

MODEL LPAXDA - 5 DIGIT LARGE PAX® DISPLAY FOR DUAL ANALOG INPUTS



- LARGE LED DISPLAY READABLE TO 70 FEET
- DUAL PROCESS SIGNAL INPUT
- VARIOUS OUTPUT OPTION MODULES
- CUSTOM UNITS LABEL WITH BACKLIGHT
- PROGRAMMABLE USER INPUTS
- PROGRAMMABLE FUNCTION KEYS
- UNIVERSAL AC/DC POWERED
- CRIMSON 2 PROGRAMMING SOFTWARE
- NEMA 4X/IP65

GENERAL DESCRIPTION

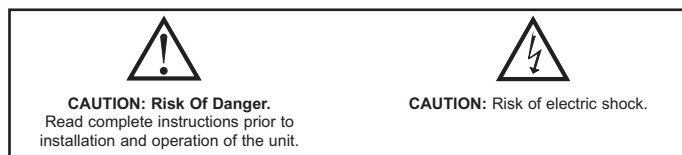
The LPAXDA Display is a versatile display that can increase productivity by offering the plant floor or production area a large visual display of their current status. With the use of a units label and backlighting, the display can be tailored to show the actual engineering unit, which further enhances the display. This LPAXDA display accepts various analog inputs through the use of input module (MPAXDP) which allows the unit to adapt to most any application. The MPAXDP Module offers the same features as our highly successful PAX Series Panel Meters. Additional option cards can add alarms, analog output, and communication/bus capabilities, making the LPAXDA a truly Intelligent Panel Meter.

SAFETY SUMMARY

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.



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

Additional specifications, wiring, programming, and information for the individual MPAXDP models are contained in the standard PAXDP literature. The PAXDP literature is shipped with the ordered MPAXDP.

- DISPLAY:** 1.5" (38 mm) Red LED
5-Digit: (-19999 to 999999)
- POWER REQUIREMENTS:**
AC Modules: 85 to 250 VAC, 50/60 Hz, 21 VA
DC Modules: 18 to 36 VDC, 13 W or 24 VAC $\pm 10\%$, 50/60 Hz, 16 VA
- INPUT:** Accepts analog input modules, see "Selecting Your Display Components."
- ANNUNCIATORS:**
LPAXDA00: A, B, C, SP1, SP2, SP3, and SP4
Optional units label with backlight.
- KEYPAD:** Five tactile membrane switches integrated into the front panel
- CERTIFICATIONS AND COMPLIANCES:**

CE Approved

EN 61326-1 Immunity to Industrial Locations
 Emission CISPR 11 Class A
 IEC/EN 61010-1
 RoHS Compliant

UL Listed: File #E179259

Type 4X Indoor / IP66 Enclosure rating (Face only)
 IP20 Enclosure rating (Rear of unit)

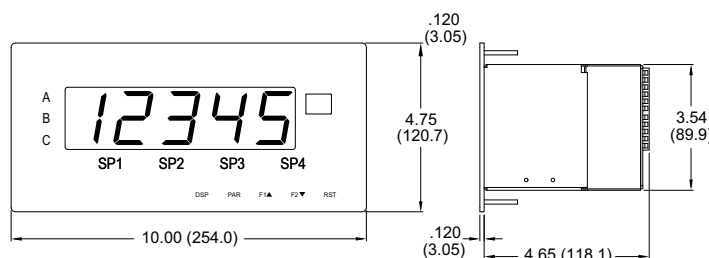
ELECTROMAGNETIC COMPATIBILITY

EMC specifications determined by the MPAXDP module.

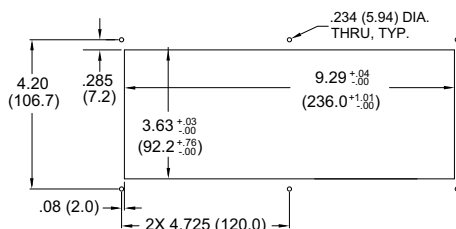
7. ENVIRONMENTAL CONDITIONS:

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

DIMENSIONS In inches (mm)



PANEL CUT-OUT



8. MOUNTING REQUIREMENTS:

Max. panel thickness is 0.375" (9.5 mm)

Min. panel thickness for NEMA 4/IP65 sealing is 0.060" (1.52 mm)

9. MODULE INSTALLATION:

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

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



CAUTION: Disconnect all power before installing or removing module.

