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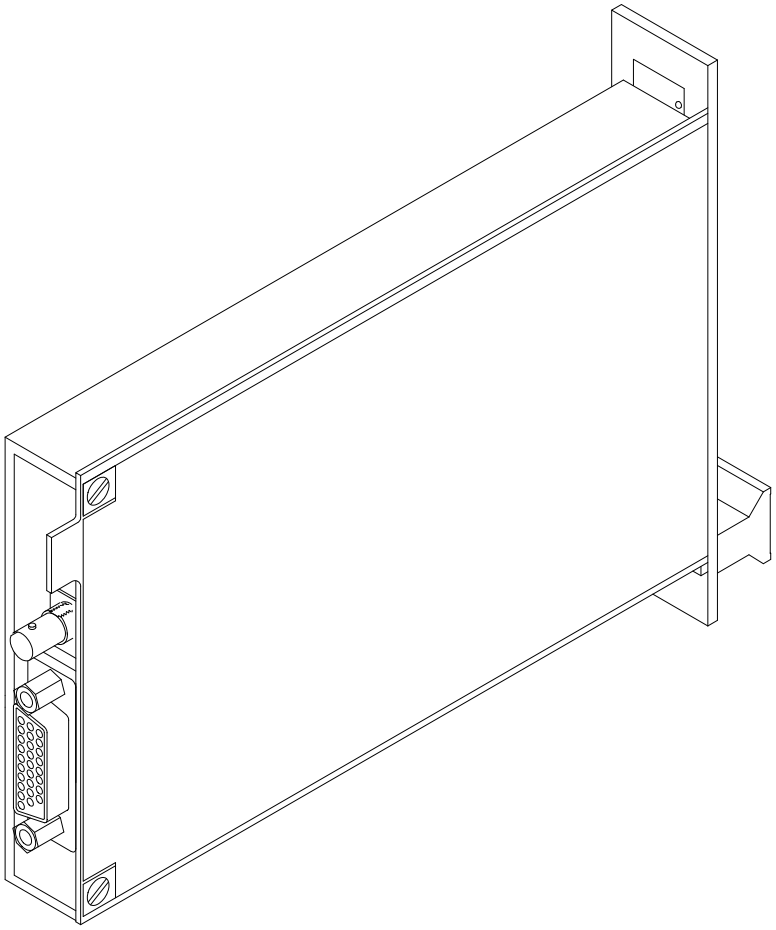
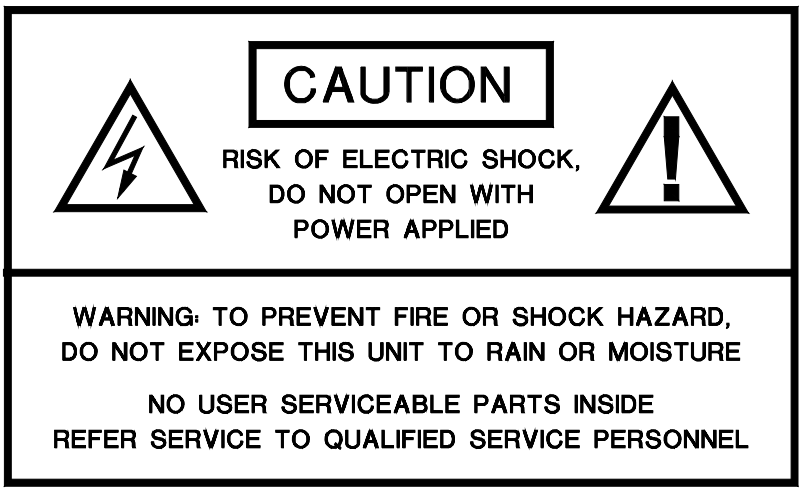


# Instruction Manual

## RRX-81B
## Eight Channel
## Contact Closure Transceiver




# INSTALLATION AND OPERATION INSTRUCTIONS

## INTRODUCTION

Thank you for purchasing your American Fibertek RRX-81B multimode contact closure transceiver. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

## FUNCTIONAL DESCRIPTION

The RRX-81B operates as half of a transceiver pair for the transmission of eight dry latching contact closure signals. Four contact closures are transmitted in one direction on the link with the remaining four contact closures transmitted in the opposite direction. It is designed to operate with the MTX-81B or RTX-81B contact closure transceiver over one multimode fiber optic cable. The RRX-81B transceiver has a user selectable switch that allows the contact outputs of the unit to be maintained unchanged through loss of optical or electrical power at the RRX-81B. The RRX-81B transceiver also includes a recessed button to clear all contacts to a default state.

The RRX-81B converts an optical input from the MTX-81B or RTX-81B into four contact closure outputs using a 1310 nm wavelength detector. The RRX-81B also converts four contact closure inputs into an optical output using a 1550 nm wavelength source. The RRX-81B operates on 50 um or 62.5 um multimode fiber. The 81B Series product is designed to operate over an optical loss budget range of 0 to 12dB when using 62.5um fiber. Refer to the data sheets for detailed performance specifications.

