AT-MC1008/GB
AT-MC1008/SP

Gigabit Media Converters

Installation Guide

PN 613-50654-00 Rev B

Electrical Safety and Emission Compliance Statement

Standards: This product meets the following standards.

U.S. Federal Communications Commission

Declaration of Conformity

Radiated Energy

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note: Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

Industry Canada

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

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

RFI Emissions	FCC Class A, EN55022 Class A, C-TICK, CE
Immunity	EN55024
Electrical Safety	EN60950 (TUV), UL 60950 ($_{C}UL_{US}$)
Laser Safety	EN60825

Warning: Class 1 Laser product. **1**

Warning: Do not stare into the Laser beam. **2**

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

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

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

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

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

Важно: Приложение C содержит переведенную инструкцию по безопасности при установке данного устройства. Если Вы встретите ☞, перейдите к Приложению C для получения переведенной инструкции по безопасности.

Contents

Preface

This guide contains instructions on how to install the AT-MC1008 Series Gigabit Media Converter and contains the following sections:

Safety Symbols Used in this Document

This document uses the safety symbols defined in Table 1.

Table 1. Safety Symbols

Symbol	Meaning	Description
	Caution	Performing or omitting a specific action may result in equipment damage or loss of data.
	Warning	Performing or omitting a specific action may result in electrical shock.

Where to Find Web-based Guides

The installation and user guides for all Allied Telesyn products are available in portable document format (PDF) on our web site at **www.alliedtelesyn.com**. You can view the documents online or download them onto a local workstation or server.

Contacting Allied Telesyn

This section provides Allied Telesyn contact information for technical support as well as sales and corporate information.

Online Support

You can request technical support online by accessing the Allied Telesyn Knowledge Base: **http://kb.alliedtelesyn.com**. You can use the Knowledge Base to submit questions to our technical support staff and review answers to previously asked questions.

Email and Telephone Support

For Technical Support via email or telephone, refer to the Support & Services section of the Allied Telesyn web site: **www.alliedtelesyn.com**.

Returning Products

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To obtain an RMA number, contact Allied Telesyn Technical Support through our web site: **www.alliedtelesyn.com**.

Sales or Corporate Information

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Management Software Updates

New releases of management software for our managed products are available from either of the following Internet sites:

- Allied Telesyn web site: **www.alliedtelesyn.com**
- Allied Telesyn FTP server: **ftp://ftp.alliedtelesyn.com**

If you prefer to download new software from the Allied Telesyn FTP server from your workstation's command prompt, you will need FTP client software and you must log in to the server. Enter "anonymous" for the user name and your email address for the password.

Chapter 1
Overview

The AT-MC1008 Series Media Converters are Gigabit Ethernet bridging converters. They offer a wide range of features and capabilities designed to simplify the task of creating or expanding a Gigabit Ethernet network.

The models in the AT-MC1008 Series are:

- AT-MC1008/GB
- AT-MC1008/SP

This chapter contains the following sections:

Introduction

The AT-MC1008/GB is a 1000Base-TX copper to GBIC (Gigabit Interface Connector) media converter. The AT-MC1008/SP is a 1000Base-TX copper to SFP (Small Form-factor Pluggable) media converter.

The AT-MC1008 Series Media Converters are designed for both standalone and rackmount use (in an AT-MCR12 chassis) and do not require software configuration or management.

AT-MC1008/GB Media Converter

The AT-MC1008/GB media converter features:

- One 1000Base-TX twisted pair port
- One 1000Base GBIC pluggable port
- One MODE push button for Link Test (LT), MissingLink™ (ML), and Smart MissingLink (SML) modes
- Eight LEDs for system and port status
- One DC receptacle power adapter

Figure 1 illustrates the front panel of the AT-MC1008/GB converter.

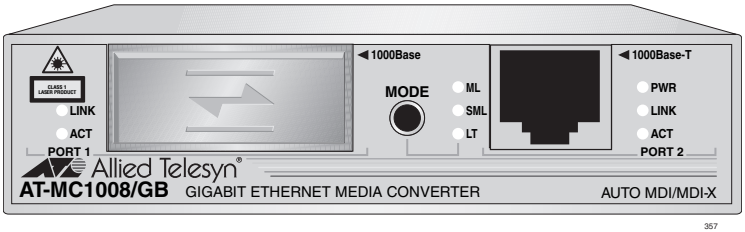

Figure 1. AT-MC1008/GB Front Panel

Figure 2 illustrates the back panel of the AT-MC1008/GB converter.

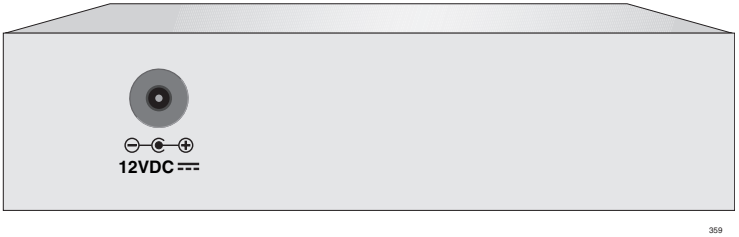

Figure 2. AT-MC1008/GB Back Panel

AT-MC1008/SP Media Converter

The AT-MC1008/SP media converter features:

- One 1000Base-TX twisted pair port
- One 1000Base SFP pluggable port
- One push button for Link Test (LT), MissingLink (ML), and Smart MissingLink (SML) modes
- Eight LEDs for system and port status
- One DC receptacle power adapter

Figure 3 illustrates the front panel of the AT-MC1008/SP media converter.

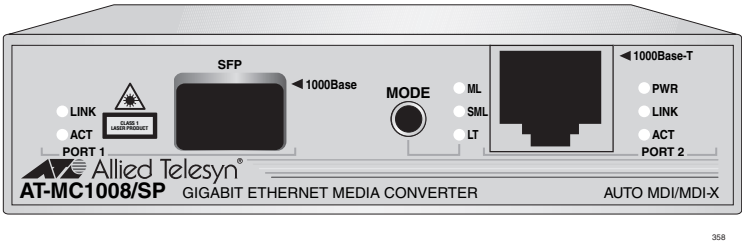

Figure 3. AT-MC1008/SP Front Panel

Figure 4 illustrates the back panel of the AT-MC1008/SP media converter.

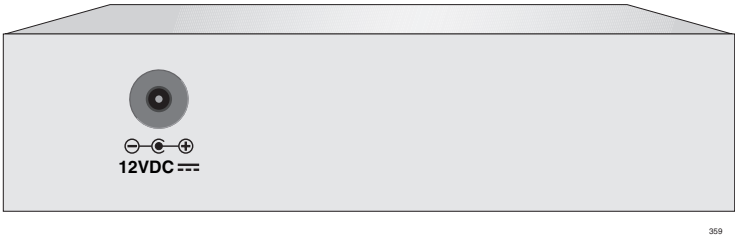

Figure 4. AT-MC1008/SP Back Panel

Key Features

The AT-MC1008 Series Media Converters come with the following features:

- Copper RJ-45 twisted pair connector
- GBIC pluggable slot (AT-MC1008/GB model)
- SFP pluggable slot (AT-MC1008/SP model)
- MODE push button for Link Test (LT), MissingLink™, and Smart MissingLink
- LEDs for unit and port status
- DC receptacle power adapter
- Auto-MDI/MDI-X on RJ-45 twisted pair port
- Support back-to-back and standalone topologies
- For use on a desktop or in an AT-MCR12 chassis

1000Base-TX Twisted Pair Port

Each AT-MC1008 Series converter features one fixed 1000 Mbps twisted pair port. The features of the twisted pair ports are described below.

Type of Connector

The twisted pair ports on the AT-MC1008 Series converters feature 8-pin RJ-45 connectors. The port uses all eight pins when operating at 1000 Mbps. For port pinout details, refer to “RJ-45 Twisted Pair Port Pinouts” on page 54.

Port Speed

The twisted pair port on the AT-MC1008 Series converters operates at a fixed speed of 1000 Mbps.

Duplex Mode

Duplex mode refers to how an end-node receives and transmits data. If an end-node can receive or transmit data, but not both simultaneously, the end-node is operating in half-duplex mode. If an end-node can both receive and transmit data simultaneously, the end-node is said to be operating in full-duplex mode. Naturally, an end-node capable of operating in full-duplex can handle data much faster than an end-node that can only operate in half-duplex mode.

The twisted pair port on the AT-MC1008 Series converters is IEEE 802.3u compliant and advertises only 1000 Mbps and full duplex capability.

Maximum Distance

The twisted pair port on the AT-MC1008 Series converters have a maximum operating distance of 100 meters (328 feet).

Type of Cabling

The twisted pair port requires Category 5 or Enhanced Category 5 (5E) 100 ohm shielded or unshielded twisted pair cabling.

Table 2 lists the twisted pair port cabling specifications.

Table 2. Twisted Pair Cabling and Distance Specifications

Speed	Type of Cable	Maximum Operating Distance
1000 Mbps	Category 5 or Category 5E (Enhanced) 100 ohm shielded and unshielded twisted pair cable	100 m (328 ft)

Auto MDI/MDI-X

The twisted pair port on the AT-MC1008 Series converter is auto-MDI and IEEE 802.3ab-compatible. Consequently, you can use either a straight-through or crossover twisted pair cable when connecting any network device to a port.

Port Pinouts

For the port pinouts when the ports are operating at 1000 Mbps in the MDI configuration, refer to Table 7, “MDI and MDI-X Pin Signals (1000Base-TX),” on page 54.

1000Base Fiber Optic GBIC Slot on the AT-MC1008/GB Converter

The AT-MC1008/GB converter features one GBIC slot on the front panel. The GBIC slot can accommodate one GBIC transceiver.

The fiber optic GBIC slot on the AT-MC1008/GB converter features one GBIC pluggable transceiver, as shown in Figure 5.

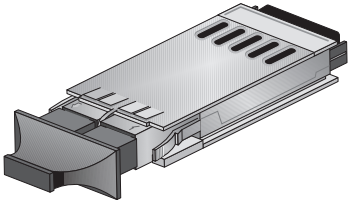

Figure 5. Example of a GBIC Transceiver

When you attach a fiber optic cable to a GBIC transceiver, be sure to observe the following guidelines:

- ❒ You should verify that you are using the appropriate type of fiber optic cabling. For GBIC cabling specifications, refer to the installation guide provided with the transceiver.
- ❒ You should verify that the operating specifications of the remote fiber optic port are compatible with the GBIC transceiver. For example, you cannot connect a fiber optic GBIC transceiver with a maximum distance of 40 kilometers and an operating wavelength of 1550 nanometers (nm) to a remote fiber optic port with an maximum distance of only 10 kilometers and an operating wavelength of 1310 nm.
- ❒ Be sure that the cable connectors is firmly locked into place in the GBIC slot.

Note
For a list of the GBIC transceivers supported can be used with the AT-MC1008/GB converter, contact your ATI sales representative.

1000Base Fiber Optic SFP Slot on the AT-MC1008/SP Converter

The AT-MC1008/SP converter features one SFP slot on the front panel. The SFP slot can accommodate one SFP transceiver.

The fiber optic SFP slot on the AT-MC1008/SP converter features one SFP pluggable transceiver, as shown in Figure 6.

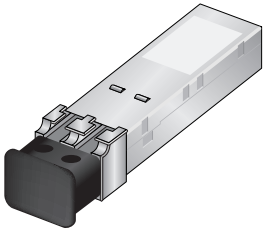

Figure 6. Example of a SFP Transceiver

When you attach a fiber optic cable to a SFP transceiver, be sure to observe the following guidelines:

- ❒ You should verify that you are using the appropriate type of fiber optic cabling. For SFP cabling specifications, refer to the installation guide provided with the transceiver.
- ❒ You should verify that the operating specifications of the remote fiber optic port are compatible with the SFP transceiver. For example, you cannot connect a fiber optic SFP transceiver with a maximum distance of 40 kilometers and an operating wavelength of 1550 nanometers (nm) to a remote fiber optic port with an maximum distance of only 10 kilometers and an operating wavelength of 1310 nm.
- ❒ Be sure that the cable connectors is firmly locked into place in the SFP slot.

Note
For a list of the SFP transceivers can be used with the AT-MC1008/SP converter, contact your ATI sales representative.

MODE Push Button

The MODE push button is used to toggle between the three operation modes: Link Test (LT), MissingLink (ML), and Smart MissingLink (SML). This button is located on the front panel. The button cycles through these three modes with each push.

To select between the three modes, use a pointed object such as a pen to depress the push button.

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 so be able to focus your troubleshooting efforts on the cable or end-node where the problem resides.

