MxPro 5

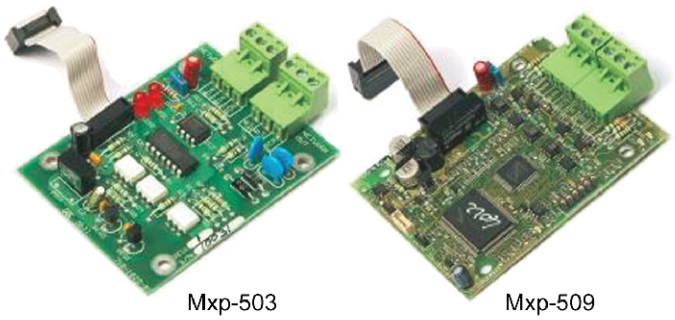
Network Cards

Advanced networking allows all MxPro 5 series control panels, remote terminals and network peripherals to be connected together using standard fire resistant two-core cable. It provides both the benefits of distributed intelligence and reduced installation costs whilst catering for the smallest two-panel network through to the largest 200-panel wide area networked system.

The network operates as a true peer-to-peer system allowing information from any input or output device to be passed over the network and displayed on any MxPro 5 control panel or remote terminal as required.

Simply adding and connecting a network card allows any MxPro 5 control panel or remote terminal to be networked. All other nodes on the system will be instantly aware of a panel as soon as it is given a valid network node address, allowing additional panels to be added at any time. All panels incorporate a network analyser providing valuable diagnostic and status information and also have the facility to prevent the transmission of fires or faults during commissioning.

For more complex systems, the Windows-based PC-NeT Mx configuration software allows sector based programming for Mute, Silence, Resound and Reset control keys as well as investigation delays, group disablement and test instructions. All panels within the same sector will share common controls and each panel or remote terminal can also be programmed to show specific network information on a zonal basis. For cause and effect, any input device can be programmed to operate any output device on any panel.



Mxp-503 Mxp-509

Features

- Large 200+ Panel Network
- Up to 1.5Km between Control Panels
- Windows based PC setup
- Network Systems share up to 1000 zones
- Network Analysis from Contol Panel

Specification

Network Connections	IN: A/B SCN(Screen) OUT: A/B SCN (Screen)
On-board Indication	2 Red LED's. LED 1 illuminates when data is transmitted LED 2 illuminates when data is received
Supply Current	Mxp-503 Standard Network card: 20mA Mxp-509 Fault Tolerant Network Card: 61mA (All power is taken directly from the panel motherboard)
Temperature range and Humidity	-5°C to 40C 95% non-condensing (maximum)
Dimensions (H x W x D)	85mm x 65mm x 20mm (Mounting pillars are provided on the panel chassis to mount this card)
Recommended Cable	2 Core twisted-pair plus screen

Order Codes and Options

MXP-503:	Standard Network Card
MXP-509:	Fault Tolerant Network Card
MXP-503F:	Standard Network Card fitted to a MxPro 5 control panel
MXP-509F:	Fault Tolerant Network Card fitted to a MxPro 5 control panel

Limitations

Standard Network
The maximum total cable length is 1.5km. The maximum number of network nodes is 32 (50 with signal buffer)

Fault Tolerant Network
The maximum cable length is 1.5km between each node, and the maximum total loop length is 20km. Each network card has inbuilt diagnostics and is fully monitored for both short and open circuit faults between nodes. The network is capable of withstanding a single fault between nodes without loss of communications to any single panel. The maximum number of network nodes is 200.

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MxPro 5

Standard Network Booster

The Mxp-030 network booster provides optical isolation between MxPro series control panels and the remainder of the network. Used in this manner, the Mxp-030 extends the distance of an existing network and allows expansion beyond the 32 node limitation.

The unit is supplied pre-configured for ease of installation, allowing for quick and trouble-free extension of the existing network.



Features

- Extends network up by to 1.2Km
- Allows more than 32 nodes
- Wide operating voltage available
- Low current consumption

Specification

Input voltage	10 - 30Vdc
Isolation	2KV RMS for 1 minute via optical isolation
Current consumption	67mA @ 12Vdc
Signal and power connection	Via terminal block
operating temperature	-40 to +80 degrees C
Operating humidity	0 to 95% non-condensing
LED indication	2 x data flow
Dimensions	100 x 74 x 23 mm
Din rail mounting	35mm top hat

Limitations

Requires external 10-30Vdc power supply (Not included) but can be powered from an MxPro control pan

Order Codes and Options

MXP-030:	Standard network booster

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MxPro 5

24VDC Convertor / Isolator Module

The Mxp-542 is a self-contained unit complete with flying leads. It provides electrical isolation between the fire system and external equipment such that the earth fault monitoring of the fire system is not compromised.

