



# RED LION PM-50 Ethernet Communications Module Installation Guide

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## PM-50 Ethernet Communications Module

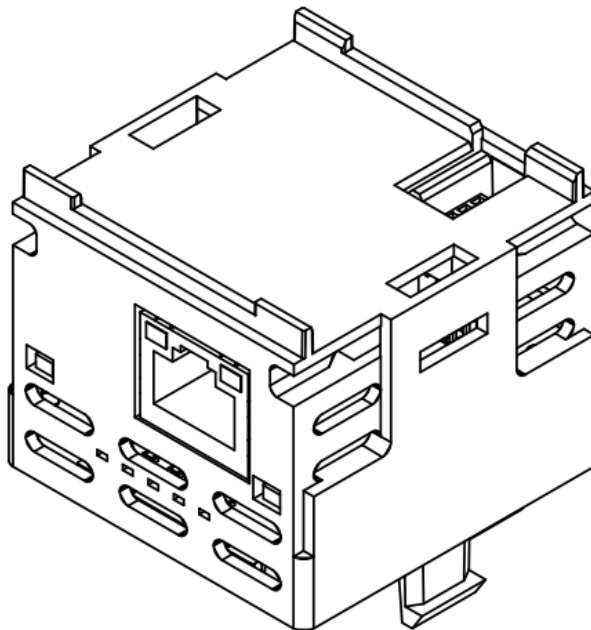
### Installation Guide

#### Install PM50ETH-A

Drawing No. LP1172 Effective 08 2021

10/100 Ethernet module

Auto MDI/MDI-X RJ-45 jack



**LISTED**

FOR USE IN HAZARDOUS LOCATIONS:

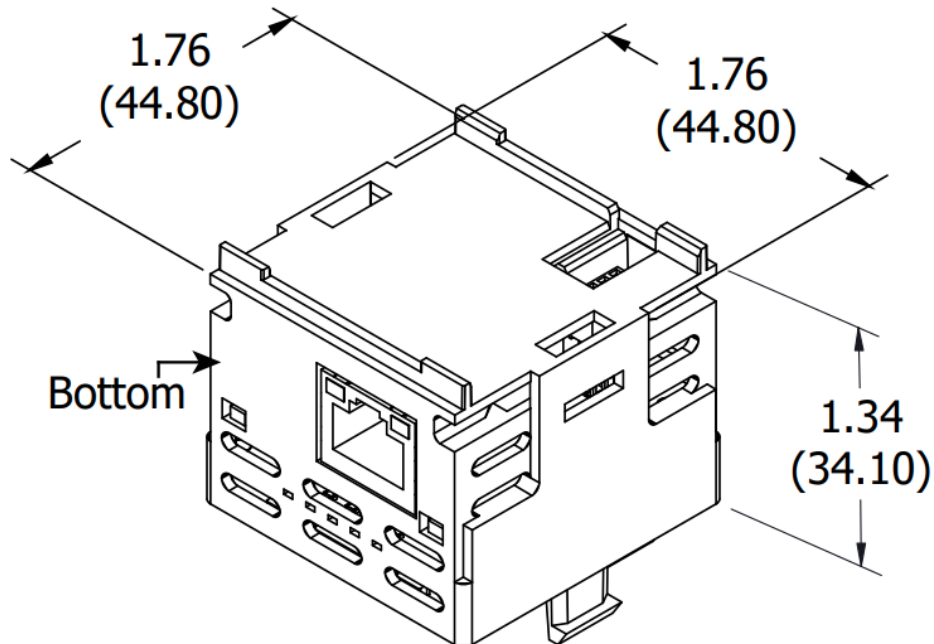
Class I, Division 2, Groups A, B, C, and D T4A

## MODULE PACKAGE CHECKLIST

This product package should contain the items listed below. If any items are missing or damaged, contact Red Lion immediately.

- Panel Mount Ethernet Module
- Accessory Pack
- Installation Guide

## DIMENSIONS In inches (mm)



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## SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in this document or on equipment must be observed to ensure personal safety and to prevent damage to either the device or equipment connected to it.

Do not use these products to replace proper safety interlocking.

No software-based device (or any other solid-state device) should ever be designed to be responsible for the maintenance of personnel safety or consequential equipment not equipped with safeguards. Red Lion disclaims any responsibility for damages, either direct or consequential, that result from the use of this equipment in a manner not specified.



**CAUTION:** Risk of Danger

Read complete instructions prior to installation and operation of the unit.



**WARNING** – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2



This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only.

