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# LDP63000 Large Display Meter



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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING : These products are not designed for use in, and should not be used for, human applications.

#### **GENERAL DESCRIPTION**

The LDP63000 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 temperature, weight, or flow, the LDP63000 can satisfy your requirement. With the use of a units label and backlighting, the display can be tailored to show the actual engineering unit, which further enhances the display. The LDP63000 display accepts various analog inputs through the use of input modules which 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 LDP63000 a truly Intelligent Panel Meter.

- LARGE LED DISPLAY READABLE TO 70 FEET
- VARIOUS ANALOG INPUT MODULES; DC VOLTAGE AND CURRENT PROCESS SIGNALS TRUE RMS VOLTAGE AND CURRENT THERMOCOUPLE OR RTD
- ALARMS, ANALOG OUTPUT, AND COMMUNICATION
- CUSTOM UNITS LABEL WITH BACKLIGHT
- PROGRAMMABLE USER INPUTS
- PROGRAMMABLE FUNCTION KEYS
- UNIVERSAL AC/DC POWERED MODELS
- PROGRAMMING SOFTWARE
- NEMA 4/IP65
- FIELD INSTALLABLE OUTPUT CARDS (Optional)



All safety regulations, local codes and instructions that appear in this and corresponding literature, or on equipment, must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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The protective conductor terminal is bonded to conductive parts of the equipment for safety purposes and must be connected to an external protective earthing system.



#### **SPECIFICATIONS**

Input specifications, wiring, and programming information is contained in the corresponding literature.

- 1. **DISPLAY**: 1.5" (38 mm) Red LED 5-Digit: (-19999 to 99999)
- POWER REQUIREMENTS: AC Modules: 85 to 250 VAC, 50/60 Hz, 18 VA DC Modules: 11 to 36 VDC or 24 VAC ±10%, 50/60 Hz, 14 W
- ANNUNCIATORS: MAX, MIN, TOT, SP1, SP2, SP3, and SP4 Optional units label with backlight
- 4. **KEYPAD**: Five tactile membrane switches integrated into the front panel
- CERTIFICATIONS AND COMPLIANCES: UL Recognized Component, File #E70366 UL Listed, File # E313547 Type 4 Enclosure rating (Face only) IP65 Enclosure rating (Face only), IEC 529



#### 6. ENVIRONMENTAL CONDITIONS:

Operating Temperature Range: Determined by the input module type Storage Temperature Range: -40 to 60°C Operating and Storage Humidity: 0 to 85% max. RH (non-condensing) Altitude: Up to 2000 meters

#### 7. MOUNTING REQUIREMENTS:

Max. panel thickness is 0.375" (9.5 mm)

Min. panel thickness for NEMA 4/IP65 sealing is 0.060" (1.57 mm)

8. MODULE INSTALLATION:

24-pin shrouded connector on LDP63000 engages connector on input module upon installation. Shroud ensures proper alignment by providing a lead-in for the module connector.

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



#### CAUTION: DISCONNECT ALL POWER BEFORE INSTALLING OR REMOVING MODULE

 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 2. Panel gasket and keps nuts included.

11. WEIGHT: 2.7 lbs (1.2 kg) (less module)

#### **OPTIONAL PLUG-IN CARDS AND ACCESSORIES**



WARNING: Disconnect all power to the unit before installing Plug-in cards.

#### **Adding Option Cards**

The LDP63000 series meters can be fitted with up to three optional plug-in cards. However, only one card from each function type can be installed at a time. The function types include Setpoint Alarms (LDP6-CDS), Communications (LDP6-CDC), and Analog Output (LDP6-CDL). The cards can be installed initially or at a later date. Each optional plug-in card is shipped with installation and programming instructions.

#### COMMUNICATION CARDS (LDP6-CDC)

A variety of communication protocols are available for the LDP63000 series. Only one of these cards can be installed at a time. When programming the unit via DP6-SOFT, the RS232 or RS485 Cards must be used.

LDP6-CDC10 - RS485 (Terminal)	LDP6-CDC1C - RS485 (Connector)
LDP6-CDC20 - RS232 (Terminal)	LDP6-CDC2C - RS232 (Connector)
LDP6-CDC40 - Modbus (Terminal)	LDP6-CDC4C - Modbus (Connector)

#### SETPOINT CARDS (LDP6-CDS)

This series has four setpoint alarm output plug-in cards. Only one of these cards can be installed at a time. (Logic state of the outputs can be reversed in the programming.) These plug-in cards include:

LDP6-CDS10 - Dual Relay, FORM-C, Normally open & closed LDP6-CDS20 - Quad Relay, FORM-A, Normally open only LDP6-CDS30 - Isolated quad sinking NPN open collector

LDP6-CDS40 - Isolated quad sourcing PNP open collector

#### LINEAR DC OUTPUT (LDP6-CDL)

Either a 0(4)-20 mA or 0-10 V retransmitted linear DC output is available from the analog output plug-in card. The programmable output low and high scaling can be based on the input, max, min, or total display value. Reverse slope output is possible by reversing the scaling point positions.

