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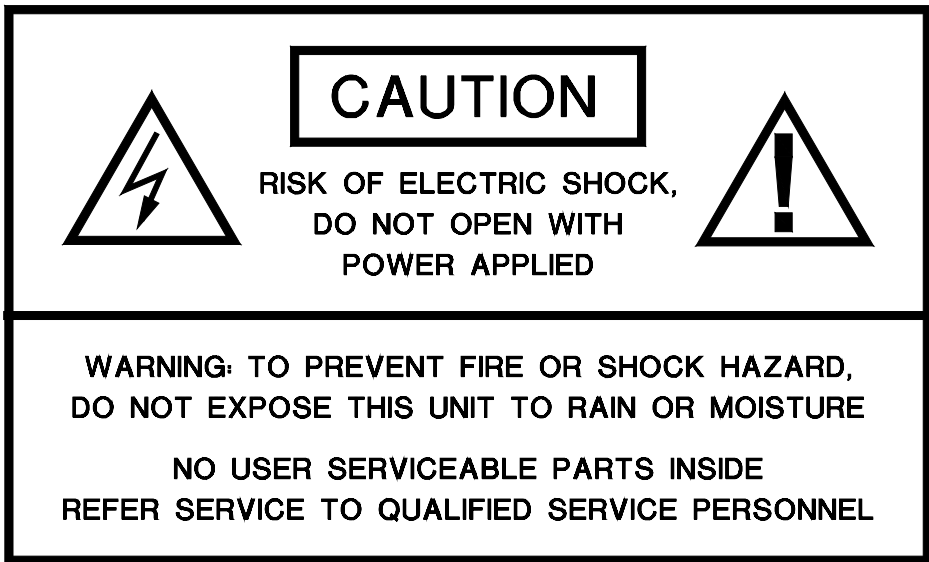
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## Instruction Manual

MX2-MM-FX-SC  
MXR2-MM-FX-SC  
MX2-SM-FX-SC  
MXR2-SM-FX-SC  
Media Converter



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# INSTALLATION AND OPERATION INSTRUCTIONS

## INTRODUCTION

Thank you for purchasing your American Fibertek MX2 / MXR2 series media converter. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

## FUNCTIONAL DESCRIPTION

The MX2 / MXR2 series combines a single fiber Ethernet port with two copper Ethernet ports. The MX2-MM-FX-SC, MXR2-MM-FX-SC, MX2-SM-FX-SC, and MXR2-SM-FX-SC units allow transmission speeds of 10 Mb/s or 100 Mb/s on each of the copper ports. The fiber port transmission speed is set at 100 Mb/s. The MX2 / MXR2 series converts the electronic Ethernet input into an optical output using a 1300 nm wavelength source. The MX2 / MXR2 series also converts an optical Ethernet input signal returning on a separate fiber into an electronic Ethernet output using a 1300 nm wavelength detector. The MX2-MM-FX-SC and MXR2-MM-FX-SC units operate on 50 um or 62.5 um multimode fiber with a maximum distance of 2 Km. The MX2-SM-FX-SC and MXR2-SM-FX-SC units operate on 9 um singlemode fiber with a maximum distance of 20 Km. Refer to the data sheets for detailed performance specifications.

The MX2 / MXR2 series is configured to auto negotiate the copper ports to either 10Base-T or 100Base-TX Ethernet data at full or half duplex. The auto negotiate feature also selects the proper MDI or MDIX interface. The MX2 / MXR2 series fiber port is set to 100Base-FX and is compatible with IEEE802.3 100Base-FX standard products.

The availability of both a copper and a fiber port allows the MX2 / MXR2 series product to be used as a straight through Ethernet media converter, changing an electronic data signal to a fiber optic data signal.

