



Fiber Optic Data Transmission Systems Installation Instructions



One channel TTL Data Transmitter & Receiver

PT-160R-7-1D

Customer Ref. [H290842-3](#); [C555457-107](#)

PR-160R-7-1D

Customer Ref. [H290842-5](#); [C555457-108](#)

Meridian Technologies, Inc.
700 Elmont Road, Elmont NY 11003, USA
Telephone : +1. 516. 285. 1000 Fax: +1. 516. 285. 6300
E-mail : sales@meridian-tech.com Web: www.meridian-tech.com

Document Version 1.0
10/05/2021

Table of Contents

1.0 Product Description..... 3

2.0 Installation..... 3

3.0 Product Signal Format & Specifications 3

3.1 Optical Specifications 4

4.0 Front Panel Pinout Assignment Diagram..... 4

5.0 Troubleshooting 7

1.0 Product Description

Meridian's product series PT/PR-160R-7-1D are fiber optic modems that transmit or receive one channel unidirectional TTL Data over optical fiber using digital transmission technologies. This product series uses Meridian's standard 1-slot wide chassis mount card assembly plugged 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 single-mode fiber applications. The FC optical interface is available only for single-mode products.

This product is compatible with Meridian's SpectraSmart™ network management and diagnostic PC based system. See the SpectraSmart™ brochure for additional details.

Optional conformal coating is also available for high humidity/condensation installations.

2.0 Installation

Series PT/PR-160R-7-1D 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 overtighten.

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-160R-7-1D series products can transmit and receive the following signals:

Signal Type	Channels
TTL Data	1

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

TTL Data	
Format	TTL Data
Rate	DC to 300Kb/s
Bit Error Rate (BER)	10^{-9}

Connectors	
Data	DE-15 Female with Jack Screw, Standoffs (0.232" H)
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)
1	Multimode (SLED) 62.5/125	-16	-34	-18**	1300	ST	39