11. **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.

12. **WEIGHT:** 2.7 lbs (1.2 kg) (less module)

About the MPAXDP Input Modules

The MPAXDP Module serves as the input to the LPAXDA Display. The MPAXDP module provides input scaling which allows the LPAXDA to display most any engineering unit. Once the MPAXDP is inserted into the LPAXDA, the unit has the same functions and capabilities of our PAXDP Series Intelligent Panel Meters. A full set of PAXDP programming instructions will be included with the MPAXDP module.

Note: The MPAXDP provides the operating power for the LPAXDA, therefore you must select either the AC or DC MPAXDP corresponding with your application and available power.

Selecting Your Display Components

To build a complete display unit, you will need an LPAXDA and an MPAXDP Input Module. The LPAXDA is only a display and will not operate without an MPAXDP module. Please use the following chart to identify the appropriate MPAXDP module (including supply power) and LPAXDA Display that will satisfy your application.

SIGNAL TYPE	INPUT RANGES	MPAXDP MODULES*		LPAXDA DISPLAY
		85-250 VAC	11 TO 36 VDC / 24 VAC	
Dual Process Inputs	0-20 mA or 0-10 VDC	MPAXDP00	MPAXDP10	LPAXDA00

*For detailed Module specifications, see the PAXDP literature.

OPTION CARDS AND ACCESSORIES



WARNING: Disconnect all power to the unit before installing option cards.

Adding Option Cards

The MPAXDP series meters can be fitted with up to three option cards. However, only one card from each function type can be installed at a time. The function types include Setpoint Alarms (PAXCDS), Communications (PAXCDC), and Analog Output (PAXCDL). The cards can be installed initially or at a later date. Each option card is shipped with installation and programming instructions.

COMMUNICATION CARDS (PAXCDC)

A variety of communication protocols are available for the PAX and MPAXDP series. Only one of these cards can be installed at a time. When programming the unit via Crimson 2, a Windows® based program, the RS232 or RS485 Card must be used.

PAXCDC1* - RS485 Serial
PAXCDC2* - RS232 Serial
PAXCDC30 - DeviceNet
PAXCDC50 - Profibus-DP

*Units available in various connector configurations.

SETPOINT CARDS (PAXCDS)

The PAX and MPAX series has five available setpoint alarm output option cards. Only one of these cards can be installed at a time. (Logic state of the outputs can be reversed in the programming.) These option cards include:

PAXCDS10 - Dual Relay, FORM-C, Normally open & closed
PAXCDS20 - Quad Relay, FORM-A, Normally open only
PAXCDS30 - Isolated quad sinking NPN open collector
PAXCDS40 - Isolated quad sourcing PNP open collector
PAXCDS50 - Dual Triac/Dual SSR drive

*PAXCDS60 is not suitable for use in the MPAXDP.

LINEAR DC OUTPUT (PAXCDL)

Either a 0(4)-20 mA or 0-10 V retransmitted linear DC output is available from the analog output option card. The programmable output low and high scaling can be based on various display values. Reverse slope output is possible by reversing the scaling point positions.

PAXCDL10 - Retransmitted Analog Output Card

UNITS LABEL (LX)

The LPAXDA 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.

Refer to the LPAXDA Accessories Bulletin for a list of available units labels.

PROGRAMMING SOFTWARE

Crimson 2 is a Windows® based program that allows configuration of the LPAXDA meter from a PC. Crimson offers standard drop-down menu commands, that make it easy to program the LPAXDA meter. The LPAXDA program can then be saved in a PC file for future use. A PAX serial option card is required to program the meter using the software.

1.0 ASSEMBLING THE DISPLAY



CAUTION: The MPAXDP 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 MPAXDP 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 LPAXDA case.



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

Prior to installing the LPAXDA Display, it is recommended that the MPAXDP and any option cards be assembled first. This will allow you the opportunity to insure all the boards are fitted properly into their connectors.

