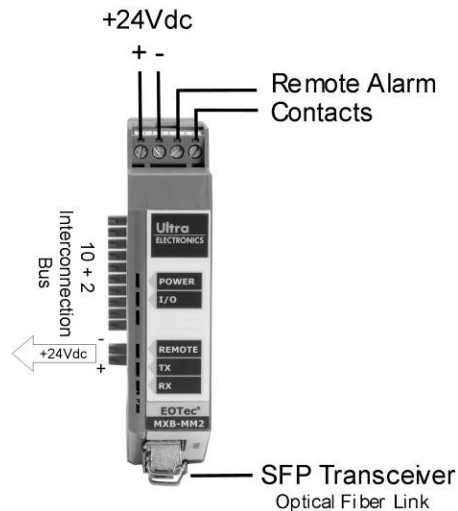


## Connections

**Power:** At the top of the module, a pluggable screw terminal block is provided to apply power from a, nominal 24Vdc source. The MX Base Module provides this received power to all additional I/O modules connected via the 10+2 integrated BUS interconnection.

**Alarm Relay:** Also, at the screw terminal block are contacts of a Form-C (SPST) Alarm Relay which provide a remote fault indicator. There are four faults that will engage the relay: An I/O module mismatch, a loss of power, a loss of the optical signal, or a loss of the optical signal at remote receiver will set this alarm (engage relay).

**SFP:** MX Base modules use Small Form-factor Pluggable (SFP) transceivers with LC connectors. This replaceable transceiver determines the transmit and receive specifications of the MX Base module.



**Important Notice** - Before utilizing the product, the user should determine the suitability of the product for its intended use. The user assumes all risk and liability in connection with such use. ULTRA ELECTRONICS' WRITTEN WARRANTY FOR THE PRODUCT IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The user's exclusive remedy for breach of Ultra Electronics' written warranty shall be the repair or replacement of such quantity of product which is proven to be defective. In no case shall Ultra Electronics be liable for any special, incidental, or consequential damages based upon breach of contract, negligence, strict liability or other legal theory.

## Safety and Warning Information



When operating, do not look directly into the transmit optical port or use magnification or focusing equipment to view optical output.

IEC 60825-1, Class 1 Laser Product  
FDA 21 CFR 1040.10 & 1040.11

**CAUTION:** Use of controls and/or adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.



Connect the DIN Rail, via the Model 2A09 End Clamp, to Protective Earth (PE) ground with low impedance.

### ATEX Specific Conditions of Use

Modules shall be installed in an enclosure which maintains an ingress protection rating of IP54 and meets the enclosure requirements of EN60079-0 and EN60079-15. The EOTec modules shall be installed in DIN rail with DIN end clamps mounted on both sides of the module set. The DIN rail must be connected to Protective Earth in order to provide modules with a Protective Earth connection. Do not disconnect equipment connections or modules when energized.

## Service

Service of this equipment is to be performed by Ultra Electronics, NSPI only. This unit has no scheduled replacement of parts. For installation manuals in a community language other than English please contact Ultra Electronics, NSPI.

### Ultra Electronics

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**Ultra**  
ELECTRONICS

Nuclear Sensors &  
Process Instrumentation

EOTec MX Multiplexer Models

**MXB-MM2 / MXB-SM15**  
**MXB-SM40 / MXB-SM80**

MX Base Modules

**Installation Instructions**

*Original Instructions*



**MX Multiplexer Base Modules**

**For use ONLY with the**  
**EOTec MX Multiplexer Line**

## Operation

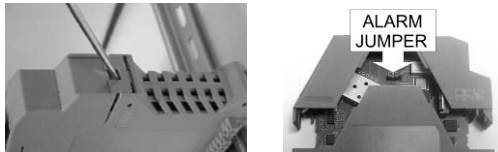
**Description:** The MX Multiplexer Base Modules are designed to multiplex/de-multiplex signals from the 10+2 integrated BUS interconnection and its duplex (one transmit and one receive) fiber optic link. As many as 4 input and/or output modules can be connected to the MX Multiplexer Base Module for complete, full duplex operation. I/O Modules come with either 2 or 4 input/output terminal connectors for a maximum of 16 channels.