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-160R-7-1D

PINOUT DIAGRAM

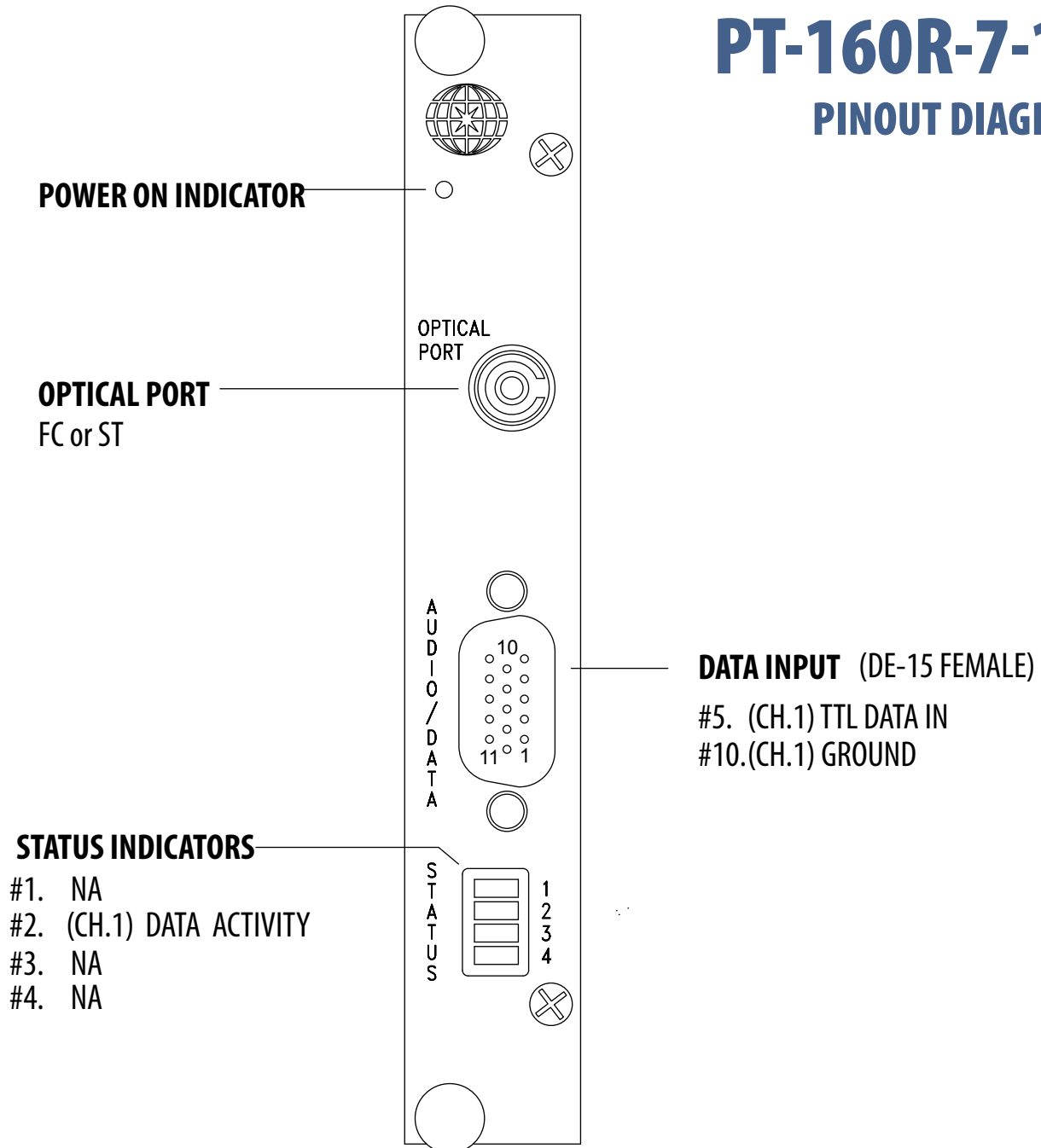


Figure 4.1
Tx Module Front Panel Diagram

PR-160R-7-1D

PINOUT DIAGRAM

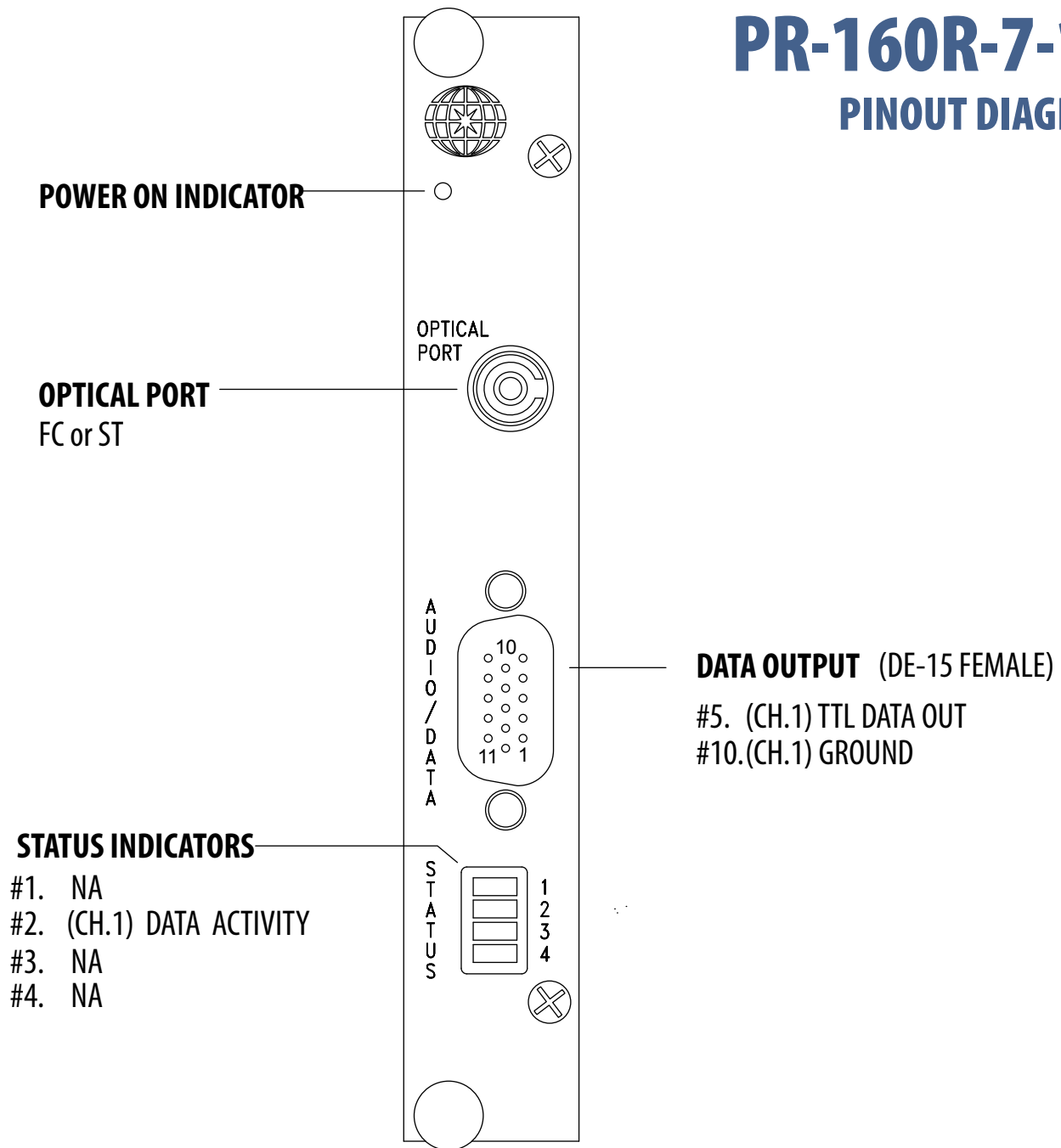


Figure 4.2
Rx Module Front Panel Diagram

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 located on the top 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/sub-rack 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



Meridian Technologies, Inc
700 Elmont Road, Elmont, NY 11003, USA
Tel: +1-516-285-1000 Fax: +1-516-285-6300
E-mail: support@meridian-tech.com
www.meridian-tech.com