Installing the Option Cards

If your application requires option cards, they should be installed into the MPAXDP before it is installed into the LPAXDA Display. Refer to the literature enclosed with the option cards for installation instruction.

Installing the MPAXDP

To install the MPAXDP Module, align the module with the opening in the LPAXDA case, as illustrated. The module must be oriented as shown, with terminal #1 toward the top of the LPAXDA case. Carefully slide the module into the LPAXDA case. The LPAXDA and MPAXDP connectors will begin to engage about 1/4" from the bottom. At this point, apply a small amount of pressure to the rear of the MPAXDP module to fully engage the connection. Be sure the module fully snaps into the slots at the rear of the LPAXDA case. The display is ready for installation.

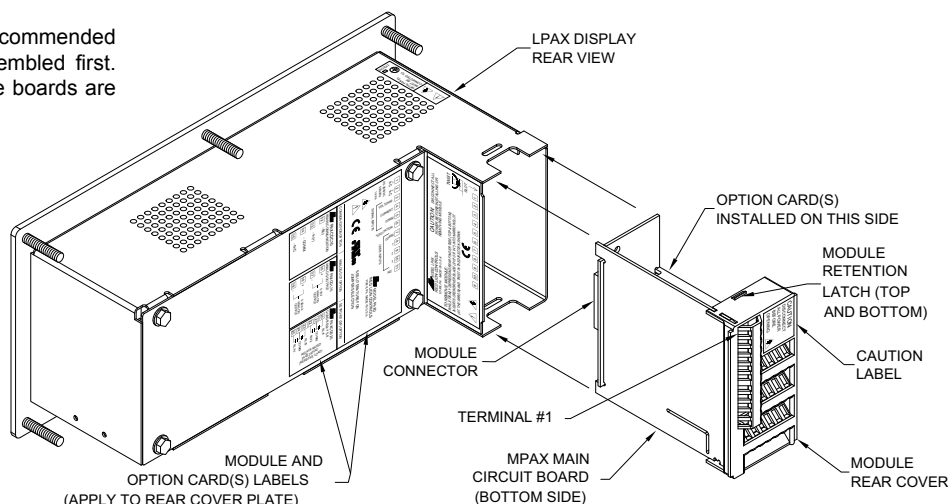


Figure 1, Installing an MPAXDP Module and Option Cards

Installing the Labels

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

Removing The MPAXDP Module

To remove the MPAXDP Module from the LPAXDA 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 LPAXDA rear cover plate and the module's plastic cover as illustrated in Figure 2. 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 LPAXDA case, keeping it properly aligned with the case opening.

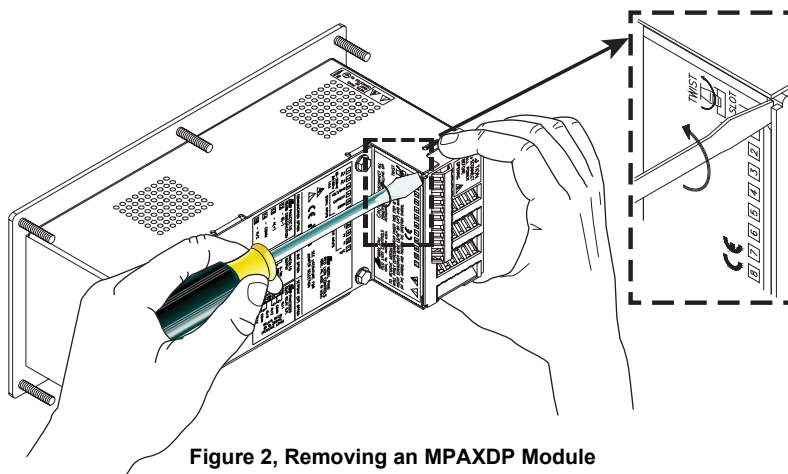


Figure 2, Removing an MPAXDP Module

2.0 INSTALLING THE DISPLAY

LPAXDA DISPLAY INSTALLATION

The LPAXDA display is intended to be mounted into a panel or enclosure. The display is provided with a gasket to provide a water-tight seal. The recommended minimum panel thickness for NEMA 4/IP65 sealing is 0.060" (1.57 mm).

