

# MC10x Series

## Fast Ethernet Media Converters



### AT-MC101XL

TX to FX Fast Ethernet media converter with multi-mode ST fiber connectors

### AT-MC102XL

TX to FX Fast Ethernet media converter with multi-mode SC fiber connectors

### AT-MC103XL

TX to FX Fast Ethernet media converter with single-mode 15 km SC fiber connectors

### AT-MC103LH

TX to FX Fast Ethernet media converter with single-mode 40 km SC fiber connectors

### Fiber Connections

The Allied Telesis range of Fast Ethernet media converters provides a complete family of conversion devices, allowing users to extend the size of UTP networks with the use of fiber cabling. Supporting both SC and ST fiber connectors, these converters can be used to extend networks with up to 2 km of multi-mode fiber or 40 km of single-mode fiber.

### Auto-Negotiation and MissingLink™

The MissingLink feature enables the fiber optic ports on the media converter to pass the "Link" status of their connections to each other. When the media converter detects a problem with one of the ports, such as the loss of connection to an end-node, the media converter shuts down the connection to the other port, thus notifying the node that the connection has been lost.

### Simple Installation

All the media converters feature auto MDI/MDI-X, allowing the converter to be connected to either a PC, hub or switch with a simple UTP cable.

The media converters also allow the installer to test the integrity of fiber connection, by forcing the converters to communicate over the fiber cable. This "Link Test" feature allows installers to check for cable faults without the need for expensive fiber optic test equipment.

### Standalone or Rackmounted

Each small media converter is powered by an external power supply unit for use in standalone applications. Where multiple media converters are being used, up to 12 standalone devices can be inserted into a low-cost rackmount chassis, allowing all the converters to be powered by a single internal power supply. In critical applications, a second load sharing internal power supply can be installed into the rackmount chassis.

### Hassle Free Support

Allied Telesis Fast Ethernet media converters offer free technical support, ensuring trouble-free installation.

## New Features

- ▶ Half and full-duplex operation
- ▶ Transparent to IEEE 802.1Q packets
- ▶ Rackmountable using optional AT-MCR12, AT-TRAY4 or AT-TRAY1 chassis
- ▶ Wallmountable using AT-WLMT
- ▶ Auto MDI/MDI-X
- ▶ MissingLink
- ▶ Link test
- ▶ RoHS compliant

PORT TYPE (CONNECTOR)	CABLE DISTANCE	OPTICAL FREQUENCY	LAUNCH POWER (dBm)			RECEIVE POWER (dBm)		
			MAXIMUM	AVERAGE	MINIMUM	MINIMUM SENSITIVITY	TYPICAL SENSITIVITY	SATURATION
100FX MMF (2km)	2 km	1310nm	-14.0	-16.8	-19.0	-31.8	-34.5	-14.0
100FX MMF (2km)	15 km	1310nm	-8.0	-11.5	-15.0	-31.0	-31.0	-8.0
100FX MMF (2km)	40 km	1310nm	0.0	-3.0	-5.0	-35.0	-38.0	0.0

### Link Test

The link test is a fast and easy way for you to test the connections between the media converter ports and the end-nodes that are connected to the ports. If a network problem occurs, you can perform a link test to determine which port is experiencing a problem, and be able to focus your troubleshooting efforts on the cable or end-node where the problem resides.

### MissingLink

The MissingLink feature enables the two ports on the media converter to pass the "Link" status of their connections to each other. When the media converter detects a loss of connection to an end-node, the media converter shuts down the connection to the other port, thus notifying the end-node that the connection has been lost.

### Technical Specifications

#### Status Indicators

Power:	Indicates power is applied to the converter
Link (2):	Indicates a valid receive link exists
Activity (2):	Indicates TX/RX on the port
FDX:	Indicates full-duplex operation
ML:	Indicates MissingLink

#### Switches

ML - link Test:	Enable MissingLink
A/N:	Enable auto-negotiation

#### Packet Transmission Characteristics

Round trip delay:	0.4µs maximum
Bit Error Rate (BER):	<10 <sup>-12</sup>

#### Twisted Pair Interface

	MIN.	TYPICAL	MAX.
UTP differential			
Output voltage	950mv	980mv	1050mv
Overshoot voltage		4%	5%
Single amplitude			
Symmetry	0.98	1.0062	1.02
Rise and fall time			
Rise	3.0ns	4.6ns	5.0ns
Fall	3.0ns	4.6ns	5.0ns
Rise and fall time			
Symmetry	0.4ns	0.5ns	

#### Power Characteristics

External power supply	120V AC, 60Hz (US model) 240V AC, 50Hz (European models)
Input supply voltage	12vDC
Max current	500mA
Power consumption	6W

#### Environmental Specifications

Operating temperature	0°C to 40°C (32°F to 104°F)
Relative humidity	5% to 95% (non-condensing)
Storage temperature	-20°C to 80°C (-4°F to 176°F)
Operating altitude	0 to 10,000 feet

### Physical Characteristics

Dimensions (W x D x H)	10.5 cm x 9.5 cm x 2.5 cm (4.12 in x 3.75 in x 1.0 in)
Weight:	294 g (10.4 oz)

### Electrical/Mechanical Approvals

EMC	FCC Class B
Safety compliant	UL-Cul, CSA/CSA, NRTL, TUV, CE compliant

### Ordering Information

**AT-MC101XL-xx**  
UTP to multi-mode ST (2 km) fiber

**AT-MC102XL-xx**  
UTP to multi-mode SC (2 km) fiber

**AT-MC103XL-xx**  
UTP to single-mode SC (15 km) fiber

**AT-MC103LH-xx**  
UTP to single-mode long-haul SC (40 km) fiber

Where xx = 10 for US power adapter  
20 for European power adapter  
30 for UK power adapter  
40 for Australian power adapter  
60 for multi-region power adapter, APAC only  
90 for NA power adapter, TAA compliant

### Associated Products

**AT-TRAY1**  
Rackmounting tray for one media converter

**AT-TRAY4**  
Rackmounting tray for up to four media converters

**AT-WLMT**  
Wallmount bracket for one media converter

**AT-MCR12**  
12-slot AC/DC powered chassis for media converters