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Allied Telesyn

Simply Connecting the World

AT-MC101XL
AT-MC102XL
AT-MC103XL
AT-MC103LH
AT-MC103SC/FS3, FS4
AT-MC103ST/FS3, FS4

Version 3 Fast Ethernet Media Converters

Installation Guide

PN 613-10771-00 Rev D

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Safety Warnings

Standards: This product meets the following standards.

U.S. Federal Communications Commission	
DECLARATION OF CONFORMITY	
Manufacture Name:	Allied Telesyn International, Corp.
Manufacture Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94086 USA
Manufacture Telephone:	408-730-0950
Declares that the Product:	Fast Ethernet Media Converters
Model Numbers:	AT-MC101XL, AT-MC102XL, AT-MC103XL, AT-MC103LH, AT-MC103SC/FS3, AT-MC103ST/FS4, AT-MC103SC/FS4, AT-MC103ST/FS4

This product complies with FCC Part 15B, Class B Limits:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIATED ENERGY

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on; the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Warning: This product requires only Category 3, 4, or 5 shielded twisted-pair cable for all 10 Mbps RJ-45 connections, and Category 5 shielded twisted-pair for all 100 Mbps RJ-45 connections to comply with Class B emission limits. If not used with shielded cables, this product may cause radio interference in which case the user may be required to take adequate measures to reduce interference levels.

Industry Canada
This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RFI Emission	EN55022 Class B **1**
Immunity	EN50082-1 1997 **2**

Warning: This product requires shielded cables to comply with emission and immunity standards. If it is used with unshielded cables, the user may be required to take measures to correct the interference problem at their own expense. **3**

Electrical Safety	EN60950, UL1950, CSA 950 **4**

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Laser EN60825 ✍ **5**

Power to the hub must be sourced only from the adapter. ✍ **10**



USA/CANADA
Use a UL Listed/CSA Certified AC adapter of DC 12V, 500mA.

EUROPE - EU
Use TÜV licensed AC adapter of DC 12V, 500mA.

UK
Use a UK Safety Approved AC adapter of DC 12V, minimum 500mA.

Important: Appendix A contains translated safety statements for installing this equipment. When you see the ✍, go to Appendix A for the translated safety statement in your language.

Wichtig: Anhang A enthält übersetzte Sicherheitshinweise für die Installation dieses Geräts. Wenn Sie ✍ sehen, schlagen Sie in Anhang A den übersetzten Sicherheitshinweis in Ihrer Sprache nach.

Vigtigt: Tillæg A indeholder oversatte sikkerhedsadvarsler, der vedrører installation af dette udstyr. Når De ser symbolet ✍, skal De slå op i tillæg A og finde de oversatte sikkerhedsadvarsler i Deres eget sprog.

Belangrijk: Appendix A bevat vertaalde veiligheidsopmerkingen voor het installeren van deze apparatuur. Wanneer u de ✍ ziet, raadpleeg Appendix A voor vertaalde veiligheidsinstructies in uw taal.

Important: L'annexe A contient les instructions de sécurité relatives à l'installation de cet équipement. Lorsque vous voyez le symbole ✍, reportez-vous à l'annexe A pour consulter la traduction de ces instructions dans votre langue.

Tärkeää: Liite A sisältää tämän laitteen asentamiseen liittyvät käännetyt turvaohjeet. Kun näe ✍-symbolin, katso käännettyä turvaohjetta liitteestä A.

Importante: l'Appendice A contiene avvisi di sicurezza tradotti per l'installazione di questa apparecchiatura. Il simbolo ✍, indica di consultare l'Appendice A per l'avviso di sicurezza nella propria lingua.

Viktig: Tillegg A inneholder oversatt sikkerhetsinformasjon for installering av dette utstyret. Når du ser ✍, åpner du til Tillegg A for å finne den oversatte sikkerhetsinformasjonen på ønsket språk.

Importante: O Anexo A contém advertências de segurança traduzidas para instalar este equipamento. Quando vir o símbolo ✍, leia a advertência de segurança traduzida no seu idioma no Anexo A.

Importante: El Apéndice A contiene mensajes de seguridad traducidos para la instalación de este equipo. Cuando vea el símbolo ✍, vaya al Apéndice A para ver el mensaje de seguridad traducido a su idioma.

Obs! Bilaga A innehåller översatta säkerhetsmeddelanden avseende installationen av denna utrustning. När du ser ✍, skall du gå till Bilaga A för att läsa det översatta säkerhetsmeddelandet på ditt språk.

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Welcome to Allied Telesyn

This guide contains instructions on how to install an AT-MC100 Series Fast Ethernet Media Converter.

Where to Find Web-based Guides

The Allied Telesyn web site at **www.alliedtelesyn.com** provides you with an easy way to access the most recent documentation and technical information for all of our products. For product guides, you can go directly to the following web page: **www.alliedtelesyn.com/support/prd_libs.htm**.

Document Conventions

This guide uses several conventions that you should become familiar with first before you begin to install the product.

Note
A note provides additional information.

Caution
A caution indicates that performing or omitting a specific action may result in equipment damage or loss of data.

Warning
A warning indicates that performing or omitting a specific action may result in bodily injury.

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Contacting Allied Telesyn Technical Support

There are several ways to contact Allied Telesyn technical support: online, telephone, fax or e-mail.

Online Support

You can request technical support online by filling out the Technical Support Form at **www.alliedtelesyn.com/forms/support.htm**.

Telephone or Fax Support

Americas
United States, Canada, Mexico, Central America, South America
Tel: 1 (800) 428-4835, option 4
Fax: 1 (503) 639-3176

Asia
Singapore, Taiwan, Thailand, Malaysia, Indonesia, Korea, Philippines, China, India, Hong Kong
Tel: (+65) 381-5612
Fax: (+65) 383-3830

Australia
Tel: 1 (800) 000-880
Fax: (+61) 2-9438-4966

France
France, Belgium, Luxembourg, The Netherlands, Middle East, Africa
Tel: (+33) 0-1-60-92-15-25
Fax: (+33) 0-1-69-28-37-49

Germany
Germany, Switzerland, Austria, Eastern Europe
Tel: (+49) 0130/83-56-66
Fax: (+49) 30-435-900-115

Italy
Italy, Spain, Portugal, Greece, Turkey, Israel
Tel: (+39) 02-416047
Fax: (+39) 02-419282

Japan
Tel: (+81) 3-3443-5640
Fax: (+81) 3-3443-2443

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United Kingdom, Denmark, Norway, Sweden, Finland
Tel: (+0044) 1235-442500
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Returning Products

Products for return or repair must first be assigned a Return Materials Authorization (RMA) number. A product sent to Allied Telesyn without a RMA number will be returned to the sender at the sender's expense.

