

Media Converters

MCI00XL Series, Fast Ethernet Media Converters

AT-MCI01XL

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

AT-MCI02XL

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



Fibre connections

The Allied Telesyn 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 fibre cabling. Supporting both SC and ST fibre connectors, these converters can be used to extend networks with up to 2km of fibre.

Auto-negotiation and MissingLink™

The MissingLink™ feature enables the fibre 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

Both media converters feature an internal MDI/MDI-X switch, 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 fibre connection, by forcing the converters to communicate over the fibre cable. This 'Link Test' feature allows installers to check for cable faults without the need for expensive fibre-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 Telesyn Fast Ethernet media converters have a lifetime warranty and free technical support, ensuring trouble-free installation.

Key features

- Half & full-duplex operation
- Transparent to IEEE 802.1Q packets
- Rackmountable using optional AT-MCR12, TRAY4 or TRAY1 chassis
- MDI/MDI-X
- MissingLink™
- Link Test

MCI00XL Series, Fast Ethernet Media Converters

STATUS INDICATORS

Front Panel:	
Power	Indicates power is applied to the converter
Link (2)	Indicates a valid receive link exists
Receive (2)	Indicates valid data being received by converter
Normal/Test	Fibre test or normal operation

PACKET TRANSMISSION CHARACTERISTICS

Round Trip Delay	0.4µs Maximum
Bit Error Rate (BER)	<10 ⁻¹²

TWISTED PAIR INTERFACE

UTP Differential Output			
Voltage	Typical	Min	Max
	980mv	950mv	1050mv
Overshoot Voltage			
	Typical		Max
	4%		5%
Single Amplitude Symmetry			
	Typical	Min	Max
	1.0062	0.98	1.02
Rise and Fall Time			
	Typical	Min	Max
Rise	4.6ns	3.0ns	5.0ns
Fall	4.2ns	3.0ns	5.0ns
Rise and Fall Time Symmetry			
	Typical		Max
	0.4ns		0.5ns

POWER CHARACTERISTICS

External Power Supply	120V AC 60Hz/ 240V AC 50Hz
Input Power Supply	12VDC +/- 5%
Max Current	.5
Power Consumption	6W

ENVIRONMENTAL SPECIFICATIONS

Operating Temp	0°C to 40C
Storage Temp.	-20°C to 80°C
Relative Humidity	5% to 95% non-condensing
Operating Altitude	0 to 10,000 feet

PHYSICAL CHARACTERISTICS

Dimensions	10.5cm x 9.5cm x 2.5cm (4.12" x 3.75" x 1.0")
Weight	294g (10.4oz)

ELECTRICAL/MECHANICAL APPROVALS

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

ORDERING INFORMATION

AT-MCI01XL-xx

TX to FX media converter with ST fibre connectors

AT-MCI02XL-xx

TX to FX media converter with SC fibre connectors

Where xx =

- 10 (US power adapter)
- 20 (European power adapter)
- 30 (UK power adapter)
- 40 (Australian power adapter)

Port Type (Connector)	Cable Distance	Optical Frequency	Launch Power (dBm)			Receive Power (dBm)		
			Max.	Avg.	Min.	Min. Sensitivity	Typical Sensitivity	Saturation
I0T UTP Copper	100m							
I0Base2 Coax Copper	185m							
I0FL MMF	2km	850nm	-10.0	-12.0	-15.0	-41.4	-43.0	-7.6
I0FL SMF	15km	1310nm	-17.0	-21.0	-23.0	-41.5	-45.0	-14.0
I00TX UTP Copper	100m							
I00FX MMF	2km	1310nm	-14.0	-16.8	-19.0	-31.8	-34.5	-14.0
I00SX MMF	300m	850nm	-10.0	-12.0	-15.0	-41.4	-43.0	-7.6
I00FX SMF (15km)	15km	1310nm	-8.0	-11.5	-15.0	-31.0	-31.0	-8.0
I00FX SMF (40km)	40km	1310nm	0.0	-3.0	-5.0	-35.0	-38.0	0.0
I00FX SMF (75km)	75km	1310nm	0.0	-2.0	-4.0	-37.0	-37.0	-3.0
I00FX SMF (100km)	100km	1550nm	0.0	-1.5	-3.0	-37.0	-37.0	-3.0
I000T UTP Copper	100m							
I000SX MMF	220-550m	850nm	-4.0	-7.0	-10.0	-16.0	-16.0	0.0
I000LX SMF (10km)	10km	1310nm	-3.0	-6.3	-9.5	-20.0	-20.0	-3.0
I000LX SMF (20km)	20km	1310nm	0.0	-1.5	-3.0	-24.0	-24.0	-3.0
I000LX SMF (50km)	50km	1550nm	0.0	-2.5	-5.0	-24.0	-24.0	-3.0
I000LX SMF (70km)	70km	1550nm	5.5	2.8	0.0	-24.0	-24.0	-3.0