To perform a link test, toggle the MODE selection button until the LT LED is green. The LINK LEDs for the ports should now be green, indicating that they were able to establish a link with their end-nodes. If a LINK LED is off, the port could not establish a link. Refer to “Troubleshooting” on page 51 for suggestions on how to isolate the problem.

Note
The link test is a normal mode of operation; therefore, performing a link test does not interfere with a media converter’s ability to pass network traffic.

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.

For example, if the twisted pair cable to the 1000Base-T port on the media converter were to fail, the unit would respond by dropping the link on the 1000Base-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 network devices connected directly to the AT-MC1008 media converter can be configured to take a specific action in the event of the loss of connection on a port. In some cases, a network device may be capable of being configured to seek a redundant path to a disconnected end-node or send out a trap to a network management station, and so alert the network administrator of the problem.

Note
MissingLink and Smart MissingLink are disabled when you perform a link test. Consequently, to ensure that MissingLink or Smart MissingLink is enabled on the media converter during normal network operations, always set the MODE push button so that the ML or SML LED is green.

Smart MissingLink

The Smart MissingLink feature performs exactly the same function as MissingLink with one additional feature. When a link is lost on a port, the LINK LED of the port which still has a valid connection to its end-node starts to blink. This allows you to quickly determine which port still has a valid connection (LINK LED blinking) and which port has lost its connection (LINK LED off).

For example, if the network twisted pair cable to the 1000Base-TX port on the converter were to fail, the LINK LED on the 1000Base fiber optic port will blink, indicating a failed connection on the twisted pair port. If the failure had started with the fiber optic cabling, the LINK LED on the twisted pair port would blink.

The value to this type of network monitoring and fault notification is so that you can quickly see which port has failed and troubleshoot your network accordingly.

LEDs

There are four types of LEDs on the AT-MC1008 Series converters, as shown in Figure 7:

- Status LED
- Fiber Optic Port LEDs (GBIC or SFP expansion slot)
- MODE push button LEDs
- Twisted pair port LEDs

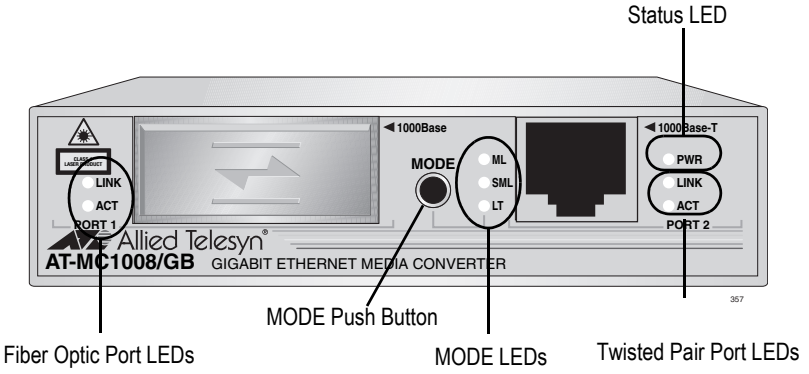

Figure 7. LEDs on the AT-MC1008 Series Converter

Status LED

The status LED indicates the operating status of the converter. Refer to Figure 7 for the location of this status LED. Each AT-MC1008 Series converter contains only one status LED: PWR; as defined in Table 3.

Table 3. System Status LEDs

LED	Color	Description
PWR	Green	Indicates that the unit power is ON.
	Off	Indicates that the converter power is OFF.

Twisted pair port LEDs

The twisted pair port LEDs indicate the operating status of the twisted pair port on the AT-MC1008 Series converter. Refer to Figure 7 on page 23 for the location of these LEDs. Each AT-MC1008 Series converter contains two twisted pair port LEDs: LINK and ACT; as defined in Table 4.

Table 4. Twisted Pair Port LEDs

LED	Color	Description
LINK	Green	Indicates a valid link has been established between the port and the end-node.
	Off	Indicates that there is no link between the port and the end-node.
ACT	Blinking Green	Indicates that the port is transmitting and/or receiving data packets.
	Off	Indicates that there is no activity on the port.

Fiber Optic Port LEDs (GBIC or SFP Expansion Slot)

The fiber optic port LEDs indicate the operating status of the GBIC module installed in the GBIC expansion on the AT-MC1008/GB model converter, or the SFP transceiver installed in the SFP slot on the AT-MC1008/SP model converter. Refer to Figure 7 on page 23 for the location of these LEDs. Each AT-MC1008 Series converter contains a pair of fiber optic port LEDs: LINK and ACT; as defined in Table 5.

Table 5. Fiber Optic Port LEDs

LED	Color	Description
LINK	Green	Indicates a valid link has been established between the port and the end-node.
	Off	Indicates that there is no link between the port and the end-node.
ACT	Blinking Green	Indicates that the port is transmitting and/or receiving data packets.
	Off	Indicates that there is no activity on the port.

MODE push button LEDs

The MODE push button LEDs indicate the operating status of the three operation modes: Link Test (LT), MissingLink (ML), and Smart MissingLink (SML). Refer to Figure 7 on page 23 for the location of these LEDs. Each AT-MC1008 Series converter contains three MODE push button LEDs: ML, SML, and LT; as defined in Table 6.

Table 6. MODE Push Button LEDs

LED	Color	Description
ML	Green	MissingLink mode is enabled.
	Off	MissingLink mode is disabled.
SML	Green	Smart MissingLink mode is enabled.
	Off	Smart MissingLink mode is disabled.
LT	Green	Link Test mode is enabled.
	Off	Link Test mode is disabled.

12VDC Power Supply

The 12VDC-version media converters come with the AC/DC power adapter illustrated in Figure 8. This is an approved safety compliant AC power adapter for the 100 and 240V AC versions with an unregulated output of 12VDC.

Figure 8. AC/DC Power Adapter

Network Topologies

Standalone Topology

A standalone topology uses only one media converter between the end-nodes. Figure 9 illustrates a standalone topology that uses two AT-MC1008/SP media converters to interconnect three remote campuses. Campus 1 has an AT-9424T/SP switch which provides a connection of up to 15 kilometers (9.32 miles), are connected to two AT-MC1008/SP media converters via their 1000Base SFP ports. The 1000Base-T twisted pair port on the first media converter is connected to one of the twisted pair ports in the AT-9424T/SP switch at Campus 2; and the 1000Base-T twisted pair port on the second media converter is connected to one of the twisted pair ports in the AT-9424T/SP switch at Campus 3.

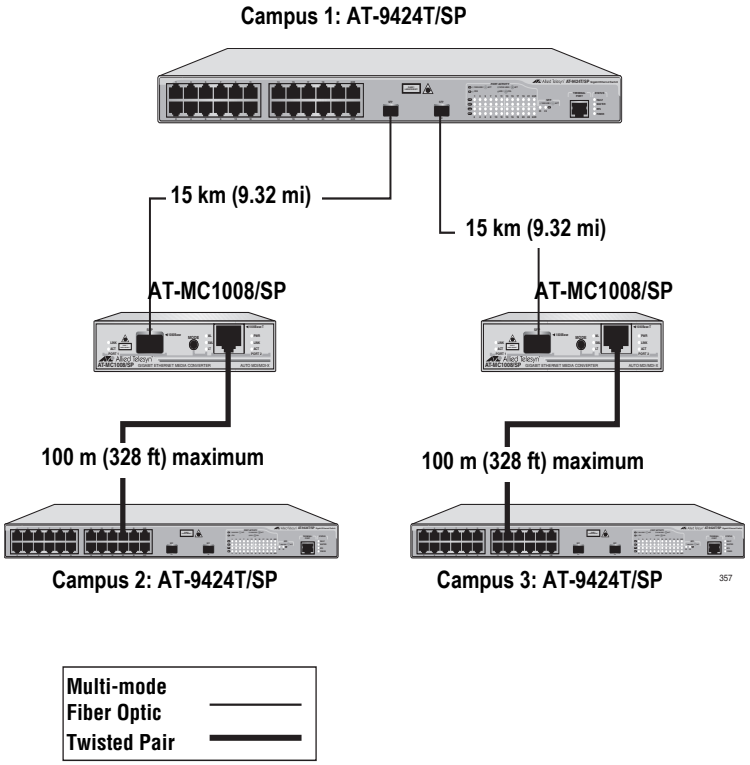

Figure 9. Standalone Topology

Back-to-Back Topology

In some network configurations you may want to interconnect two media converter in what is referred to as a back-to-back topology. In this topology, the media converter not only extend the distance of your network but also convert the fiber optic cable from twisted pair to fiber optic and back again. Figure 10 illustrates one AT-9424T/SP switch at each campus. The switches are interconnected by two AT-MC1008/SP media converters which provide a connection of up to 15 kilometers (9.32 miles). The 1000Base-T twisted pair ports on the media converters are connected to the twisted pair ports on the switches, while the 1000Base SFP ports on the two AT-MC1008/SP media converters are directly connected to each other.

Note
When using two media converters back-to-back, you must set both converters to the same mode (in example, the first media converter is set to Smart MissingLink mode; then the second converter must also be set to Smart MissingLink mode.)

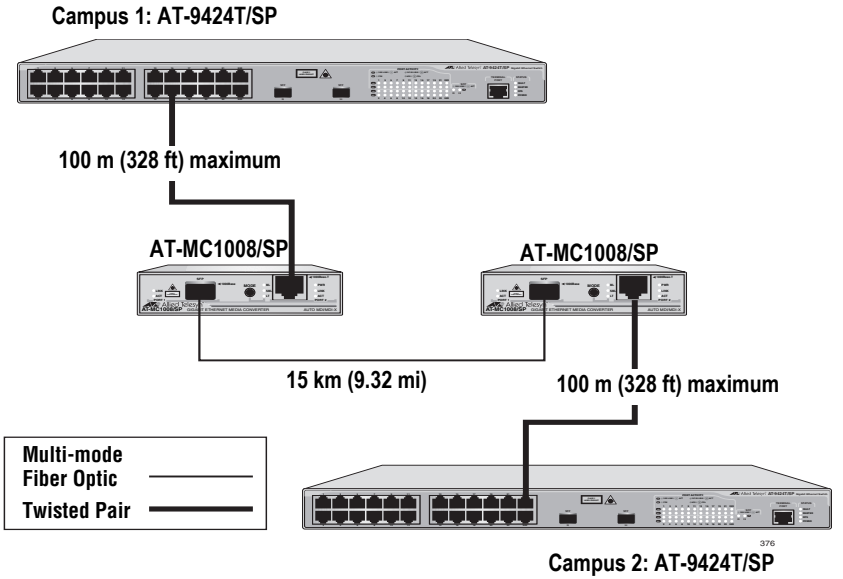

Figure 10. Back-to-Back Topology

Chapter 2
Installing the Media Converter

This chapter explains how to install an AT-MC1008 Series converter and contains the following sections:

Verifying Package Contents

Make sure the following items are included in your package. If any item is missing or damaged, contact your Allied Telesyn sales representative for assistance.

- ❒ One AT-MC1008 Series
- ❒ External AC/DC power adapter
- ❒ Four rubber protective feet
- ❒ This installation guide
- ❒ Warranty card

Planning the Installation

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

- The end-node connected to the fiber port must be compatible with the SFP or GBIC transceiver.
- The 1000Base-T twisted pair port is set to a fixed 1000 Mbps speed and can operate in full-duplex only with Auto-Negotiation. For cabling specifications, refer to Table 2 on page 18.
- The end-node connected to the media converter can be any other ethernet network device, such as an adapter card, repeater, router, hub, switch, or another media converter.
- The twisted pair cabling must be kept away from sources of electrical noise, such as radios, transmitters, power lines, broadband amplifiers, electrical motor, and fluorescent fixtures.

Selecting a Site

When selecting a site for your media converter, observe the following guidelines:

- ❒ Select a site that is dust-free and moisture-free.
- ❒ Be sure that the site that will allow you to easily access the fiber optic and twisted pair cables and the power cord.
- ❒ Use dedicated power circuits or power conditioners to supply reliable power to the unit.

Reviewing Safety Guidelines

Please review the following safety guidelines before you begin to install the AT-MC1008 Series media converters.