To obtain an RMA number, contact Allied Telesyn's Technical Support at one of the following locations:

North America
2205 Ringwood Ave
San Jose, CA 95131
Tel: 1-800-428-4835, option 4
Fax: 1-503-639-3716

European Customer Support Centre
10/11 Bridgemead Close
Westmead Industrial Estate
Swindon, Wiltshire SN5 7YT
England
Tel: +44-1793-501401
Fax: +44-1793-431099

Latin America, the Caribbean, Virgin Islands
Tel: international code + 425-481-3852
Fax: international code + 425-483-9458

Mexico and Puerto Rico
Tel: 1-800-424-5012, ext 3852 or
1-800-424-4284, ext 3852
Mexico only:95-800-424-5012, ext 3852
Fax: international code + 425-489-9191

FTP Server

If you know the name of a specific driver that you need for an Allied Telesyn device, you can download the software by connecting directly to our FTP server at: **ftp://gateway.centre.com**.

At login, enter 'anonymous'. Enter your e-mail address for the password as requested by the server at login.

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Fax: 1 (408) 736-0100

Tell Us What You Think

If you have any comments or suggestions on how we might improve this or other Allied Telesyn documents, you can fill out the "AT-MC100 Series Installation Guide Feedback" on page 35 and return the form to us at the address or fax number provided. You can also provide feedback online by filling out the Send Us Feedback Form at **www.alliedtelesyn.com/forms/feedback.htm**.

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AT-MC100 Series Fast Ethernet Media Converters

The AT-MC100 Series Fast Ethernet Media Converters include the following models:

- ❑ AT-MC101XL
- ❑ AT-MC102XL
- ❑ AT-MC103XL
- ❑ AT-MC103LH
- ❑ AT-MC103SC/FS3
- ❑ AT-MC103ST/FS3
- ❑ AT-MC103SC/FS4
- ❑ AT-MC103ST/FS4

The AT-MC100 Series Fast Ethernet Media Converters are designed to extend the distance of your network by interconnecting LAN devices that are physically separated by large distances. Each media converter features a 100Base-TX twisted pair port and a 100Base-FX fiber optic port. The twisted pair port has an RJ-45 connector and a maximum distance of 100 meters (328 feet). The fiber optic port has an ST or SC connector and a maximum distance of 2 kilometers (1.2 miles) to 100 kilometers (62 miles), depending on the model. These units operate at 100 Mbps and feature half-duplex and full-duplex operation.

The media converters can be installed either as standalone units, such as on a table, or in an AT-MCR12 Rackmount Chassis or AT-TRAY4 Rackmount Tray. The AT-MC101, AT-MC102, and AT-MC103 Series Media Converters are easy to install and do not require any software configuration or management. Figure 1 shows an example of an AT-MC100 Series Media Converter.

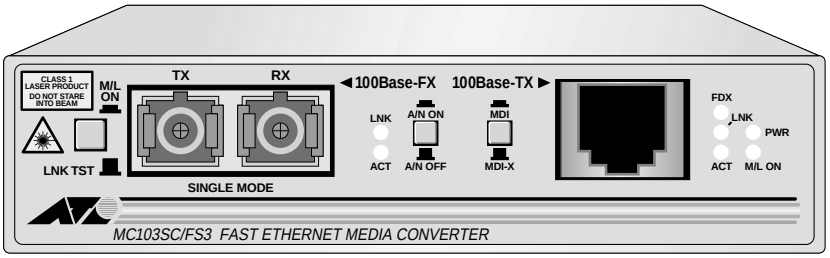


Figure 1 AT-MC103SC/FS3 Model

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Table 1 Maximum Cabling Distances

Model	Type of Connector		Maximum Distance[1]	
	Port 1 (100Base-FX)	Port 2 (100Base-TX)	Port 1 (100Base-FX)	Port 2 (100Base-TX)
AT-MC101XL	ST	RJ-45	2 km (1.2 mi)	100 m (328 ft)
AT-MC102XL	SC	RJ-45	2 km (1.2 mi)	100 m (328 ft)
AT-MC103XL	SC	RJ-45	15 km (9.3 mi)	100 m (328 ft)
AT-MC103LH	SC	RJ-45	40 km (24.8 mi)	100 m (328 ft)
AT-MC103SC/FS3	SC	RJ-45	75 km (46.5 mi)	100 m (328 ft)
AT-MC103ST/FS3	ST	RJ-45	75 km (46.5 mi)	100 m (328 ft)
AT-MC103SC/FS4	SC	RJ-45	100 km (62 mi)	100 m (328 ft)
AT-MC103ST/FS4	ST	RJ-45	100 km (62 mi)	100 m (328 ft)

1. Maximum distance may be less depending on the duplex mode of the end stations and the type of fiber optic cabling used with the port.

Key Features

The media converters have the following key features:

- ❑ LEDs for unit and port status
- ❑ MDI/MDI-X button
- ❑ Link Test/MissingLink™ button for performing a link test and notifies nodes of connection failures
- ❑ 100Base-TX twisted pair port operates in half- or full-duplex mode
- ❑ 100Base-FX fiber optic port operates in half- or full-duplex mode
- ❑ External AC/DC power adapter
- ❑ Standard size for use with an AT-MCR12 chassis or AT-TRAY4 tray

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Status LEDs

Table 2 defines the system LEDs.

Table 2 Status LEDs

LED	State	Color	Description
LNK	ON	Green	A link has been established on the port.
ACT	ON	Green	Data is being received on the port.
FDX	ON	Green	Indicates that the unit is operating in full-duplex mode.
	OFF		Indicates that the unit is operating in half-duplex mode.
PWR	ON	Green	Power is applied.
M/L ON	ON	Green	The MissingLink feature is activated on the media converter.
	OFF		The MissingLink feature is disabled and the media converter is operating in the link test mode.

MDI/MDI-X Button

The MDI/MDI-X button, located on the front of the unit, is a straight-through or crossover cable selection feature. It allows you to connect the RJ-45 port to a repeater or DTE device without using a special crossover cable. The default position is MDI-X (OUT), which means you can connect the RJ-45 port to a workstation or to any other DTE device using a straight-through cable.

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Link Test/MissingLink Button

The Link Test/MissingLink button allows you to perform a link test on the ports on the media converter. This button also allows you to activate the MissingLink feature on the unit. Both features are describe in the following section.

Link Test. The link test is a fast and easy way for you to test the connections between the ports on the media converter and the 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 on the fiber optic cable and node where the problem resides.

A link test is performed when the button is in the LNK TST (OUT) position. For instructions on performing a link test, refer to “Testing the Installation” on page 13.

Note
Performing a link test does not interfere with a media converter’s ability to pass network traffic.

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 a node, the media converter shuts down the connection to the other port, thus notifying the node that the connection has been lost.