This unit is designed for rack mounting in either of two American Fibertek subracks. The subrack model numbers are SR-20/2 or SR-20D/2. Slide in rack mounting, detachable terminal blocks, and LED indicators provide for easy installation and monitoring of data and optical power. The RRX-81B is designed for mounting as a rack mounted unit. For a stand alone version please see the MRX-81B.

## INSTALLATION

THIS INSTALLATION SHOULD BE MADE BY A QUALIFIED SERVICE PERSON AND SHOULD CONFORM TO THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70 AND LOCAL CODES.
The unit slides into any open slot in the SR-20 or SR-20D subrack. Use a small screwdriver to push and lock the two ¼ turn fasteners into place.

## POWER SOURCE

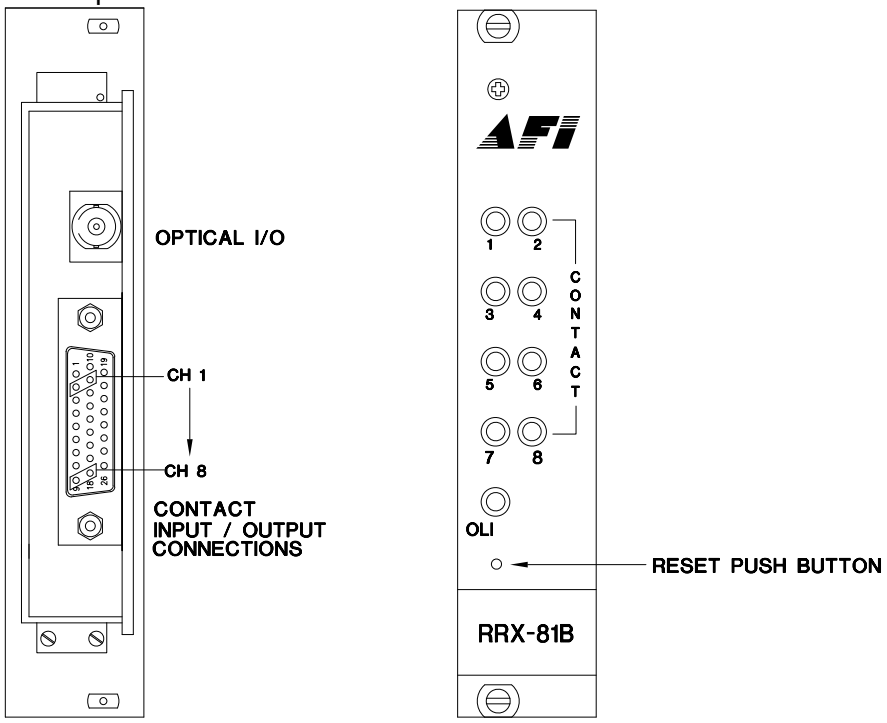
Power to the unit is supplied by the subrack. Please refer to the SR-20/SR-20D and PSR-2 instructions for further details.

## POWER CONNECTION

Power is supplied to the unit via a four finger backplane connector. The RRX-81B can be inserted into the subrack or removed from the subrack with power applied to the backplane.