MCI03/4 SERIES

Fast Ethernet Media Converters

AT-MCI03 family

UTP to fiber SC single-mode media converters

AT-MCI04 family

Fiber SC multi-mode to fiber SC single-mode media converters

Fiber Connections

The Allied Telesyn range of Fast Ethernet Media converters provides a complete family of conversion devices, allowing users to extend the size of UTP and multi-mode fibre networks with the use of single-mode fibre cabling. Supporting SC connected single-mode fibre, these converters can be used to extend networks up to a distance of 100km.

Auto-negotiation and MissingLink™

When connecting media converters to auto-negotiating Fast Ethernet switches, these media converters will automatically connect the link in either full or half-duplex mode, allowing the link to be established with the greatest bandwidth. Alternatively, the MissingLink™ feature allows accurate reporting to network management systems as well as allowing devices with redundant link capability to be inter-connected with these media converters, as a failure in one fibre link will be signalled to the switch, allowing the second link to become active.

Simple Installation

All the media converters with a UTP connection feature an internal MDI/MDI-X switch, 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 fibre connection, by forcing the converters to communicate over the fibre cable. This Link Test feature allows installers to check for cable faults without the need for expensive fibre-optic test equipment.

Standalone or Rackmount

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 Telesyn Fast Ethernet media converters have a lifetime warranty and free technical support, ensuring trouble-free installation.

Key Features

- Half and full-duplex operation
- Transparent to IEEE 802.1Q packets
- Rackmountable using optional AT-MCR12, TRAY4 or TRAY1 chassis
- MDI/MDI-X
- MissingLink™
- Link Test

MCI03/4 SERIES | Fast Ethernet Media Converters

Port Type (Connector)	Cable Distance	Optical Frequency	Launch Power (dBm)			Receive Power (dBm)		
			Max.	Avg.	Min.	Min. Sensitivity	Typical Sensitivity	Saturation
10T UTP Copper	100m							
102 Coax Copper	185m							
10FL MMF	2km	850nm	-10.0	-12.0	-15.0	-41.4	-43.0	-7.6
10FL SMF	15km	1310nm	-17.0	-21.0	-23.0	-41.5	-45.0	-14.0
100TX UTP Copper	100m							
100FX MMF (2km)	2km	1310nm	-14.0	-16.8	-19.0	-31.8	-34.5	-14.0
100SX MMF (300m)	300m	850nm	-10.0	-12.0	-15.0	-41.4	-43.0	-7.6
100FX SMF (15km)	15km	1310nm	-8.0	-11.5	-15.0	-31.0	-31.0	-8.0
100FX SMF (40km)	40km	1310nm	0.0	-3.0	-5.0	-35.0	-38.0	0.0
100FX SMF (75km)	75km	1310nm	0.0	-2.0	-4.0	-37.0	-37.0	-3.0
100FX SMF (100km)	100km	1550nm	0.0	-1.5	-3.0	-37.0	-37.0	-3.0
1000T UTP Copper	100m							
1000SX MMF	220-550m	850nm	-4.0	-7.0	-10.0	-16.0	-16.0	0.0
1000LX SMF (10km)	10km	1310nm	-3.0	-6.3	-9.5	-20.0	-20.0	-3.0
1000LX SMF (20km)	20km	1310nm	0.0	-1.5	-3.0	-24.0	-24.0	-3.0
1000LX SMF (50km)	50km	1550nm	0.0	-2.5	-5.0	-24.0	-24.0	-3.0
1000LX SMF (70km)	70km	1550nm	5.5	2.8	0.0	-24.0	-24.0	-3.0

MCI03/4 SERIES | Fast Ethernet Media Converters

Status Indicators

Front Panel	
Power	Indicates power is applied to the converter
Link (2)	Indicates a valid receive link exists
Receive (2)	Indicates valid data being received by converter
Normal/Test	Fibre test or normal operation