For example, if the network twisted pair cable to the 100Base-TX port on the media converter were to fail, the media converter would respond by dropping the link on the 100Base-FX fiber optic port. In this way, the media converter notifies the end node connected to the fiber optic port that the connection on the twisted pair port has been lost. If the failure had started with the fiber optic cabling, the unit would drop the link to the twisted pair port.

The value to this type of network monitoring and fault notification is that some hubs and switches can be configured to take a specific action in the event of the loss of connection on a port. In some cases, the unit can be configured to seek a redundant path to a disconnected node or send out a trap to a network management station, and so alert the network administrator of the problem.

Note
The MissingLink feature is disabled when you perform a link test with the Link Test/MissingLink button. Consequently, to ensure that the MissingLink feature is activated on the media converter, always set the button to the M/L ON (IN) position during normal network operations.

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Auto-negotiation Button

The auto-negotiation button, located on the front panel, disables the auto-negotiation feature (IEEE 802.3u) of the media converter. The media converter uses auto-negotiation to determine the duplex mode of the ports. The duplex mode refers to the manner in which a node sends and receives data on the network. Depending on its capabilities, a node can operate in either half- or full-duplex mode. A node operating in half-duplex can either send or receive data, but not both at the same time. However, a node operating in full-duplex can send and receive data simultaneously. The best network performance is achieved when a node can operate in full-duplex mode.

In most configurations, you will want to leave the auto-negotiation button activated so the unit can determine the appropriate duplex mode, based on the capabilities of the end nodes. For example, the auto-negotiation feature on the media converter should be left activated in situations where both end nodes are also capable of auto-negotiation, or where both end nodes have been pre-set to the same mode or are capable of operating in only one duplex mode, such as half-duplex.

There is one situation where it may be necessary to disable the auto-negotiation feature, and that is to prevent a mismatch from occurring between the duplex modes of the end nodes. For example, Figure 2 shows two units that have been connected with a media converter. Unit 1 is a repeater that is capable of operating in half-duplex mode only. Unit 2 is a switch that can operate in either half- or full-duplex mode, and will auto-negotiation the duplex mode.

In attempting to auto-negotiate with Unit 1, the media converter will determine that the unit is capable of half-duplex only and will set the port connected to the unit appropriately. In auto-negotiating with Unit 2, the media converter will determine that the unit can manage full-duplex and will set the port connected to the unit to full-duplex. The result is a mismatch, with one unit operating in half-duplex and the other unit operating in full-duplex. This is referred to as a classic duplex mode mismatch and will result in poor network performance between the end nodes.



Figure 2 Example of a Duplex Mode Mismatch

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You can resolve the mismatch in one of two ways:

- ❑ Manually configure Unit 2, if possible, so that the port connected to the media converter is set to half-duplex.
- ❑ Disable auto-negotiation on the media converter using the auto-negotiation button. With auto-negotiation on the media converter disabled, Unit 2 will assume that the converter is capable of only half-duplex operation, thus eliminating the mismatch in duplex modes between the end stations.

External AC/DC Power Adapter

An external AC-to-DC power adapter is included with the media converter for standalone operation (see Figure 3). The power adapter supplies 12 volts DC to the media converter. Allied Telesyn supplies an approved safety compliant AC power adapter for the 120 and 240 V AC versions with an unregulated output of 12 V DC at 1 A. The power required for the media converter is 12 V DC, 500 mA.

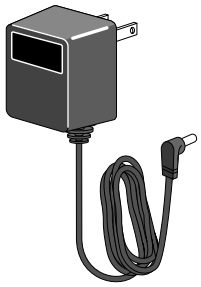


Figure 3 External AC/DC Power Adapter (North American version)

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Network Topologies

Figure 4 shows a network configuration where two AT-8224XL switches have been interconnected with an AT-MC102XL Media Converter.

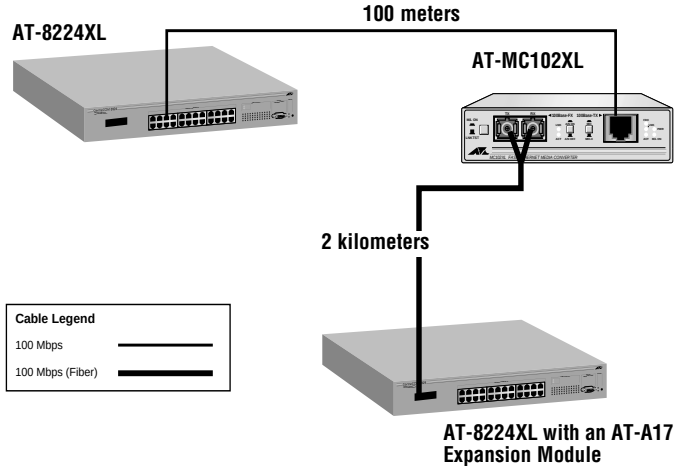


Figure 4 Standalone Configuration

Figure 5 shows two media converters in a back-to-back configuration.

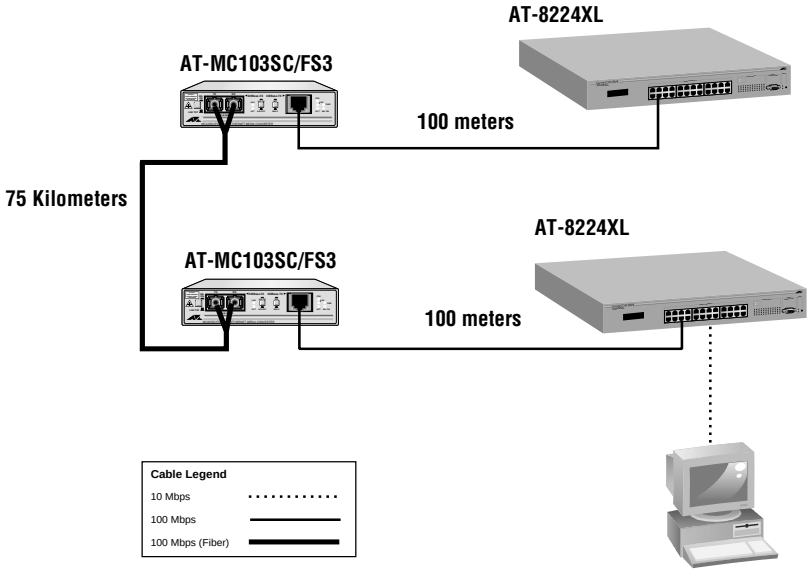


Figure 5 Back-to-Back Configuration

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Installing the Media Converter

The following section explain how to install the media converter. The media converter can be installed either as a standalone unit (such as on a table) or in an AT-MCR12 chassis or in an AT-TRAY4 tray.

Planning the Installation

Be sure to observe the following guidelines when planning the installation of your media converter.