For panel mounting, prepare the panel cut-out to the dimensions shown. The supplied template may be used to mark the cut-out and hole locations on the panel. After the panel cut-out has been deburred, slide the panel gasket over the rear of the display and onto the mounting studs. Insert the display into the panel cut-out as illustrated in Figure 3. Install six # 10-32 keps nuts (supplied) and tighten evenly for uniform gasket compression (Torque to 50 in/oz. [0.353 N-m]). Do not over-tighten the nuts.

By using additional mounting accessories, the LPAXDA can be surface-wall mounted, suspended, or bottom mounted. Separate installation instructions are provided with the mounting accessories.

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.

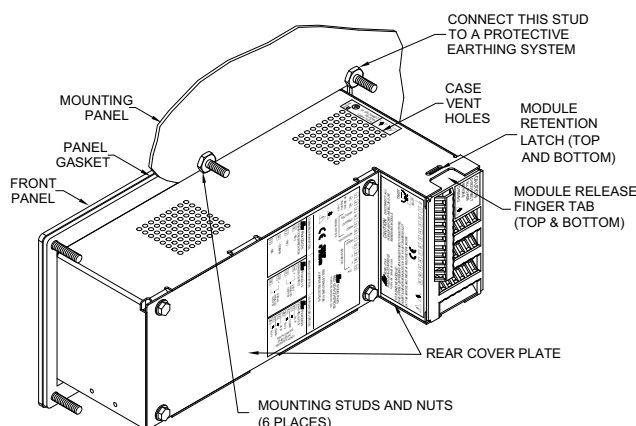


Figure 3, Installing The LPAXDA Into A Panel

3.0 WIRING AND PROGRAMMING THE DISPLAY

The LPAXDA and MPAXDP have all the same functions and capabilities of our PAXDP Series Intelligent Panel Meter. Therefore, you will find the appropriate Wiring and Programming information packed with the MPAXDP Module. Follow the instructions found in the MPAXDP documentation to wire and program the display for your application.

TROUBLESHOOTING

If for any reason you have trouble operating, connecting, or simply have questions concerning your new unit, contact Red Lion's technical support.

Email: support@redlion.net

Website: www.redlion.net

Inside US: +1 (877) 432-9908

Outside US: +1 (717) 767-6511

ORDERING INFORMATION

TYPE	MODEL NO.	DESCRIPTION	PART NUMBER
Display	LPAXDA	5-Digit Large Display for Analog MPAXDP Modules	LPAXDA00
Analog Input Module	MPAXDP	Dual Process Input Module, AC Powered	MPAXDP00
		Dual Process Input Module, DC/24 VAC Powered	MPAXDP10
Option Cards	PAXCDS	Dual Setpoint Relay Output Card	PAXCDS10
		Quad Setpoint Relay Output Card	PAXCDS20
		Quad Setpoint Sinking Open Collector Output Card	PAXCDS30
		Quad Setpoint Sourcing Open Collector Output Card	PAXCDS40
		Dual Triac/Dual SSR Drive Output Card	PAXCDS50
	PAXCDC ¹	RS485 Serial Communications Card with Terminal Block	PAXCDC10
		Extended RS485 Serial Communications Card with Dual RJ11 Connector	PAXCDC1C
		RS232 Serial Communications Card with Terminal Block	PAXCDC20
		Extended RS232 Serial Communications Card with 9 Pin D Connector	PAXCDC2C
		DeviceNet Communications Card	PAXCDC30
		Profibus-DP Communications Card	PAXCDC50
	PAXCDL	Analog Output Card	PAXCDL10
	PAXUSB	PAX USB Programming Card	PAXUSB00
Accessories	LX	Custom Units Label*	Listed Separately
	ENC9	NEMA 4 Enclosure for LPAXDA	ENC90000
	SHR	Shroud for LPAXDA	SHRLPAX0
	MB	Mounting Bracket for LPAXDA	MBLPAX00

¹ For Modbus communications use RS485 Communications Option Card and configure communication (TYPE) parameter for Modbus.

* See the LPAXDA Enclosure and Labels Bulletin for available unit labels.

♦ Crimson® software is available as a free download from <http://www.redlion.net/>