Allied Telesyn

Simply Connecting the World

# *AT-FS713FC/xx*
# *AT-FS717FC/xx*

*10/100 Mbps Ethernet Switches*

# *Installation Guide*

PN 613-50268-00 Rev A

# Electrical Safety and Emission Compliance Statement

Standards: This product meets the following standards.

| U.S. Federal Communications Commission |
|---|
| RADIATED ENERGY<br>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.<br>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.<br>Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada. |

| | |
|---|---|
| RFI Emission | FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3 ✍ 1 |

WARNING: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. ✍ 2

| | |
|---|---|
| Immunity | EN55024 ✍ 3 |
| Electrical Safety | UL 1950 (UL/cUL), EN60950 (TUV), EN60825 ✍ 4 |

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

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

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

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

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

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

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

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

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

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

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

# Table of Contents

# Welcome to Allied Telesyn

The guide contains instructions on how to install the AT-FS713FC/xx and AT-FS717FC/xx Series Ethernet Switches.

## Where to Find Web-based Guides

The Allied Telesyn web site at **www.alliedtelesyn.com** provides you with an easy way to access the most recent documentation, software, and technical information for all of our products. For product guides, select "Support & Services" from our web site.

## Document Conventions

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

**Note**
A note provides additional information.

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

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

## Contacting Allied Telesyn Technical Support

You can contact Allied Telesyn technical support online or by telephone, fax, or e-mail.

### Online Support

You can request technical support online by filling out the Technical Enquiry Form or by accessing the Knowledge Base. You can use the Knowledge Base to submit questions to our technical support staff and review answers to previously asked questions.

To access the Knowledge Base, select "Support & Services", then select "Help" from **www.alliedtelesyn.com**. To access the Technical Enquiry Form, select "Contact Us" from our web site.

### Telephone and Fax Support

For technical support via fax, please fill out the "Technical Support Fax Order" on page 35 and send it to the appropriate location listed below.

**Americas**
United States, Canada, Mexico, Central America, South America
Tel: 1 (800) 428-4835, option 4
Fax: 1 (425) 481-3790

**Asia**
Singapore, Taiwan, Thailand, Malaysia, Indonesia, Korea, Philippines, China, India, Hong Kong
Tel: (+65) 3815-612
Fax: (+65) 3833-830

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

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

**Germany**
Germany, Switzerland, Austria, Eastern Europe
Tel: (+49) 30-435-900-126
Fax: (+49) 30-435-70-650

**Italy**
Italy, Spain, Portugal, Greece, Turkey, Israel
Tel: (+39) 02-41-30-41
Fax: (+39) 02-41-30-42-00

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

**United Kingdom**
United Kingdom, Denmark, Norway, Sweden, Finland, Iceland
Tel: (+44) 1-235-442500
Fax: (+44) 1-235-442680

### Technical Support E-mail Addresses

**United States and Canada**
TS1@alliedtelesyn.com

**Latin America, Mexico, Puerto Rico, Caribbean, and Virgin Islands**
latin_america@alliedtelesyn.com

**Europe**
support_europe@alliedtelesyn.com

## Returning Products

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

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

**United States and Canada**
Toll-free: 1-800-428-4835, option 4
Fax: 1-425-481-3790

**Europe, Africa, and Middle East**
Tel: +44-1793-501401
Fax: +44-1793-431099

**Latin America, Caribbean, and Virgin Islands**
Tel: International code + 425-481-3852
Fax: International code + 425-481-3895

**Puerto Rico**
Tel: 1-800-424-5012, ext 3852 or
1-800-424-4284, ext 3852

**Mexico**
Toll-free: 800-424-5012, ext 3852
Fax: International code + 425-481-3895

**Asia and Southeast Asia**
Tel: +65 381-5612
Fax: +65 383-3830

**Australia**
Toll-free: 1-800-000-880
Fax: 2-9438-4966

**New Zealand**
Toll-free: 0800-45-5782

## FTP Server

If you need management software for an Allied Telesyn managed device and you know the file name of the software, you can download the software by connecting directly to our FTP server at **ftp.alliedtelesyn.com**. At login, enter 'anonymous' as the user name and your e-mail address as the password.