- ❑ The nodes connected to the media converter must operate at 100 Mbps.
- ❑ The two nodes connected to the ports of the media converter must operate with the same duplex mode, either half- or full-duplex. The media converter itself can operate in either mode.
- ❑ The devices connected to the two ports on the media converter can be network adapter cards, repeaters, switches, or routers.
- ❑ Be sure to observe the appropriate cabling specifications. Refer to "Cable Specifications" on page 8.

Cable Specifications

Table 3, Table 4, and Table 5 list the IEEE 802.3u cabling specifications for the AT-MC100 Series Media Converters.

Table 3 100Base-TX Twisted Pair Specifications

Cable Type	Maximum Distance
Shielded or unshielded Category 5 or better	100 m (328 ft)

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Table 4 100Base-FX Fiber Optic Port Specifications (Full-duplex)

Model	Type of Fiber Optic Cable	Maximum Distance	Maximum Allowable Loss Budget
AT-MC101XL	50/125 or 62.5/125 micron multimode	2 km (1.2 mi)	13 dB at 1310 nm
AT-MC102XL	50/125 or 62.5/125 micron multimode	2 km (1.2 mi)	13 dB at 1310 nm
AT-MC103XL	9/125 micron single-mode	15 km (9.3 mi)	16 dB at 1310 nm
AT-MC103LH	9/125 micron single-mode	40 km (24.8 mi)	16 dB at 1310 nm
AT-MC103SC/FS3	9/125 micron single-mode	75 km (46.5 mi)[1]	33 dB at 1310 nm
AT-MC103ST/FS3	9/125 micron single-mode	75 km (46.5 mi)[1]	33 dB at 1310 nm
AT-MC103SC/FS4	9/125 micron single-mode	100 km (62 mi)[2]	34 dB at 1550 nm
AT-MC103ST/FS4	9/125 micron single-mode	100 km (62 mi)[2]	34 dB at 1550 nm

1. The media converter has a minimum operating distance of 15 km (9.4 mi). This is to prevent blinding or burning out of the optical receiver on the far-end node.
2. The media converter has a minimum operating distance of 40 km (24.8 mi). This is to prevent blinding or burning out of the optical receiver on the far-end node.

Table 5 100Base-FX Fiber Optic Port (Half-duplex)[1]

Number of Media Converters	Connected Devices	Maximum Distance
One Media Converter Inline	Switch to Switch	372 m (1,221 ft)
	Workstation to Switch	372 m (1,221 ft)
	Switch to Class I Repeater	137 m (450 ft)
	Switch to Class II Repeater	185 m (607 ft)
Two Media Converters Inline	Switch to Switch	332 m (1,089 ft)
	Workstation to Switch	332 m (1,089 ft)
	Switch to Class I Repeater	97 m (318 ft)
	Switch to Class II Repeater	145 m (476 ft)

1. The total distance of all fiber lengths cannot exceed the limits stated in the table. Each media converter used inline within a single collision domain reduces the overall segment length by 40 meters (131 feet).

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Verifying the Package Contents

Make sure the following items are included in your media converter package. If any of the following items are missing or damaged, contact your sales representative.

- ❑ One AT-MC100 Series Fast Ethernet Media Converter
- ❑ Four protective feet (for standalone use only)
- ❑ External AC/DC power adapter
- ❑ This installation guide
- ❑ Warranty card

Reviewing Safety Precautions

Please review the following safety precautions before you begin to install the media converter.



Warning
Class 1 laser product. ↷ **6**



Warning
Do not stare into the laser beam. ↷ **7**



Warning
Lightning Danger: Do not work on equipment or cables during periods of lightening activity. ↷ **8**



Caution
Do not block air vents. ↷ **9**



Caution
Power to the hub must be sourced only from the adapter. ↷ **10**



Caution
Operating Temperature: This product is designed for a maximum ambient temperature of 40°C. ↷ **11**



Caution
All Countries: Install this product in accordance with local and National Electric Codes. ↷ **12**

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Installing the Media Converter

The following procedure explains how to install the media converter as a standalone unit.

If you are building a back-to-back installation, please review the following. See Figure 5 for an illustration of a back-to-back-media converter configuration.

- ❑ During installation, setup, and testing of back-to-back media converters, make sure each media converters Link Test/MissingLink button is in the LNK TST (OUT) position.
- ❑ When two media converters are connected back-to-back with no UTP/STP cables connected and when the LNK TST button is in the OUT position (link test mode), the ACT LEDs on the fiber port may flash. This is normal and will not affect the normal operation of the units.

To install the unit, perform the following procedure:

1. Remove all equipment from the package and store the packaging material in a safe place.
2. If you are installing the unit on a desktop, attach the four rubber feet to the base of the unit, placing one rubber foot in each corner. If you are installing the unit in an AT-MCR12 chassis or AT-TRAY4 tray, do not attach the rubber feet.
3. Set the Link Test/MissingLink button to LNK TST (OUT) position.
4. Set the auto-negotiation feature as follows:
   - — If both end nodes will use auto-negotiation to determine the duplex mode, or if both are pre-set to operate with the same duplex mode, such as half-duplex, set the switch to the A/N ON (IN) position. This is the default setting.
   - — If one end node is capable of operating at only half-duplex mode while the other node will determine its duplex mode through auto-negotiation, set the switch to the A/N OFF (OUT) position.
5. If you are installing the unit in an AT-MCR12 chassis or AT-TRAY4 tray, refer to the appropriate installation guide for instructions on how to install the media converter into the unit.

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6. Plug the AC/DC power adapter into an appropriate AC power outlet and insert the power plug into the DC receptacle located on the rear panel. (This step does not apply if you installed the unit in an AT-MCR12 chassis.)

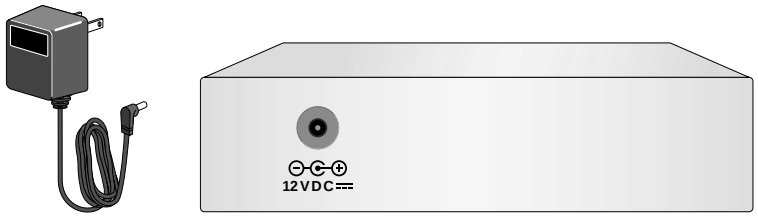


Figure 6 12 V DC Connector on Rear Panel

7. Verify that the Power LED is green.

8. Remove the dust cover from the fiber optic connector.

9. Connect the fiber optic cable to the fiber optic port on the media converter.

10. Connect the other end of the fiber cable to the desired end station.

Note
End stations used with the media converter must operate with the same duplex mode (either both full-duplex or both half-duplex).

---

11. Set the MDI/MDI-X feature as follows:

    — If you are connecting a workstation to the twisted pair port on the media converter, set the MDI/MDI-X button to the MDI-X (OUT) position. MDI-X is the default position.

    — If you are connecting a hub, switch, or another media converter to the twisted pair port, set the MDI/MDI-X switch to the MDI (IN) position. Refer to Figure 7 for the location of the MDI/MDI-X button.

