

## Fibre Optic Conversion

### Introduction

Modern day networking often calls for system integration using Fibre Optic cables, which the Ad-Net network can fully support using the Mxp-631 Fibre Optic conversion devices.

The devices convert RS-485 serial data from the Ad-Net network to Multi/Single-Mode fibre optic topology using the following part codes:

- 1) Mxp-631-MM - Multi-Mode for distances up to 5km
- 2) Mxp-631-SM - Single-Mode for distances up to 40km

Please check the cable variation installed onsite before ordering the appropriate converters.

### Automatic Baudrate Detection

The Mxp-631 converters are factory configured to receive data using Automatic Baudrate Detection, so no manual configuration of the internal setup switches should be required to terminate your Ad-Net network.

### Point-Point vs Ring Operation

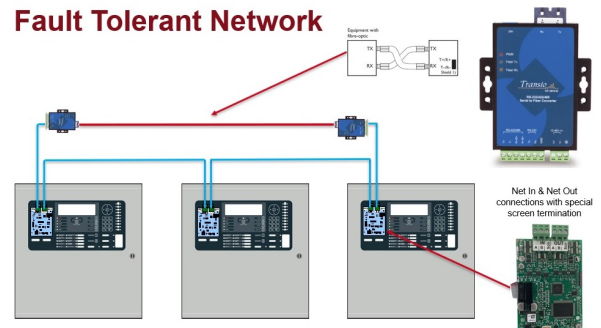
The Mxp-631-SM/MM convertors are compatible with the Ad-Net Fault-Tolerant network only and use the Point-Point communication method since the Ad-Net network forms its own 'Ring' topology. See example diagram opposite for method of connectivity.

External DIP switches need to be configured on the device to select the method of receiving data transmission and appropriate topology as shown in the image opposite.

### Automatic Data Direction Control (ADCC®)

ADCC® is a patented hardware data flow solution that senses and controls RS-485 data direction automatically, making it unnecessary to use the hand shaking signal.

### Fault Tolerant Network



### Fibre Optic Interface Setup

- Quick setup via DIP switch

Serial Connection	SW1	SW2
RS 485 (2 Wire)	OFF	ON
Built-in 120Ω Terminator This Node	SW3	
Panel 1	ON	
Fibre Mode	SW 4	
Point-to-point mode	OFF	



### Features

- Extends RS-232/422/485 transmission up to:
- \*Mxp-631-MM - Multi-Mode for distances up to 5km
- \*Mxp-631-SM - Single-Mode for distances up to 40km
- Compact size
- Protects against electrical interference and chemical corrosion
- Supports baud rates of 50 bps to 921.6 Kbps
- Wide temperature models available (-40 to 75°C)

### Specification

Fiber Connector	SC
Cable Requirements	Single-mode: 8.3/125, 8.7/125, 9/125 or 10/125 Multi-mode: 50/125, 62.5/125 or 100/140
Transmission Distance	Single-mode: 40km Multi-mode: 5km
Wavelength	Single-mode: 1310nm Multi-mode: 850nm

<b>Tx Output</b>	Single-mode: > -5dBm Multi-mode: > -5dBm
<b>Rx Sensitivity</b>	Single-mode: -25 dBm Multi-mode: 20 dBm
<b>Point-to-point Transmission</b>	Half-duplex or Full duplex
<b>Ring Transmission</b>	Half-duplex
<b>RS-232/422/485 Side:</b>	
<b>Connector</b>	Terminal Block
<b>RS-232 Signals</b>	Tx, Rx, GND
<b>RS-422 Signals</b>	TxD+, TxD-, RxD+, RxD-, GND
<b>RS-485-4w Signals</b>	TxD+, TxD-, RxD+, RxD-, GND
<b>RS-485-2w Signals</b>	Data+, Data-, GND
<b>Physical Characteristics:</b>	
<b>Housing</b>	Aluminium
<b>Dimensions</b>	Without ears: 67 x 100 x 22mm (2.64 x 3.94 x 0.87in) With ears: 90 x 100 x 22mm (3.54 x 3.94 x 0.87in)
<b>Environmental Limits:</b>	
<b>Operating Temperature</b>	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp Models: -40 to 75°C (-40 to 167°F)
<b>Operating Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-40 to 75°C (-40 to 167°F)
<b>Power Requirements:</b>	
<b>Input Voltage</b>	12 to 48 VDC
<b>Power Consumption</b>	140ma @ 12V
<b>Power Line Protection</b>	2 Kv Burst (EFT), EN61000-4-4 2 Kv Surge, EN61000-4-5
<b>Voltage Reversal Protection</b>	Protects against V+/V- reversal
<b>Over Current Protection</b>	1.1A (protects against two signals shorted together)
<b>Regulatory Approvals:</b>	
<b>FCC</b>	Part 15 Subclass B
<b>UL/CUL</b>	UL60950-1
<b>EMI</b>	EN55022 1998, Class B
<b>EMS</b>	EN61000-4-2 (ESD), Criteria A, Level 3 EN61000-4-3 (RS), Criteria A, Level 2 EN61000-4-4 (EFT), Criteria A, Level 2 EN61000-4-5 (SURGE), Criteria A, Level 3 EN61000-4-6 (CS), Criteria A, Level 2 EN61000-4-8 (SFMF), Criteria A, Level 1
<b>Warranty:</b>	
<b>Warranty Period</b>	3 years

## Order Codes and Options

Mxp-631-MM:	RS-232/422/485 to multi-mode optical fiber media converter
Mxp-631-SM:	RS-232/422/485 to single-mode optical fiber media converter
Mxp-542:	24VDC - 24VDC Converter / Isolator (required if powering Mxp-631 from an MxPro 5 control panel)

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