The unit can be positioned in either an enclosure of the fire system or that of the external powered equipment. To allow for variations in external equipment the unit can be fixed to the enclosure by any suitable method (e.g. tie-wrap). Alternatively the unit may be left loose.

Wiring

Identify, from the label, the IN and the OUT wire pairs. Connect the IN wires to the source of the power e.g. the AUX supply terminals of a fire alarm control panel. Connect the OUT wires to the 24V power input of the connected equipment.

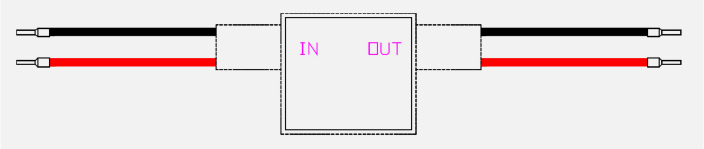
For both IN and OUT wires, the RED wire indicates the positive (+24V) connection and the BLACK wire indicates the negative (0V) connection.

It is important that the correct polarity is observed. If an extension to the wiring run is required, use 18AWG/1.0mm2 cables and connect using a suitable 2-way terminal block.

Applications / Limitations

Suitable for use when interfacing to external equipment which is referenced to earth and is required to communicate to the fire system.

Observe maximum current limitations (see specification section). Observe correct polarity on all connections to other equipment.



Features

- Low cost
- Simple to install
- Small form factor
- 3 year warranty

Specification

Input Voltage	18 - 30 V_{DC}
Input Current (max)	0.11 A
Output Voltage	24 VDC +/- 5%
Output Current	0.083 A
Operating Temperature	-5°C to +40°C
Wiring	Power Limited with Auto Recovery Short Circuit Protection

Compatibility

MxPro 4, MxPro 5, Axis EN, ExGo Series Panels

Order Codes and Options

MXP-542	24V DC Isolator Module

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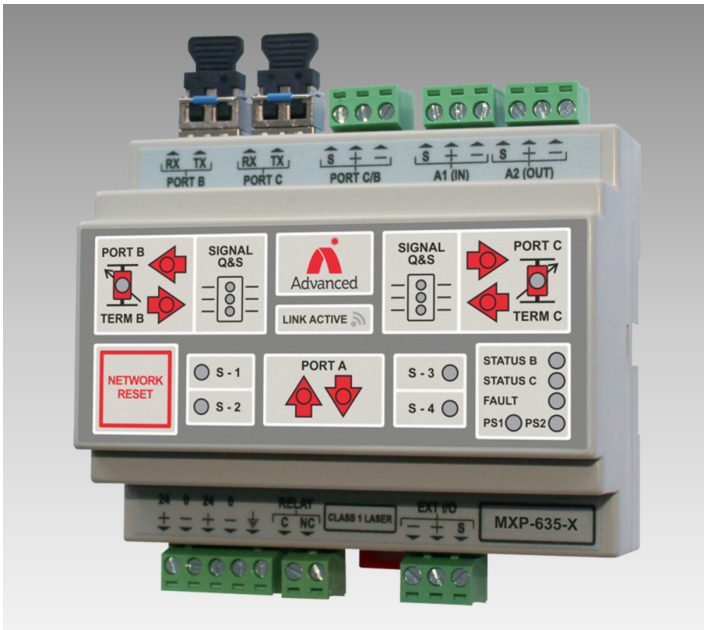
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MxPro^5

Fibre Optic Converter - Active

The MXP-635-A (active), when used in conjunction with SFP modules, is a full fibre or hybrid copper/fibre modem, for both radial and ring topology networks for use with MxPro^5 and AxisEN fire panels. This equipment is designed for reliable data communication and easy visual system diagnostics, to improve the Quality of Service (QoS) of critical communication networks while operating under the performance criteria required by BS5839 part 1.

In addition, this has been developed to facilitate dynamic network management. The active fibre optic converter provides the functionality for fibre optic system monitoring, diagnostics & reporting, and is used in conjunction with the IVIEW Graphical User Interface.