## For Sales or Corporate Information

You can contact Allied Telesyn for sales or corporate information at the location listed below:

**Allied Telesyn International Corp.**
19800 North Creek Parkway, Suite 200
Bothell, WA 98011
Tel: 1 (425) 487-8880
Fax: 1 (425) 489-9191

## Tell Us What You Think

If you have any comments or suggestions on how we might improve this or other Allied Telesyn documents, please fill out the General Enquiry Form online. This form can be accessed by selecting “Contact Us” at **www.alliedtelesyn.com**.

# Chapter 1
# Overview

The AT-FS713FC/xx and AT-FS717FC/xx Series Fast Ethernet Switches include the following models:

- AT-FS713FC/FJ
- AT-FS713FC/LC
- AT-FS713FC/MT
- AT-FS713FC/SC
- AT-FS713FC/ST
- AT-FS713FC/VF
- AT-FS717FC/FJ
- AT-FS717FC/LC
- AT-FS717FC/MT
- AT-FS717FC/SC
- AT-FS717FC/ST
- AT-FS717FC/VF

These units are unmanaged Layer 2 switches. These switches can be used as a 'bridge' between the different workgroups in your network or they can be used to create small workgroups with dedicated 10/100 Mbps links to your network devices. They can also be used to connect to other Ethernet switches so that they can be part of a larger Ethernet network.

The AT-FS713FC/xx Series Switches feature twelve 10/100Base-TX twisted pair ports and a 100Base-FX fiber optic port. The twisted pair ports have a RJ-45 connector and a maximum operating distance of 100 meters (328 feet). The fiber optic port has a FJ, LC, MT, SC, ST, or VF connector, depending on the model, and a maximum operating distance of 2 kilometers (1.2 miles).

The AT-FS717FC/xx Series Switches feature sixteen 10/100Base-TX twisted pair ports and a 100Base-FX fiber optic port. The twisted pair ports have a RJ-45 connector and a maximum operating distance of 100 meters (328 feet). The fiber optic port has a FJ, LC, MT, SC, ST, or VF connector, depending on the model, and a maximum operating distance of 2 kilometers (1.2 miles).

The fiber optic port operates at 100 Mbps and features half- and full-duplex operation. The twisted pair port operates at 10 or 100 Mbps and auto-negotiates the duplex mode.

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches are easy to install and do not require software configuration or management.

Figure 1 illustrates the front and back panels of an AT-FS713FC/xx Series Switch.

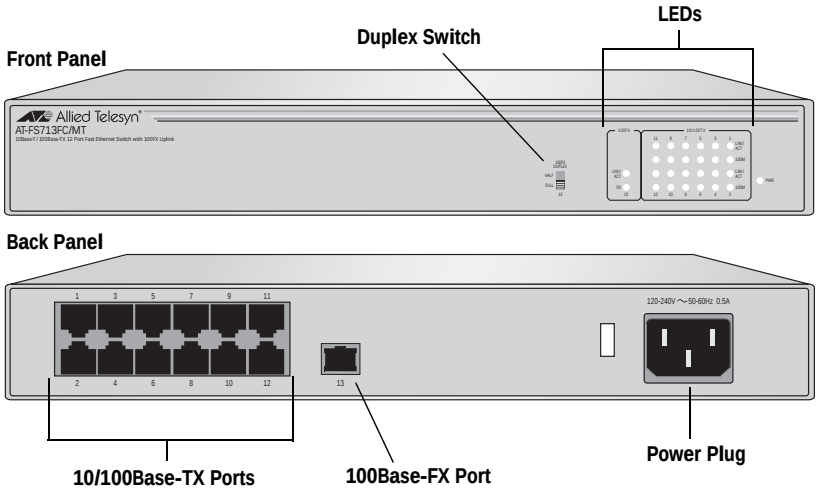


**Figure 1** AT-FS713FC/xx Series Switch (AT-FS713FC/MT Model)

Figure 2 illustrates the front and back panels of an AT-FS717FC/xx Series Switch.