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
PMM000CMENT00000	Ethernet Communications Module

A listing of the entire PM-50 family of products and accessories can be found at [www.redlion.net](http://www.redlion.net).

## SPECIFICATIONS

Note: The PM-50 4.3 inch host accepts a maximum of 5 modules while the 3.5 inch host accepts a maximum of 3. Only one module from each function type (i.e. communication, relay, analog output) can be installed.

### 1. POWER: Power is supplied by the PM-50 host device.

Must use a Class 2 circuit according to National Electrical Code (NEC), NFPA-70 or Canadian Electrical Code (CEC), Part I, C22.1 or a Limited Power Supply (LPS) according to IEC/EN 60950-1 or Limited-energy circuit according to IEC/ EN 61010-1.

Max Power: 0.75 W

### 2. ETHERNET COMMUNICATIONS:

Field installable module Ethernet Port: 10BaseT/100BaseTX RJ-45 port, auto MDI/ MDI-X RJ45 jack is wired as a NIC (Network Interface Card) Isolation from Ethernet network to PM-50: 1500 Vrms

### 3. ENVIRONMENTAL CONDITIONS:

Operating Temperature Range: -10 to 55 °C

Storage Temperature Range: -40 to 85 °C Vibration to IEC 68-2-6: Operational 5-500 Hz, 2 g Shock to IEC 68-2-27:

Operational 20 g Operating and Storage Humidity: 0 to 85% max. RH noncondensing Altitude: Up to 2000 meters Installation Category II, Pollution Degree 2 as defined in IEC/ EN 60664-1.

### 4. CERTIFICATIONS AND COMPLIANCES:

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

Compliant UL Hazardous: File # E317425 Rugged IP25 enclosure

### 5. CONSTRUCTION: Plastic enclosure with IP25 rating. For use only in an approved enclosure.

### 6. WEIGHT: 1.4 oz (39.7 g)

## HARDWARE INSTALLATION

### Installing a Module



**WARNING** – Disconnect all power to the unit before installing or removing modules.

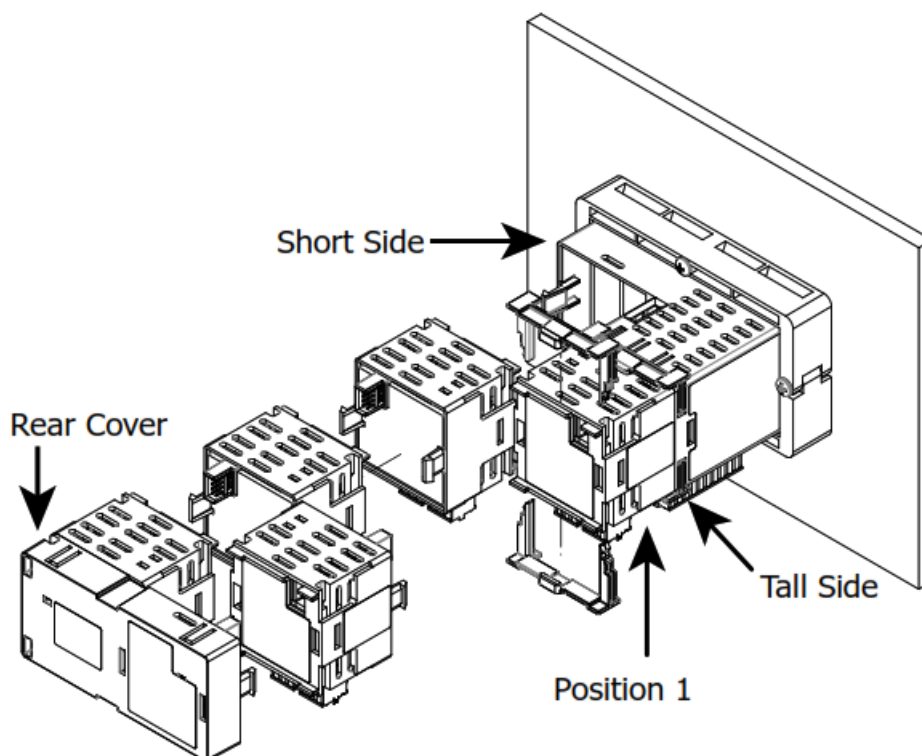
For hazardous location installation the following shall be taken into consideration:

- This device is open-type and must be mounted in a suitable dust-tight end-enclosure in accordance with articles 500 and 502 of the NEC and positioned so only the face of the display is exposed.
- Must be wired using Division 2 wiring methods as specified in article 501-4(b), 502-4(b), and 503-3(b) of the National Electric Code, NFPA 70 for installation within the United States, or as specified in section 19-152 of Canadian Electrical Code for installation in Canada.
- Combinations of equipment in your system are subject to investigation by the local Authority having jurisdiction at the time of installation.

