



Fiber Optic Data Transmission System

1 channel TTL Data Transmitter & Receiver

PT/PR-1L-x Series (ST/FC)

Installation Instructions

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PT/PR-1L-x

Fiber Optic TTL Data Transmission System

Installation Instructions

1.0 Product Description

Meridian's product series PT/PR-1L are fiber optic modems that transmit or receive one channel uni-directional TTL Data over optical fiber using digital transmission technologies. This product series uses Meridian's standard 1-slot wide chassis mount card assembly and plugs into the following Meridian chassis: SR-500/S, SR-1002/S, SR-1600/S, and SR-2001 & SR-2000 series 19" equipment chassis.

Refer to Appendix 1 at the back of this manual for the part number variations.

Both ST and FC optical connectors are supported, depending on the part number. An ST optical interface is available for both multimode and singlemode fiber applications. The FC optical interface is available only for singlemode products. Optional conformal coating provides an additional level of protection from environments with high humidity.

2.0 Installation

Series PT/PR-1L products are one-slot wide cards and, as such, occupy one slot in Meridian's standard chassis. To install in these chassis, orient the card with the Meridian logo at the top of the module and slide onto the top and bottom card guides in the chassis. Press securely on the top and bottom of the module to ensure that it is fully seated in the chassis so that the electrical connector mates with the chassis-mounted motherboard. Once installed, manually tighten the two thumbscrews located at the top and bottom of the card. Do not use tools to secure these and do not over tighten.

Note: A fully loaded 19" subrack should have forced-air cooling to avoid excessive heat generation inside the chassis. A fan assembly tray (P/N FA-2000) with three (3) fans is available and should be installed under the 19" SR-2000/1 whenever possible.

3.0 Product Signal Format & Specifications

The PT/PR-1L series products can transmit and receive the following signals:

Signal Type	Channels
LVTTL Data	1

The tables below identify the specifications for the various signals that these modems transmit/receive.

TTL Data	
Format	LVTTL Data
Rate	DC to 10Mb/s
Bit Error Rate (BER)	10^{-9}
Jitter/PWD	10ns
TX/RX Latency	50ns

Connectors	
Data	DE-15 Female
Optical	Singlemode – ST or FC Multimode - ST

3.1 Optical Specifications

The table below lists the optical specifications for both single-mode and multimode fiber applications.

Optical Specifications						
Fiber Type/Size (um)	Optical Output (dBm)	Rx Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical connector	Optical Dynamic Range (dB)
Multimode (FP Laser) 62.5/125	-6	-22	16	1300	ST	22
Single-mode (FP Laser) 9/125	-6	-22	16	1310	ST, FC	22
Single-mode (DFB Laser) 9/125	0	-22	22	1310, 1550	ST, FC	22



Compliant with Class 1 Laser Safety Rating.

4.0 Front Panel Pinout Assignment Diagram

Figures 4.1 and 4.2 below show the front panel layout, connector location and pinout assignment for both the PT & PR cards.

