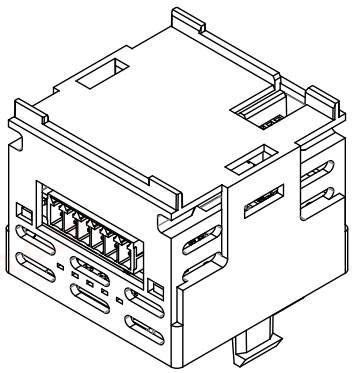
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Install 50RS232-A
Drawing No. LP1143
Effective 08 2021

PM-50 RS232 Serial Communications Module

Installation Guide

- Removable terminal block
- Hardware status LEDs



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IND.CONT. EQ.
E317425

FOR USE IN HAZARDOUS LOCATIONS:
Class I, Division 2, Groups A, B, C, and D
T4A

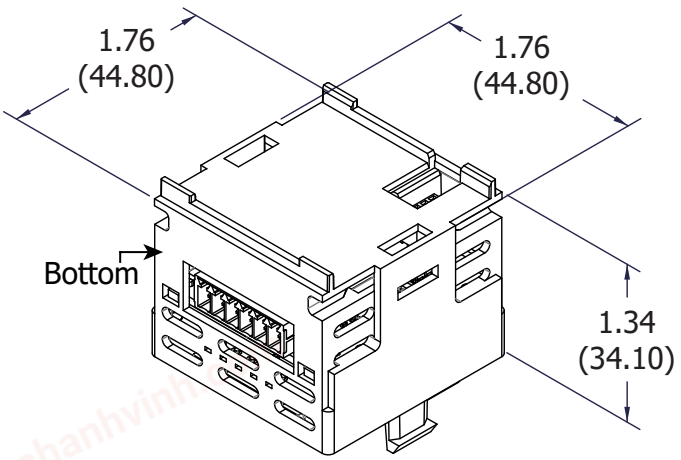
UK CA CE

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 RS232 Serial Communications Module
- Accessory Pack
- Installation Guide

DIMENSIONS In inches (mm)



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.

ATTENTION : Risque de danger
Lire les instructions complètes avant l'installation et l'utilisation de l'appareil.

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

AVERTISSEMENT - DANGER D'EXPLOSION - LE REMPLACEMENT DE COMPOSANTS PEUT NUIRE À L'APTITUDE À LA CLASSE I, DIVISION 2

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

Cet équipement est adapté à une utilisation dans des endroits de classe I, Division 2, Groupes A, B, C, D, ou dans des endroits non dangereux seulement.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
PMM000CM23200000	RS232 Serial Communications Module

A listing of the entire PM-50 family of products and accessories can be found at www.redlion.net.

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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: 0.55 W
2. **RS232 COMMUNICATIONS:** Field installable module
   Isolation: 1000 Vrms for 1 minute
   Baud Rate: 300 to 115200
   Data Format: 7/8 bits; odd, even or no parity
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 non-condensing
   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 IP20 enclosure
5. **CONSTRUCTION:** Plastic enclosure with IP20 rating. For use only in an approved enclosure.
6. **CONNECTIONS:** High compression cage-clamp terminal blocks
   Wire Strip Length: 0.32-0.35" (8-9 mm)
   Wire Gauge Capacity: Four 28 AWG (0.32 mm) solid, two 20 AWG (0.61 mm) or one 16 AWG (2.55 mm)
   Torque: 2 inch-lbs (0.23 N-m)
7. **WEIGHT**: 1.4 oz (39.7 g)

HARDWARE INSTALLATION

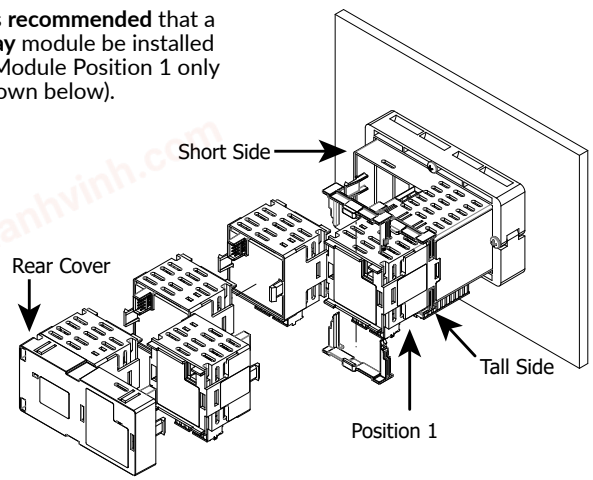
Installing a Module

> ⚠ WARNING - Disconnect all power to the unit before installing or removing modules.
> AVERTISSEMENT - Débranchez l'alimentation électrique de l'appareil avant d'installer ou de retirer des modules.

