

LARGE DISPLAY METER FOR DIGITAL INPUT



LDPF63000 shown smaller than actual size.

LDPF63000



- ✓ Large LED Display Readable to 21 m (70')
- ✓ Digital Input Module; Count and Rate Input Serial Slave
- ✓ Alarms, Analog Output, and Communication
- ✓ Programmable User Inputs
- ✓ Programmable Function Keys
- ✓ PC Software for Meter Configuration
- ✓ NEMA 4 (IP65)

The LDPF63000 display is a versatile display that can increase productivity by offering the plant floor or production area a large visual display of their current status. Whether your measurement is rate or count, the LDPF63000 can

satisfy your requirement. These LDPF63000 displays accept various digital inputs through the use of input modules that allow the unit to adapt to most any application. Additional plug-in option cards can add alarms, analog output, and communication/bus capabilities, making the LDPF63000 a truly intelligent panel meter.

SPECIFICATIONS

Rate Display

Accuracy: $\pm 0.01\%$
Minimum Frequency: 0.01 Hz
Maximum Frequency: 34 kHz (depending on set-up)

Maximum Display:

6 Digits: 999999
Adjustable Display (Low) Update: 0.1 to 99.9 seconds

Counter Displays

Maximum Display:
8-Digits: ± 99999999 (greater than 6-digits display alternates between high order and low order)

Inputs A and B

DIP switch selectable to accept pulses from a variety of sources including switch contacts, TTL outputs, magnetic pickups and all standard sensors

Logic: Input trigger levels $V_{IL} = 1.5V$ maximum; $V_{IH} = 3.75V$ min

Current Sinking: Internal 7.8 k Ω pull-up to 12 Vdc, $I_{MAX} = 1.9$ mA

Current Sourcing: Internal 3.9 k Ω pull-down, 7.3 mA maximum @ 28 Vdc, $V_{MAX} = 30$ Vdc

Filter: Damping capacitor provided for switch contact bounce. Limits input frequency to 50 Hz and input pulse widths to 10 msec minimum

Magnetic Pickup

Sensitivity: 200 mV peak

Hysteresis: 100 mV

Input Impedance: 3.9 k Ω @ 60 Hz

Maximum Input Voltage: $\pm 40V$ peak, 30 Vrms

Dual Count Modes: When any dual count mode is used, then user inputs 1 and/or 2 will accept the second signal of each signal pair. The user inputs do not have the Logic/Mag, High/Low Freq, and Sink/Source input setup switches. The user inputs are inherently a logic input with no low frequency filtering. Any mechanical contacts used for these inputs in a dual count mode must be debounced externally. The user input may only be selected for sink/source by the user jumper placement.

Prescaler Output

NPN Open Collector: $I_{SNK} = 100$ mA maximum @ $V_{OL} = 1$ Vdc maximum $V_{OH} = 30$ Vdc maximum with duty cycle of 25% min and 50% maximum

Display: 38 mm (1.5") red LED

Power: 85 to 250 Vac, 50/60 Hz, 18 VA

Annunciators: A, B, C, SP1, SP2, SP3, and SP4

Keypad: Five tactile membrane switches integrated into the front panel

Environmental Conditions

Operating Temperature Range: 0 to 45°C (32 to 113°F)

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 (1.24 mi)

Mounting Requirements

Maximum panel thickness is 9.5 mm (0.375") Min panel thickness for NEMA 4 (IP65) sealing is 1.57 mm (0.060")

Connections: All wiring connections are made to the module via high compression cage-clamp terminal blocks. Wiring instructions are provided.

Construction: Steel front panel, enclosure, and rear cover with textured black polyurethane paint for scratch and corrosion resistance protection. Sealed front panel meets NEMA 4 (IP65) specifications for indoor use when properly installed. Installation Category II, Pollution Degree II. Panel gasket and keps nuts included.

Weight: 1.2 kg (2.7 lb) (less module)

OPTION BOARDS SPECIFICATIONS

RS485 Communication Card: (LDP6-CDC10 or LDP6-CDC1C)

Type: RS485 multi-point balanced interface

Isolation to Sensor and User

Input Commons: 500 Vrms for 1 minimum

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

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

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

RS232 Communication Card (LDP6-CDC20 or LDP6-CDC2C)

Type: RS232 half duplex

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

MODBUS® Communications Card (LDP6-CDC40 or LDP6-CDC4C)

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

Analog Output Card (LDP6-CDL)

Types: 0 to 20 mA, 4 to 20 mA and 0 to 10 Vdc

Isolation to Sensor and User Input

Commons: 500 Vrms for 1 minimum

Working Voltage: 50V not isolated from all other commons

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

Resolution: 1/3500

Compliance:

10 Vdc: 10 k Ω 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 max (digital filter disabled, internal zero correction enabled)

LDP63000-AC: 1 sec maximum to within 99% of final readout value (digital filter disabled)

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)

LDP63000-AC Only: 1s maximum to within 99% of final readout value (digital filter disabled)

LDP63000-T Only: 200 msec typ.; 700 msec maximum (digital filter disabled)

Dual Relay Card (LDP6-CDS10)

Type: Two Form C (SPDT) relays

Isolation to Sensor and User Input

Commons: 2000 Vrms for 1 minimum

Working Voltage: 250V

Contact Rating:

One Relay Energized: 5 A @

120/240 Vac or 28 Vdc (resistive load), 1/2 HP @ 120 Vac, inductive load total current with both relays energized not to exceed 5 A

Life Expectancy: 100k cycles min at full load rating. External RC snubber extends relay life for operation with inductive loads.