Laser
Class 1 laser device. ↷ **2**

Laser
Do not stare into the laser beam. ↷ **3**

Warning
To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables. ↷ **4**

Warning
Do not work on equipment or cables during periods of lightning activity. ↷ **5**

Warning
Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. ↷ **6**

Pluggable Equipment: The socket outlet should be installed near the equipment and should be easily accessible. ✍ **8**

⚠ **Caution**
Air vents must not be blocked and must have free access to the room ambient air for cooling. ✍ **9**

Warning
Operating Temperature. This product is designed for a maximum ambient temperature of 40° degrees C. ✍ **10**

All Countries: Install this product in accordance with local and National Electric Codes. ✍ **11**

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern. ✍ **24**

Warning
Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading. ✍ **28**

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra). ✍ **39**

Caution: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. **40**

Warning

Warning: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuits (e.g., use of power strips). **41**

Installing a GBIC Transceiver

To install a GBIC transceiver in an AT-MC1008/GB converter, perform the following procedure:

Note
The GBIC transceiver can be hot-swapped; you do not need to power off the AT-MC1008/GB converter to install a transceiver. However, always remove the cables before removing the transceiver.

Note
When a GBIC transceiver establishes a link, the corresponding twisted pair port changes its MissingLink state. A link established on a GBIC port always takes priority over an existing link on a twisted pair port.

Note
You must install GBIC the transceiver before you connect cables to it.

1. Remove the GBIC transceiver from its shipping container and store the packaging material in a safe location.

Caution
A GBIC transceiver can be damaged by static electricity. Be sure to observe all standard electrostatic discharge (ESD) precautions, such as wearing an antistatic wrist strap, to avoid damaging the transceiver.

2. Slide the GBIC transceiver into a GBIC slot on the converter, as shown in Figure 11, until it clicks into place.

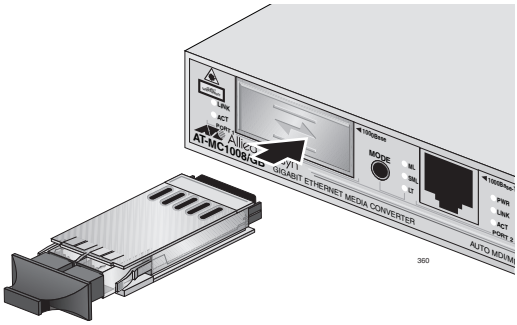

Figure 11. Installing a GBIC Transceiver

Note
The GBIC transceiver is dust sensitive. When a fiber optic cable is not installed, or when you store the GBIC transceiver always keep the plug in the optical bores. When you do remove the plug, keep it for future use.

Note
Unnecessary removal and insertion of an GBIC can lead to premature failure.

Installing an SFP Transceiver

To install an SFP transceiver in an AT-MC1008/GB converter, perform the following procedure:

Note
The transceiver can be hot-swapped; you do not need to power off the media converter to install a transceiver. However, always remove the cables before removing the transceiver.

Note
When an SFP transceiver establishes a link, the corresponding twisted pair port changes its MissingLink state. A link established on an SFP port always takes priority over an existing link on a twisted pair port.

Note
You must install the SFP transceiver before you connect cables to it.

1. Remove the transceiver from its shipping container and store the packaging material in a safe location.

Caution
An SFP transceiver can be damaged by static electricity. Be sure to observe all standard electrostatic discharge (ESD) precautions, such as wearing an antistatic wrist strap, to avoid damaging the transceiver.

2. Remove the plug from the SFP slot.
3. Locate the label on the transceiver and turn it so that the label is on top and the alignment groove is on the bottom.

4. Slide the SFP transceiver into an SFP slot on the converter, as shown in Figure 12.

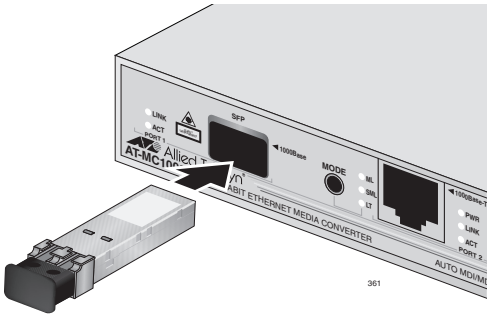

Figure 12. Installing an SFP Transceiver

Note
The SFP transceiver is dust sensitive. When a fiber optic cable is not installed, or when you store the SFP, always keep the plug in the optical bores. When you do remove the plug, keep it for future use.

Note
Unnecessary removal and insertion of an SFP can lead to premature failure.

Installing an AT-MC1008 Series Converter on a Desktop

This section explains how to install an AT-MC1008 Series converter on a desktop.

To install an AT-MC1008 Series converter in an AT-MCR12 rackmount chassis, refer to “Installing the Media Converter in the AT-MCR12 Chassis” on page 40.

To install an AT-MC1008 Series converter on a desktop, perform the following procedure:

1. Remove the converter from its shipping container and store the packaging material in a safe location.
2. Turn the converter over and place it on a secure surface.
3. Attach the rubber feet, as shown in Figure 13.

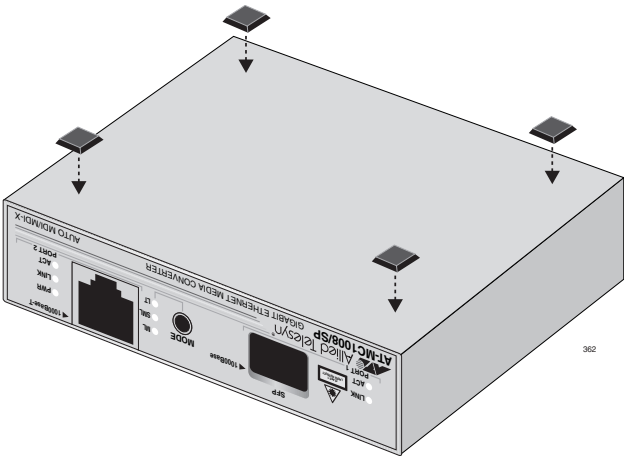

Figure 13. Attaching Rubber Feet

Do not apply power at this time. Proceed to “Cabling the Media Converter” on page 42.

Installing the Media Converter in the AT-MCR12 Chassis

Note
For detailed descriptions and installation procedures for the AT-MCR12 chassis, refer to the *AT-MCR12 Media Converter Rackmount Chassis Installation Guide (PN 613-10725-00)*.

Note
For mounting an AT-MC1008 Series converter into the AT-MCR12 chassis, use the mounting guide that comes with the AT-MCR12 chassis. This mounting guide is used to insert the converter into the chassis, locking it into place while giving support to the front of the unit.

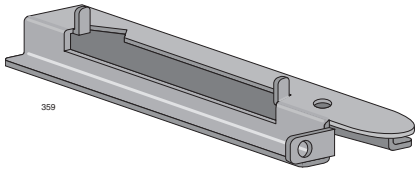

Figure 14. Mounting Guide Comes with the AT-MCR12 Chassis

To install an AT-MC1008 Series converter in the AT-MCR12 rackmount chassis, perform the following procedure:

1. Align the mounting guide on the AT-MC1008 Series converter with the chassis positioning on its side with the top cover on the left and the base plate on the right.

2. Securely position the converter chassis onto the mounting guide with the front tab (Tab A) inserting into the first vent hole and the back tab (tab B) inserting into the last vent hole of the chassis, as shown in Figure 15.

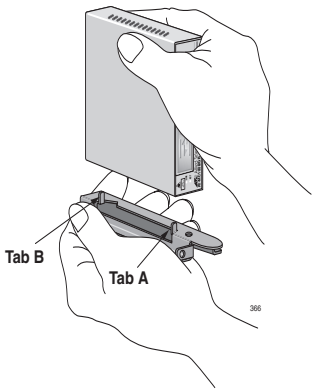

Figure 15. Positioning the AT-MC1008 Chassis onto the Mounting Guide

3. Install the AT-MC1008 Series converter in the AT-MCR12 chassis slot by sliding the mounting guide into the guide channel in the slot, as illustrated in Figure 16.

   The power plug in the chassis plugs into the media converter receptacle.

4. Gently seat the plug as you slide the guide in its channel.

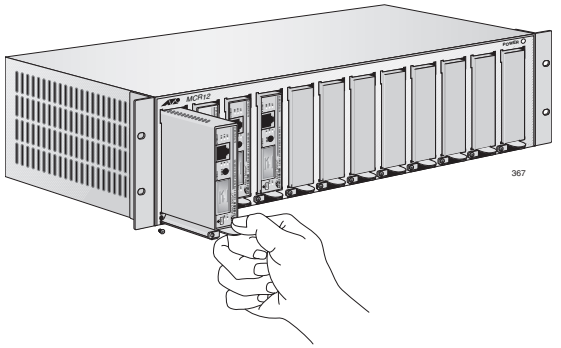

Figure 16. Sliding the AT-MC1008/GB into the AT-MCR12 Chassis Slot

5. Secure the mounting guide to the chassis by tightening its screw.

Cabling the Media Converter

Perform the following procedures to connect the data cables to the converter ports that come with the AT-MC1008 Series media converters.

Connecting to the GBIC Transceiver on the AT-MC1008/GB Media Converter

To connect to the GBIC transceiver on the AT-MC1008/GB converter, perform the following procedure:

Laser
Class 1 laser product. 2

Laser
Do not stare into the laser beam. 3

1. Remove the dust cover from the fiber optic port, as shown in Figure 17.

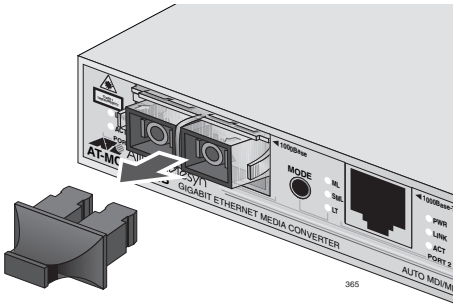

Figure 17. Removing the Dust Cover from the GBIC Transceiver

2. Connect the appropriate optical cable to the GBIC transceiver, as shown in Figure 18.

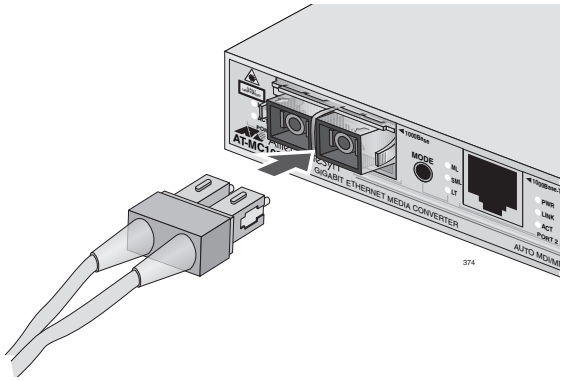

Figure 18. Connecting Cables to the GBIC Transceiver

When attaching a fiber optic cable, be sure to observe the following guidelines:

- ❒ Be sure that the cable connector is firmly locked into place in the port.
- ❒ You should verify that you are using the appropriate type of fiber optic cabling.
- ❒ You should verify that the operating specifications of the remote fiber optic port are compatible with the GBIC transceiver. For example, you cannot connect a fiber optic GBIC transceiver with a maximum distance of 40 kilometers and an operating wavelength of 1550 nanometers (nm) to a remote fiber optic port with an maximum distance of only 10 kilometers and an operating wavelength of 1310 nm.
- ❒ The GBIC transceiver consists of two separate connectors, as shown in Figure 18. Each connector connects to a separate fiber strand. One is for receiving data and the other is for transmitting data. When connecting a fiber optic cable to a GBIC transceiver, be sure that the receiver fiber connector is connected to the transmitter connector on the remote end-node, and the transmitter fiber connector is connected to the receiver connector on the remote node.