Packet Transmission Characteristics

Round Trip Delay	0.4 μ s Maximum
Bit Error Rate (BER)	<10 ⁻¹²

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	4.2ns	5.0ns
Rise and Fall Time Symmetry	0.4ns	0.5ns	

Power Characteristics

External Power Supply	100-240V AC, 50-60Hz +/-3%
Input Supply Voltage	12vDC +/-5%
Max Current	0.5
Power Consumption	6W

Environmental Specifications

Operating Temp	0°C to 40°C (32°F to 104°F)
Storage Temp.	-20°C to 80°C
Relative Humidity	5% to 95% non-condensing
Operating Altitude	0 to 10,000 feet

Physical Characteristics

Dimensions	10.5cm x 9.5cm x 2.5cm (4.12" x 3.75" x 1.0")
Weight	294g (10.4oz)

Electrical/Mechanical Approvals

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

Ordering Information

AT-MCI03XL-xx
UTP to single-mode (15km) fibre
AT-MCI03LH-xx
UTP to single-mode (40km) fibre
AT-MCI03SC/FS3-xx
UTP to single-mode (75km) fibre
AT-MCI03SC/FS4-xx
UTP to single-mode (100km) fibre
AT-MCI04XL-xx
Multi-mode fibre to single-mode (15km) fibre
AT-MCI04LH-xx
Multi-mode fibre to single-mode (40km) fibre
AT-MCI04SC/FS3-xx
Multi-mode fibre to single-mode (75km) fibre
AT-MCI04SC/FS4-xx
Multi-mode fibre to single-mode (100km) fibre

Where xx = 10 AC power supply, US power cord
= 20 AC power supply, European power cord
= 30 AC power supply, UK power cord
= 40 AC power supply, Australian power cord

USA Headquarters | 19800 North Creek Parkway | Suite 200 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895

European Headquarters | Via Motta 24 | 6830 Chiasso | Switzerland | T: +41 91 69769.00 | F: +41 91 69769.11

Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830

www.alliedtelesyn.com

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AT-FS200 Series, 2 Port Fast Ethernet Speed/Media Converting Switches

AT-FS201, 2 port Fast Ethernet switch, 10/100TX to 100FX(ST), multi-mode

AT-FS202 Family, 2 port Fast Ethernet switches, 10/100TX to 100FX(SC), multi-mode or single-mode

AT-FS203, 2 port Fast Ethernet switch, 10/100TX to 10/100TX



KEY FEATURES

Convert speed as well as media type

MDI/MDIX crossover switch
(AT-FS203 only)

Auto MDI/MDIX
(AT-FS201 and AT-FS202 only)

Supports Half and Full Duplex operation

8k MAC address tables

Store-and-Forward switching mode

Transparent to 802.1Q packets

Standalone or rackmountable

Fits the AT-MCR12 rackmount chassis

EXTEND NETWORKS

When upgrading your traditional 10Mbps Ethernet network or extending your 100Mbps Fast Ethernet network, switches are required and the AT-FS20X switches provide the ideal solution. The AT-FS203 will connect any two copper networks—irrespective of speed, and the AT-FS201 and AT-FS202 families of switches allow any copper network to be extended over a Fast Ethernet fiber link up to distances of 100km.

VLAN SUPPORT

Many new backbone switch products now support the industry standard IEEE 802.1Q specification for VLANs (Virtual LANs), which requires extra long data packets to be sent on the network. The AT-FS20X switches have been designed to be fully compatible with these long packets, allowing them to be used in modern networks. Switches not supporting this feature will discard these extra long packets, making them unsuitable for modern networks.

SMALL AND FLEXIBLE

The switches can be used almost anywhere due to their small physical size and external power supply. Alternatively, they can be mounted in a chassis along with Allied Telesyn's media converters. This allows users to construct any mix of network conversions, with the additional option of a redundant power supply.

ABOUT ALLIED TELESYN, INC.

Allied Telesyn, Inc. leads the world in network technologies for the access edge. Since the company's inception in 1987, Allied Telesyn has been developing IP-based network products for use in video, voice and data networks at the metro edge, in education, government agencies and across the enterprise. Allied Telesyn's access, aggregation and core transport technologies range from simple Ethernet adapters, hubs and media converters to robust multi-layer Gigabit Ethernet switches and routers, wireless systems, DTM and WDM transport solutions for delivering real-time voice, video and data. Allied Telesyn's comprehensive support and professional service programs are suited to meet the growing demands of today's switched broadband infrastructures.