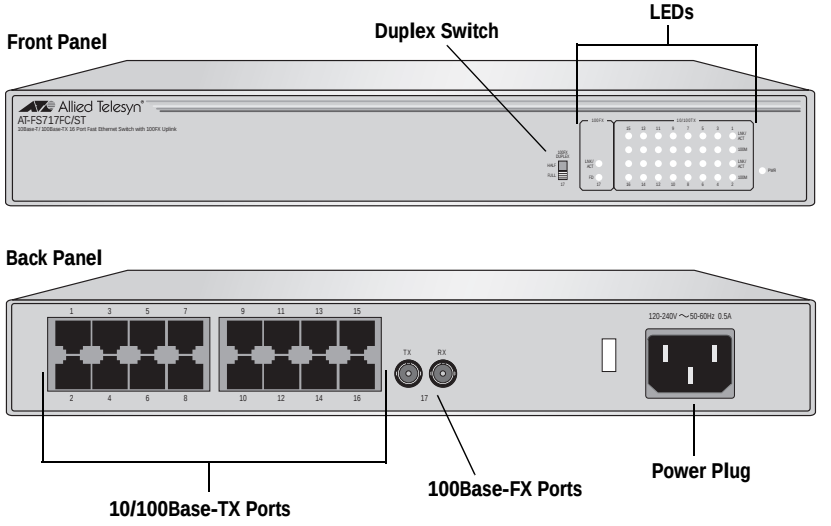


**Figure 2** AT-FS717FC/xx Series Switch (AT-FS717FC/ST Model)

Table 1 lists the maximum operating distances for the AT-FS713FC/xx Series Switches.

**Table 1** AT-FS713FC/xx Series Maximum Operating Distances

| Model | 10/100Base-TX | | 100Base-FX | |
|---|---|---|---|---|
| | Connector | Maximum Operating Distance | Connector | Maximum Operating Distance |
| AT-FS713FC/FJ | RJ-45 | 100 m (328 ft) | FJ | 2 km (1.2 mi) |
| AT-FS713FC/LC | RJ-45 | 100 m (328 ft) | LC | 2 km (1.2 mi) |
| AT-FS713FC/MT | RJ-45 | 100 m (328 ft) | MT | 2 km (1.2 mi) |
| AT-FS713FC/SC | RJ-45 | 100 m (328 ft) | SC | 2 km (1.2 mi) |
| AT-FS713FC/ST | RJ-45 | 100 m (328 ft) | ST | 2 km (1.2 mi) |
| AT-FS713FC/VF | RJ-45 | 100 m (328 ft) | VF | 2 km (1.2 mi) |

Table 2 lists the maximum operating distances for the AT-FS717FC/xx Series Switches.

**Table 2** AT-FS717FC/xx Series Maximum Operating Distances

| Model | 10/100Base-TX | | 100Base-FX | |
|---|---|---|---|---|
| | Connector | Maximum Operating Distance | Connector | Maximum Operating Distance |
| AT-FS717FC/FJ | RJ-45 | 100 m (328 ft) | FJ | 2 km (1.2 mi) |
| AT-FS717FC/LC | RJ-45 | 100 m (328 ft) | LC | 2 km (1.2 mi) |
| AT-FS717FC/MT | RJ-45 | 100 m (328 ft) | MT | 2 km (1.2 mi) |
| AT-FS717FC/SC | RJ-45 | 100 m (328 ft) | SC | 2 km (1.2 mi) |
| AT-FS717FC/ST | RJ-45 | 100 m (328 ft) | ST | 2 km (1.2 mi) |
| AT-FS713FC/VF | RJ-45 | 100 m (328 ft) | VF | 2 km (1.2 mi) |

## Features

- LEDs for unit and port status
- Auto MDI/MDI-X for the twisted pair ports
- Half- or full-duplex operation on the fiber optic port
- Auto-negotiation of the duplex mode on the twisted pair ports
- RJ-45 twisted pair connectors
- FJ, LC, MT, SC, ST, or VF fiber optic connector
- Store and forward Ethernet packet handling
- MAC address table with a capacity of 4,000 addresses

### Status LEDs

Table 3 defines the LEDs on the AT-FS713FC/xx and AT-FS717FC/xx Series Switches.