Quad Relay Card (LDP6-CDS20)

Type: Four Form A (SPST) relays

Isolation to Sensor and User Input

Commons: 2300 Vrms for 1 minimum

Working Voltage: 250 Vrms

Contact Rating:

One Relay Energized: 3 A @

250 Vac or 30 Vdc (resistive load), 1/2 HP @ 120 Vac, inductive load total current with all four relays energized not to exceed 4 A

Life Expectancy: 100k cycles min 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 @

$V_{sat} = 0.7V$ maximum $V_{max} = 30V$

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:

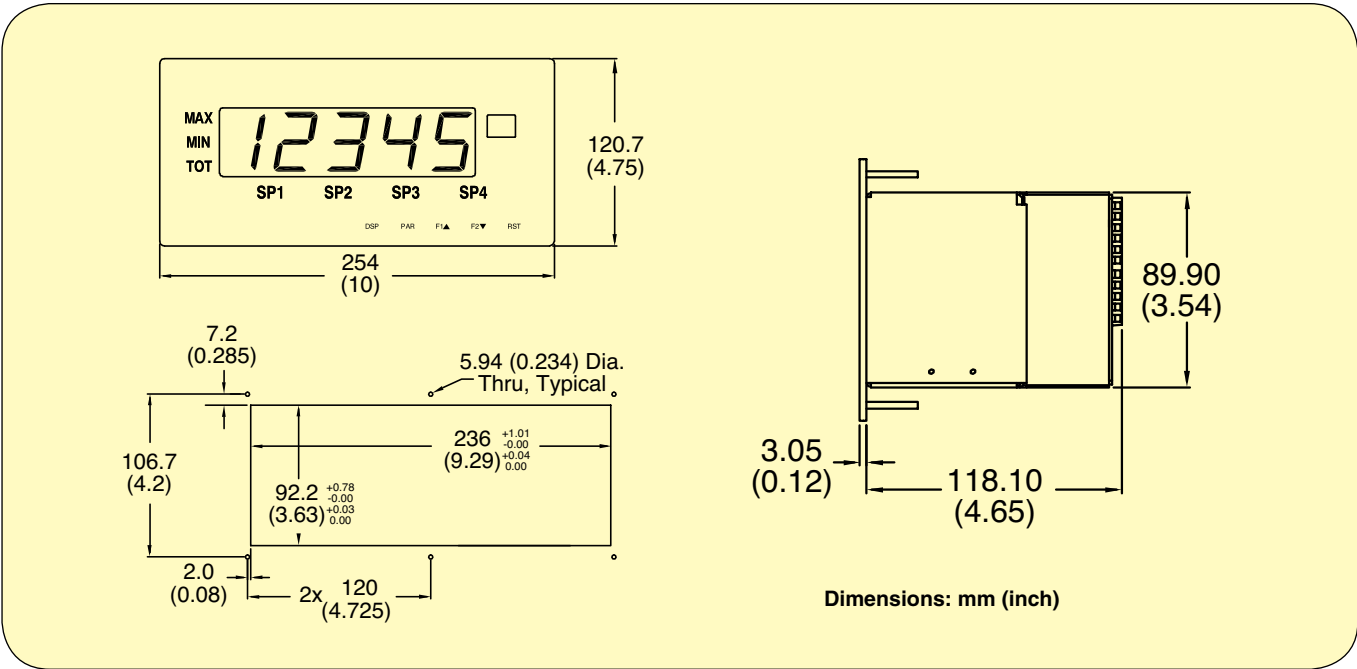
Internal Supply: 24 Vdc \pm 10%,

30 mA maximum total all four

External Supply: 30 Vdc maximum, 100 mA maximum each output

Programming Software

(Free download at omega.com/dp6soft). Allows configuration of the LDP63000 meter from a PC. This software offers standard drop-down menu commands, that make it easy to program the meter. The unit program can then be saved in a PC file for future use. A serial plug-in card is required to program the meter using the software.



Dimensions: mm (inch)

To Order	
Model No.	Description (Display Meter Only, No Outputs)
LDPF63000	Large display meter, digital inputs, 85 to 250 Vac power

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

Accessories (Field Installable)

Model No.	Description
LDP6-PGM	Remote programming module with 3 m (10') cable
LDP6-ENC12	NEMA 4 (IP65) enclosure
LDP631-SHR	Shroud cover for high intensity light environments
LDP6-EN/SH	NEMA 4 (IP65) enclosure with shroud

Software is free. Download from omega.com/dp6soft
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: LDPF63000, large display meter, digital inputs, 85 to 250 Vac power, and LDP6-CDL10 analog output card.