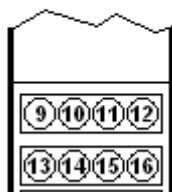
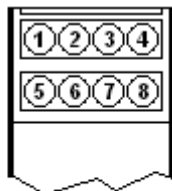


Connections

POWER: The MXRS obtains power from the 10+2 interconnection bus. Power originates from an MX Base Module (see specification section).

SERIAL DATA: The Port-1 I/O terminal block is at the top-front of the unit. Port-2 is directly below it. On a 4 port model, Port-3 is at the bottom-front of the unit with Port-4 directly below and behind it. Screw terminal blocks are numbered from left-to-right as follows:

PORT	TERMINAL			
PORT-1	1	2	3	4
PORT-2	5	6	7	8
PORT-3	9	10	11	12
PORT-4	13	14	15	16
RS-232	Transmit (TXD)	No connection	Common (Com)	Receive (RXD)
RS-485	A Connection (-)	Earth Ground	Common (Com)	B Connection (+)



Safety and Warning Information



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.

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.

Ultra
ELECTRONICS

Nuclear Sensors &
Process Instrumentation

EOTec MX Multiplexer Models

MXRS-2 / MXRS-4

MX RS-232/485 Modules

Installation Instructions

Original Instructions



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, 100mA



FM11ATEX0067X

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

Ultra Electronics

NUCLEAR SENSORS & PROCESS INSTRUMENTATION

707 Jeffery Way, PO Box 300
Round Rock, TX 78680-300 USA

Toll Free: 800-880-9333

Telephone: +1 512-434-2850

Fax: +1 512-434-2901

Email: fiberop@ultra-nspi.com

www.ultra-nspi.com

Ultra Electronics, Nuclear sensors & Process Instrumentation is a business name of Weed Instrument Co.. Inc.

Approval Agency Controlled Document
No changes authorized without prior agency approval

Publication Number:

RM0900203 Rev. 0

**MX Multiplexer RS-232 or RS-485
Serial Communications Module**

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

Operation & Installation

Description: Models MXRS-2 (2-Port) and MXRS-4 (4-Port), RS-232/485 Modules are designed to provide bi-directional serial communications. RS-232 can operate at either full or half duplex while RS-485 can only operate at half duplex. The input signals from an MXRS module on one end of the fiber link are passed to the MX Base Module via the interconnection bus where they are multiplexed and converted to a fiber optic signal. The MX Base Module at the other end of the fiber link de-multiplexes the signals and passes them to the mated MXRS Module for conversion back to their original serial data format. The addresses of the modules on either side of the fiber link must be set to the same address to create a functional communication pair.

Assembly: Place the top lip of the module's 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 can provide convenient screw terminals for connecting the DIN rail to Protective Earth (PE) ground.

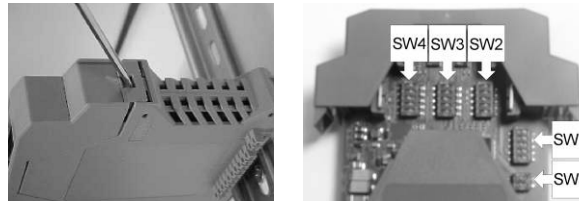
Dismantle: Remove the End Clamps from the DIN rail. Disconnect the BUS interconnections by sliding the modules at least 1/2" apart from each other. Insert a screwdriver into the rectangular hole in the metal mounting latch at the bottom of the module. Pushing up on the screwdriver's handle causes the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

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.

Settings & Indicators

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.



MODULE ADDRESS SETTING: A two position DIP switch, SW5, is used to set the **address** of the module and it must **match** the address of its mating module at the **opposite** end of the fiber link. **Do not** set two modules at the **same** end of the fiber link in one stack to the same address setting. Each module in a stack must have a different address to function properly. The 4 possible address settings are:

Address	SW5-1	SW5-2
00	OFF	OFF
01	OFF	ON
10	ON	OFF
11	ON	ON

CHANNEL SETTINGS: There are five position DIP switches which determine each channel's communications parameters, independently. Use SW1 thru SW4 for channels Port-1 thru Port-4 respectively. The settings for these switches are as follows:

Position 1	Use parity bit	No parity bit
	ON	OFF

Position 2	RS-485	RS-232
	ON	OFF

Positions 3, 4, 5			
3	4	5	Baud Rate
ON	OFF	ON	9.6K
ON	OFF	OFF	19.2K
OFF	ON	ON	38.4K
OFF	ON	OFF	56.6K
OFF	OFF	ON	115.2K
OFF	OFF	OFF	230.4K

LED	Color	Description
Power	Green	Power Applied
	Off	No Power
I/O Ports	Green	Normal Operation
	Off	No Input/Output Data

Specifications

Power Requirements	
15 to 30VDC via the interconnection Bus from an MX Base Module (MXB-MM2, MXB-SM15, MXB-SM40 or MXB-SM80)	
MXRS-2	75mA @ 24Vdc
MXRS-4	100mA @ 24Vdc

Connections	
Pluggable, Cage Clamp Screw Terminal Blocks, Accept 12 to 24 AWG	
MXRS-2	2 Serial Ports
MXRS-4	4 Serial Ports

Serial Communications	
Bi-directional	
RS-232	Half or Full Duplex
RS-485	Half Duplex Only

Baud Rates	
RS-232	9.6K to 230.4K
RS-485	9.6K to 230.4K

Update Rate	
57.6KHz, independent of number of modules or ports utilized	

Wire Cable Termination	
RS-232	Not required
RS-485	User supplied based on cable specifications

Maximum Device & Cable Length	
RS-232	1 Device, 50ft (15m)
RS-485	30 Devices, 2000ft (600m)

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	500mA 125V
Replacement fuses can be purchased from your Schurter distributor. Part number 3403.0163.11	