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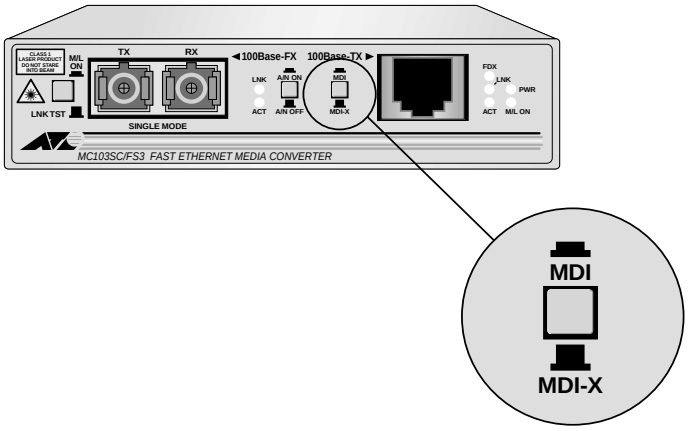


Figure 7 MDI/MDI-X Switch

12. Connect a Category 5 or better twisted pair cable to the RJ-45 connector. Connect the other end of the twisted pair cable to the desired end station.

Go to "Testing the Installation" on page 13 for instructions on how to test the unit.

Testing the Installation

This procedure explains how to test the media converter by performing a link test. A link test will determine whether each port on the media converter is successfully receiving a signal from the node connected to it. You should perform this test immediately after you have installed the media converter or whenever you are experiencing a problem with the unit. To perform a link test, perform these steps:

1. Verify that the Power LED on the media converter is green. If the LED is OFF, check the following:

   — If installed as a standalone unit, check to be sure that the adapter cable is securely connected to the back of the media converter and that the power adapter is securely connected to a power outlet.

   — If installed in an AT-MCR12 chassis, check that the unit is fully seated in the slot.

   — Verify that the power outlet has power by connecting another device to it.

   — Try using another power adapter.

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2. Turn ON the nodes (such as the hubs or switches) that are connected to the media converter.

3. Set the Link Test/MissingLink button on the media converter to the LNK TST (IN) position.

4. Check the two LNK LEDs. They should be green, indicating that the media converter is receiving a signal from the nodes connected to the ports. If the LNK LED is not green, check the following:

   — The node connected to the port is powered ON.

   — The fiber optic cable is securely connected to the fiber optic port.

   — The appropriate type of fiber optic cable for the port is being used. Refer to Table 3 through Table 5 for cable specifications.

   — The maximum allowable loss budget for the fiber optic cable has not been exceeded.

5. If the two LNK LEDs are green but there is a communication problem between the nodes connected to the media converter (and you are not running a link test), check the following:

   — The nodes connected to the ports are operating at 100 Mbps.

   — The nodes connected to the media converter are operating in the same duplex mode. The media converter is transparent to the duplex mode. (Check to be sure that the auto-negotiation button is set correctly. Refer to “Auto-negotiation Button” on page 5.)

   — The Link Test/MissingLink button on the media converter is in the M/L ON (IN) position.

   — Check that the maximum allowable loss budget for the fiber optic cable has not been exceeded.

6. Set the Link Test/MissingLink button on the media converter to M/L ON (IN) position. The M/L ON position activates the MissingLink feature on the media converter.

Note
When operating two media converters in a back-to-back configuration, it is recommended that the MissingLink feature on one or both of the converters be disabled. The MissingLink feature can be disabled by placing the LNK TST to the OUT position. Disabling the MissingLink feature does not interfere with the converter’s ability to pass network traffic.

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If you are still experiencing problems after testing the installation, contact Allied Telesyn Technical Support. Technical support is offered online, telephone, fax or e-mail.

Refer to "Contacting Allied Telesyn Technical Support" on page viii or visit our web site at **www.alliedtelesyn.com** for support information.

Warranty Registration

When you finish the installation, register your product by completing the enclosed warranty card and sending it in. You can also visit our web site at **www.alliedtelesyn.com/forms/warranty.htm** and fill out the registration online.

Technical Specifications

Physical Specifications

Dimensions:	W x D x H 10.5 cm x 9.5 cm x 2.5 cm (4.125 in x 3.75 in x 1.0 in)
Maximum Operating Temperature:	0° C to 40° C (32° F to 104° F)
Maximum Storage Temperature:	-20° C to 60° C (-4° F to 140° F)
Operating Altitude:	Up to 3,048 meters (10,000 feet)
Humidity:	5% to 95% (non-condensing)

Agency Certifications

EMI/RFI:	FCC Class B, EN55022 Class B, VCCI Class B
Safety:	UL 950, CSA 22.2 No. 950, TUV (EN60950), CE Compliant
Immunity:	EN50082-1 1997 Immunity Standard

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Power Requirements

Input Supply Voltage: 12 V DC ± 5%

Maximum Current: 500 mA

Power Consumption: 6 W

100Base-FX Port Specifications

Table 6 Fiber Optic Transmitter

Model	Fiber Type[1]	Fiber Optic Diameter (microns)	Optical Frequency (nm)	Launch Power (dBm)[2]		
				Max.	Avg.	Min.
AT-MC101XL and AT-MC102XL	MMF	50/125	1310 nm	-14.0	-20.3	-22.5
	MMF	62.5/125	1310 nm	-14.0	-16.8	-19.0
AT-MC103XL	SMF	9/125	1310 nm	-8.0	-11.5	-15.0
AT-MC103LH	SMF	9/125	1310 nm	0.0	-3.0	-5.0
AT-MC103SC/FS3 and AT-MC103ST/FS3	SMF	9/125	1310 nm	0.0	-2.0	-4.0
AT-MC103SC/FS4 and AT-MC103ST/FS4	SMF	9/125	1550 nm	0.0	-1.5	-3.0

1. MMF = Multimode Fiber / SMF = Single-mode Fiber
2. The launch power is measured at one meter from the transmitter.

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Table 7 Fiber Optic Receiver

Model	Fiber Type[1]	Fiber Optic Diameter (microns)	Optical Frequency (nm)	Receive Power (dBm)		
				Min.	Typical	Saturation
AT-MC101XL and AT-MC102XL	MMF	50/125 or 62.5/125	1310 nm	-31.8	-34.5	-14.0
AT-MC103XL	SMF	9/125	1310 nm	-31.0	-31.0	-8.0
AT-MC103LH	SMF	9/125	1310 nm	-35.0	-38.0	0.0
AT-MC103SC/FS3 and AT-MC103ST/FS3	SMF	9/125	1310 nm	-37.0	-37.0	-3.0
AT-MC103SC/FS4 and AT-MC103ST/FS4	SMF	9/125	1550 nm	-37.0	-37.0	-3.0

