



DigiSlim

Fiber Optic Data Transmission System

Installation Instructions

Part Number:

SXA/SXB-2C/2C-xS series

***Single-Slot
(2 channel Contact Closure Transceiver)***

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SXA/SXB-2C/2C-xS **Fiber Optic Contact Closure Transmission System** **Installation Instructions**

1.0 Product Description

Meridian's product series SXA/SXB-2C/2C-x are fiber optic modems that transmit & receive two bi-directional contact closures over one 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-1001/S, SR-1002/S, SR-1200/S, SR-1500/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 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-2C/2C-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" 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-2C/2C-x series products can transmit and receive the following signals:

Signal Type	Channels
Contact Mapping	2

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
Optical	Singlemode – ST or FC Multimode - ST

The SXA/SXB-2C/2C-x-E63 series product includes optional features: 2 output contacts per SXA & SXB unit on 4-pin screw terminal connector see figure 4.2 for connector location and pinout diagram. On Transmitter one contact to monitor laser's BDF to ensure that laser is working, and one contact to monitor the card's power supply to ensure that the card properly powered. On Receiver one contact to monitor the light input to ensure Rx and fiber are working properly, and one contact to monitor the card's power supply to ensure that the card properly powered.

4.0 Contact Mapping Connector Pin Assignment

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

SXA/SXB-2C/2C-X

PINOUT DIAGRAM

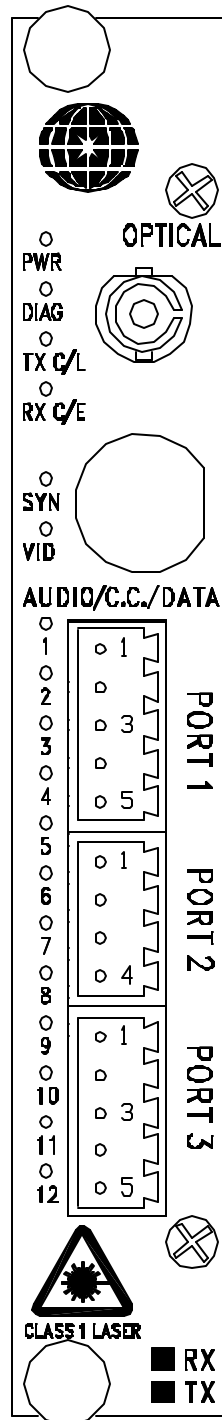
STATUS INDICATORS

PWR - POWER (GREEN)
 DIAG - NA
 TX C/L - TX CARRIER (GREEN)
 /OVERLOAD (RED)
 RX C/E - RX CARRIER (GREEN)
 /ERROR (RED)

SYN - NA
 VID - NA

STATUS INDICATORS

1 - (CH.1) CC INPUT
 2 - (CH.2) CC INPUT
 3 - NA
 4 - NA
 5 - NA
 6 - NA
 7 - NA
 8 - NA
 9 - NA
 10 - NA
 11 - (CH.2) CC OUTPUT
 12 - (CH.1) CC OUTPUT



OPTICAL PORT (ST, FC)

CC INPUT (PORT 1)

1. (CH.1) GROUND
2. (CH.1) CC INPUT
3. (CH.2) GROUND
4. (CH.2) CC INPUT
5. GROUND

CC OUTPUT (PORT 2)

1. (CH.1) CC OUTPUT
2. (CH.1) CC OUTPUT
3. (CH.2) CC OUTPUT
4. (CH.2) CC OUTPUT

Figure 4.1
SXA/SXB-2C/2C-xS 1-Slot Module Front Panel Diagram.

SXA/SXB-2C/2C-X-E63

PINOUT DIAGRAM

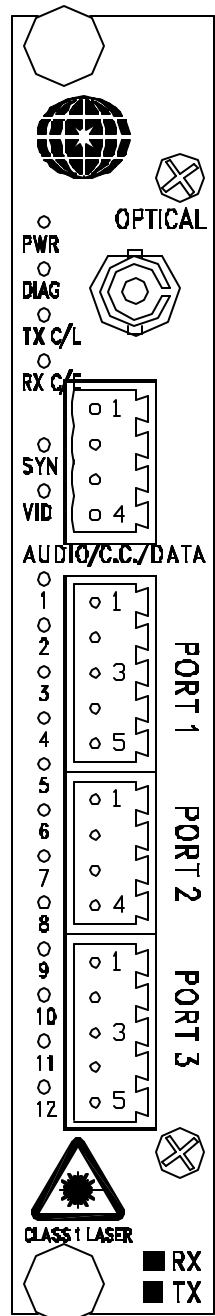
STATUS INDICATORS

PWR - POWER (GREEN)
 DIAG - NA
 TX C/L - TX CARRIER (GREEN)
 /OVERLOAD (RED)
 RX C/E - RX CARRIER (GREEN)
 /ERROR (RED)

SYN - NA
 VID - NA

STATUS INDICATORS

1 - (CH.1) CC INPUT
 2 - (CH.2) CC INPUT
 3 - NA
 4 - NA
 5 - NA
 6 - NA
 7 - NA
 8 - NA
 9 - NA
 10 - NA
 11 - (CH.2) CC OUTPUT
 12 - (CH.1) CC OUTPUT



OPTICAL PORT (ST, FC)

RELAY ALARM OUTPUT

1. >POWER PRESENT
2. >LASER NORMAL/
3. >RX OPTICAL SIGNAL PRESENT
4. >RX OPTICAL SIGNAL PRESENT

CC INPUT (PORT 1)

1. (CH.1) GROUND
2. (CH.1) CC INPUT
3. (CH.2) GROUND
4. (CH.2) CC INPUT
5. GROUND

CC OUTPUT (PORT 2)

1. (CH.1) CC OUTPUT
2. (CH.1) CC OUTPUT
3. (CH.2) CC OUTPUT
4. (CH.2) CC OUTPUT

Figure 4.2
SXA/SXB-2C/2C-x-E63 1-Slot Module Front Panel 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).

