



Fiber Optic Data Transmission System

Installation Instructions



HT-3L-1B/ST

3 channel High-speed TTL Data - Transmitter

HR-3L-1B/ST

3 channel High-speed TTL Data - Receiver

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1.0 Product Description

Meridian's product series HTHR-3L-x are fiber optic modems that transmit or receive three channels of Unidirectional TTL Data over single 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.

Refer to Appendix 1 at the back of this manual for the module part numbers applicable in this manual.

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

2.0 Installation

Series HTHR-3L-x 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" sub-rack 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-3L series products can transmit and receive the following signals:

Signal Type	Channels
LVTTL Data	3

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

TTL Data	
Format	LVTTL Data
Rate	DC to 1Mb/s
Bit Error Rate (BER)	10^{-9}
Jitter/PWD	20ns
TX/RX Latency	200ns

Connectors	
Data	BNC w/gold center pin
Optical	Single-mode – 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								
Meridian Optic code	Fiber Type/Size (um)	Optical Output (dBm)	Rx Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical connector	Optical Dynamic Range (dB)	Estimated Max Distance (Km)
1	Multimode (FP Laser) 62.5/125	-5	-27	22	1300	ST	22	7
3, 4	Single-mode (FP Laser) 9/125	-5	-27	22	1310, 1550	ST, FC	22	60
7, 9	Single-mode (DFB Laser) 9/125	+1	-27	22	1310, 1550	ST, FC	22	80

This Product is 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, status indicators, connector location and pinout assignment for HT and HR cards.