LDP6-CDL10 - Retransmitted Analog Output Card

#### **UNITS LABEL**

The LDP63000 Display has an area on the front panel designed for a custom units label. The units label is applied directly to the panel in the embossed area. The units backlight is then turned on via programming.

Available on 5-digit version only. Refer to the LDP63000 Accessories Bulletin for a list of available units labels.

#### **PROGRAMMING SOFTWARE (DP6-SOFT)**

DP6-SOFT is a Windows<sup>®</sup> based program that allows configuration of the LDP63000 meter from a PC. The 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.

# PART NUMBER INFORMATION

DESCRIPTION	PART NUMBERS
Temperature Input, 85-250 VAC power	LDP63000-T
Temperature Input, 11-36 VDC/24 VAC power	LDP63000-T-LV
DC Current and Volt Input, 85-250 VAC power	LDP63000-DC
DC Current and Volt Input, 11-36 VDC/24 VAC power	LDP63000-DC-LV
True RMS AC Current and Volt Input, 85-250 VAC power	LDP63000-AC
Process Input, 85-250 VAC power	LDP63000-E
Process Input, 11-36 VDC/24 VAC power	LDP63000-E-LV
Strain Gage Input, 85-250 VAC power	LDP63000-S
Strain Gage Input, 11-36 VDC/24 VAC power	LDP63000-S-LV

# 1.0 ASSEMBLING THE DISPLAY



**CAUTION:** The input module main circuit board and the option cards contain static sensitive components. Before handling the module or the cards, discharge static charges from your body by touching a grounded bare metal object. Handle the module by the rear plastic cover only, and the option cards by the board edges. Dirt, oil or other contaminants that contact the circuit boards or components can adversely affect circuit operation.



WARNING: Exposed line voltage exists on the input module main circuit board and the option cards. DO NOT apply power to the module OR load circuits until the module is properly installed in the LDP63000 case.

NOTE: All module and option card labels must be installed as shown for safety purposes.

#### Installing the Option Cards

Prior to installing the LDP63000 Display, it is recommended that the option cards be assembled first. This will allow you the opportunity to insure all the boards are fitted properly into their connectors. Refer to the literature enclosed with the option cards for installation instruction.

#### Removing The Input Module

To remove the input module from the LDP63000 Display, first remove all power and load circuits. Then insert a

flat screwdriver blade  $(3/_{16})$ " or 1/4") into the narrow slot between the LDP63000 rear cover plate and the module's plastic cover as illustrated in Figure 1. Twist the screwdriver in the direction shown to disengage the internal connectors while firmly squeezing and pulling back on the rear finger tabs (top and bottom). Carefully slide the module out of the case, keeping it properly aligned with the case opening.



#### **Reinstalling the Input Module**



Figure 2, Reinstalling an Input Module and Option Cards

#### Installing the Labels

Each option card and the input module are shipped with a connection label. These labels must be applied to the rear of the LDP63000 in the positions shown in the drawing.

# 2.0 INSTALLING THE DISPLAY



Figure 3, Installing The LDP63000 Into A Panel

#### **Environment And Cleaning**

The display should be installed in a location that does not exceed the maximum operating temperature and provides good air circulation. Placing the system near devices that generate excessive heat should be avoided.

The bezel should be cleaned only with a soft cloth and neutral soap product. Do NOT use solvents. Continuous exposure to direct sunlight may accelerate the aging process of the bezel.

# 3.0 WIRING AND PROGRAMMING THE DISPLAY

Once assembled, the LDP63000 has all the same functions and capabilities of our DP63x00 Series Intelligent Panel Meters. Therefore, you will find the appropriate wiring and programming information in a separate manual packed with your LDP63000 Display. Simply follow the instructions to wire and program the display for your application.

# WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **25 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **two (2) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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# **RETURN REQUESTS/INQUIRIES**

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

- 1. Purchase Order number under which the product was PURCHASED,
- 2. Model and serial number of the product under warranty, and
- 3. Repair instructions and/or specific problems relative to the product.

FOR **<u>NON-WARRANTY</u>** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

- 1. Purchase Order number to cover the COST of the repair,
- 2. Model and serial number of the product, and
- 3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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