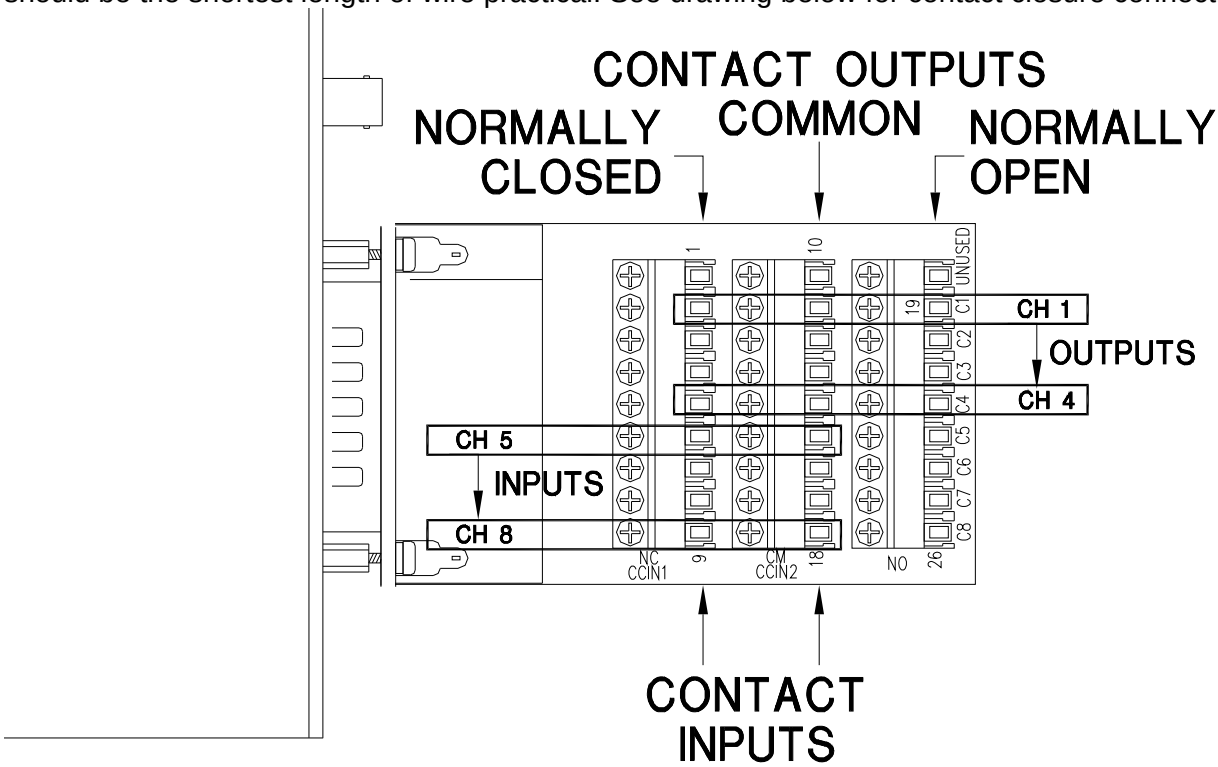
## FIBER OUTPUT CONNECTION

The fiber optic connection is made via a ST connector located on the back of the unit. Be sure to allow sufficient room for the required minimum bend radius of the fiber cable used.




## CONTACT CLOSURE INPUT AND OUTPUT CONNECTIONS

Contact closure input and output connections are made via terminal blocks attached to the right side of the unit. Please note that the two Channel 1 outputs begin at the second terminal screw closest to the fiber connection on each of the two nine pin terminal strips. Channels 2 through 8 connections continue down the terminal strip. For optimum performance the copper cables carrying the contact closure signal should be the shortest length of wire practical. See drawing below for contact closure connections.



## RESET PUSH BUTTON

A recessed momentary contact push button is located on the front of the unit near the LED indicators. Pushing this button resets the four contact outputs of the RRX-81B to their default states and sends a signal to the MTX-81B or RTX-81B to reset all its outputs to their default states.

## LATCHING SELECT SWITCH

A latching select switch is located on the bottom of the chassis near the LED indicators. When switch #1 is set to the up (off) position, all contact output states remain unchanged during a loss of optical connection or DC power to the RRX-81B. Contact outputs will remain unchanged until DC power is restored to the RRX-81B and a valid data stream is received from the MTX-81B or RTX-81B or the reset button is depressed. When switch #1 is set to the down (on) position, all contact output states will revert to their default states during a loss of optical connection or DC power to the RRX-81B.

## RRX-81B STATUS INDICATORS

The RRX-81B provides the following LED status indicators to aid in installation and troubleshooting:

## CC1 THROUGH CC8

A green LED indicator is provided for each of the contact closure inputs and outputs of the RRX-81B. Contact closure status associated with these LED's is summarized below.

| Contact Closure LED | Contact Closure Input /Output Status |
|---|---|
| Green | Contact Terminals Closed (Shorted) |
| Off | Contact Terminals Open |

## OLI/DC PWR

A bicolor LED indicator monitors the power of the optical signal that is being received at the RRX-81B from the MTX-81B or RTX-81B. DC power and optical input status associated with this LED are summarized below.

| Optical Level Indicator | DC Power Status | Optical Status |
|---|---|---|
| Green | On | Proper Optical Input Power Present |
| Red | On | Optical Input Not Detected |
| Off | Off | Check Power Supply |

## LIFETIME WARRANTY INFORMATION

American Fibertek, Inc warrants that at the time of delivery the products delivered will be free of defects in materials and workmanship. Defective products will be repaired or replaced at the exclusive option of American Fibertek. A Return Material Authorization (RMA) number is required to send the products back in case of return. All returns must be shipped prepaid. This warranty is void if the products have been tampered with. This warranty shall be construed in accordance with New Jersey law and the courts of New Jersey shall have exclusive jurisdiction over this contract. **EXCEPT FOR THE FOREGOING WARRANTY, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, EXPRESSED OR IMPLIED, WHICH EXTENDS BEYOND THE WARRANTY SET FORTH IN THIS AGREEMENT.** In any event, American Fibertek will not be responsible or liable for contingent, consequential, or incidental damages. No agreement or understanding, expressed or implied, except as set forth in this warranty, will be binding upon American Fibertek unless in writing, signed by a duly authorized officer of American Fibertek.

## SERVICE INFORMATION

There are no user serviceable parts inside the unit.
In the event that service is required to this unit, please direct all inquiries to:

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120 Belmont Drive
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