3. Then connect the other end of the optical cable to the link partner.

4. Power ON the converter as instructed in “Powering On the Media Converter” on page 47.

5. Power ON the end-nodes.

Connecting to the SFP Transceiver on the AT-MC1008/SP Media Converter

To connect to the SFP transceiver on the AT-MC1008/SP converter, perform the following procedure:

Laser
Class 1 laser product. 2

Laser
Do not stare into the laser beam. 3

1. Remove the dust cover from the SFP transceiver, as shown in Figure 17.

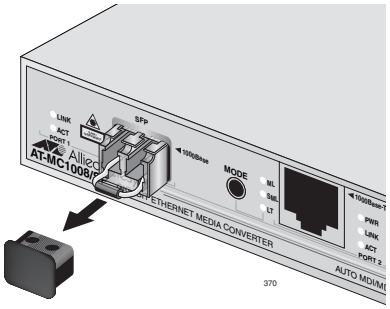

Figure 19. Removing the Dust Cover from the SFP Transceiver

2. Connect the appropriate optical cable to the transceiver, as shown in Figure 20.

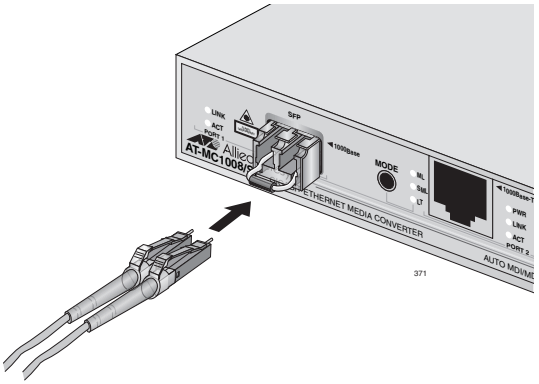

Figure 20. Connecting to the SFP Transceiver

When attaching a optical cable, be sure to observe the following guidelines:

- ❒ Be sure that the cable connector is firmly locked into place in the port.
- ❒ You should verify that you are using the appropriate type of optical cabling.
- ❒ You should verify that the operating specifications of the remote fiber optic port are compatible with the SFP transceiver. For example, you cannot connect a fiber optic SFP transceiver with a maximum distance of 40 kilometers and an operating wavelength of 1550 nanometers (nm) to a remote fiber optic port with an maximum distance of only 10 kilometers and an operating wavelength of 1310 nm.
- ❒ The SFP transceiver consists of two connectors in one slot, as shown in Figure 20. Each connector connects to a separate fiber strand. One is for receiving data and the other is for transmitting data. When connecting a fiber optic cable to a GBIC transceiver, be sure that the receiver fiber connector is connected to the transmitter connector on the remote end-node, and the transmitter fiber connector is connected to the receiver connector on the remote node.

3. Then connect the other end of the optical cable to the link partner.

4. Power ON the converter as instructed in “Powering On the Media Converter” on page 47.

5. Power ON the end-nodes.

Connecting to the Copper Port

To connect to the RJ-45 twisted pair port on the AT-MC1008 Series converter, perform the following procedure:

1. Connect the RJ-45 twisted pair cable to the 1000Base-TX port, as shown in Figure 21.

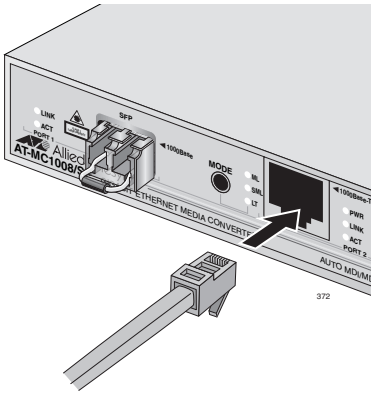

Figure 21. Connecting to the RJ-45 Copper Ports

When connecting a twisted pair cable to an RJ-45 twisted pair port, observe the following guidelines:

- An RJ-45 connector should fit snugly into the port on the converter. The tab on the connector should lock the connector into place.
- You can use a straight-through or crossover twisted pair cable to connect any type of network device to a port on the converter.

2. Then connect the other end of the RJ-45 cable to the link partner.

3. Power ON the converter as instructed in “Powering On the Media Converter” on page 47.

4. Power ON the end-nodes.

Powering On the Media Converter

Once the AT-MC1008 Series converter is ready to be used, perform the following procedure to power it on:

To power on an AT-MC1008 Series AC powered chassis, perform the following procedure:

> **Note**
> The power adapter is not used if you install the AT-MC1008 Series converter in an AT-MCR12 chassis.

1. Locate the power terminal block on the rear panel of the AT-MC1008 Series AC powered chassis.

2. Plug one end of the power cord to the power receptacle connector labeled 12VDC, as shown in Figure 22.

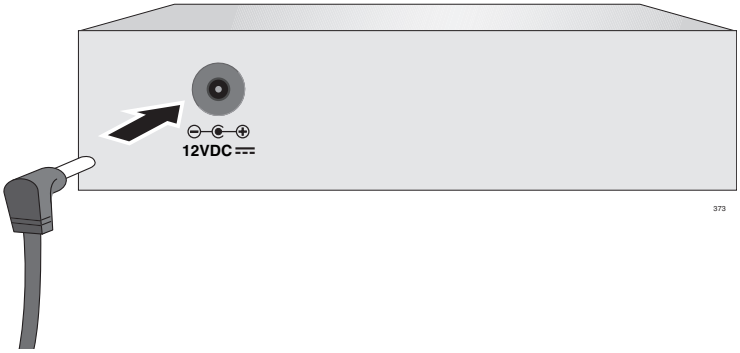

Figure 22. Connecting Power Cord to an AT-MC1008 Series AC Powered Chassis

3. Plug the AC/DC adapter to a power outlet, as shown in Figure 23. Refer to “Technical Specifications” on page 53 for power requirements.

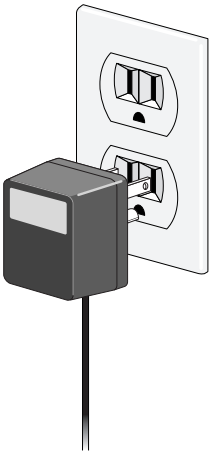

Figure 23. Plugging an AC/DC Adapter to a Power Outlet

Warning
To reduce the risk of electric shock, disconnect the power cords before servicing the unit.

4. Verify that the PWR LED on the front of the converter is green. If the LED is OFF, refer to “Troubleshooting” on page 51 for instructions.

5. Verify that the LINK LEDs for both the GBIC port and the twisted pair port are green. If either LED is OFF, refer to “Troubleshooting” on page 51 for instructions.

The chassis is now ready for network operations.

Warranty Registration

When you have finished installing the product, register your product by completing the enclosed warranty card and sending it in.

Chapter 3
Troubleshooting

Follow the guidelines below to test and troubleshoot the installation in the event a problem occurs.

If the PWR LED is OFF, do the following:

- ❒ If the media converter is installed on a desktop, check to be sure that the power adapter is securely connected to a power outlet and that the power adapter cable is securely connected to the back of the converter.
- ❒ Verify that the power outlet has power by connecting another device to it.
- ❒ Try using another power adapter.

If the LINK LED for the twisted pair port is OFF, do the following:

- ❒ Check that the end-node connected to the port is powered ON and is operating properly.
- ❒ Check that the twisted pair cable is securely connected to the twisted pair port on the media converter and on the end-node.
- ❒ Check to be sure that the end-node connected to the AT-MC1008 Series converter is configured for Auto-Negotiation and will operate at 1000 Mbps and full duplex.
- ❒ Make sure that the twisted pair cable does not exceed 100 meters (328 feet) and that you are using a Category 5 or better cable.
- ❒ Use the MODE button to enable Link Test. This will disable MissingLink and eliminate a fiber fault as the cause of link failure on the twisted pair port.

If the LINK LED for the fiber optic port is OFF, do the following:

- ❒ Verify that the end-node connected to the port is ON and is operating properly.
- ❒ Check that the fiber optic cable is securely connected to the fiber optic port on the media converter and on the end-node.
- ❒ Check to be sure that the end-node connected to the port is operating at 1000 Mbps.
- ❒ Check to be sure that the end-nodes connected to the media converter are operating in the full duplex mode.
- ❒ For the AT-MC1008/GB model converter, make sure that the cable connected to the converter‘s receiver port (RX) is connected to the end-node’s transmitter port (TX) and that the AT-MC1008/GB’s transmitter port (TX) is connected to the end-node’s receiver port (RX).
- ❒ Test the attenuation on the fiber cable to ensure that it does not exceed acceptable values.
- ❒ Verify that you are using the appropriate type of fiber optic cables and that you have not exceeded the maximum operating distances.
- ❒ Check that the operating specifications of the fiber optic port on the end-node are compatible with the operating specifications of the fiber optic port on the converter.

If you are still experiencing problems after testing and troubleshooting the installation, contact Allied Telesyn Technical Support for assistance. Refer to “Contacting Allied Telesyn” on page 12 or visit our web site at **www.alliedtelesyn.com** for support information.

Appendix A
Technical Specifications

Physical

Dimensions:	W x D x H 105 mm x 95 mm x 25 mm (4.12 in x 3.75 in x 1.0 in)
Weight:	294 g (10.4 oz)

Temperature

Operating Temperature:	0° C to 40° C (32° F to 104° F)
Storage Temperature:	-25° C to 70° C (-13° F to 158° F)
Operating Humidity:	5% to 90% non-condensing
Storage Humidity:	5% to 95% non-condensing
Operating Altitude:	Up to 3,048 meters (10,000 feet)

Electrical Rating

Input Supply Voltage:	12V DC
Output Current:	0.5A Maximum
Power Consumption:	6 Watts Maximum

Agency Certifications

RFI Emissions	FCC Class A, EN55022 Class A, C-TICK, CE
Immunity	EN55024
Electrical Safety	EN60950 (TUV), UL 60950 ($_{C}UL_{US}$)
Standard	IEEE 802.3, IEEE 802.3u

RJ-45 Twisted Pair Port Pinouts

Figure 24 illustrates the pin layout to an RJ-45 connector and port.

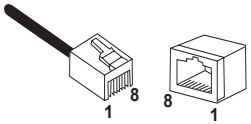

Figure 24. RJ-45 Connector and Port Pin Layout

Table 7 lists the RJ-45 port pin signals for a twisted pair 1000Base-T port in the MDI and MDI-X configurations at 1000 Mbps.

Table 7. MDI and MDI-X Pin Signals (1000Base-TX)

MDI Configuration		MDI-X Configuration	
Pinout	**Pair**	**Pinout**	**Pair**
1	Pair 1 +	1	Pair 2 +
2	Pair 1 -	2	Pair 2 -
3	Pair 2 +	3	Pair 1 +
4	Pair 3 +	4	Pair 4 +
5	Pair 3 -	5	Pair 4 -
6	Pair 2 -	6	Pair 1 -
7	Pair 4 +	7	Pair 3 +
8	Pair 4 -	8	Pair 3 -

Appendix B
Cleaning Fiber Optic Connectors

This section describes how to clean fiber optic connections. The fiber optic connector consists of a fiber optic plug and its adapter. The end of the fiber optic cable is held in the core of the ferrule in the plug. Light signals are transmitted through the core of the fiber. Even minor smudges, or dirt, on the end face of the fiber (completely invisible to the naked eye) can disrupt light transmission and lead to failure of the component or of the entire system. Therefore, it is of utmost importance to clean all fiber optic connectors before use.

Figure 25 shows the ferrule in an SC connector.

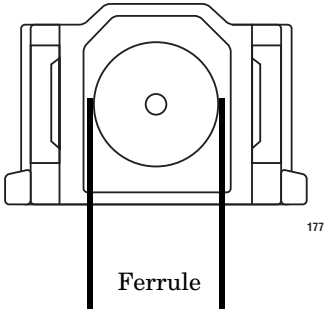

Figure 25. Ferrule in an SC Connector Plug

The end face of an unclean and clean ferrule is shown in Figure 26.

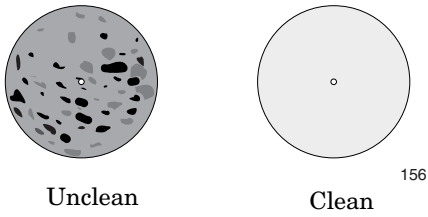

Figure 26. Unclean and Clean Ferrule

This appendix provides the following procedures:

Using a Cartridge-Type Cleaner

Fiber optic cartridge cleaners are available from many vendors and are typically called “cartridge cleaners,” as shown inFigure 27.

Figure 27. Cartridge Cleaner

Note
Do not use compressed air or aerosol air to clean a fiber optic connector.

To clean a fiber optic connector using a cartridge cleaner, perform the following procedure.

1. With one hand, hold the cartridge cleaner and push the lever on the cleaning cartridge in the direction of the arrow to expose the cleaning surface, as shown in Figure 28.

2. Place the ferrule tip on the exposed cleaning surface and rub the ferrule in a downward direction, as shown in Figure 28.

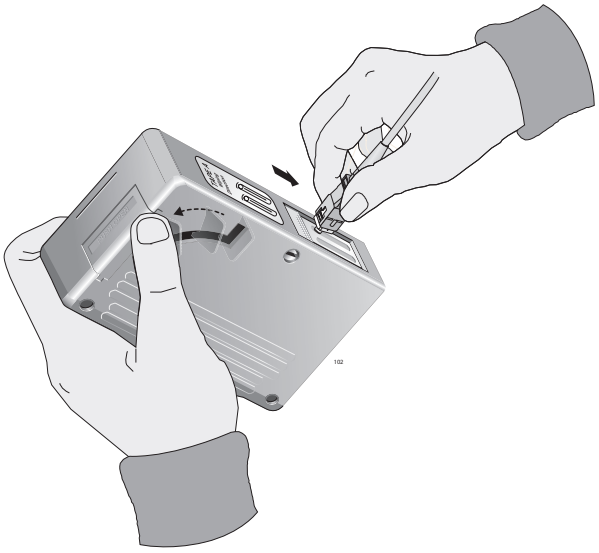

Figure 28. Rubbing the Ferrule Tip on the Cleaning Surface

Note
Rub the ferrule tip on the cleaning surface in one direction only.