1. MMF = Multimode Fiber / SMF = Single-mode Fiber

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Table 8 Fiber Optic Datalink

Model	Fiber Type[1]	Minimum Power / Link Budget (dB)	Average Signal Loss (dB)	Minimum Distance Spec.[2]	Maximum Distance Spec.
AT-MC101XL and AT-MC102XL	50/125 MMF	13.00	18.70	0	2 km (1.2 mi)
	62.5/125 MMF	16.80	22.50	0	2 km (1.2 mi)
AT-MC103XL	9/125 SMF	16.00	19.50	0	15 km (9.4 mi)
AT-MC103LH	9/125 SMF	30.00	35.00	0	40 km (24.8 mi)
AT-MC103SC/FS3 and AT-MC103ST/FS3	9/125 SMF	33.00	35.00	15 km (9.4 mi)	75 km (46.5 mi)
AT-MC103SC/FS4 and AT-MC103ST/FS4	9/125 SMF	34.00	35.50	40 km (24.8 mi)	100 km (62 mi)

1. MMF = Multimode Fiber / SMF = Single-mode Fiber
2. The recommended minimum range is stated in all cases where the maximum transmitter output power exceeds the receivers saturation level. This is to prevent blinding or burning out of the optical receiver on the far-end node.

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Table 9 Fiber Optic Loss Specifications (Benchmarks)

Fiber Type[1]	Fiber Optic Diameter (microns)	Optical Frequency	Typical Loss Factor (dB/km)	Worst Case Loss Factor (dB/km)	Bandwidth (Mhz-km)
MMF	50/125	850 nm	3.00	3.50	400
	50/125	1310 nm	1.00	1.50	400
	62.5/125	850 nm	3.00	3.75	200
	62.5/125	1310 nm	1.00	1.50	500
	100/140	850 nm	4.00	4.00	100
SMF	9/125	1310 nm	0.40	1.00	N/A
	9/125	1550 nm	0.30	0.75	N/A

1. MMF = Multimode Fiber / SMF = Single-mode Fiber

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Appendix A

Translated Electrical Safety and Emission Information

Important: This appendix contains multiple-language translations for the safety statements in this guide.

Wichtig: Dieser Anhang enthält Übersetzungen der in diesem Handbuch enthaltenen Sicherheitshinweise in mehreren Sprachen.

Vigtigt: Dette tillæg indeholder oversættelser i flere sprog af sikkerhedsadvarslerne i denne håndbog.

Belangrijk: Deze appendix bevat vertalingen in meerdere talen van de veiligheidsopmerkingen in deze gids.

Important: Cette annexe contient la traduction en plusieurs langues des instructions de sécurité figurant dans ce guide.

Tärkeää: Tämä liite sisältää tässä oppaassa esiintyvät turvaohjeet usealla kielellä.

Importante: questa appendice contiene traduzioni in più lingue degli avvisi di sicurezza di questa guida.

Viktig: Dette tillegget inneholder oversettelser til flere språk av sikkerhetsinformasjonen i denne veiledningen.

Importante: Este anexo contém traduções em vários idiomas das advertências de segurança neste guia.

Importante: Este apéndice contiene traducciones en múltiples idiomas de los mensajes de seguridad incluidos en esta guía.

Obs! Denna bilaga innehåller flerspråkiga översättningar av säkerhetsmeddelandena i denna handledning.

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Standards: This product meets the following standards.

U.S. Federal Communications Commission

DECLARATION OF CONFORMITY

Manufacture Name:	Allied Telesyn International, Corp.
Manufacture Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94086 USA
Manufacture Telephone:	408-730-0950
Declares that the Product:	Fast Ethernet Media Converters
Model Numbers:	AT-MC101XL, AT-MC102XL, AT-MC103XL, AT-MC103LH, AT-MC103SC/FS3, AT-MC103ST/FS3 AT-MC103SC/FS4, AT-MC103ST/FS4

This product complies with FCC Part 15B, Class B Limits:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIATED ENERGY

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on; the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Warning: This product requires only Category 3, 4, or 5 shielded twisted-pair cable for all 10 Mbps RJ-45 connections, and Category 5 shielded twisted-pair for all 100 Mbps RJ-45 connections to comply with Class B emission limits. If not used with shielded cables, this product may cause radio interference in which case the user may be required to take adequate measures to reduce interference levels.

Industry Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

✍ **1**	**RFI Emission**	EN55022 Class B
✍ **2**	**Immunity**	EN50082-1 1997

✍ **3** **WARNING**: This product requires shielded cables to comply with emission and immunity standards. If it is used with unshielded cables, the user may be required to take measures to correct the interference problem at their own expense.

✍ **4**	**Electrical Safety**	TUV-EN60950, UL1950, CSA 950

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SAFETY

5  **Laser** EN60825

6  **Warning** Class 1 Laser product.

7  **Warning** Do not stare into the Laser beam.

At time of installation, the Fiber Optic Lasers comply with FDA Radiation Performance Standard 21CFR Subchapter J, applicable at date of manufacture. Use of controls or adjustments of performance or procedures other than those specified herein may result in hazardous radiation exposure.

8  **LIGHTNING DANGER**
DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY.

9  DO NOT BLOCK AIR VENTS

10  Power to the hub must be sourced only from the adapter.

USA/CANADA
Use a UL Listed/CSA Certified AC adapter of DC 12V, 500mA.

EUROPE - EU
Use TÜV licensed AC adapter of DC 12V, 500mA.

UK
Use a UK Safety Approved AC adapter of DC 12V, minimum 500mA.

11  **OPERATING TEMPERATURE**
This product is designed for a maximum ambient temperature of 40 degrees C.

12  **ALL COUNTRIES**: Install product in accordance with local and National Electrical Codes.

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Normen: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.

1 **Hochfrequenzstörung** EN55022 Klasse B

2 **Störsicherheit** EN50082-1 1997

3 **ACHTUNG**: Für dieses Produkt sind abgeschirmte Kabel erforderlich, damit den Richtlinien für Emission und Interferenzschutz entsprochen wird. Falls das Produkt mit nicht abgeschirmten Kabeln verwendet wird, können weitergehende Maßnahmen für die Korrektur von Interferenzproblemen auf Kosten des Benutzers notwendig werden.

4 **Elektrische Sicherheit** TUV-EN60950, UL1950, CSA 950

SICHERHEIT

5  **Laser** EN60825

6  **Warnung** Laserprodukt der Klasse 1.

7  **Warnung** Nicht direkt in den Strahl blicken.

8  **GEFAHR DURCH BLITZSCHLAG**
GEFAHR: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen

9  ENTLÜFTUNGSÖFFNUNGEN NICHT VERSPERREN

10  Der Buchse darf nur aus dem Adapter Strom zugeführt werden.

EUROPE - EU
Gebrauchen Sie einen von TÜV zugelassenen Wechselstromadapter für Gleichstrom 12 V, 500 mA.

