

## Fibre Optic Converter

### Introduction

The Mxp-631 media converters are equipped with a multiple interface circuit that can handle RS-232 or RS-422/485 serial interfaces and multi-mode or single-mode fiber. Mxp-631 converters are used to extend serial transmission up to 5km (Mxp-631-MM with multi-mode fiber) or up to 40km (Mxp-631-SM with single-mode fiber). The Mxp-631 converters can be configured to convert either RS-232 signals, or RS422/485 signals, but not both at the same time.

### Automatic Baudrate Detection

The Mxp-631 converters can automatically detect the serial baudrate. This is an extremely convenient feature. Even if a device's baudrate is changed, the signal will still be transmitted through the media converter without any data loss.

### Ring Operation

The Mxp-631 converters can be used to connect serial devices to a fiber ring. To form the ring, connect to the Tx port of one Mxp-631 to the Rx port of a neighbouring converter. Once the ring is set up, simply use the DIP switches to configure the Mxp-631 converters for "ring mode". When one node transmits a signal, the signal travels around the ring until it returns back to the transmitting unit, which then blocks the signal. With the Mxp-631, you can set up fiber rings that have a total circumference of up to 100km.

### Automatic Data Direction Control (ADCC®)

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

Please note that this way of communication is not EN54 approved.

### Features

- Extends RS-232/422/485 transmission up to :
- \*40 km with single-mode - Mxp-631-SM
- \*5 km with multi-mode - Mxp-631-MM
- Compact size
- Protects against electrical interference and chemical corrosion
- Supports baudrates of 50 bps to 921.6 Kbps
- Wide temperature models available (-40 to 75°C)

### Specification

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

Multi-mode: 850nm

**Tx Output**

Single-mode: &gt; -5dBm

Multi-mode: &gt; -5dBm

**Rx Sensitivity**

Single-mode: -25 dBm

Multi-mode: 20 dBm

**Point-to-point Transmission**

Half-duplex or Full duplex

**Ring Transmission**

Half-duplex

**RS-232/422/485 Side:****Connector**

Terminal Block

**RS-232 Signals**

Tx, Rx, GND

**RS-422 Signals**

TxD+, TxD-, RxD+, RxD-, GND

**RS-485-4w Signals**

TxD+, TxD-, RxD+, RxD-, GND

**RS-485-2w Signals**

Data+, Data-, GND

**Physical Characteristics:****Housing**

Aluminium

**Dimensions**

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)

**Environmental Limits:****Operating Temperature**

Standard Models: 0 to 60°C (32 to 140°F)

Wide Temp Models: -40 to 75°C (-40 to 167°F)

**Operating Humidity**

5 to 95% RH

**Storage Temperature**

-40 to 75°C (-40 to 167°F)

**Power Requirements:****Input Voltage**

12 to 48 VDC

**Power Consumption**

140ma @ 12V

**Power Line Protection**

2 Kv Burst (EFT), EN61000-4-4

2 Kv Surge, EN61000-4-5

**Voltage Reversal Protection**

Protects against V+/V- reversal

**Over Current Protection**

1.1A (protects against two signals shorted together)

**Regulatory Approvals:****FCC**

Part 15 Subclass B

**UL/CUL**

UL60950-1

**EMI**

EN55022 1998, Class B

**EMS**

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

**Warranty:**

**Warranty Period** 3 years

**Details** See [www.advancedco.com](http://www.advancedco.com)

## 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 Convertor / Isolator (required if powering Mxp-631 from an Axis EN control panel) |

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