3. When you reach the end of the cleaning surface, pick up the ferrule tip, rotate and place it at the top and rub downwards at least two times.

Caution
Failing to pick up the ferrule tip when you reach the bottom of the cleaning surface can result in static electricity that can damage the fiber optic cable.

4. If desired, repeat steps 3 and 4.
5. If a fiber inspection scope is available, use the scope to inspect the ferrule end face to make sure that it is clean.
6. Reconnect the cable to the port or protect the ferrule tip with a dust cap.

Note
Always keep a dust cap on a fiber optic cable when it is not in use.

Note
Do not touch the end face of the ferrule in the connector.

Warning
Do not look directly at the cable ends or inspect the cable ends with an optical lens when the cable is connected at the other end.

Using a Swab

Specially treated swabs, or stick cleaners, are available for cleaning inside connector adapters or hard-to-reach ferrule tips. These swabs, often referred to as “lint free” or “alcohol free” swabs are available from many vendors, as shown in Figure 29. Stick cleaners are available in both 2.5 mm and 1.25 mm sizes for use on SC and MU connectors respectively.

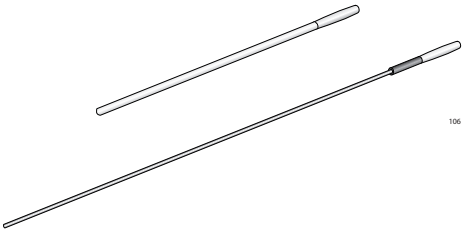

Figure 29. Lint-Free and Alcohol-Free Swabs

Note
Never use a household cotton swab and alcohol to clean a fiber optic connector. This may leave a residue on the ferrule tip.

Note
Do not used compressed air or aerosol air to clean a fiber optic connector.

To clean a recessed ferrule using a swab, perform the following procedure.

1. Insert the swab into the adapter as shown in Figure 30. Rub the ferrule tip with the swab.

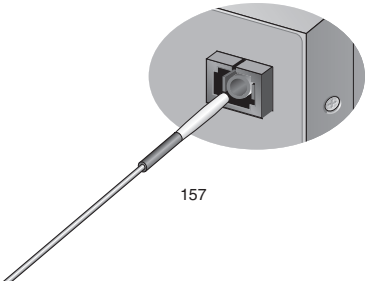

Figure 30. Cleaning a Recessed Ferrule

2. If desired, repeat step 1.

3. If a fiber inspection scope is available, use the scope to inspect the connector to make sure that it is clean and to check for scratches, pits, or other problems that may affect performance.

Note
Always keep a dust cap on a fiber optic cable when it is not in use.

Warning
Do not look directly at the cable or inspect the cable ends with an optical lens when the cable is connected at the other end.

Appendix C
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.

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

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

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

Важно: Данное приложение содержит переводы с разных языков по безопасности, приведенное в данном руководстве.

Laser Safety Notices

1  **Warning:** Class 1 Laser product.

2  **Warning:** Do not stare into the laser beam.

Electrical Safety Notices

3  **Warning:** To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables.

4  **Warning:** Do not work on equipment or cables during periods of lightning activity.

5  **Warning:** Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord.

6  **Warning:** Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

7 Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible.

8  **Caution:** Air vents must not be blocked and must have free access to the room ambient air for cooling.

9 **Warning:** Operating Temperature. This product is designed for a maximum ambient temperature of 40° degrees C.

10 All Countries: Install product in accordance with local and National Electrical Codes.

11  **Warning:** As a safety precaution, install a circuit breaker with a minimum value of 20 Amps between the equipment and the DC power source.

Always connect the wires to the LAN equipment first before you connect the wires to the circuit breaker. Do not work with HOT feeds to avoid the danger of physical injury from electrical shock. Always be sure that the circuit breaker is in the OFF position before connecting the wires to the breaker.

12  **Warning**: Do not strip more than the recommended amount of wire. Stripping more than the recommended amount can create a safety hazard by leaving exposed wire on the terminal block after installation.

13  **Warning:** When installing this equipment, always ensure that the frame ground connection is installed first and disconnected last.

14  **Warning:** Check to see if there are any exposed copper strands coming from the installed wire. When this installation is done correctly there should be no exposed copper wire strands extending from the terminal block. Any exposed wiring can conduct harmful levels of electricity to persons touching the wires.

15 This system will work with Positive grounded or Negative grounded DC systems.

16 **Warning:** Only trained and qualified personnel are allowed to install or to replace this equipment.

17  **Caution:** The attached mounting brackets must be used to securely mount the device onto the wall.

18  **Caution:** Do not install in direct sunlight, or a damp or dusty place.

19  **Caution:** Do not expose the gateway device to moisture or water.

20  **Caution:** If the gateway device is installed indoors, make sure that the site is a dust-free environment. The site should provide for easy access to the ports of the gateway device.This will make it easy for you to connect and disconnect cables, as well as view the LEDs.

21 **Warning:** The power source for the gateway unit should be located near the unit and should be easily accessible.

22  **Caution:** To allow proper cooling of the gateway device, make sure that the air flow around the unit and through its heatsink cooling fins on the rear is not restricted.

23 Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

24 **Caution:** Risk of explosion if battery is replaced by an incorrect type. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Attention: Le remplacement de la batterie par une batterie de type incorrect peut provoquer un danger d'explosion. La remplacer uniquement par une batterie du mкme type ou de type йquivalent recommandйe par le constructeur. Les batteries doivent кtre йliminйes conformйment aux instructions du constructeur.

25 **Warning:** For centralized DC power connection, install only in a restricted access area.

26 A tray cable is required to connect the power source if the unit is powered by centralized DC power. The tray cable must be a UL listed Type TC tray cable and rated at 600 V and 90 degrees C, with three conductors, minimum 14 AWG.

27 **Warning:** Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading.

28  **Warning:** Remove all metal jewelry, such as rings and watches, before installing or removing a line card from a powered-on chassis.

29 Use dedicated power circuits or power conditioners to supply reliable electrical power to the device.

30 **Warning:** The chassis may be heavy and awkward to lift. Allied Telesyn recommends that you get assistance when mounting the chassis in an equipment rack.

31  **Warning:** Do not look directly at the fiber optic cable ends or inspect the cable ends with an optical lens.

32  **Warning:** This unit might have more than one power cord. To reduce the risk of electric shock, disconnect all power cords before servicing the unit.

33 **Warning:** Only trained and qualified personnel are allowed to install or to replace this equipment.

34 **Warning:** The power input must be provided from SELV source only, per IEC 60950. Do not connect to a centralized DC battery bank.

35 UL recognized wires of 18 AWG minimum should be provided by the installer.

36 UL recognized wires of 22 AWG minimum should be provided by the installer.

37 **Caution:** Power to the hub must be sourced only from the adapter.

38 If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

39 **Caution:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

40  **Warning:** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuits (e.g., use of power strips).

Telecommunications Compliance Notices

41 

Warning: When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electronic shock, and injury to persons, including the following:

Do not use this product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub in a wet basement or near a swimming pool.

Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

Do not use the telephone to report a gas leak in the vicinity of the leak.

42 

Warning: Before connecting to the telephony (TEL) ports on the gateway device, make sure to disconnect the Public Switch Telephone Network (PSTN) feed to the premises.

43 **Warning:** To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

Lasersicherheitshinweise

1  **Achtung:** Laserprodukt der Klasse 1.

2  **Achtung:** Blicken Sie nicht in den Laserstrahl.

Elektrische Sicherheitshinweise

3  **Achtung:** Um Stromschldge zu vermeiden, darf die Abdeckung nicht entfernt werden. Die Ausrьstung enthдlt keine benutzerwartbaren Teile. Diese Einheit fьhrt gefдhrliche Spannungen und sollte nur durch einen ausgebildeten und qualifizierten Techniker geцffnet werden. Zur Vermeidung der Mцglichkeit von Stromschldgen ist die Stromversorgung des Produkts vor dem AnschlieЯen oder Abtrennen von LAN-Kabeln zu unterbrechen.

4  **Achtung:** Bei Gewittern und Blitzaktivitдt dьrfen keine Arbeiten an der Ausrьstung oder an Kabeln erfolgen.

5  **Achtung:** Das Stromkabel dient als Abtrennungselement. Zum Abschalten der Ausrьstung Stromkabel abziehen.

6  **Achtung:** Ausrьstung der Klasse I. Diese Ausrьstung muss geerdet werden. Der Stromstecker muss an eine vorschriftsmдЯig geerdete Steckdose angeschlossen werden. Eine inkorrekt verdrahtete Steckdose kann gefдhrliche Spannungen auf zugдngliche Metallteile aufbringen.

7 Steckbare Ausrьstung. Die Steckdose sollte in der Nдhe der Ausrьstung installiert und leicht zugдnglich sein.

7  **Vorsicht:** Belьftungsцffnungen dьrfen nicht blockiert werden und mьssen zur Kьhlung durch die Umluft frei zugдnglich sein.

9 **Achtung:** Betriebstemperatur. Dieses Produkt ist fьr eine maximale Umgebungstemperatur von 40° C konzipiert.

10 Alle Lдnder: Dieses Produkt muss entsprechend den цrtlichen und nationalen Elektrizitдtsvorschriften installiert werden.

11 

Achtung: Als Sicherheitsvorkehrung sollte ein Ьberlastschalter mit einem minimalen Nennwert von 20 Ampere zwischen der Ausrьstung und der Gleichstromversorgung installiert werden.

Vor dem Anschluss der Kabel am Ьberlastschalter sollten stets zuerst die Kabel an die LAN-Ausrьstung angeschlossen werden. Zur Vermeidung von Verletzungen in Folge von Stromschlag sollte nicht mit SPANNUNGSFЬHRENDEN Versorgungen gearbeitet werden. Vor dem Anschluss der Kabel an den Ьberlastschalter ist stets Sorge zu tragen, dass der Ьberlastschalter AUSGESCHALTET ist.

12 

Achtung: Nicht mehr als die empfohlene Kabellдnge abisolieren. Durch das Abisolieren von mehr als der empfohlenen Lдnge kцnnen gefдhrliche blanke Drдhte aus dem Anschlussblock hervorragen.

13 

Achtung: Beim Installieren dieser Ausrьstung ist stets darauf zu achten, dass die Rahmenerdung zuerst angeschlossen und zuletzt abgetrennt wird.

14 

Achtung: Das installierte Kabel muss auf etwaige freiliegende Kupferlitzen ьberprьft werden. Bei der korrekten Installation sollten keine freiliegenden Kupferdrahtlitzen aus dem Anschlussblock herausragen. Jegliche freiliegende Drдhte kцnnen fьr Personen, die sie berьhren, gefдhrlichen Strom fьhren.

15 Dieses System kann in Verbindung mit positiv geerdeten oder negativ geerdeten Gleichstromsystemen verwendet werden.

16 **Achtung:** Das Installieren und der Austausch dieser Ausrьstung ist nur ausgebildetem und qualifiziertem Personal gestattet.

17 

Vorsicht: Mechanische Montage. Zur sicheren Wandmontage des Gerдts sind die beiliegenden Montageklammern zu verwenden.

18 

Vorsicht: Das Gerдt darf nicht an feuchten, staubigen oder direktem Sonnenlicht ausgesetzten Orten installiert werden.

19 

Vorsicht: Das Gateway-Gerдt darf keiner Feuchtigkeit oder Wasser ausgesetzt werden.

20  **Vorsicht:** Bei der Innenraummontage des Gateway-Gerдts ist darauf zu achten, dass es in einer staubfreien Umgebung installiert wird. Es sollte ein Installationsort gewдhlt werden, an dem die Ports am Gateway-Gerдt gut zugдnglich sind, um das AnschlieЯen und Abtrennen von Kabeln zu erleichtern und den freien Blick auf die LEDs zu ermцglichen.

21 **Achtung:** Die Stromquelle fьr die Gateway-Einheit sollte sich in ihrer Nдhe befinden und leicht zugдnglich sein.

22  **Vorsicht:** Zur Gewдhrleistung der erforderlichen Kьhlung des Gateway-Gerдts ist darauf zu achten, dass der Luftfluss um die Einheit und ьber seine an der Rьckseite befindlichen Kьhlrippen nicht behindert wird.