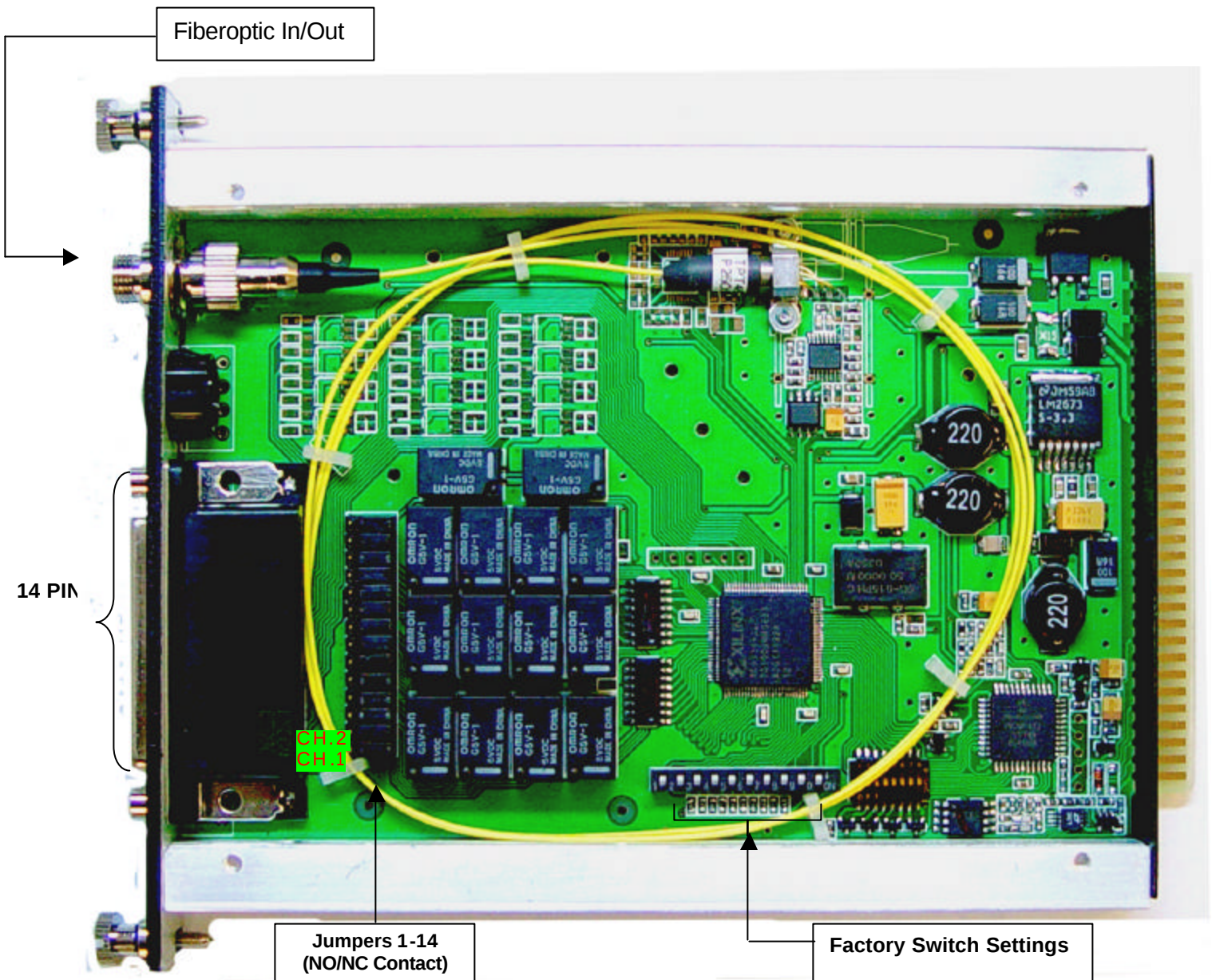
There are fourteen (14) 3-pin jumpers located directly behind 14 pin screw terminal front-panel mounted connector. The jumpers 1-14 are used to select power-on state of the contacts (NO or NC).

The illustration below describes the function of each of these 14 jumpers. The jumpers are shown in their default condition.

INTERNAL JUMPER SETTINGS		N/C Normally Closed Contacts
N/C	N/O	N/O Normally Open Contacts* *(Factory settings)
☐	☒	Alarm Contact - Normally Open
☐	☒	Alarm Contact - Normally Open
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	NA
☐	☒	Ch 2 Contact - Normally Open
☐	☒	Ch 1 Contact - Normally Open

} For E63 option only

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	-6	-27	21	850/1310	ST	24
Singlemode (FP Laser) 9/125	-6	-27	21	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.

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).

Appendix 1 – Applicable Part Number Variations

Transmitter Part #	Receiver Part #	# of Contact Channels	Optical Connector	Description
SXA-2C/2C-2	SXB-2C/2C-2	2	ST	2-Ch Contact Mapping Tx/Rx, multimode
SXA-2C/2C-5	SXB-2C/2C-5	2	FC	2-Ch Contact Mapping Tx/Rx, singlemode
SXA-2C/2C-5/ST	SXB-2C/2C-5/ST	2	ST	2-Ch Contact Mapping Tx/Rx, singlemode

Notes:



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