Approvals

- CE, UKCA, RoHs, WEEE compliant
- EMC: EN 61000-6-2
- EMC: EN 61000-6-4
- Safety: EN 60950

Features

- Intelligent Fibre Optic Communication Interface, dynamic network management
- Independent Reporting with Class A communication redundancy with multiple fault tolerance
- 5 kV Galvanic Isolation on all Ports
- Support of single and dual port industrial equipment RS-485 connections
- Simple LED status indication for Fibre and RS-485
- Hot-swappable small form-factor pluggable (SFP) modules:
  - Multi-mode (Fibre cable lengths up to 2km)
  - Single-mode (Fibre cable lengths up to 20km)
  - Bi-Di (Fibre cable lengths up to 20km)
- Single modem routes both in and out ports so that only one is required per panel
- Ports B or C with RS-485 transceivers have adjustable termination to correctly match the loop cabling segment
- Single switch configuration for fibre optic/RS-485 mediums
- Baud rate selectable from 9600 - 115200 bits/sec
- DIN rail mountable
- Redundant power supply for increased reliability
- Graphical User Interface, IVIEW, provides fibre optic system monitoring, diagnostics and reporting options. Availability is dependent on system requirements
- Compatible with MxPro^5 and AxisEN systems

Specification

Operating voltage:	18 - 36V (24V DC nominal)
Rated current:	250mA (at 24V)
RS-485:	Port A1 - Selectable Fixed Termination, in accordance with EIA RS-485 Port A2 - Selectable Fixed Termination, B or C, in accordance with EIA RS-485
Fibre Optic /RS-485:	Port B - Fibre Optic, SFP Connector (Specification as per selected SFP transceiver) Port C - Fibre Optic, SFP Connector (Specification as per selected SFP transceiver) Port C - Dynamic Termination Port A1, A2 (& Port C - FC model) - Isolated (2.5kV) Baud Rate - 9600 to 115200 (selectable / configurable)
USB:	USB Micro-B connection (Device/Slave Mode)
Operating temperature:	-10 to 50°C
Storage temperature:	-40 to 70°C
Dimensions:	115 X 105 X 58 mm
Weight:	200g
Mounting:	DIN Rail EN60715 (width 35 mm)

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)
MXP-635/IVIEW	Fibre Optic iView Commissioning Tool (Limited)
MXP-635/COMM	Fibre Optic iView Commissioning Tool (Interactive)

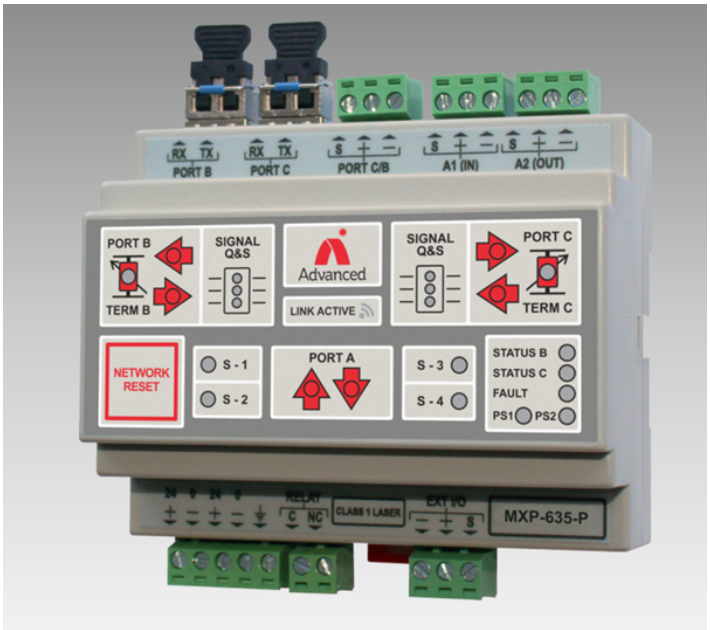
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MxPro^5

Fibre Optic Converter – Passive

The MXP-635-P (passive), when used in conjunction with SFP modules, is a full fibre or hybrid copper/fibre modem, for both radial and ring topology networks for use with MxPro^5 and AxisEN fire panels. This equipment is designed for reliable data communication and easy visual system diagnostics, to improve the Quality of Service (QoS) of critical communication networks while operating under the performance criteria required by BS5839 part 1.