23 Stromkreisьberlastung: Der Anschluss der Ausrьstung an den Versorgungsstromkreis und die mцglichen Auswirkungen der Ьberlastung von Schaltkreisen auf den Ьberstromschutz und die Versorgungskabel sollten erwogen werden. In diesem Zusammenhang sollten auch die auf dem Typenschild der Ausrьstung angegebenen Nennwerte entsprechend berьcksichtigt werden.

24 **Vorsicht:** Beim Ersetzen der Batterie durch einen inkorrekten Typ besteht Explosionsgefahr. Die Batterie sollte nur durch denselben oder einen gleichwertigen, vom Hersteller empfohlenen Typ ersetzt werden. Die Batterien sind gemдЯ der Anleitungen des Herstellers zu entsorgen.

25 **Achtung:** Bei einem zentralisierten Gleichstromanschluss darf die Installation nur in einem Bereich mit gesichertem Zugang erfolgen.

26 Bei der Versorgung der Einheit durch zentralisierten Gleichstrom ist ein Tray-Kabel zum Anschluss der Stromquelle erforderlich. Das Tray-Kabel muss ein UL-gelistetes Typ-TC-Tray-Kabel mit einer Nennspannung von 600 V und einer Nenntemperatur von 90 Grad Celsius, mit drei Leitern und mindestens 14 AWG sein.

27 **Achtung:** Bei der Rackmontage der Ausrьstung ist darauf zu achten, dass keine Gefahrenbedingung durch ungleichmдЯige mechanische Belastung geschaffen wird.

27  **Achtung:** Vor dem Installieren oder Ausbauen einer Leitungskarte in das bzw. aus dem Chassis einer eingeschalteten Einheit ist aller metallischer Schmuck wie zum Beispiel Ringe oder Uhren zu entfernen.

29 Zur zuverlдssigen Stromversorgung des Gerдts sollte ein dedizierter Stromkreis oder Netzfilter und Stabilisator (Power Conditioner) verwendet werden.

30 **Achtung:** Das Chassis kann schwer und schwierig zu heben sein. Allied Telesyn empfiehlt, bei der Rackmontage des Chassis Hilfspersonal heranzuziehen.

31  **Achtung:** Sehen Sie nicht direkt auf die Enden der Faseroptikkabel und inspizieren Sie die Kabelenden nicht mit einer optischen Linse.

32  **Achtung:** An dieser Einheit kann mehr als ein Stromkabel vorhanden sein. Vor Wartungsarbeiten sollten zur Reduzierung des Stromschlagrisikos alle Stromkabel abgetrennt werden.

33 **Achtung:** Das Installieren und der Austausch dieser Ausrьstung ist nur ausgebildetem und qualifiziertem Personal gestattet.

34 **Achtung:** Der Stromeingang darf nur ьber eine SELV-Quelle gemдЯ IEC 60950 erfolgen. Eine zentralisierte Gleichstrom-Batteriebank darf nicht angeschlossen werden.

35 UL-anerkannte Kabel mit mindestens 18 AWG sollten vom Installateur bereitgestellt werden.

36 UL-anerkannte Kabel mit mindestens 22 AWG sollten vom Installateur bereitgestellt werden.

37 **Vorsicht:** Die Stromversorgung des Hub darf nur ьber den Adapter erfolgen.

38 Bei der Installation in einer geschlossenen oder einer mehrere Einheiten umfassenden Anordnung kann die Temperatur der Betriebsumgebung die Raumtemperatur ьbersteigen. Es sollte deshalb darauf geachtet werden, das die Ausrьstung in einer Umgebung installiert wird, die der maximalen Nennumgebungstemperatur (Tmra) des Herstellers entspricht.

39 **Vorsicht:** Beim Installieren der Ausrьstung in einem Rack ist darauf zu achten, dass der fьr den sicheren Betrieb der Ausrьstung erforderliche Luftfluss nicht beeintrдchtigt wird.

40  **Achtung:** Es sollte eine zuverlдssige Erdung der rackmontierten Ausrьstung aufrechterhalten werden. Andere Versorgungsleitungen als direkte Verbindungen zu den Zweigschaltungen (z. B. Verwendung von Verlдngerungskabeln) sollten besonders sorgfдltig erwogen werden.

Telekommunikationskonformitдtshinweise

41 

Achtung: Bei der Verwendung Ihrer Telefonausrьstung sollten zur Reduzierung der Brand-, Stromschlag und Verletzungsgefahr stets grundsдtzliche Sicherheitsrichtlinien, einschlieЯlich der folgenden, befolgt werden:

Verwenden Sie dieses Produkt nicht in der Nдhe von Wasser, zum Beispiel in der Nдhe einer Badewanne, einer Waschschьssel, eines Spьlbeckens, eines Waschbottichs, in einem nassen Kellerraum oder in der Nдhe eines Schwimmbads.

Vermeiden Sie die Verwendung eines Telefons (mit Ausnahme eines schnurlosen Typs) wдhrend eines Gewitters. Es kцnnte eine geringfьgige Blitzschlaggefahr bestehen.

Verwenden Sie das Telefon nicht, um das Austreten von Gas zu melden, wenn es sich in der Nдhe dieser Gefahrenquelle befindet.

42 

Achtung: Vergewissern Sie sich vor dem Anschluss der Telefonports (TEL) am Gateway-Gerдt, dass die Verbindung des Gebдudes zum цffentlichen Telefonnetz (PTSN) unterbrochen ist.

43 **Achtung:** Verwenden Sie zur Reduzierung der Brandgefahr nur Telekommunikationsleitungskabel Nr. 26 AWG oder stдrkeres Kabel.

Avisos de seguridad láser

1  **Atenciyn:** Producto lбser de clase 1.

2  **Atenciyn:** No mire el rayo lбser.

Avisos de seguridad elйctricas

3  **Atenciyn:** Para evitar la electrocuciyn, no quite la tapa. La unidad no contiene piezas que pueda reparar el usuario. Esta unidad contiene tensiones peligrosas y sylo la debe abrir un tйcnico convenientemente formado y cualificado. Para evitar todo riesgo de electrocuciyn, desconecte la alimentaciyn elйctrica del producto antes de conectar o desconectar los cables de la LAN.

4  **Atenciyn:** No manipule el equipo ni los cables mientras haya rayos en la atmysfera.

5  **Atenciyn:** El cable de alimentaciyn se utiliza como dispositivo de desconexiyn. Para desactivar el equipo, desconecte el cable de alimentaciyn.

6  **Atenciyn:** Equipo de Clase I. Este equipo debe conectarse a tierra. La clavija de alimentaciyn se debe enchufar a una toma elйctrica convenientemente conectada a tierra. El uso de una toma mal conectada podrнa provocar tensiones peligrosas en las piezas metбlicas accesibles para el usuario.

7 El equipo requiere conexiyn. La toma elйctrica debe estar situada cerca del equipo y ser de fбcil acceso.

8  **Precauciyn:** Las rejillas de ventilaciyn no deben estar obstruidas y deben tener libre acceso al aire de la sala para facilitar la refrigeraciyn.

9 **Atenciyn:** Temperatura de funcionamiento. Este producto estб disecado para funcionar con una temperatura ambiente mбxima de 40 єC.

10 Todos los paнses: Instale el producto de acuerdo con las recomendaciones de la normativa sobre instalaciones elйctricas de su paнs.

11  **Atenciyn:** Como medida de seguridad, instale un disyuntor con un valor mнnimo de 20 A entre el equipo y la toma de alimentaciyn CC.

Conecte siempre los cables a los equipos de la LAN antes de conectarlos al disyuntor. No trabaje con cables activos para evitar el riesgo de lesiones fнsicas derivadas de una descarga elйctrica. Asegъrese siempre de que el disyuntor estб en la posiciyn desconectada antes de conectar los cables.

12  **Atenciyn:** No pele mбs que la longitud recomendable de cable. Si se supera dicha longitud, puede producirse un riesgo al quedar cable al descubierto en el bloque de terminales despuйs de la instalaciyn.

13  **Atenciyn:** Cuando instale el equipo, asegъrese de instalar primero la conexiyn a tierra del bastidor y de desconectarla en ъltimo lugar.

14  **Atenciyn:** Compruebe si hay algъn hilo de cobre al descubierto que proceda del cable instalado. Cuando la instalaciyn se realiza correctamente, no debe quedar ningъn hilo de cobre al descubierto fuera del bloque de terminales. Todo cable descubierto puede conducir un nivel peligroso de electricidad a las personas que lo toquen.

15 Este sistema funciona con sistemas CC con conexiyn a tierra positiva y negativa.

16 **Atenciyn:** Este equipo sylo debe ser instalado y manipulado por personal convenientemente formado y cualificado.

17  **Precauciyn:** Utilice los soportes de montaje que acompacan al dispositivo para montarlo en un muro.

18  **Precauciyn:** No instale el dispositivo expuesto a la luz solar directa ni en un lugar hъmedo o con polvo.

19  **Precauciyn:** No exponga el dispositivo de puerta de enlace a la humedad o el agua.

20  **Precauciyn:** Si el dispositivo de puerta de enlace se instala en el exterior, asegъrese de que el entorno estй libre de polvo. El emplazamiento debe permitir un acceso fбcil a los puertos del dispositivo de puerta de enlace. De esta forma, resultarб fбcil conectar y desconectar los cables y ver los indicadores LED.

21 **Atenciyn:** La toma elйctrica de la unidad de puerta de enlace debe estar situada cerca de la unidad y ser de fбcil acceso.

22  **Precauciyn:** Para permitir la refrigeraciyn adecuada del dispositivo de puerta de enlace, asegъrese de no limitar la circulaciyn de aire alrededor de la unidad ni a travйs de las aletas de refrigeraciyn del radiador de la parte trasera.

23 Sobrecarga de circuitos: Tenga en cuenta la conexiyn del equipo al circuito de alimentaciyn y el posible efecto de la sobrecarga de los circuitos en la protecciyn contra excesos de corriente y en los cables de alimentaciyn. Para ello, consulte los valores que se indican en la placa de caracterнsticas del equipo.

24 **Precauciyn:** Si la baterна se sustituye por otra de tipo incorrecto, existe un peligro de explosiyn. Sustitъyala ъnicamente por otra baterна del mismo tipo, o equivalente, recomendada por el fabricante. Deseche la baterна de acuerdo con las instrucciones del fabricante.

25 **Atenciyn:** En el caso de una conexiyn CC centralizada, instale la unidad en una zona de acceso restringido.

26 Utilice un cable de control para la conexiyn a la toma elйctrica si la unidad utiliza alimentaciyn CC centralizada. El cable de control debe ser de tipo TC, figurar en la lista UL y tener una capacidad nominal de 600 V y 90 єC, con tres conductores y de un mнnimo de14 AWG.

27 **Atenciyn:** Si el equipo se monta en un rack, se deberб evitar todo peligro de irregularidad en la carga mecбnica.

28  **Atenciyn:** Quнtese todas las joyas metбlicas, como anillos y relojes, antes de instalar o quitar una tarjeta de red de un chasis con alimentaciyn elйctrica.

29 Utilice circuitos de alimentaciyn dedicados o acondicionadores de alimentaciyn para suministrar energна elйctrica fiable al dispositivo.

30 **Atenciyn:** El chasis puede ser pesado y difнcil de levantar. Allied Telesyn recomienda buscar ayuda para montar el chasis en un rack.

31  **Atenciyn:** No mire directamente los extremos del cable de fibra yptica ni los inspeccione con una lente yptica.

32  **Atenciyn:** Esta unidad puede tener mбs de un cable de alimentaciyn. Para reducir el peligro de electrocuciyn, desconecte todos los cables de alimentaciyn antes de manipular la unidad.

33 **Atenciyn:** Este equipo sylo debe ser instalado y manipulado por personal convenientemente formado y cualificado.

34 **Atenciyn:** La alimentaciyn sylo debe proceder de una toma SELV, conforme a la norma UEC 60950. No conecte la unidad a un banco centralizado de baterнas CC.

35 El instalador debe suministrar cables que figuren en la lista UL de un mнnimo de 18 AWG.

36 El instalador debe suministrar cables que figuren en la lista UL de un mнnimo de 22 AWG.

37 **Precauciyn:** La alimentaciyn del concentrador sylo debe proceder del adaptador.

38 Si la unidad se instala en un conjunto de rack cerrado o con varias unidades, la temperatura ambiente de funcionamiento del entorno del rack puede ser superior a la de la sala. El equipo se debe instalar en un entorno que no supere la temperatura ambiente nominal mбxima (Tmra) indicada por el fabricante.

39 **Precauciyn:** La instalaciyn en un rack debe realizarse de forma que se garantice el caudal de aire necesario para el buen funcionamiento del equipo.

