 Strain Meters



DP63800-E, shown actual size.

- ✓ Models Available for Process Voltage and Current or Strain Gage Bridge Inputs
- ✓ 5-Digit 0.56" Red Sunlight Readable Display
- ✓ Variable Intensity Display
- ✓ 16 Point Scaling for Non-linear Processes
- ✓ Programmable Function Keys/User Inputs
- ✓ Four Setpoint Alarm Outputs (with Option Card)
- ✓ Communication and BUS Capabilities (with Option Card)
- ✓ Retransmitted Analog Output (with Option Card)
- ✓ NEMA 4X IP65 Sealed Front Bezel

The DP63000 Series panel meters for process voltage and current or strain gage bridge inputs offer many features and performance capabilities to suit a wide range of industrial applications. The meters employ a bright 14 mm (0.56"), sunlight readable, red LED display. The intensity of display can be adjusted from dark room applications up to sunlight readable, making it ideal for viewing in lighting conditions.

A standard green LED is available as an option. They have been specifically designed for harsh industrial environments with NEMA 4X (IP65) sealed front bezel and extensive testing of noise effects to CE requirements.

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.

A variety of field installable plug-in option cards are also available to enhance the unit's capabilities. Option boards are available for setpoints/alarms, analog output or serial communications.

SPECIFICATIONS

Display: 14.2 mm (0.56") red sunlight readable LED, (standard green LED optional)

Display Range: 5-Digit, -19999 to 99999 counts

Power Requirements:

Standard: 85 to 250 Vac, 50/60 Hz, 15 Va

"-LV" Option: 11 to 36 Vdc or 24 Vac $\pm 10\%$, 50/60 Hz, 11 W)

Excitation:

Process: 24 Vdc @ 50 mA, $\pm 5\%$ regulated

Strain: selectable 5 Vdc @ 65 mA or 10 Vdc @ 125 mA ($\pm 2\%$)

Keypad: 3 programmable function keys, 5 keys total

Operating Temperature Range:

0 to 50°C (32 to 122°F) derate to 45°C (113°F) with 3 option boards installed

Storage Temperature Range:

-40 to 60°C (-40 to 140°F)

Operating and Storage Humidity:

0 to 85% maximum RH (non-condensing)

Altitude: Up to 2000 m (6562')

Enclosure Rating: IP65 Face only

Connections: High compression cage-clamp terminal blocks

Dimensions: 96.5 x 49.5 x 106.6 mm (3.80 x 1.95 x 4.20")

Panel Cutout: 92 x 45 mm (3.62 x 1.77")

Depth Behind Panel: 104.1 mm (4.10")

Weight: 295 g (10.4 oz)

OPTION BOARD

COMMUNICATIONS CARDS

RS232/RS485

Isolation to Sensor and User Input

Commons: 500 Vrms for 1 min

Working Voltage: 50V Not Isolated from all other commons

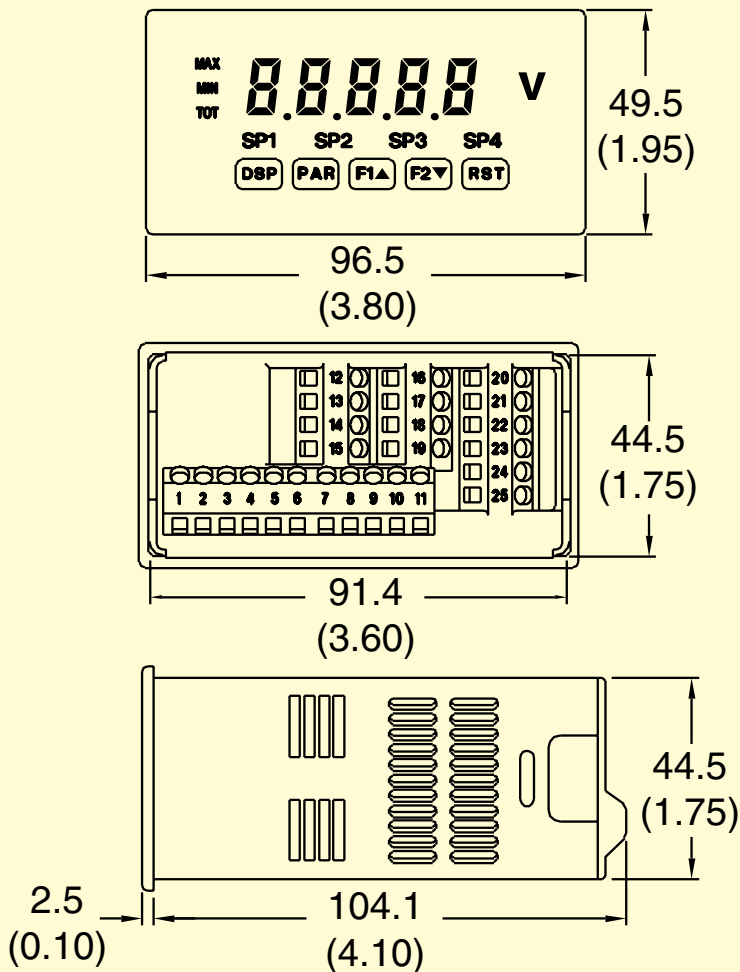
Baud Rate: 300 to 19.2k

Data Format: 7/8 bits; odd, even, or no parity working (Voltage: 50V)

RS232 Communication Card

Type: RS232 half duplex

Dimensions: mm (inch)