11  **BETRIEBSTEMPERATUR**
Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.

12  **ALLE LÄNDER**: Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

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Standarder: Dette produkt tilfredsstiller de følgende standarder.

1 **Radiofrekvens forstyrrelsesemission** EN55022 Klasse B

2 **Immunitet** EN50082-1 1997

3 **ADVARSEL**: Dette produkt skal bruges med afskærmede kabler for at overholde bestemmelserne vedrørende udstråling og støjimmunitet. Hvis det bruges med uafskærmede kabler, kan det blive påkrævet af brugeren at korrigere interferensproblemer for egen regning.

4 **Elektrisk sikkerhed**. TUV-EN60950, UL1950, CSA 950

SIKKERHED

5  **Laser** EN60825

6  **Advarsel** Laserprodukt av klasse 1.

7  **Advarsel** Stirr ikke på strålen.

8  **FARE UNDER UVEJR**
FARE: UNDLAD at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.

9  VENTILATIONSÅBNINGERNE MÅ IKKE BLOKERES

10  Strømforsyningen til apparatet må udelukkende tages fra tilpasningstransformatoren.

EUROPE - EU
Brug kun TÜV godkendt vekselstrømstransformator på 12 V jævnstrøm, 500 mA.

11  **BETJENINGSTEMPERATUR**
Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.

12  **ALLE LANDE**: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

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Eisen: Dit product voldoet aan de volgende eisen.

✍ **1** **RFI Emissie** EN55022 Klasse B

✍ **2** **Immuniteit** EN50082-1 1997

✍ **3** **WAARSCHUWING**: Om te voldoen aan de emissie- en immuniteitsnormen dient dit apparaat te zijn voorzien van afgeschermde kabels. Als het met niet-afgeschermde kabels wordt gebruikt, kan het zijn dat de gebruiker maatregelen moet treffen om interferentieproblemen voor eigen rekening op te lossen.

✍ **4** **Electrische Veiligheid** TUV-EN60950, UL1950, CSA 950

VEILIGHEID

✍ **5**  **Laser** EN60825

✍ **6**  **Waarshuwing** Klasse-1 laser produkt.

✍ **7**  **Waarchuwing** Neit in de straal staren.

✍ **8**  **GEVAAR VOOR BLIKSEMINSLAG**
GEVAAR: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.

✍ **9**  VENTILATIEGATEN NIET BLOKKEREN

✍ **10**  Stroom mag alleen via de adapter naar het apparaat toegevoerd worden.

EUROPE - EU
Gebruik een door TÜV gekeurde wisselstroomadapter van 12 Volt gelijkstroom, 500 milliampères.

✍ **11**  **BEDRIJFSTEMPERATUUR**
De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.

✍ **12**  **ALLE LANDEN**: het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

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Normes: ce produit est conforme aux normes de suivantes.

1	**Emission d'interférences radioélectriques**	EN55022 Classe B
2	**Immunité**	EN50082 - 1 1997

3 **AVERTISSEMENT**: Il faut utiliser des câbles blindés pour ce produit afin de respecter les normes d'émission et d'immunité. Si l'utilisateur choisit d'utiliser des câbles non blindés, il sera peut-être contraint de prendre les mesures nécessaires pour corriger les problèmes d'interférences, ainsi que d'assumer le coût correspondant.

4	**Sécurité électrique**	TUV-EN60950, UL1950, CSA 950

SÉCURITÉ

5	**Laser**	EN60825

6  **Attention** Producit laser di classe 1.

7  **Attention** Ne pas fixer le faisceau des yeux.

8  **DANGER DE FOUDRE**
DANGER: NE PAS MANIER le matériel ou les CÂBLES lors d'activité orageuse.

9  NE PAS BLOQUER LES FENTES D'AÉRATION

10  L'alimentation du concentrateur doit être uniquement fournie par l'adaptateur.

EUROPE - EU
Utiliser un adaptateur secteur conforme TÜV de 12 V, 500 mA en courant continu.

11  **TEMPÉRATURE DE FONCTIONNEMENT**
Ce matériel est capable de tolérer une température ambiante maximum de 40 degrés Celsius.

12  **POUR TOUS PAYS**: Installer le matériel conformément aux normes électriques nationales et locales.

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Standardit: Tämä tuote on seuraavien standardien mukainen.

✍ **1** **Radioaaltojen häirintä** EN55022 Luokka B

✍ **2** **Kestävyys** EN50082-1 1997

✍ **3** **VAROITUS**: Tämä tuote vaatii suojattuja kaapeleita toimiakseen emissio- ja häiriönsietostandardien mukaisesti. Jostuotetta käytetään ilman suojattuja kaapeleita, käyttäjä voi joutua korjaamaan häirinnän aiheuttaman ongelman omallakustannuksellaan.

✍ **4** **Sähköturvallisuus** TUV-EN60950, UL1950, CSA 950

TURVALLISUUS

✍ **5**  **Laser** EN60825

✍ **6**  **Varoitus** Luokan 1 Lasertuote.

✍ **7**  **Variotus** Älä katso säteeseen.

✍ **8**  **SALAMANISKUVAARA**
ENGENVAARA: ÄLÄ TYÖSKENTELE laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.

✍ **9**  ÄLÄ TUKI ILMAREIKIÄ

✍ **10**  Tähtipisteeseen (hub) syötettävän virran pitää tulla ainoastaan sovittimesta.

EUROPE - EU
Käytä TÜV-lisenssillä valmistettua verkkosovitinta, jonka tasajännitteen nimellisarvot ovat DC 12 V, 500 mA (milliampeeria).

✍ **11**  **KÄYTTÖLÄMPÖTILA**
Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40° C.

✍ **12**  **KAIKKI MAAT**: Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

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Standard: Questo prodotto è conforme ai seguenti standard.

1	**Emissione RFI (interferenza di radiofrequenza)**	EN55022 Classe B
2	**Immunità**	EN50082-1 1997

3 **AVVERTENZA**: questo prodotto, se utilizzato con cavi schermati, è conforme alle norme sulle emissioni e sull'immunità. In caso di uso senza cavi schermati, l'utente può dover adottare a proprie spese misure correttive contro le interferenze.

4	**Sicurezza elettrica**	TUV-EN60950, UL1950, CSA 950

NORME DI SICUREZZA

5	**Laser**	EN60825

6  **Avvertenza** Prodotto laser di Classe 1.

7  **Avvertenza** Non fissare il raggio con gli occhi.

8  **PERICOLO DI FULMINI**
PERICOLO: NON LAVORARE sul dispositivo o sui CAVI durante PRECIPITAZIONI TEMPORALESCHE.

9  NON OSTRUIRE LE PRESE D'ARIA

10  Questo dispositivo deve essere alimentato solo mediante l'adattatore.

EUROPE - EU
Utilizzare l'adattatore per c.a. da 12 V c.c. e 500 mA conforme alla normativa TÜV.