SERVICE & SUPPORT

Allied Telesyn provides value-added support services for its customers under its Net.CoverSM programs. For more information on Net.CoverSM support programs available in your area, contact your Allied Telesyn sales representative or visit our website.

www.alliedtelesyn.com

SWITCHES

 **Allied Telesyn**
Simply connecting the IP world

AT-FS200 Series, 2 Port Fast Ethernet Speed/Media Converting Switches

STATUS INDICATORS

System LEDs (AT-FS203 only):

Power Indicates power is applied to the converter

Per Fiber Port:

Link Indicates a valid receive link exists
Rx Indicates data is being received on this port
Tx Indicates data is being transmitted on this port
Duplex Indicates full or half-duplex operation
Collision Indicates collision during transmission on the port

Per Copper Port:

Link Indicates a valid receive link exists
Rx Indicates data is being received on this port
Tx Indicates data is being transmitted on this port
Speed Indicates either 10 or 100Mbps operation
Auto Indicates port is set for auto-negotiation
Collision Indicates collision during transmission on the port

System LEDs (AT-FS201 and AT-FS202 only):

Power Indicates power is applied to the converter

Per Fiber Port:

Link/Activity Indicates valid/invalid link
Indicates data is being received or transmitted
Full Duplex/Collision Indicates operation at either Full or Half Duplex
Indicates collision during transmission on the port

Per Copper Port:

Link/Activity Indicates valid/invalid link
Indicates data is being received or transmitted
Full Duplex/Collision Indicates operation at either Full or Half Duplex
Indicates collision during transmission on the port
Auto-negotiation Indicates port is set for auto-negotiation
100M Indicates operation at either 10T or 100TX

OPERATIONAL CHARACTERISTICS

(Each port can be configured via the following switches)

Per Fiber Port:

Duplex Selects either full or half-duplex operation
Bytes Selects maximum packet size sent by switch
(1518 or 1522 bytes)

Per Copper Port:

Auto Selects auto-negotiation mode or manual setting
Duplex Forces port to full or half-duplex operation
(Auto setting = manual only)
Speed Forces port to 10 or 100Mbps operation
(Auto setting = manual only)
Bytes Selects maximum packet size sent by switch
(1518 or 1522 bytes)

MAC Address Table 8k addresses
Forwarding/Filtering Rate 148,880pps for 100Mbps
14,880pps for 10Mbps
Latency 14.3µsec (64 byte packet, 100Mbps full duplex)

POWER CHARACTERISTICS

Input Voltage (Auto Ranging):
External Power Supply 100-240vAC, 50/60Hz +/- 3%
Input Supply Voltage 12vDC +/- 5%
Max Current .5
Power Consumption 6W

ENVIRONMENTAL SPECIFICATIONS

Operating Temp. 0°C to 40°C
Storage Temp. -20°C to 80°C
Relative Humidity 5% to 95% noncondensing
Operating Altitude 0 to 10,000 feet

PHYSICAL CHARACTERISTICS

Dimensions 10.5cm x 9.5cm x 2.5cm (4.12" x 3.75" x 1.0")
Weight 294g (10.4oz)

ELECTRICAL/MECHANICAL APPROVALS

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

ORDERING INFORMATION

AT-FS201-xx

2 port Fast Ethernet switch,
10/100TX to 100FX (ST)

AT-FS202/yyy-xx

2 port Fast Ethernet switch,
10/100TX to 100FX (SC)

AT-FS203-xx

2 port Fast Ethernet switch,
10/100TX to 10/100TX

Where yyy = multi-mode fiber
FS1 single-mode fiber 15km
FS2 single-mode fiber 40km
FS3 single-mode fiber 75km
FS4 single-mode fiber 100km

Where xx =

10 AC Power supply, US power cord
20 AC Power supply, European power cord
30 AC Power supply, UK power cord
40 AC Power supply, Australian power cord

USA Headquarters: 19800 North Creek Pkwy, Suite 200, Bothell, WA 98011, USA Tel: 800.424.4284
European Headquarters: Via Motta 24, 6830 Chiasso, Switzerland (Corporate) Tel: (+41) 91 697.69.00
(European Sales) Tel: (+39) 02 414.112.1

Fax: 425.481.3895
Fax: (+41) 91 697.69.11
Fax: (+39) 02 414.112.61

www.alliedtelesyn.com

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