



DigiSlim

Fiber Optic Contact Closure Transmission System

Single-Slot 4-channel Contact Closure Transceiver

(SXA/SXB-4C/4C-XS series)

Installation Instructions

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SXA/SXB-4C/4C-xS
Fiber Optic Contact Closure Transmission System
Installation Instructions

1.0 Product Description

Meridian's product series SXA/SXB-4C/4C are fiber optic modems that transmit & receive four bi-directional contact closure 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-1000, SR-1000/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment 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 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 SXA/SXB-4C/4C products are one-slot wide cards and, as such, occupy one slot in Meridian's standard chassis (SR-500/S, SR-1000, SR-1000/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment 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 SXA/SXB-4C/4C series products can transmit and receive the following signals:

Signal Type	Channels
Contact Mapping	4

Again, refer to Appendix 1 for the product part number and associated functional description. The above number and type of signals will vary based on the product part number.

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

Contact Mapping	
Contact type	Relay, normally-open, normally-closed, jumper selectable, Isolated contacts
Contact rating	0.3amps, 30 VAC/VDC
Contact bounce	5 msec
Max switching rate	10Hz

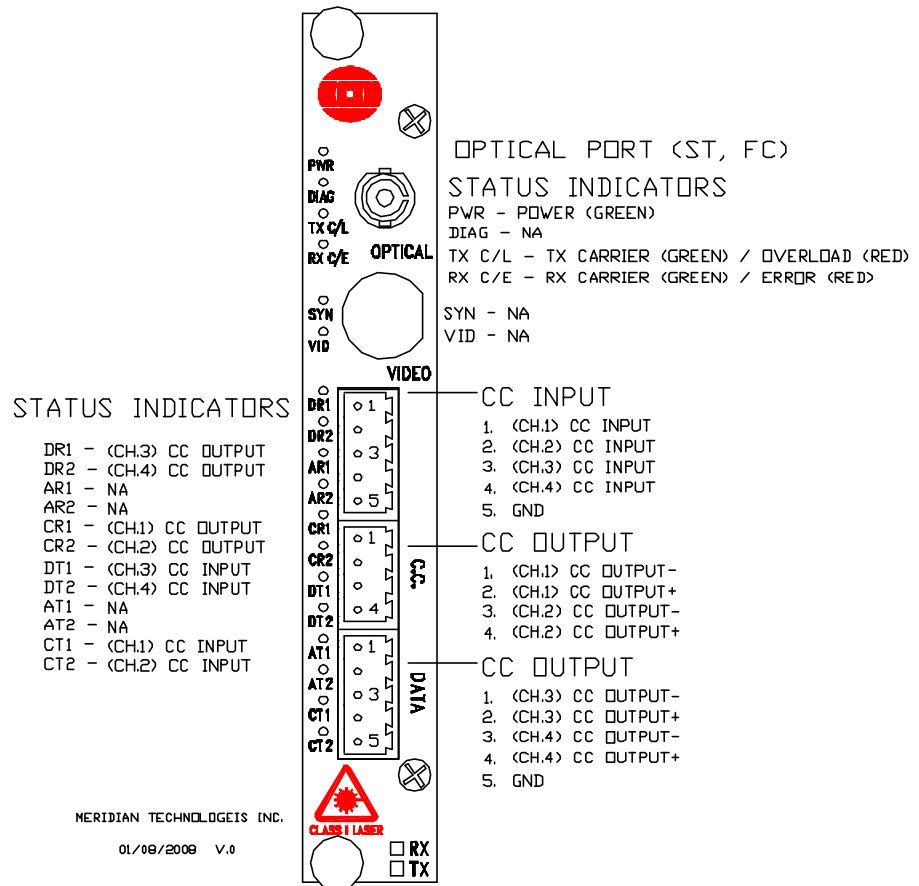
Connectors	
Contact Mapping	14 pin terminal strip connector
Optical	Singlemode – ST or FC Multimode - ST

4.0 Contact Mapping Connector Pin Assignment

The 14-pin screw connectors on the front of the module are used for the Contact interfaces. The diagrams below indicate the contact connection terminals.

SXA/SXB-4C/4C-XS

PINOUT DIAGRAM



5.0 Signal Conditioning Switch/Jumper Settings

The sections below illustrate how to change the various contact mapping conditions.

5.1 Contact Mapping Selection jumpers

Contact Mapping - The output state of each of the contacts can be changed from Normally-Open (NO) to Normally-Closed (NC) by properly selecting the jumpers. A NO contact (output side) closes when the contact input on the input module's side is closed to ground. The default contact setting is NO (normally-open).