40  **Atenciyn:** Se debe mantener en todo momento la fiabilidad de la conexiyn a tierra de los equipos montados en rack. Preste especial atenciyn a las conexiones que no procedan directamente de los circuitos de bifurcaciyn (por ej., regletas de conexiyn).

Avisos de conformidad de telecomunicaciones

41 

Atenciyn: Cuando utilice su equipo telefynico, deberб adoptar las siguientes precauciones de seguridad bбsicas para reducir el riesgo de incendio, descarga electrynica y lesiones:

No utilice este producto en zonas hъmedas; por ejemplo, cerca de una bacera, un lavabo o un fregadero, en un sytano hъmedo o cerca de una piscina.

Evite el uso de telйfonos no inalбmbricos durante una tormenta elйctrica. a fin de evitar el riesgo de electrocuciyn como consecuencia de un rayo.

No utilice el telйfono para notificar una fuga de gas en las inmediaciones de la misma.

42 

Atenciyn: Antes de realizar la conexiyn a los puertos de telefonна (TEL) del dispositivo de puerta de enlace, asegъrese de desconectar la alimentaciyn de la red telefynica conmutada pъblica (PSTN/RTC) de las instalaciones.

43 **Atenciyn:** Utilice sylo cable de telecomunicaciyn 26 AWG o superior para reducir el riesgo de incendio.

Avis de sécurité laser

1  **Avertissement:** Produit laser de classe 1.

2  **Avertissement:** Ne pas observer directement le rayon laser.

Avis de sйcuritй йlectrique

3  **Avertissement:** Pour йviter tout risque d'йlectrocution, ne pas dйposer le capot. L'appareil ne contient aucun composant rйparable par l'utilisateur. Il est exposй a des tensions dangereuses et ne doit кtre ouvert que par un technicien compйtent et qualifiй. Pour йviter tout risque d'йlectrocution, dйbrancher l'alimentation йlectrique du produit avant de connecter ou de dйconnecter les сbles de rйseau local.

4  **Avertissement:** Ne pas travailler sur cet йquipement ni sur ses сbles en prйsence de foudre.

5  **Avertissement:** Le cordon d'alimentation est utilisй en tant que mйcanisme de dйconnexion. Pour mettre l'йquipement hors tension, dйbrancher le cordon d'alimentation.

6  **Avertissement:** Йquipement de classe I. Cet йquipement doit кtre mis a la terre. La prise d'alimentation doit кtre branchйe sur une sortie d'alimentation correctement mise a la terre. Dans le cas contraire, les piиces mйtalliques accessibles risquent d'кtre soumises a des tensions dangereuses.

7 Йquipement a connecter. La prise d'alimentation doit se situer a proximitй de l'йquipement et кtre facilement accessible.

8  **Attention:** Les orifices de ventilation doivent rester libres de toute obstruction pour pouvoir assurer le refroidissement par l'air de la piиce.

9 **Avertissement:** Tempйrature de fonctionnement. Ce produit a йtй conзu pour fonctionner a une tempйrature ambiante maximum de 40° C.

10 Dans tous les pays: installer le produit conformйment aux rйglementations йlectriques nationales et locales.

11 

Avertissement: Par mesure de sйcuritй, installer un coupe-circuit d'une intensitй minimum de 20 ampиre entre l'йquipement et la source d'alimentation en courant continu.

Toujours connecter les fils a l'йquipement de rйseau local avant de les raccorder au coupe-circuit. Ne pas travailler sur des composants d'alimentation CHAUDS pour йviter tout risque d'accident corporel par йlectrocution. Toujours s'assurer que le coupe-circuit est DЙSACTIVЙ avant de connecter les fils au coupe-circuit.

12 

Avertissement: Respecter les recommandations pour dйnuder les fils. Un dйnudage excessif risque de prйsenter des risques pour la sйcuritй en laissant le fil exposй sur le bornier aprиs l'installation.

13 

Avertissement: Lors de l'installation de cet йquipement, toujours s'assurer que la connexion de terre de la structure est installйe en premier et dйconnectйe en dernier.

14 

Avertissement: Vйrifier la prйsence de fils de cuivre exposйs sur le cвble d'installation. Si l'installation a йtй correctement rйalisйe, aucun fil de cuivre sortant du bornier ne doit кtre exposй. Tout fil exposй peut exposer les personnes qui y touchent a une tension dangereuse.

15 Ce systиme fonctionne avec les mйcanismes c.c. de mise a la terre nйgative ou positive.

16 **Avertissement:** Seul le personnel qualifiй et compйtent est autorisй a installer ou a remplacer cet йquipement.

17 

Attention: Les supports de montage fournis doivent кtre utilisйs pour fixer l'йquipement au mur.

18 

Attention: Ne pas installer l'йquipement au soleil, ni dans un endroit humide ou poussiйreux.

19 

Attention: Ne pas exposer le pйriphйrique servant de passerelle a l'eau ou l'humiditй.

20 **Attention:** Si le pйriphйrique servant de passerelle est installй a l'intйrieur, s'assurer qu'il se trouve dans en endroit non poussiйreux. Le site doit offrir un accиs aisй au port du pйriphйrique servant de passerelle afin de faciliter la connexion et la dйconnexion des cвbles, tout en permettant d'observer aisйment les voyants.

21 **Avertissement:** La source d'alimentation d'une unitй servant de passerelle doit se situer a proximitй de l'unitй et rester facilement accessible.

22 **Attention:** Pour permettre le refroidissement correct de l'unitй servant de passerelle, s'assurer que l'air circule librement autour de l'unitй et a travers les ailettes du dissipateur thermique a l'arriиre.

23 Surcharge du circuit: En connectant l'йquipement au circuit d'alimentation, tenir compte des rйpercussions йventuelles d'une surcharge du circuit sur la protection contre les surcharges et le cвblage d'alimentation. Tenir compte des valeurs nominales indiquйes sur la plaque signalйtique de l'йquipement.

24 **Attention:** Le remplacement de la batterie par une batterie de type incorrect peut provoquer un danger d'explosion. La remplacer uniquement par une batterie du mкme type ou de type йquivalent recommandйe par le constructeur. Les batteries doivent кtre йliminйes conformйment aux instructions du constructeur.

25 **Avertissement:** Pour une connexion d'alimentation c.c. centralisйe, installer uniquement dans un emplacement d'accиs limitй.

26 Un chemin de cвble doit кtre utilisй pour la connexion a la source d'alimentation si l'unitй est alimentйe par alimentation c.c. centralisйe. Le chemin de cвble doit кtre de type TC agrйй UL, intensitй nominale de 600 V, 90 °C, trois conducteurs, 14 AWG minimum.

27 **Avertissement:** L'installation de l'йquipement sur un rack doit se faire sans provoquer de danger par un chargement mйcanique dйsйquilibrй.

28 **Avertissement:** Retirer les bijoux en mйtal, tels que les bagues et les montres, avant d'installer ou de retirer une carte d'un chвssis sous tension.

29 Utiliser des circuits d'alimentation ou des unitиs de conditionnement dиdiиs pour fournir une alimentation иlectrique fiable a l'иquipement.

30 **Avertissement:** Le chвssis peut кtre lourd et difficile a soulever. Allied Telesyn recommande de demander de l'aide pour installer le chвssis dans un rack.

31  **Avertissement:** Ne pas observer directement l'extrиmitи des cвbles en fibres optiques ou les inspecter a l'aide d'un objectif optique.

32  **Avertissement:** Cette unitи peut кtre иquipиe de plusieurs cordons d'alimentation. Pour rиduire les risques d'иlectrocution, dиbrancher tous les cordons d'alimentation avant de procиder a la maintenance de l'unitи.

33 **Avertissement:** Seul le personnel qualifiи et compиtent est autorisи a installer ou a remplacer cet иquipement.

34 **Avertissement:** L'alimentation doit кtre fournie par une source SELV uniquement, conformиment a la norme IEC 60950. Ne pas connecter a une rangиe de batteries c.c. centralisиe.

35 L'installateur doit fournir des fils de 18 AWG agrииs UL.

36 L'installateur doit fournir des fils de 22 AWG agrииs UL.

37 **Attention:** Le concentrateur doit uniquement кtre alimentи par l'adaptateur.

38 Si l'иquipement est installи dans un rack fermи ou a plusieurs unitиs, la tempиrature ambiante de fonctionnement du rack risque d'кtre supиrieure a la tempиrature ambiante de la piиce. Il convient d'en tenir compte avant d'installer l'иquipement dans un environnement conforme a la tempиrature ambiante maximum du constructeur.

39 **Attention:** Rиduction de la circulation d'air: l'installation de l'иquipement dans un rack ne doit pas compromettre la circulation d'air requise pour son fonctionnement sиcurisи.

40  **Avertissement:** Une terre fiable doit кtre maintenue sur l'иquipement en rack. Faire plus particuliиrement attention aux connexions d'alimentation autres que les connexions directes sur les circuits de dиrivation (par ex. utilisation de barrettes d'alimentation).

Tйlйcommunications – Avis de conformitй

41 

Avertissement: Les prйcautions йlйmentaires de sйcuritй doivent кtre systйmatiquement respectйes en utilisant l'йquipement tйlйphonique pour rйduire les risques d'incendie, d'йlectrocution et d'accident corporel, notamment:

Ne pas utiliser ce produit prиs d'une source d'eau, telle qu'une baignoire, un lavabo, un йvier ou un baquet dans un sous-sol humide ou prиs d'une piscine.

Йviter d'utiliser le tйlйphone (autre que sans fil) en prйsence de foudre pendant un orage. La foudre peut entraoner un lйger risque d'йlectrocution.

Ne pas utiliser le tйlйphone pour signaler une fuite de gaz a proximitй de la fuite.

42 

Avertissement: Avant de connecter les ports tйlйphoniques (TEL) sur le prйriphйrique servant de passerelle, veiller a dйconnecter les alimentations RTPC (rйseau tйlйphonique public commutй) du local.

43 **Avertissement:** Pour rйduire les risques d'incendie, utiliser uniquement un cordon de tйlйcommunication n° 26 AWG ou supйrieur.

Indicazioni sulla sicurezza laser

1  **Avvertenza:** Prodotto laser Classe 1.

2  **Avvertenza:** Non fissare il raggio laser.

Indicazioni sulla sicurezza elettrica

3  **Avvertenza:** Per evitare scosse elettriche, non rimuovere la copertura. All'interno non sono presenti componenti utilizzabili dall'utente. Questa unita presenta voltaggi rischiosi e deve essere aperta solo da un tecnico qualificato ed esperto. Per eliminare il rischio di scosse elettriche, scollegare il cavo di alimentazione del prodotto prima di collegare o scollegare i cavi della rete locale LAN.

4  **Pericolo:** Non utilizzare l'apparecchiatura o maneggiare i cavi in caso di lampi.

5  **Attenzione:** Il cavo di alimentazione viene utilizzato come dispositivo di scollegamento. Per togliere la corrente all'apparecchiatura, scollegare il cavo di alimentazione.

6  **Attenzione:** Apparecchiatura Classe I. Questa apparecchiatura deve essere messa a terra. Il cavo di alimentazione deve essere collegato a un socket correttamente cablato e messo a terra. Un socket non correttamente cablato potrebbe trasferire voltaggi pericolosi su componenti di metallo accessibili.

7 Apparecchiatura cablata. Il socket deve essere installato accanto all'apparecchiatura e deve essere facilmente accessibile.

8  **Attenzione:** Le prese d'aria non devono essere ostruite e devono avere libero accesso all'aria dell'ambiente per raffreddare l'apparecchiatura.

9 Temperatura di esercizio. Questo prodotto и progettato per una temperatura ambiente massima di 40°C.

10 Per tutti i paesi: Installare il prodotto in conformita con le normative sull'elettricita locali e nazionali.

11 

Avvertenza: Per precauzione, installare un salvavita con un valore minimo di 20 ampere tra l'apparecchiatura e la fonte di alimentazione CC.

Collegare i cavi all'apparecchiatura LAN prima di collegarli al salvavita. Per evitare il rischio di danni fisici causati da scosse elettriche, non utilizzare l'apparecchiatura ad alte temperature. Verificare che il salvavita sia in posizione OFF prima di collegare i cavi.

12 

Avvertenza: Non scollegare piщ cavi di quelli raccomandati: puт essere pericoloso lasciare dei cavi esposti sul blocco terminale dopo l'installazione.

13 

Avvertenza: Quando si installa l'apparecchiatura, verificare che il collegamento di messa a terra FG (frame ground) sia installato per primo e disinstallato per ultimo.