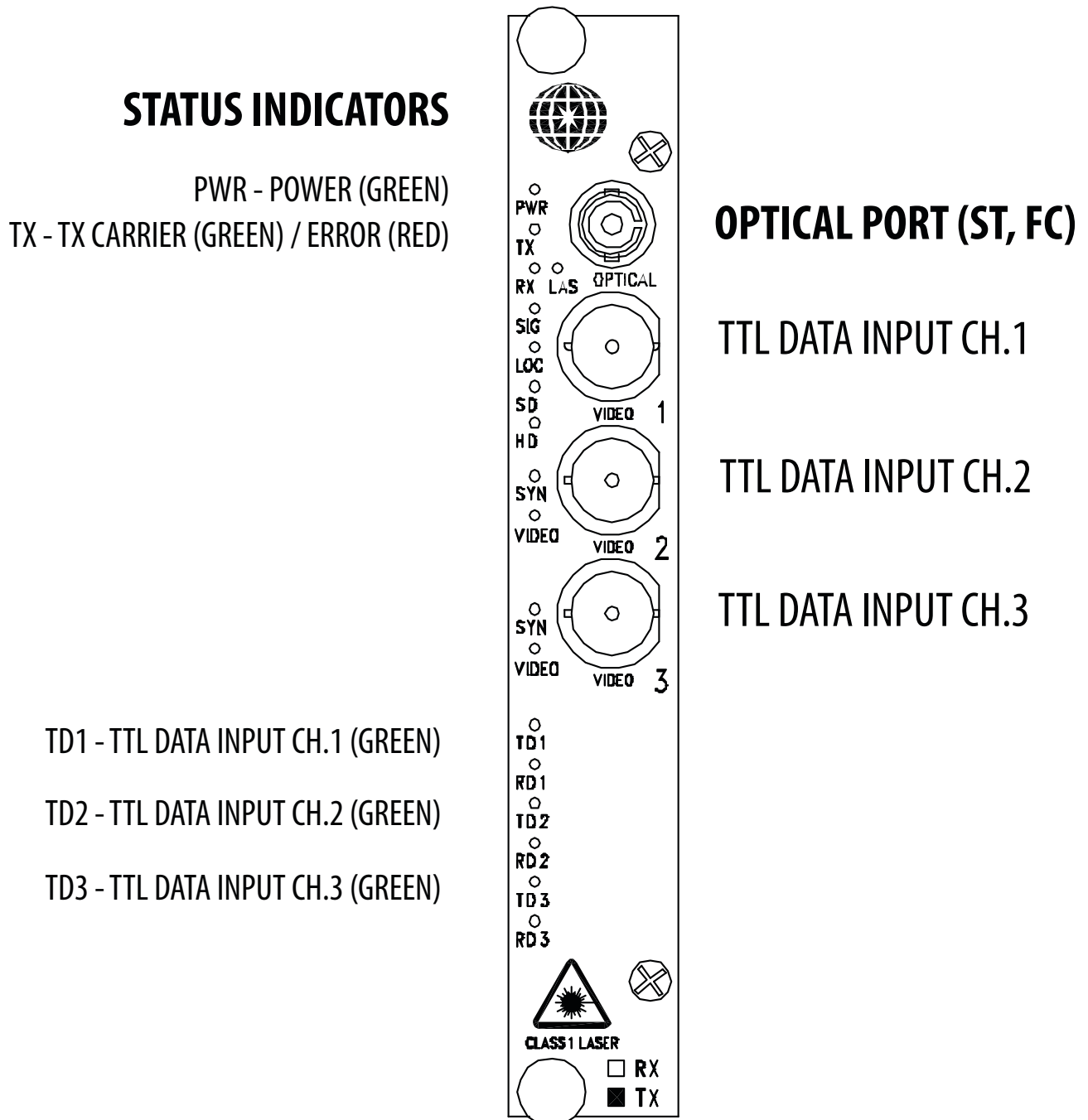


Figure 4.1
HT-3L-x Card front panel diagram

STATUS INDICATORS

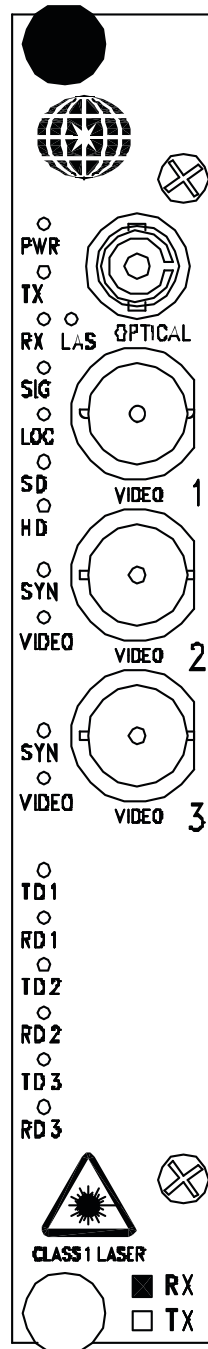
PWR - POWER (GREEN)

RX - RX CARRIER (GREEN) / ERROR (RED)

RD1 - TTL DATA OUTPUT CH.1 (GREEN)

RD2 - TTL DATA OUTPUT CH.2 (GREEN)

RD3 - TTL DATA OUTPUT CH.3 (GREEN)



OPTICAL PORT (ST, FC)

TTL DATA OUTPUT CH.1

TTL DATA OUTPUT CH.2

TTL DATA OUTPUT CH.3

Figure 4.2
PR-3L-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 transmitter and receiver data connections are correct. Check if status indicator LEDs are lit properly. 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).

6.0 Product Part Numbers

Appendix 1 – Applicable Part Number Variations

Transmitter Part #	Receiver Part #	No. Channels	Description
HT-3L-1B	HR-3L-1B	3	3-Ch TTL Data, BNC Data connector, MM, 1300nm ST
HT-3L-3B	HR-3L-3B	3	3-Ch TTL Data, BNC Data connector, SM, LP laser, 1310nm, FC
HT-3L-4B	HR-3L-4B	3	3-Ch TTL Data, BNC Data connector, SM, LP laser, 1550nm, FC
HT-3L-7B	HR-3L-7B	3	3-Ch TTL Data, BNC Data connector, SM, DFB laser, 1550nm, FC
HT-3L-9B	HR-3L-9B	3	3-Ch TTL Data, BNC Data connector, SM, DFB laser, 1310nm, FC



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