Approvals

- CE, UKCA, RoHs, WEEE compliant
- EMC: EN 61000-6-2
- EMC: EN 61000-6-4
- Safety: EN 60950

Features

- 2.5 kV Galvanic Isolation on all Ports
- Support of single and dual port industrial equipment RS-485 connections
- Simple LED status indication for Fibre and RS-485
- Hot-swappable small form-factor pluggable (SFP) modules:
  - Multi-mode (Fibre cable lengths up to 2km)
  - Single-mode (Fibre cable lengths up to 20km)
  - Bi-Di (Fibre cable lengths up to 20km)
- Single modem routes both in and out ports so that only one is required per panel
- Ports B or C with RS-485 transceivers have adjustable termination to correctly match the loop cabling segment
- Single switch configuration for fibre optic/RS-485 mediums
- Baud rate selectable from 9600 - 115200 bits/sec
- DIN rail mountable
- Redundant power supply for increased reliability
- Compatible with MxPro^5 and AxisEN systems

Specification

Operating voltage:	18 - 36V (24V DC nominal)
Rated current:	250mA (at 24V)
RS-485:	Port A1 - Selectable Fixed Termination, in accordance with EIA RS-485 Port A2 - Selectable Fixed Termination, B or C, in accordance with EIA RS-485
Fibre Optic /RS-485:	Port B - Fibre Optic, SFP Connector (Specification as per selected SFP transceiver) Port C - Fibre Optic, SFP Connector (Specification as per selected SFP transceiver) Port C - Selectable Fixed Termination, in accordance with EIA RS-485 Port A1, A2 (& Port C - FC model) - Isolated (2.5kV) Baud Rate - 9600 to 115200 (selectable / configurable)
USB:	USB Micro-B connection (Device/Slave Mode)
Operating temperature:	-10 to 50°C
Storage temperature:	-40 to 70°C
Dimensions:	115 X 105 X 58 mm
Weight:	200g
Mounting:	DIN Rail EN60715 (width 35 mm)

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)

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MxPro 5

Network Diagnostic Analysis, Performance and Commissioning Report Generation

IVIEW is used to provide its users with the ability to rapidly recognise and diagnose physical errors on the network and is used in conjunction with the Advanced MXP-635-A fibre converter to provide a single consolidated solution.

IVIEW supports the option of real time monitoring of the network physical layer. This feature requires MXP-635-A fibre converters to be installed at each network node for signal redundancy. It can also be used for remote monitoring or reviewing recovered data files offline.

The tool and its diagnostics capability provide the user with the ability to record events, before, during and after each system maintenance exercise. These events can be presented in a report to provide an indication of the state and stability of the network by including detailed information captured either in a time period preceding the fault recovery or user-initiated reset.

The data files recovered from the MXP-635-A fibre converters are loaded into IVIEW and decoded, with the diagnostic detail presented to the user in one of three views:

- Top Level network View
- Node Analysis view
- Event Record view with Report generation

The IVIEW application also includes a graphical view, providing an easy interpretation through topographical network views.

IVIEW can connect to any of the MXP-635-A modules via USB (v2.0) or RS-485, and is allocated to a dedicated communication port on a monitoring station (the device hosting the IVIEW application).

Features

IVIEW, when used in conjunction with the MXP-635-A, offers the user enhanced diagnostic functionality as follows:

- Efficient cable fault detection and diagnosis
- System stability monitoring
- Identification of failing components
- Support in commissioning (Firmware Version management, Wiring polarity verification, Network configuration monitoring e.g. double address indication, Signal attenuation monitoring – repeater requirements, System stability confirmation)
- Support in maintenance monitoring (Log of all physical network alterations)
- CIE watchdog/power recycle monitoring
- Early indication of intermittent fault on network cards
- Preventative maintenance opportunity through monitoring the system stability over multiple maintenance exercises.
- The IVIEW Software Application can support multiple instances and hence multiple rings for monitoring

IVIEW Versions

- **MXP-635/COMM**

  The IVIEW commissioning and maintenance tool for fibre optic networks includes the following features:

  - An annual licence locked to an engineering laptop for use on multiple networks
  - Full Optic Fibre infrastructure analysis and system qualification
  - The MXP-635-A network nodes are displayed with fault mapping, showing the location of network faults and recovery.
  - Status of nodes and diagnostic support
  - Digital Optical Monitoring (DOM) of all optic fibre transceivers
  - Displays network data traffic before a recovery event
  - Dynamic node monitoring
  - Full report generation for both node and network events on MXP-635-A modules, including graphs for each recovery event

- **MXP-635/IVIEW**

  IVIEW annual licence with the same features as above, limited to 10 nodes.