14 

Avvertenza: Verificare che non sporgano fili di rame dai cavi installati. Se l'installazione viene effettuata correttamente, non vi sono fili di rame scoperti, sporgenti dal blocco terminale. Gli eventuali fili scoperti possono condurre livelli di elettricita dannosi sulle persone che li toccano.

15 Questa apparecchiatura funziona con sistemi CC con messa a terra a polarita positiva o negativa.

16 **Avvertenza:** Solo personale esperto e qualificato puт installare o sostituire l'apparecchiatura.

17 

Attenzione: Per un montaggio a muro sicuro del dispositivo, и necessario utilizzare i supporti di montaggio forniti in dotazione.

18 

Attenzione: Non installare il dispositivo in un luogo esposto alla luce solare, umido o polveroso.

19 

Attenzione: Non esporre il dispositivo gateway all'umidita o all'acqua.

20 

Attenzione: Se il gateway и installato in un ambiente chiuso, verificare che l'ambiente sia privo di polvere. Il sito di installazione dovrebbe disporre di un facile accesso alle porte del gateway. Questo vi consentira di collegare e scollegare i cavi e visualizzare i LED in modo semplice.

21 **Avvertenza:** La fonte di alimentazione dell'unita gateway deve essere posizionata vicino all'unita, in un luogo facilmente accessibile.

22  **Attenzione:** Per consentire il raffreddamento appropriato del dispositivo gateway, verificare che il flusso d'aria attorno all'unita e attraverso le ventole di raffreddamento per la dispersione del calore poste sul retro non sia ostruito.

23 Sovraccarico del circuito: Prestare attenzione al collegamento dell'apparecchiatura al circuito di alimentazione e all'effetto che il sovraccarico dei circuiti potrebbe avere sulla protezione contro i sovraccarichi di corrente e sui cavi di alimentazione. In tal senso, tenere presente i valori riportati sull'etichetta dell'apparecchiatura.

24 **Attenzione:** Se si sostituisce la batteria con un tipo di batteria non corretto, si rischia di provocare un'esplosione. Sostituire la batteria solo con una dello stesso tipo o di un tipo equivalente raccomandato dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

25 **Avvertenza:** In caso di alimentazione CC centralizzata, installare l'apparecchiatura solo in aree ad accesso limitato.

26 Se l'unita ha un'alimentazione CC centralizzata, и necessario un cavo di tipo TC approvato UL, valutato a 600 V e 90°C, con tre conduttori, di minimo 14 AWG.

27 **Avvertenza:** Il montaggio dell'apparecchiatura in rack deve essere effettuato in modo da evitare di provocare rischi dovuti a un carico meccanico irregolare.

28  **Avvertenza:** Rimuovere tutti gli oggetti di metallo, ad esempio anelli e orologi, prima di installare o estrarre una scheda di linea da un chassis acceso.

29 Utilizzare circuiti di alimentazione o alimentatori dedicati per fornire energia elettrica al dispositivo in modo affidabile.

30 **Avvertenza:** Il chassis potrebbe risultare pesante e scomodo da sollevare. Allied Telesyn consiglia di richiedere assistenza per il montaggio del chassis in rack.

31  **Avvertenza:** Non osservare le estremita dei cavi a fibre ottiche direttamente oppure attraverso una lente ottica.

32  **Avvertenza:** Questa unita potrebbe disporre di piщ cavi di alimentazione. Per ridurre il rischio di scosse elettriche, scollegare tutti i cavi di alimentazione prima di iniziare la manutenzione dell'unita.

33 **Avvertenza:** Solo personale esperto e qualificato рит installare o sostituire l'apparecchiatura.

34 **Avvertenza:** L'alimentazione deve essere fornita da una fonte SELV, come specificato nello standard IEC 60950. Non collegare il dispositivo a una batteria CC centralizzata.

35 I cavi riconosciuti UL di minimo 18 AWG non sono forniti in dotazione.

36 I cavi riconosciuti UL di minimo 22 AWG non sono forniti in dotazione.

37 **Attenzione:** L'hub deve essere alimentato solo mediante l'adattatore.

38 Se l'installazione и posizionata in un ambiente chiuso o in rack multi-unita, la temperatura operativa del rack potrebbe essere maggiore della temperatura ambiente. Per questo motivo, installare l'apparecchiatura in un ambiente compatibile con la temperatura ambiente massima stimata dal produttore (Tmra).

39 **Attenzione:** L'installazione dell'apparecchiatura in rack dovrebbe essere effettuata in modo che il flusso d'aria richiesto per un funzionamento sicuro non venga compromesso.

40  **Attenzione:** *И* necessario mantenere la messa a terra dell'apparecchiatura montata in rack. Prestare particolare attenzione ai collegamenti di alimentazione non CC ai circuiti periferici (ad esempio all'uso dei cavi di alimentazione).

Indicazioni per la conformita con le norme sulle telecomunicazioni

41 

Avvertenza: Quando si utilizza l'apparecchiatura telefonica, per ridurre il rischio di incendio, scosse elettriche e danni alle persone, и necessario seguire alcune precauzioni di base per la sicurezza, ad esempio:

Non utilizzare il prodotto in prossimita di acqua, ad esempio, vicino a vasche da bagno, lavabi, lavandini, piscine oppure in ambienti umidi.

Non utilizzare un telefono (di tipo non cordless) durante un temporale: esiste il rischio remoto che i lampi provochino scosse elettriche.

Per segnalare una perdita di gas, non utilizzare il telefono in prossimita della perdita.

42 

Avvertenza: Prima di utilizzare le porte per il collegamento telefonico (TEL) del dispositivo gateway, verificare che la rete telefonica pubblica (PSTN) sia disconnessa.

43 Per ridurre il rischio di incendi, utilizzare solo un cavo di linea telefonica di 26 AWG o superiore.

Лазерная безопасность

1  **Внимание:** лазерный продукт, класс 1.

2  **Внимание:** Не смотрите прямо в лазерный луч.

Электрическая безопасность

3  **Внимание:** Для предотвращения электрического шока, не снимайте кожух. Внутри нет частей, подлежащих обслуживанию пользователем. Этот устройство – под опасным напряжением и должно открываться только обученным и квалифицированным инженером. Для избежания возможности поражения электрическим током, отсоедините питание перед соединением или отсоединением сетевых кабелей LAN.

4  **Внимание:** Не работайте с оборудованием во время грозы.

5  **Внимание:** Кабель питания используется для отсоединения. Для отсоединения оборудования, отсоедините кабель питания.

6  **Внимание:** Оборудование Класса I. Это оборудование должно быть заземлено. Вилка питания должны быть присоединена к соответствующим образом подключенному заземлению. Неправильное соединение может подвергнуть доступные металлические части действию опасного напряжения.

7 Розетки. Розетка должна быть установлена невдалеке от оборудования и должна быть легко доступной.

8  **Предостережение:** Вентиляционные отверстия не должны быть заблокированы и должен быть свободный доступ к воздуху в комнате для охлаждения.

9 **Внимание:** Рабочая температура. Этот продукт предусмотрен для температуры окружающего воздуха не выше + 40° C.

10 Во всех странах: Инсталлируйте продукт в соответствии с национальными нормами электротехники.

11  **Внимание:** Для безопасности установите прерыватель для максимальной силы тока 15 ампер между оборудованием и источником постоянного тока.

Всегда подсоединяйте провода к сетевому оборудованию (LAN) перед тем, как присоединять кабели к прерывателю. Не работайте с кабелями под напряжением, чтобы избежать поражения электротоком. Перед присоединением проводов к прерывателю, убедитесь, что прерыватель находится в положении ВЫКЛ (OFF).

12  **Внимание:** Не очищайте от изоляции провод больше, чем рекомендовано. Чрезмерное очищение кабеля может составлять опасность после инсталляции.

13  **Внимание:** При инсталляции оборудования, убедитесь, что заземление подключается в первую, а отключается в последнюю очередь.

14  **Внимание:** Проверьте, нет ли на инсталлированных проводков на кабеле. При правильной инсталляции на терминале свободных проводков быть не должно. Открытые провода могут представлять опасность электрического поражения тем лицам, которые прикасаются к проводам.

15 Эта система действует как с плюсовым, так и минусовым заземлением постоянного тока.

16 **Внимание:** Это оборудование должно быть инсталлировано только обученными и квалифицированным работниками.

17  **Предостережение:** Оборудование должно быть надежно прикреплено к стене с помощью скоб.

18  **Предостережение:** Не инсталлируйте на солнцепеке, во влажном или пыльном месте.

19  **Предостережение:** Не подвергайте шлюзовую установку действию влажности или воды.

20  **Предостережение:** Если шлюзовая установка инсталлируется в помещении, позаботьтесь, чтобы в помещении не было пыли. Должен быть обеспечен легкий доступ к портам оборудования, чтобы Вам было легко соединять и отсоединять кабели и видеть светодиоды.

21 **Внимание:** Источник питания должен быть невдалеке от установки, и к нему должен быть удобный доступ.

22  **Предостережение:** Для хорошей вентиляции шлюзовой установки, позаботьтесь, чтобы вокруг установки и через вентиляционные решетки мог свободно циркулировать воздух.

23 Перегрузка контура: Следует подумать о том, какое количество оборудования присоединяется к контуру питания и на возможный эффект перегрузки контуров на защиту перегрузки и провода питания. Следует обращать внимание на указанные предельные показатели на фабричных табличках.

24 **Предостережение:** Возможен взрыв при замене неправильным типом батареи. Заменяйте только тем же или эквивалентным типом, рекомендованным производителем. Утилизируйте использованные батареи только в соответствии с указаниями производителя.

25 **Внимание:** Для централизованного подсоединения постоянного тока, устанавливайте только в помещении, доступ к которому ограничен.

26 Для подсоединения источника питания, если установка питается централизованным постоянным током, требуется желобной кабель. Кабель должен быть признанным UL типа и предназначен для 600 В и + 90°C, с тремя кондукторами, минимум 14 AWG (американский калибр).

27 **Внимание:** Установка оборудования на раме должна быть такой, чтобы не создавалось опасности от неровной механической нагрузки.

28  **Внимание:** Снимите все механические украшения, кольца и часы, перед инсталляцией и удалением линейной карты с корпуса под напряжением.

29 Для надежного питания используйте отдельные контуры питания и выравниватели энергии.

30 **Внимание:** Корпус может быть тяжелым и поднять его может быть сложно. Allied Telesyn рекомендует, что при установке корпуса на раме Вам необходимо обеспечить соответствующую помощь.

31  **Внимание:** Не смотрите прямо на торцы волоконно-оптического кабеля и не инспектируйте торцы кабеля с помощью оптической линзы.

32  **Внимание:** Установка может быть оборудована несколькими проводами питания. Перед техническим обслуживанием установки, отсоедините все провода питания.

33 **Внимание:** Оборудование должно обслуживаться и заменяться только обученными и квалифицированными работниками.

34 **Внимание:** Питание должно подаваться только от источника SELV, в соответствии с IEC 60950. Не подключайте к централизованному блоку аккумуляторов постоянного тока.

35 Инсталлятор должен обеспечивать провода, признанные UL, минимум 18 AWG.

36 Инсталлятор должен обеспечивать провода, признанные UL минимум 22 AWG.

37 **Предостережение:** Питание на узел должно подаваться только с адаптера.

38 При монтировке на раме с несколькими установками или в закрытом контуре, рабочая температура оборудования на раме может быть выше, чем температура окружающей среды. Поэтому следует позаботиться о том, чтобы температура не превышала максимальной температуры окружающей среды, указанной производителем (Tmra).

39 **Предостережение:** Уменьшенный воздушный поток: инсталляция оборудования на раме должна быть такой, чтобы не ограничивать циркуляцию воздуха, необходимую для безопасной работы оборудования.

40  **Внимание:** Оборудование на раме необходимо надежно заземлять. Особое внимание следует обращать на соединения питания, помимо прямых соединений к веткам контура (например, на розеточные блоки).

Телекоммуникационное соответствие

41 

Внимание: При использовании телефонного оборудования, всегда следует обращать внимания на требования безопасности для снижения риска пожара, поражения током и ранения, в том числе:

Не используйте оборудование рядом с водой – например ванной, раковиной или стиральным резервуаров или в мокром подвале рядом с бассейном.

Во время электрической бури не используйте телефон (кроме беспроводного). Есть некоторый риск поражения от молнии.

Не используйте телефон для сообщения об утечке газа вблизи от утечки.

42 

Внимание: Перед соединения к телефонным портам (TEL) на шлюзовой установке, отсоедините городской телефон (PSTN) от помещения.

43 **Внимание:** Для снижения риска пожара, используйте коммуникационный кабель не меньше 26 AWG.