11  **TEMPERATURA DI FUNZIONAMENTO**
Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.

12  **TUTTI I PAESI**: installare il prodotto in conformità delle vigenti normative elettriche nazionali.

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Sikkerhetsnormer: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

1	**RFI stråling**	EN55022 Klasse B
2	**Immunitet**	EN50082-1 1997

3 **ADVARSEL**: Dette produktet må brukes med vernede kabler for å tilfredsstille emisjons- og fritakelsesstandarder. Dersom produktet brukes med uvernede kabler, må brukeren muligens rette forstyrrelsesproblemene for egen regning.

4	**Elektrisk sikkerhet**	TUV-EN60950, UL1950, CSA 950

SIKKERHET

5	**Laser**	EN60825



6 **ADVARSEL** Laserprodukt av klasse 1.



7 **ADVARSAL** Stirr ikke på strålen.



8 **FARE FOR LYNNEDSLAG**
FARE: ARBEID IKKE på utstyr eller KABLER i TORDENVÆR.



9 BLOKKER IKKE LUFTVENTILENE



10 All strømtilførsel må komme fra adapteren.

EUROPE - EU
Benytt TÜV-godkjent AC-adapter på 12V DC, 500mA (millismpere)



11 **DRIFTSTEMPERATUR**
Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.



12 **ALLE LAND**: Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

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Padrões: Este produto atende aos seguintes padrões.

1 **Emissão De Interferência De Radiofrequência** EN55022 Classe B

2 **Imunidade** EN50082-1 1997

3 **ADVERTÊNCIA**: Este produto requer a utilização de cabos blindados para cumprimento dos standards de limites de emissão e imunidade. Se o produto for utilizado com cabos não blindados, o utilizador poderá necessitar de tomar medidas para correcção de problemas de interferência, por sua própria conta.

4 **Segurança Eléctrica** TUV-EN60950, UL1950, CSA 950

SEGURANÇA

5  **Laser** EN60825

6  **Aviso** Produto laser de classe 1.

7  **Aviso** Não olhe fixamente para o raio.

8  **PERIGO DE CHOQUE CAUSADO POR RAIO**
PERIGO: NÃO TRABALHE no equipamento ou nos CABOS durante períodos suscetíveis a QUEDAS DE RAIO.

9  NÃO BLOQUEIE AS ABERTURAS DE VENTILAÇÃO

10  Use somente o adaptador fornecido para alimentação elétrica do hub.

EUROPE - EU
Use um adaptador de corrente alternada com saída DC de 12V e 500mA em conformidade com as especificações da TÜV.

11  **TEMPERATURA DE FUNCIONAMENTO**
Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.

12  **TODOS OS PAÍSES**: Instale o produto de acordo com as normas nacionais e locais para instalações elétricas.

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Estándares: Este producto cumple con los siguientes estándares.

1	**Emisión RFI**	EN55022 Clase B
2	**Inmunidad**	EN50082-1 1997

3 **ADVERTENCIA**: Este producto exige cables protectores para ajustarse a las normas de emisión e inmunidad. Si se utiliza con cables sin protección, el usuario tendrá que correr con los gastos por las medidas a tomar en caso de problemas de interferencias.

4	**Seguridad eléctrica**	TUV-EN60950, UL1950, CSA 950

SEGURIDAD

5	**Laser**	EN60825

6  **¡ADVERTENCIA!** Producto láser Clase 1.

7  **¡ADVERTENCIA!** No mirat fijamente el haz.

8  **PELIGRO DE RAYOS**
ELIGRO: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION en los equipos o en LOS CABLES duranteTORMENTAS ELECTRICAS.

9  NO BLOQUEE LAS ABERTURAS PARA VENTILACION

10  La energía para el dispositivo central o "hub" debe provenir únicamente del adaptador.

EUROPE - EU
Utilizar un adaptador de corriente alterna autorizado TÜV de 12 voltios de corriente continua y 500 miliamperios.

11  **TEMPERATURA REQUERIDA PARA LA OPERACIÓN**
Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.

12  **PARA TODOS LOS PAÍSES**: Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

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Standarder: Denna produkt uppfyller följande standarder.

1 **Radiostörning** EN55022 Klass B

2 **Immunitet** EN50082-1 1997

3 **VARNING**! Denna produkt kräver skärmade kablar för att uppfylla standardkraven för emission och immunitet. Om den används med oskärmade kablar kan användaren vara tvungen att vidta åtgärder på egen bekostnad för att åtgärda störningsproblemet.

4 **Elsäkerhet** TUV-EN60950, UL1950, CSA 950

SÄKERHET

5  **Laser** EN60825

6  **VARNING!** Laserprodukt av klass 1.

7  **VARNING!** Laserstrålning när enheten är öppen.

8  **FARA FÖR BLIXTNEDSLAG**
FARA: ARBETA EJ på utrustningen eller kablarna vid ÅSKVÄDER.

9  BLOCKERA INTE LUFTVENTILERN

10  Endast anslutningsenheten får vara kraftkälla till centralen.

EUROPE - EU
Använd en växelströmsanslutningsenhet licensierad av TÜV. Likström 12V, 500mA.

11  **DRIFTSTEMPERATUR**
Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.

12  **ALLA LÄNDER**: Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.

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Appendix B

AT-MC100 Series Installation Guide Feedback

Please tell us what additional information you would like to see discussed in this guide. If there are topics you would like information on that were not covered in this guide, please photocopy this page, answer the questions and fax or mail this form back to Allied Telesyn. The mailing address and fax number are at the bottom of the page. Your comments are valuable when we plan future revisions of this guide.

I found the following the most valuable _____

_____

_____

_____

_____

I would like the following more developed _____

_____

_____

_____

_____

I would find this guide more useful if _____

_____

_____

_____

_____

Please fax or mail your feedback. Fax to 1-408-736-0100. Or mail to:
Allied Telesyn International, Corp.
c/o Technical Communications
960 Stewart Drive, Suite B
Sunnyvale, CA 94086 USA

PN 613-10771-00 Rev D

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Appendix C

Technical Support Fax Order

Name _____

Company _____

Address _____

City _____ State/Province _____

Zip/Postal Code _____ Country _____

Phone _____ Fax _____

Incident Summary

Model number of Allied Telesyn product I am using _____

Firmware release number of Allied Telesyn product _____

Other network software products I am using (e.g., network managers)

_____

_____

Brief summary of problem _____

_____

Conditions (List the steps that led up to the problem.) _____

_____

_____

_____

_____

_____

_____

Detailed description (Please use separate sheet)

Please also fax printouts of relevant files such as batch files and configuration files. When completed, fax this sheet to the appropriate Allied Telesyn office. Fax numbers can be found on page viii.

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