IVIEW Minimum Requirements

Operating System:	Windows 7 (64 bit), Windows 10 (64bit)
Hardware: Processor:	Intel Core2, 3GHz
Memory:	2048Mbytes (2GB)
Hard disk:	160GB

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)
MXP-635/IVIEW	Fibre Optic iView Commissioning Tool (Limited)
MXP-635/COMM	Fibre Optic iView Commissioning Tool (Interactive)

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MxPro 5

Fibre Optic SFP module - Single-Mode

The Small Form Pluggable (SFP) MXP-635-SM (single-mode) is a fibre optic module allowing communications for up to a maximum distance of 20km between fibre optic converters. This SFP module can be easily fitted into the Advanced MXP-635-A and MXP-635-P products.

The SFP module includes an enhanced Digital Diagnostic Monitoring (DDM) interface, which is compliant with SFF-8472. Where the DDM interface allows real time access to the modules operating parameters such as SFP temperature, laser bias current, transmitted optical power, received optical power and transceiver supply voltage.



Approvals

- CE, UKCA, RoHs, WEEE compliant
- EMC: EN 61000-6-2
- EMC: EN 61000-6-4
- Safety: EN 60950

Features

- Single-mode cable type
- 20km reach for 9/125µm (single-mode fibre cable)
- Ultra-Low power module
- Operating data rates up to 1.25Gbps
- 1310nm FP laser transmitter
- Single 3.3V power supply and TTL logic interface
- Hot-pluggable SFP module
- Duplex LC connector interface
- Operating case temperature 0~+70□
- Usage in harsh environments enabled by conformal coating
- Provides Digital Diagnostic Monitoring (DDM) and Digital Optical Monitoring (DOM) Support
- Class 1 laser compliant according to International Safety Standard IEC 60825
- The SFP module consists of three sections:
  - FP laser transmitter
  - PIN photodiode integrated with a trans-impedance preamplifier (TIA)
  - MCU control unit.
- Supports SONET/SDH switch infrastructure and SDH/STM-8; SONET/OC-24 applications
- Compliant with SFP MSA and SFF-8472

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)

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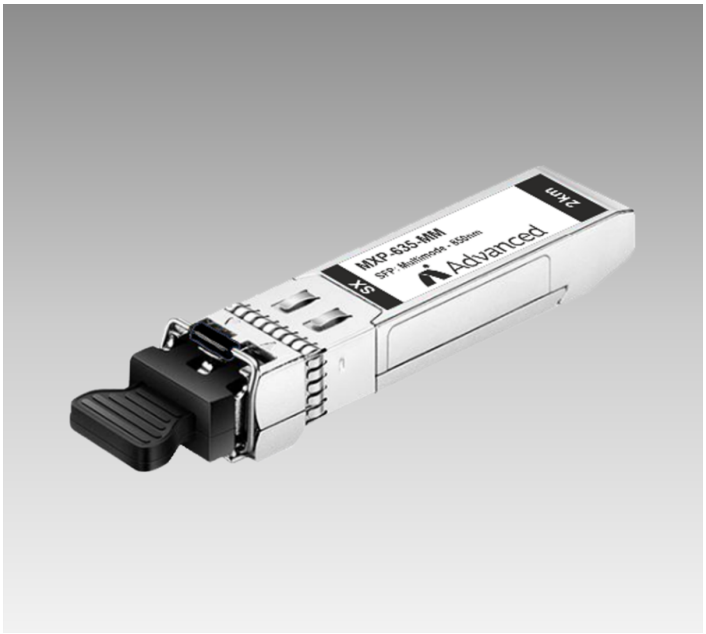
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MxPro5

Fibre Optic SFP Module - Multi-Mode

The Small Form Pluggable (SFP) MXP-635-MM (multi-mode) is a fibre optic transceiver allowing communications for up to a maximum distance of 2km between fibre optic converters. This SFP module can be easily fitted into the Advanced MXP-635-A and MXP-635-P products.

The SFP module includes an enhanced Digital Diagnostic Monitoring (DDM) interface, which is compliant with SFF-8472. Where the DDM interface allows real time access to the module operating parameters such as SFP temperature, laser bias current, transmitted optical power, received optical power and transceiver supply voltage.