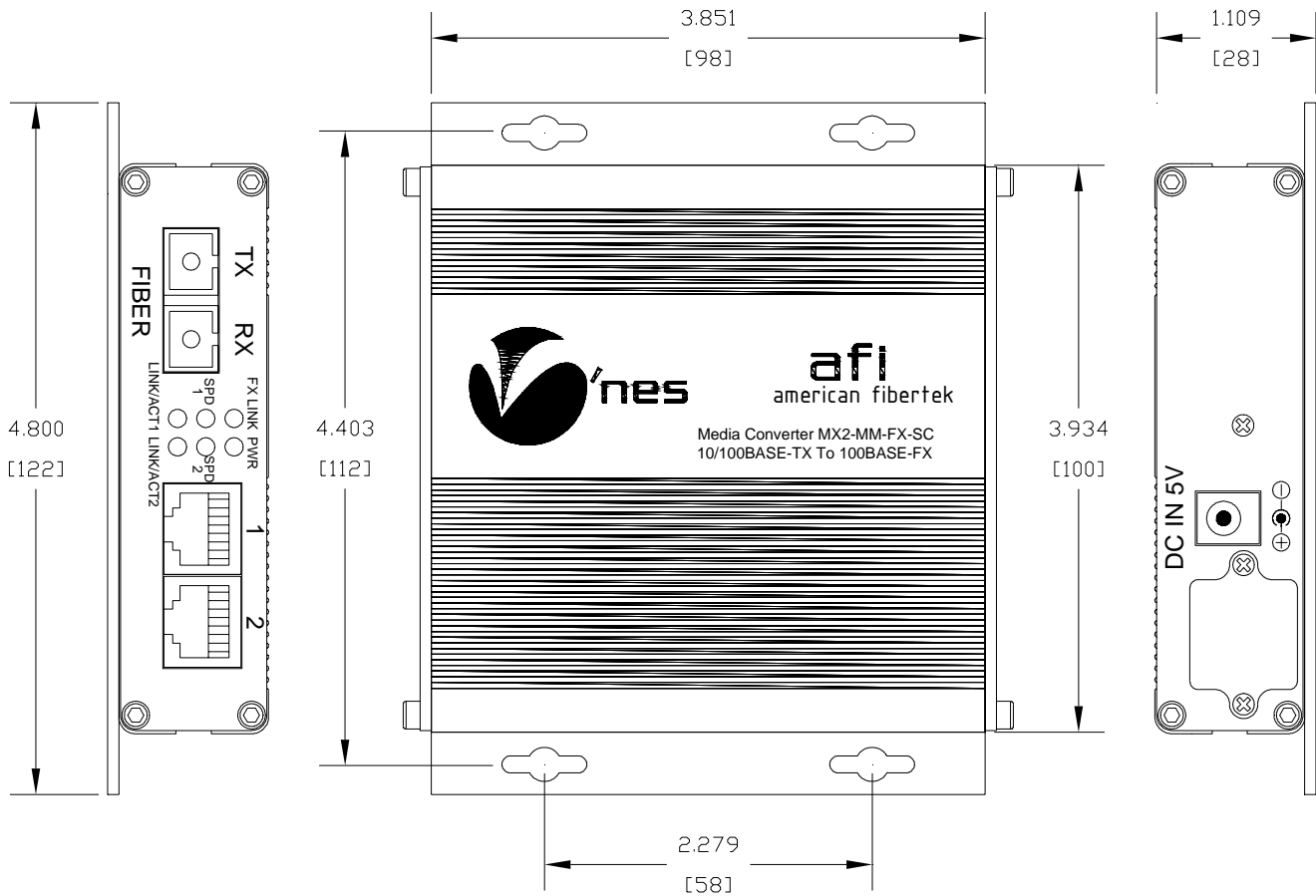
This unit is contained in a compact and rugged aluminum housing with internal dc voltage regulation. The detachable terminal block, RJ45 Ethernet data connector, and LED indicators provide for easy installation and monitoring of data and dc power. The MX2 series is designed for mounting as a modular stand alone unit. The MXR2 series is designed for rack mounting in the MXRC-1 subrack.

## 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.**

Mount MX2 series units to a secure surface using #8 (3mm) hardware in four places. See the drawing on the next page for mounting dimensions. Be sure to allow sufficient room for the required minimum bend radius of the fiber cable used.