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

RS485 Communication Card

Type: RS485 multi-point balanced interface

Bus Address: 0 to 99, maximum 32 meters per line

Transmit Delay: Selectable; 2 to 50 msec or 50 to 100 msec

MODBUS®

Type: RS485; RTU and ASCII MODBUS modes

Isolation to Sensor and User Input Commons: 500 Vrms for 1 minute

Working Voltage: 50V, not isolated from all other commons

Baud Rates: 300 to 38400

Data: 7/8 bits

Parity: No, odd, or even

Addresses: 1 to 247

Transmit Delay: Programmable

ANALOG OUTPUT CARD

Types (User Selectable): 0 to 20 mA, 4 to 20 mA and 0 to 10 Vdc

Isolation to Sensor and User Input Commons: 500 Vrms for 1 min

Working Voltage: 50V Not isolated from all other commons

Accuracy: 0.17% of full scale (18 to 28°C); 0.4% of full scale (0 to 50°C)

Resolution: 1/3500

Compliance:

10 Vdc: 10 kΩ load minimum

20 mA: 500 Ω load maximum

Update Time: 200 msec maximum to within 99% of final readout value (digital filter and internal zero correction disabled) 700 msec maximum (digital filter disabled, internal zero correction enabled)

SETPOINT OUTPUT CARDS

(Four types of field installable cards)

Response Time: 200 msec maximum to within 99% of final readout value (digital filter and internal zero correction disabled) 700 msec maximum (digital filter disabled, internal zero correction enabled)

Dual Relay Card (LDP6-CDS10):

Type: Two FORM-C relays

Isolation to Sensor and User Input

Commons: 2000 Vrms for 1 min

Working Voltage: 250V

Contact Rating: One Relay

Energized: 5 amps @ 120/240 Vac

or 28 Vdc (resistive load),

1/4 HP @ 120 Vac, inductive load.

Total current with both relays

energized not to exceed 5 amps

Life Expectancy: 100 k cycles

minimum at full load rating. External

RC snubber extends relay life for

operation with inductive loads

Quad Relay Card (LDP6-CDS20):

Type: Four FORM-A relays

Isolation to Sensor and User Input

Commons: 2300 Vrms for 1 min

Working Voltage: 250V

Contact Rating: One relay

Energized: 3 amps @ 250 Vac

or 30 Vdc (resistive load), 1/10 HP

@ 120 Vac, inductive load. Total

current with all four relays energized

not to exceed 4 amps

Life Expectancy: 100 k cycles

minimum at full load rating. External

RC snubber extends relay life for

operation with inductive loads

Quad Sinking Open Collector (LDP6-CDS30):

Type: Four isolated sinking NPN

transistors

Isolation to Sensor and User Input

Commons: 500 Vrms for 1 min

Working Voltage: 50V Not Isolated

from all other commons

Rating: 100 mA maximum @ VSAT =

0.7V maximum Vax = 30V

Quad Sourcing Open Collector (LDP6-CDS40):

Type: Four isolated sourcing PNP

transistors

Isolation to Sensor and User Input

Commons: 500 Vrms for 1 min

Working Voltage: 50V

(Not Isolated from all other commons)

Rating: Internal supply: 24 Vdc

± 10%, 30 mA maximum total all four

External Supply: 30 Vdc maximum,

100 mA maximum each output

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DP63800-E, shown smaller than actual size.

Process Inputs

INPUT RANGE	ACCURACY (18 TO 28°C)	ACCURACY (0 TO 50°C)	IMPEDANCE/ COMPLIANCE	MAXIMUM CONTINUOUS OVERLOAD	DISPLAY RESOLUTION
20 mA (-2 to 26 mA)	0.03% of rdg +2 μ A	0.12% of rdg +3 μ A	20 Ω	150 mA	1 μ A
10 Vdc (-1 to 13 Vdc)	0.03% of rdg +2 mV	0.12% of rdg +3 mV	500 k Ω	300V	1 mV

Strain Gage Bridge Inputs

INPUT RANGE	ACCURACY (18 TO 28°C)	ACCURACY (0 TO 50°C)	IMPEDANCE/ COMPLIANCE	MAXIMUM CONTINUOUS OVERLOAD	DISPLAY RESOLUTION
\pm 24 mVdc	0.02% of rdg +3 μ V	0.07% of rdg +4 μ V	100 M Ω	30V	1 μ V
\pm 240 mVdc	0.02% of rdg +30 μ V	0.07% of rdg +40 μ V	100 M Ω	30V	10 μ V

To Order

MODEL NO.	DESCRIPTION
DP63800-E	DC process inputs, red display, 85 to 250 Vac, 50/60 Hz
DP63800-E-LV	DC process inputs, red display, 11 to 36 Vdc, 24 Vac
DP63800-E-GN	DC process inputs, green display, 85 to 250 Vac, 50/60 Hz
DP63800-E-GN-LV	DC process inputs, green display, 11 to 36 Vdc, 24 Vac
DP63900-S	Strain gage bridge input, red display, 85 to 250 Vac, 50/60 Hz
DP63900-S-LV	Strain gage bridge input, red display, 11 to 36 Vdc, 24 Vac
DP63900-S-GN	Strain gage bridge input, green display, 85 to 250 Vac, 50/60 Hz
DP63900-S-GN-LV	Strain gage bridge input, green display, 11 to 36 Vdc, 24 Vac

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 jacks
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

Comes complete with operator's manual

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, Communications, and Analog Output. 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: DP63900-S, panel meter for strain gage bridge inputs, 85 to 250 Vac and LDP6-CDL10 analog output card.