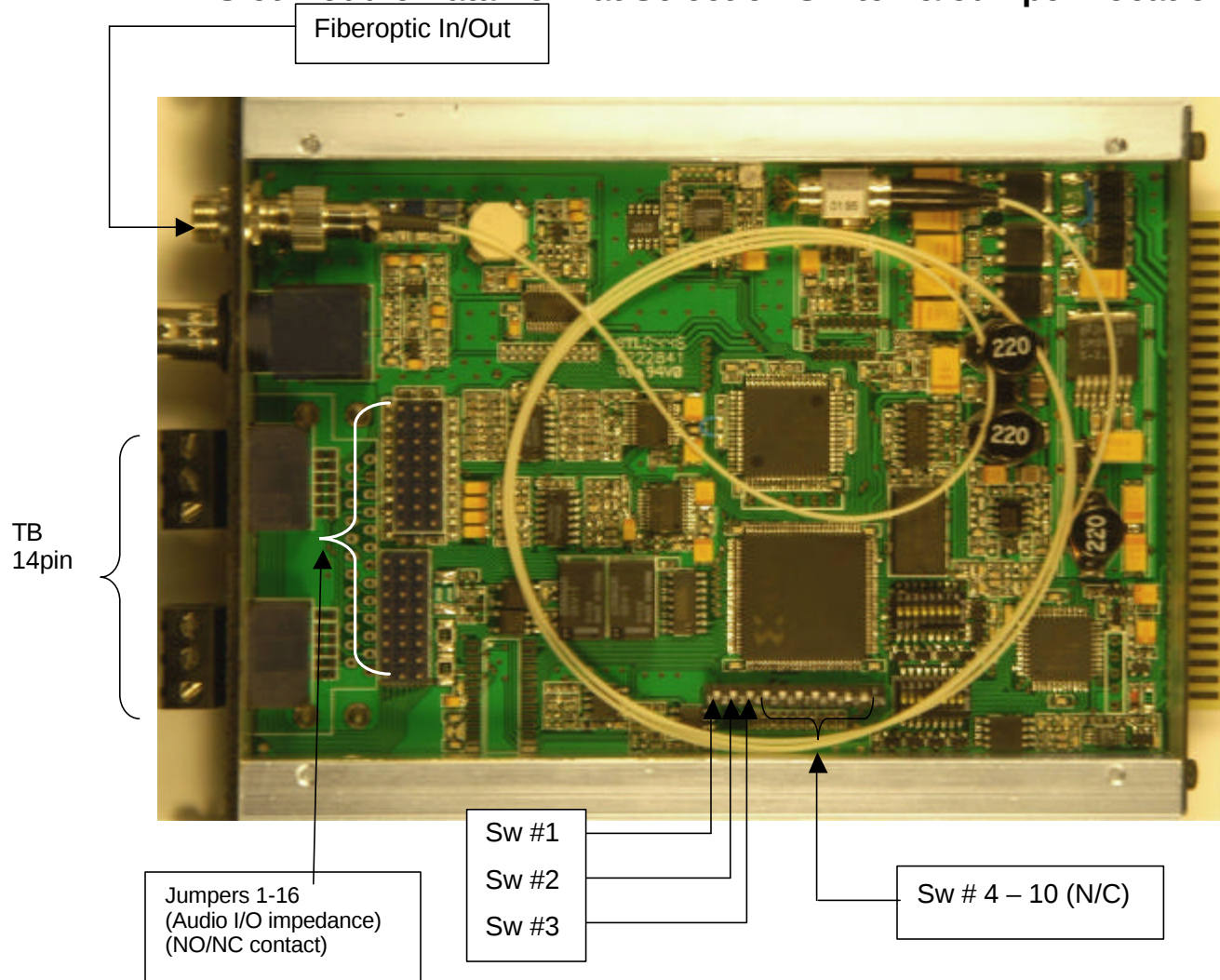
There are two sixteen (16) 3-pin jumpers located directly behind the 14 pin screw terminal front-panel mounted connector. The top 10 jumpers are used to select the Input/Output Audio Impedance and the power-on state of the contacts (NO or NC).

The illustration below describes the function of each of these 16 jumpers. The jumpers are shown in their default condition.

Jumper 1		N/C
Jumper 2		N/C
Jumper 3		N/C
Jumper 4		N/C
Jumper 5		N/C
Jumper 6		N/C
Jumper 7		N/C
Jumper 8		N/C
Jumper 9		Contact Ch2 (OUT) – Normaly Open (NO) - default
Jumper 10		Contact Ch1 (OUT) – Normaly Open (NO) - default
Jumper 11		N/C
Jumper 12		N/C
Jumper 13		N/C
Jumper 14		N/C
Jumper 15		N/C
Jumper 16		N/C

Jumper 1		N/C
Jumper 2		N/C
Jumper 3		N/C
Jumper 4		N/C
Jumper 5		N/C
Jumper 6		N/C
Jumper 7		N/C
Jumper 8		N/C
Jumper 9		Contact Ch4 (OUT) – Normaly Open (NC)
Jumper 10		Contact Ch3 (OUT) – Normaly Open (NC)
Jumper 11		N/C
Jumper 12		N/C
Jumper 13		N/C
Jumper 14		N/C
Jumper 15		N/C
Jumper 16		N/C

1-Slot Module Data Format Selection Switch & Jumper Location



6.0 Optical Specifications

The table below lists the optical specifications for both singlemode 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	-13	-34	21	1300/850	ST	24
Singlemode (FP Laser) 9/125	-10	-34	24	1310/1550	ST, FC	24

7.0 Product Part Numbers

See Appendix 1 for a listing of the product part numbers and their description that pertain to this document.

Appendix 1 – Applicable Part Number Variations

Transmitter Part #	Receiver Part #	# of Audio Channels	# of Audio Channels	Description
SXA-4C/4C-2M SXA-4C/4C-2R	SXB-4C/4C-2M SXB-4C/4C-2R	4	4	4-Ch, Contact Mapping Tx/Rx, multimode, shelf mount 4-Ch, Contact Mapping Tx/Rx, multimode, rack mount
SXA-4C/4C-5M SXA-4C/4C-5R	SXB-4C/4C-5M SXB-4C/4C-5R	4	4	4-Ch, Audio & Contact Mapping Tx/Rx, singlemode, shelf mount 4-Ch, Audio & Contact Mapping Tx/Rx, singlemode, rack mount

8.0 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: *Contact closure not working*

Action: Input side – Ensure that the input contact is connected between the appropriate input connection and ground

Output side – Ensure that the terminal device is connected to the proper output contact pinouts and that the individual contact channel jumpers are set to the appropriate normally-open or normally-closed position

If the problem still persists after reviewing the above items, please contact Meridian technical support (516-285-1000).