MXR2 series units slide into any open slot in the MXRC-1 subrack. Use a small screwdriver to screw the top and bottom fasteners into place.



## MX2 Series

### MX2 SERIES POWER SOURCE

THIS PRODUCT SHALL BE POWERED BY A LISTED CLASS 2 POWER SUPPLY ONLY.

MX2 series units require a +5VDC power source for proper operation. The DC input is diode protected. In the USA and in Canada a 5 Volt DC power supply is supplied with this unit. The negative side of the power input is directly connected to ground. ANSI/NFPA 70 Class 2 wiring is recommended.

### MX2 SERIES POWER CONNECTION

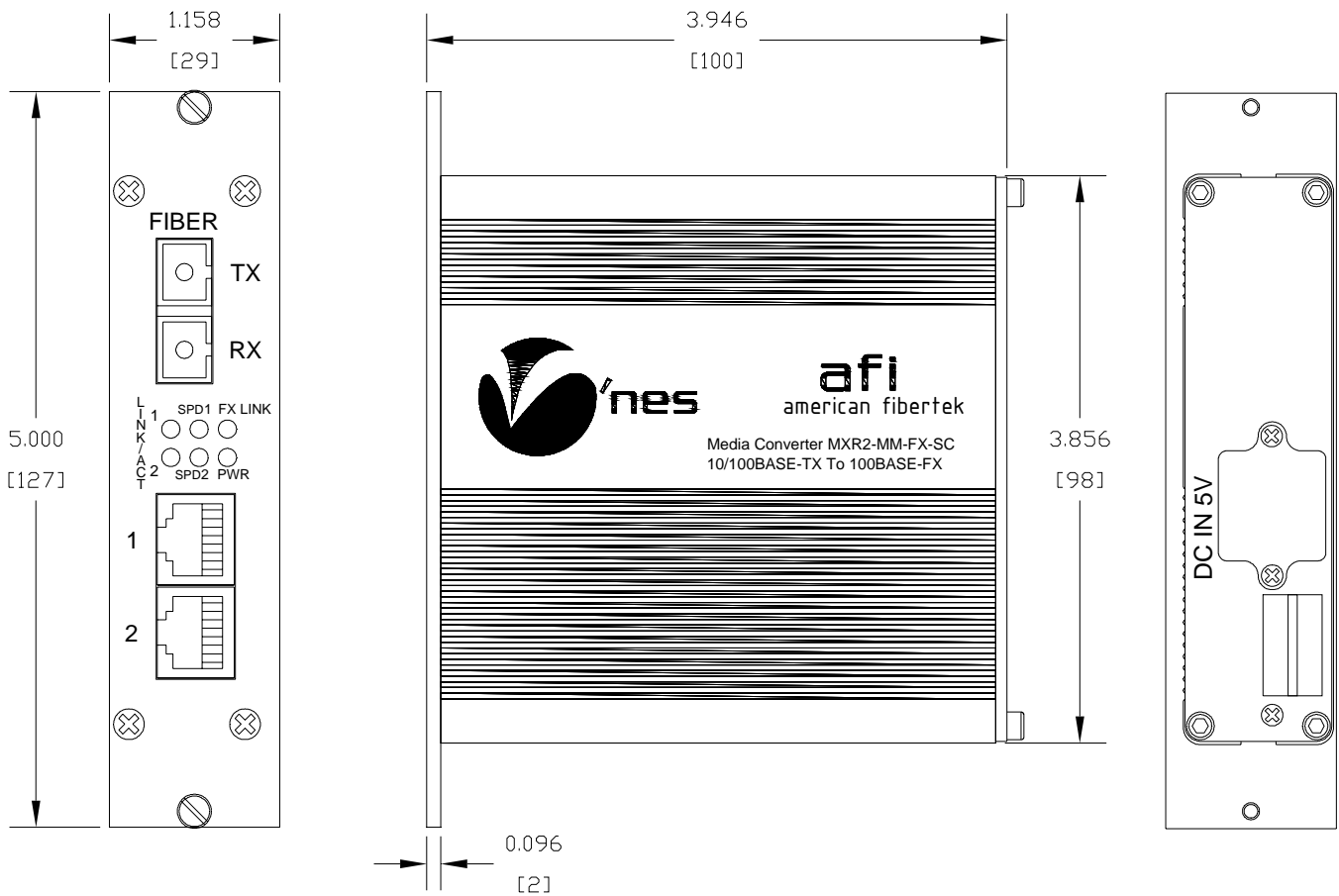
Power is supplied to the MX2 series units via a connection on the right side of the unit (refer to the drawing above).