PT-1L-X PINOUT DIAGRAM

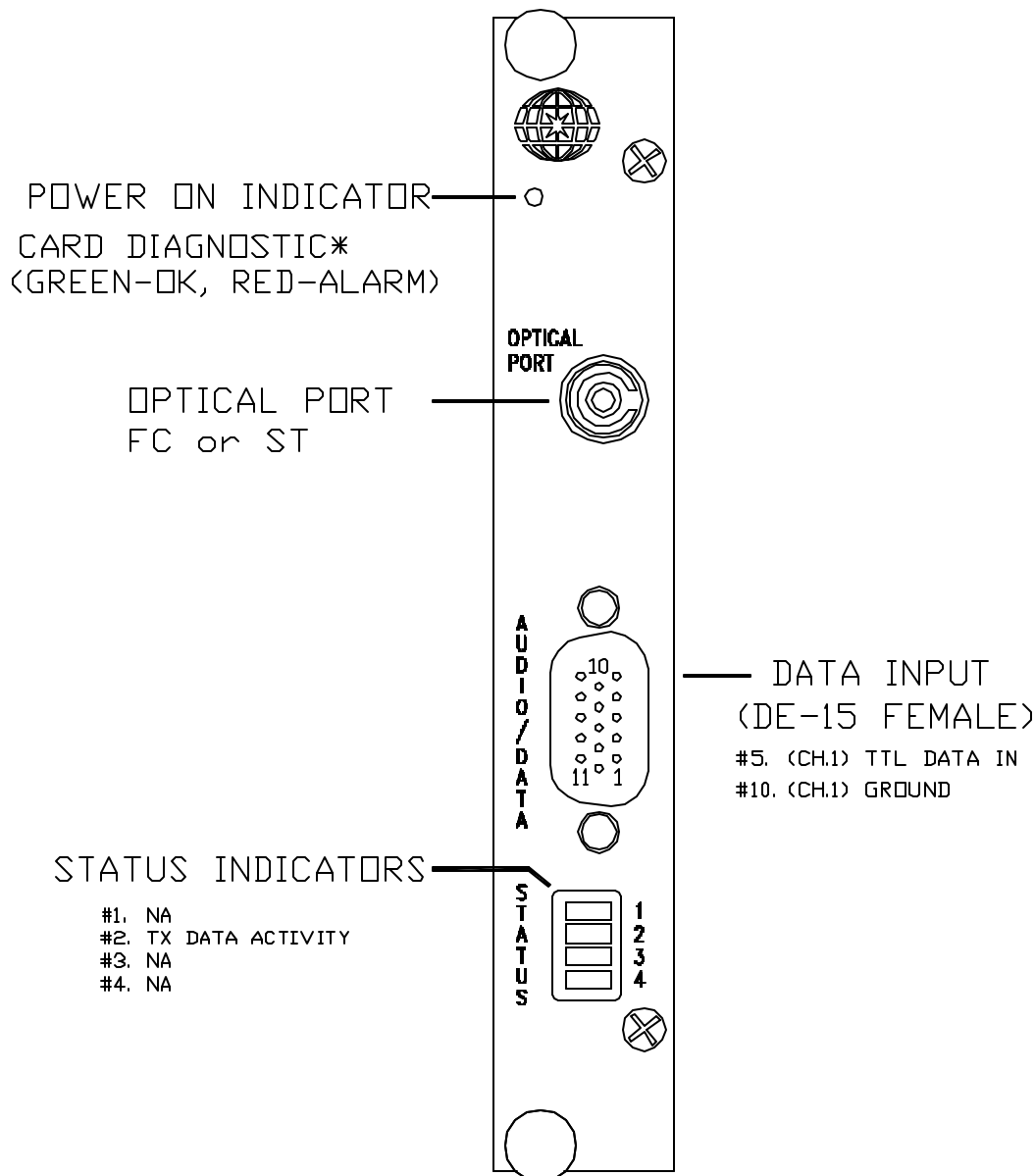


Figure 4.1
PT-1L-x 1-Slot Module Front Panel Diagram

PR-1L-X

PINOUT DIAGRAM

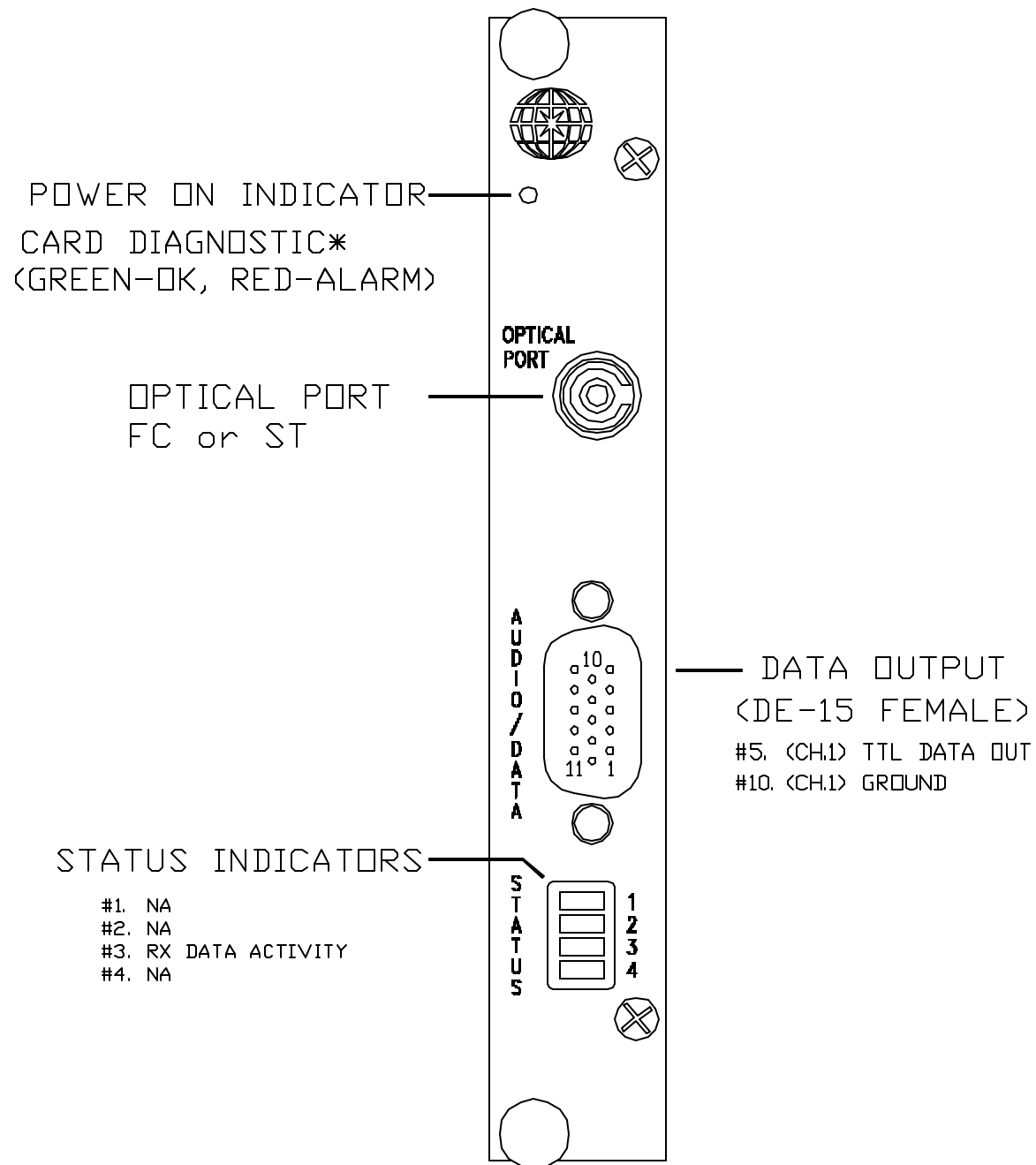


Figure 4.2
PR-1L-x 1-Slot Module Front Panel Diagram

5.0 Troubleshooting

Below is a listing of several problems that may arise during the installation & operation of the modules. If you are having difficulty installing or operating the modules please refer to this list below.

Problem: *Module does not fit in chassis slots*

Action: Check module orientation. Meridian “Globe” must be oriented on the top left hand side of the module
Make sure the card guides in the chassis are aligned with the extrusion on the module

Problem: *Card power LED does not light when power to the module/subrack is applied or power indicator turns on and off*

Action: Check power supply to ensure that it is plugged in and turned on. If flashing continues, move module to another chassis or location in the same chassis, if available.

Problem: *No Data*

Action: Check that both the transmit and receive modules are set to transmit/receive the same data format and that the data connections are correct. Check to ensure that the data source is operating properly.

If the problem still persists after reviewing the above items, please contact Meridian technical support: +1-516-285-1000 or support@meridian-tech.com

6.0 Product Part Numbers

Appendix 1 – Applicable Part Number Variations

Transmitter Part #	Receiver Part #	# of TTL Channels	Description
PT-1L-1	PR-1L-1	1	1-Ch TTL Data, multimode 1300mm ST
PT-1L-3	PR-1L-3	1	1-Ch TTL Data, single-mode 1310 FC
PT-1L-3/ST	PR-1L-3/ST	1	1-Ch TTL Data, single-mode 1310 ST
PT-1L-7	PR-1L-7	1	1-Ch TTL Data, single-mode 1550 FC
PT-1L-7/ST	PR-1L-7/ST	1	1-Ch TTL Data, single-mode 1550 ST
PT-1L-9	PR-1L-9	1	1-Ch TTL Data, single-mode 1310 FC
PT-1L-9/ST	PR-1L-9/ST	1	1-Ch TTL Data, single-mode 1310 ST



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