**I/O Modules:** The MXRS I/O modules are bi-directional so one module type is used on both sides of the optical fiber link. All other I/O modules have matching input and output modules on opposite sides of the fiber link. Due to bi-directional communication input or output modules can reside on either side of this fiber link. Create a matching pair of I/O modules with matching address switch settings (see I/O installation instruction for proper addressing).

## Operational Settings

Use a small screwdriver to press on the latches (indentations) at the top and bottom of the front housing cover. Slide housing forward to open.

**Alarm Jumper:** A jumper sets the remote alarm relay. C = close on alarm. O = Open on alarm.



## Regulatory Information

### INDUSTRIAL CONTROL EQUIP. FOR HAZ. LOC. CLASS I, DIVISION 2, GROUPS A,B,C, & D, T4

Do not disconnect equipment unless area is known to be non-hazardous. Certified components for use in a suitable enclosure. Substitution of components or other equipment modification may impair suitability. Ambient Temperature: -40 .. 85C Max  
Electrical Rating: 24Vdc, 150mA



FM11ATEX0067X

II 3 G Ex nA nC IIC T4 Ta = -40 °C to 85 °C

## Installation

**Assembly:** Place the top lip of the module's DIN rail mounting channel onto the DIN rail. Push the lower portion of the module towards the mounting surface until it "clicks" and locks into place. Firmly slide the modules together such that the module sides are touching ensuring a good connection of the 10+2 integrated BUS interconnection at the rear of the modules. Install End Clamps (Model 2A09) to both sides of the module bundle to prevent accidental unplugging of the BUS interconnections. The End Clamps also provide convenient screw terminals for connecting the DIN rail to Protective Earth (PE) ground.

**Dismantle:** Remove the End Clamps from the module bundle. Disconnect the BUS interconnections by sliding the modules at least 1/2" apart from each other on the DIN rail. Insert a screwdriver into the rectangular hole in the metal mounting latch at the bottom of the module. Pushing up on the screwdriver's handle causes the latch to move downward and disengages it from the DIN rail. Tilt the module up and lift it off of the DIN rail.

**Power:** The operating power to the MX series I/O modules is transferred via the 10+2 integrated BUS interconnections to all adjacent modules. This is achieved using any MXB model.

## LED Indicators

LED	Color	Description
Power	Green	Power Applied
	Off	No Power
I/O	Green	Normal Operation
	Red	I/O Mismatch of Corrupt Data
Remote	Green	Normal Operation
	Red	Remote RX Fiber Fault
TX	Green	Normal Operation
	Red	SFP Transceiver Removed
RX	Green	Normal Operation
	Red	Not Receiving Data

An I/O mismatch indicates that either an I/O module has no paired module at the other end of the fiber or that the module pair does not have the same address.

A Red RX LED indicates the MXB module on this end of the fiber is not receiving data. A Red Remote LED indicates the MXB module on the other end of the fiber is not receiving data.

## Specifications

### Power Requirements

15 to 30VDC via the top screw terminal connector marked 1 & 2. 150mA @ 24Vdc

### Connections

Pluggable, Cage Clamp Screw Terminal Blocks, Accept 12 to 24 AWG

### Alarm Output Relay

Located at the top-right-front screw terminal connector marked 3 & 4. Form-C (SPST) rated 30VDC @ 1A

### Update Rate

57.6KHz, independent of number of modules or channels utilized

### Optical Connection

LC Connector– Patch cords are available to convert to the connector of your choice

### Optical Fiber Type

Transceiver 2k	Multi-Mode; 1310nm
Transceiver 15k	Single Mode; 1310nm
Transceiver 40k	Single Mode; 1310nm
Transceiver 80k	Single Mode; 1550nm

### Optical Dynamic Range

Transceiver 2k	8dB, 62.5/125 fiber
Transceiver 15k	14dB, 9/125 fiber
Transceiver 40k	29dB, 9/125 fiber
Transceiver 80k	29dB, 9/125 fiber

### Ambient Conditions

-40 to 85°C  
0 to 95% Humidity (Non-condensing)

Mounting	35mm DIN Rail
Weight	< 9oz
Enclosure Material	Polyamide
Flammability Rating	UL 94V-0

Fuse	1.25A 125V
Replacement fuses can be purchased from your Schurter distributor. Part number 3403.0167.11	