### MX2 SERIES FIBER DATA CONNECTIONS

The fiber optic connections are made via SC connectors located on the left side of the unit. The TX port of this unit is connected to the RX port of the corresponding unit.

### MX2 SERIES COPPER DATA CONNECTIONS

The UTP Ethernet input/output connections are made via RJ45 plugs on the left side of the unit. A maximum CAT5 wire length of 100 meters is permitted.



## MXR2 Series

### MXR2 SERIES POWER SOURCE

Power to MXR2 series units is supplied by the subrack. Please refer to the MXRC-1 and MXRCPS-1 instructions for further details.

### MXR2 SERIES POWER CONNECTION

Power is supplied to the MXR2 series units via a four finger backplane connector. The MXR2 series units can be inserted into the subrack or removed from the subrack with power applied to the backplane.

### MXR2 SERIES FIBER DATA CONNECTIONS

The fiber optic connections are made via SC connectors located on the front of the unit. The TX port of this unit is connected to the RX port of the corresponding unit.

### MXR2 SERIES COPPER DATA CONNECTIONS

The UTP Ethernet input/output connections are made via RJ45 plugs on the front of the unit. A maximum CAT5 wire length of 100 meters is permitted.

## MX2 / MXR2 STATUS INDICATORS

The MX2 / MXR2 series units provide the following LED status indicators to aid in troubleshooting:

### PWR

A green LED indicator monitors the presence of DC power into the unit. Power status associated with this LED is summarized below.

PWR Indicator:	Power Status:
Green	Input Power at Correct Level
Off	Check Input Power

### FX Link

A Green LED indicator monitors the fiber connection and data flow on the fiber port. Fiber status associated with this LED is summarized below:

FX Link Indicator:	Fiber Port Status:
Solid Green	Fiber Connected
Flashing Green	Fiber Port Communicating in 100 Mbps Mode
Off	Fiber Not Connected

### Link/ACT1

A Green LED indicator monitors the copper connection and data flow on copper port #1. Port status associated with this LED is summarized below:

Link/ACT1 Indicator:	Port 1 Status:
Solid Green	Port 1 Connected
Flashing Green	Port 1 Communicating
Off	No Data Flow

### SPD1

A bi-colored LED indicator monitors the speed of the data flow on RJ45 copper port #1. Data status associated with this LED is summarized below:

SPD1 Indicator:	Port 1 Status:
Green	Port 1 Connected and in 100 Mbps Mode
Amber	Port 1 Connected and in 10 Mbps Mode
Off	No Data Flow

### Link/ACT2

A Green LED indicator monitors the copper connection and data flow on copper port #2. Port status associated with this LED is summarized below:

Link/ACT2 Indicator:	Port 2 Status:
Solid Green	Port 2 Connected
Flashing Green	Port 2 Communicating
Off	No Data Flow

### SPD2

A bi-colored LED indicator monitors the speed of the data flow on RJ45 copper port #2. Data status associated with this LED is summarized below:

SPD2 Indicator:	Port 2 Status:
Green	Port 2 Connected and in 100 Mbps Mode
Amber	Port 2 Connected and in 10 Mbps Mode
Off	No Data Flow

**This unit complies with 21 CFR  
1040.10 and 1040.11**

### WARRANTY INFORMATION

American Fibertek, Inc warrants that at the time of delivery and for a period of five years thereafter 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:

American Fibertek, Inc.  
120 Belmont Drive  
Somerset, NJ 08873

Phone: (877) 234-7200

Phone: (732) 302-0660

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