Installation of the product must comply with National Electrical Code (NEC), NFPA-70 or Canadian Electrical Code (CED) or any local regulation Authority.

To a 4.3 inch Host

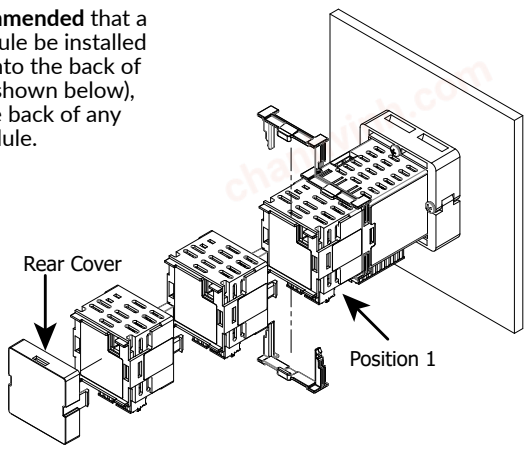
⚠ It is **recommended** that a **relay** module be installed in Module Position 1 only (shown below).



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.



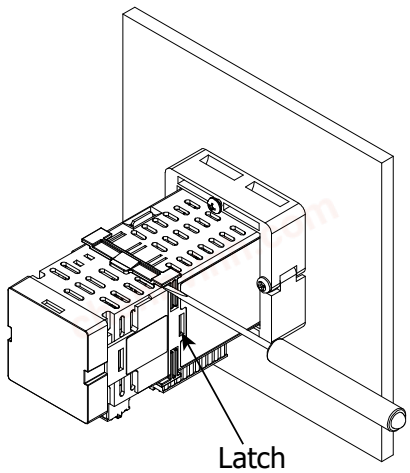
1. Align the latches of the module with the host case such that the backplane connector shroud on the module cover aligns with the backplane connector opening in the host case.

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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.

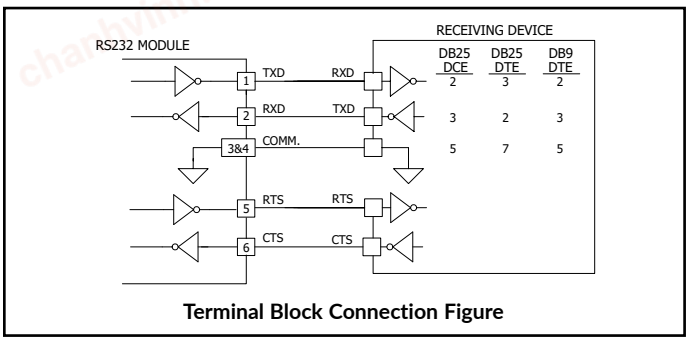


WIRING

Power

The RS232 module draws all of its power from the main board of your PM-50. The specifications of your PM-50 account for the power needs of the module.

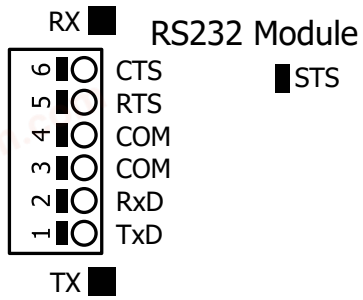
RS232 Communications



Terminal Block Connection Figure

RS232 is intended to allow only two devices to communicate over distances up to 50 feet. Data Terminal Equipment (DTE) transmits data on the Transmitted Data (TXD) line and receives data on the Received Data (RXD) line. Data Computer Equipment (DCE) receives data on the TXD line and transmits data on the RXD line. The PM-50 emulates a DTE. If the other device connected to the meter also emulates a DTE, the TXD and RXD lines must be interchanged for communications to take place. This is known as a null modem connection. Most printers emulate a DCE device while most computers emulate a DTE device.

LEDs



STS

LED will blink fast when initializing. LED will be solid when running normally.

RX/TX

The transmit LED(TX) will flash when information is transmitted from the RS232 module. The receive LED(RX) will flash when information is received.

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
Website: www.redlion.net
Inside US: +1 (877) 432-9908
Outside US: +1 (717) 767-6511

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(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) 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).**
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