#### To a 4.3 inch Host



It is recommended that a relay module be installed in Module Position 1 only (shown below).

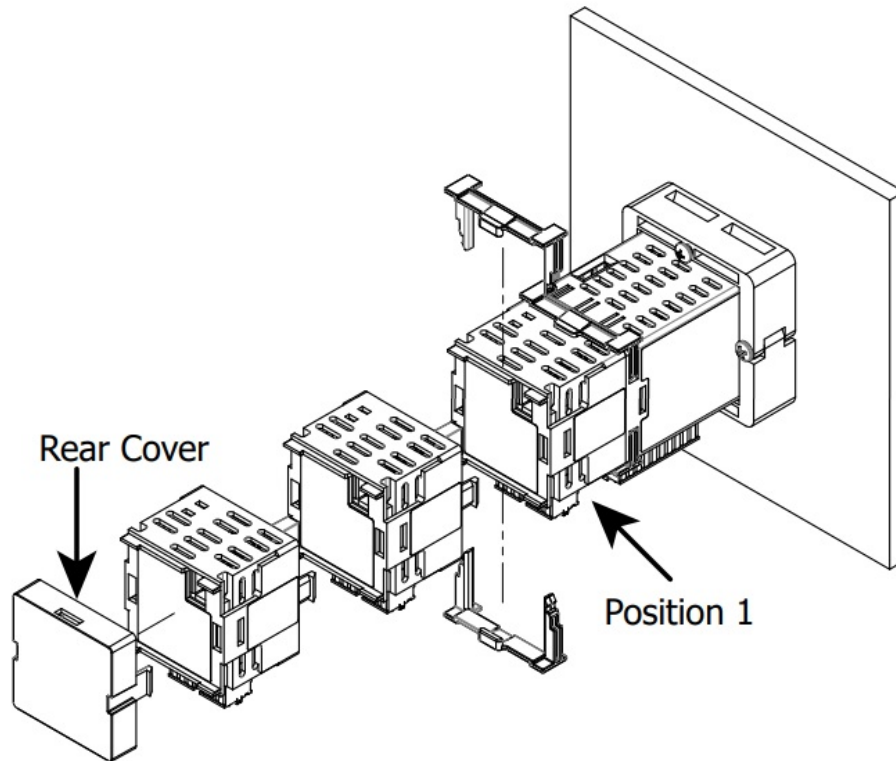


1. To install a module on the tall side of a 4.3 inch host, align the latches of the module with the host case such that the backplane connector shroud on the module cover aligns with the backplane connector opening in the host case.
2. To install a module on the short side of a 4.3 inch host, rotate the module 180 degrees and align the latches on the host with the module case so that the I/O connector is facing downward.
3. Insert the host latches into the openings in the module case by slightly deflecting the latches inward.
4. Press the module into the host case evenly until the latches engage.
5. Install Module Locks between each module as shown by fully inserting the legs of the Module Locks into the slots in the case until the button on the Module Lock aligns with the hole provided in the case. Press fit the button into the hole. Repeat this installation between each module in your system to provide the most secure installation.
6. When you have finished adding modules, the rear cover should be installed in the same manner as the modules.

#### To a 3.5 inch Host



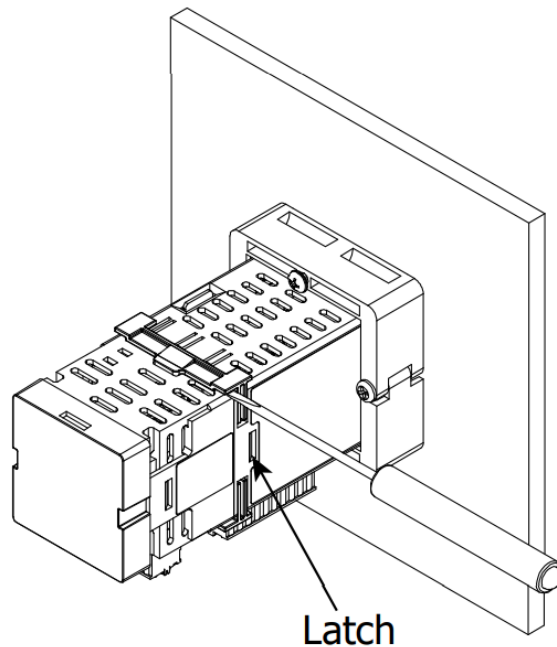
It is recommended that a relay module be installed directly onto the back of the host (shown below), not on the back of any other module.