Approvals

- CE, UKCA, RoHs, WEEE compliant
- EMC: EN 61000-6-2
- EMC: EN 61000-6-4
- Safety: EN 60950

Features

- Multi-mode cable type
- Up to 2km (multi-mode fibre cable)
- Ultra-Low power module
- Operating data rates up to 1.25Gbps
- 1310nm FP laser transmitter
- Single 3.3V power supply and TTL logic interface
- Hot-pluggable SFP module
- Duplex LC connector interface
- Operating case temperature 0~+70□
- Usage in harsh environments enabled by conformal coating
- Provides Digital Diagnostic Monitoring (DDM) and Digital Optical Monitoring (DOM) Support
- Class 1 laser compliant according to International Safety Standard IEC 60825
- The SFP module consists of three sections:
  - FP laser transmitter
  - PIN photodiode integrated with a trans-impedance preamplifier (TIA)
  - MCU control unit
- Supports SONET/SDH switch infrastructure and SDH/STM-8; SONET/OC-24 applications
- Compliant with SFP MSA and SFF-8472

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)

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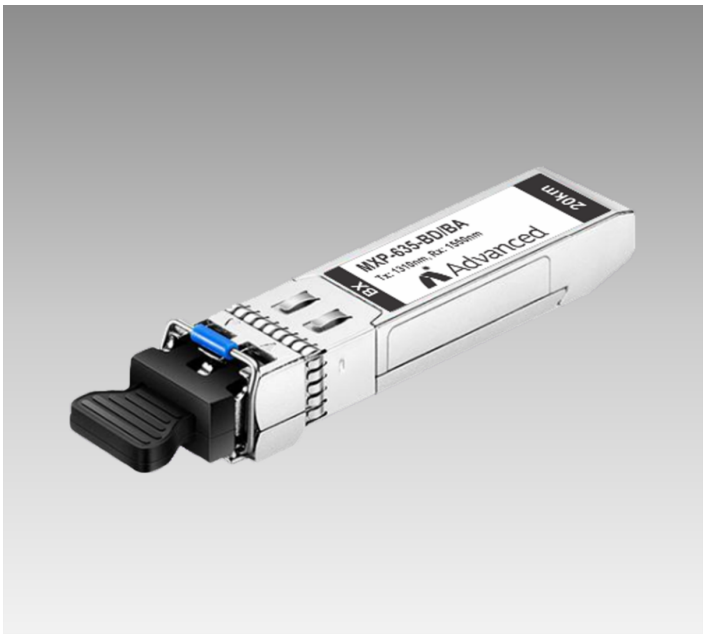
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MxPro5

Fibre Optic SFP Module - Bi-Directional

There are two Small Form Pluggable (SFP) modules, MXP-635-BD/AB (UP) and MXP-635-BD/BA (DOWN). These SFP modules can be easily fitted into the Advanced MXP-635-A and MXP-635-P products. Which, when used in conjunction with each other, provide bi-directional network communication on a single fibre optic cable.

The SFP modules include an enhanced Digital Diagnostic Monitoring (DDM) interface, which is compliant with SFF-8472. Where the DDM interface allows real time access to the module operating parameters such as SFP temperature, laser bias current, transmitted optical power, received optical power and transceiver supply voltage.



Approvals

- CE, UKCA, RoHs, WEEE compliant
- EMC: EN 61000-6-2
- EMC: EN 61000-6-4
- Safety: EN 60950

Features

- Bi-directional communication on a single fibre optic cable (Single-mode cable type)
- Ultra Low power module
- Operating data rates up to 1.25Gbps
- Two types:
  - AB: 1550nm FP transmitter/1310nm receiver
  - BA: 1310nm FP transmitter/1550nm receiver
- 20km reach with 9/125µm (single-mode fibre cable)
- Single 3.3V power supply and CML Logic Interface
- Hot-pluggable SFP's
- BIDI LC or SC receptacle connector
- Operating case temperature 0~+70□
- Usage in harsh environment enabled by conformal coating
- Provides Digital Diagnostic Monitoring (DDM) and Digital Optical Monitoring (DOM) Support
- Support Compliant with the IEEE Gigabit Ethernet standard 802.3
- The transceiver consists of three sections:
  - FP laser transmitter
  - PIN photodiode integrated with a trans-impedance preamplifier (TIA)
  - MCU control unit
- Supports SONET/SDH switch infrastructure and SDH/STM-8; SONET/OC-24 applications
- Compliant with SFP MSA and SFF-8472

Order Codes and Options

MXP-635-A	Fibre Optic Convertor – Active
MXP-635-P	Fibre Optic Convertor – Passive
MXP-635-SM	Fibre Optic SFP Module – Single-mode
MXP-635-MM	Fibre Optic SFP Module – Multi-mode
MXP-635-BD/AB	Fibre Optic SFP Module – Bi-Directional (UP)
MXP-635-BD/BA	Fibre Optic SFP Module – Bi-Directional (Down)

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