1. Align the latches of the module with the host case such that the backplane connector shroud on the module cover aligns with the backplane connector opening in the host case.
2. Insert the module latches into the openings in the host case by slightly deflecting the latches inward.
3. Press the module into the host case evenly until the latches engage.
4. Install Module Locks between each module as shown by fully inserting the legs of the Module Locks into the slots in the case until the button on the Module Lock aligns with the hole provided in the case. Press fit the button into the hole. Repeat this installation between each module in your system to provide the most secure installation.
5. When you have finished adding modules, the rear cover should be installed in the same manner as the modules.

### Removing a Module

To remove a module from the assembly, first remove the module locks using a small screwdriver as shown. Then disengage the latch by deflecting the latch inward or by using a small screw driver, inserting it into the slot in the side of the case, and prying the latch inward to disengage the latch. Once the latches are disengaged, pull on the module and remove it from the assembly.



## ETHERNET COMMUNICATIONS

Ethernet communications can be established at either 10 BASE-T or 100 BASE-TX. The PM-50 Ethernet module's RJ45 jack is wired as a NIC (Network Interface Card). PM-50 Ethernet module's auto-detects remote transmit and receive pairs and correctly assigns the transmit and receive pairs for the PM-50 Ethernet module. This extremely useful feature enables the user to use whichever type of cable (cross-over or straight) is available.

The Ethernet connector contains two LEDs. A yellow LED in the upper right, and a green LED in the upper left. The LEDs represent the following statuses:

LED COLOR	DESCRIPTION
YELLOW Solid	Link established.
YELLOW flashing	Data being transferred.
GREEN (OFF)	10 BASE-T Communications
GREEN (ON)	100 BASE-TX Communications

On the side label of each PM-50 Ethernet module is a unique 12-digit MAC address.

## LEDs

LED/STATE	MEANING
Fast blink	Module is initializing.
Solid	Module is running normally.

## RED LION CONTROLS TECHNICAL SUPPORT

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

Support: [support.redlion.net](https://support.redlion.net)  
Website: [www.redlion.net](https://www.redlion.net)  
Inside US: +1 (877) 432-9908  
Outside US: +1 (717) 767-6511  
Red Lion Controls, Inc.  
20 Willow Springs Circle York, PA 17406

## COPYRIGHT

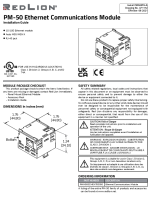
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## LIMITED WARRANTY

(a) Red Lion Controls Inc. (the "Company") warrants that all Products shall be free from defects in material and workmanship under normal use for the period of time provided in "Statement of Warranty Periods" (available at [www.redlion.net](https://www.redlion.net)) current at the time of shipment of the Products (the "Warranty Period"). EXCEPT FOR THE ABOVE-STATED WARRANTY, COMPANY MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY; (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. Customer shall be responsible for determining that a Product is suitable for Customer's use and that such use complies with any applicable local, state or federal law. (b) The Company shall not be liable for a breach of the warranty set forth in paragraph (a) if (i) the defect is a result of Customer's failure to store, install, commission or maintain the Product according to specifications; (ii) Customer alters or repairs such Product without the prior written consent of Company. (c) Subject to paragraph (b), with respect to any such Product during the Warranty Period, Company shall, in its sole discretion, either (i) repair or replace the Product; or (ii) credit or refund the price of Product provided that, if Company so requests, Customer shall, at Company's expense, return such Product to Company. (d) THE REMEDIES SET FORTH IN PARAGRAPH (c) SHALL BE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND COMPANY'S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTY SET FORTH IN PARAGRAPH (a). BY INSTALLING THIS PRODUCT, YOU AGREE TO THE TERMS OF THIS WARRANTY, AS WELL AS ALL OTHER DISCLAIMERS AND WARRANTIES IN THIS DOCUMENT.



## Documents / Resources

	<p><a href="#">RED LION PM-50 Ethernet Communications Module</a> [pdf] Installation Guide PM-50 Ethernet Communications Module, PM-50, Ethernet Communications Module, Communications Module, Module</p>
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## References

- [S Red Lion | Access. Connect. Visualize.](#)