**Table 3** LEDs

| LED | Color | Description |
|---|---|---|
| PWR | Green | The switch is receiving power. |
| FD | Green | The fiber optic port is operating in full-duplex mode. |
| | OFF | The fiber optic port is operating in half-duplex mode. |
| 100M | Green | The twisted pair port is operating at 100 Mbps. |
| | OFF | The twisted pair port is operating at 10 Mbps. |
| LNK/ACT | Green | The port has established a valid link with the end-node connected to the port. |
| | Blinking Green | Activity is detected on the port. |
| | OFF | The port has not established a link with the end-node. |

## Twisted Pair Ports

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches have twelve and sixteen 10/100Base-TX twisted pair ports, respectively.

### Port Speed

The twisted pair ports are compliant with the 10Base-T and 10Base-TX standards and are capable of either 10 Mbps or 100 Mbps operation. The ports are IEEE 802.3u auto-negotiation compliant. The speed of the port is set automatically by the switch after determining the speed of the end-node connected to the port. Auto-negotiation is designed to ensure that each port on the switch and the end-node connected to each port are operating at the same speed and that they are communicating at the highest possible common speed of the devices.

### Duplex Mode

The twisted pair ports on the switches can operated in either half- or full-duplex mode and are set automatically through auto-negotiation. If the end-node is capable of full-duplex mode, the twisted pair port is set to full-duplex. If the end-node is capable of half-duplex mode, the port is set to half-duplex.

### Auto MDI/MDI-X

An RJ-45 twisted pair port on a 10 Mbps or 100 Mbps Ethernet network device can have one of two possible wiring configurations: MDI or MDI-X. The RJ-45 port on a PC, router, or bridge is typically wired as MDI, while the twisted pair port on a switch or hub is usually MDI-X.

To connect two 10 Mbps or 100 Mbps network devices together that have dissimilar port wiring configurations, such as MDI to MDI-X, you would usually use a straight-through twisted pair cable. To connect two network devices that have the same wiring configuration, such as MDI to MDI, you would usually use a crossover cable.

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches feature automatic MDI/MDI-X. Each port automatically determines the configuration of the port on the device to which it is connected and then configures itself appropriately. For example, if a port on a switch is connected to a port on a bridge, which is typically wired as MDI, the port on the switch automatically configures itself as MDI-X. This feature allows you to use either crossover cables or straight-through cables when connecting devices to these switches.

## Fiber Optic Port

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches have one 100Base-FX fiber optic port. The fiber optic port has a FJ, LC, MT, SC, ST, or VF connector, depending on the model.

### Port Speed

The fiber optic port is compliant with the 100Base-FX standard and has a fixed operating speed of 100 Mbps. The end-node connected to the fiber optic port on the switch must also be able to operate at 100 Mbps.

### Duplex Mode

Duplex mode refers to the way an end-node sends and receives data on the network. An end-node can operate in either half- or full-duplex mode, depending on its capabilities. An end-node that is operating in half-duplex mode can either send data or receive data, but it cannot do both at the same time. An end-node that is operating in full-duplex mode can send and receive data simultaneously. The best network performance is achieved when an end-node can operate at full-duplex, since the end-node is able to send and receive data simultaneously.

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches can operate in either half- or full-duplex mode. To set the duplex mode on the fiber optic port, slide the 100FX DUPLEX switch UP (half-duplex) or DOWN (full-duplex). The switch can operate with end-nodes capable of either half-duplex mode or full-duplex mode.

## MAC Address Table

Up to 4,000 MAC addresses can be stored in the switch's MAC address table. The switch's self-learning feature will learn all new addresses in real-time after power-up. If the source address of an incoming packet is not found in the MAC address table, the switch will update the table with the new address.

The switch also has an automatic address aging feature that will delete a source address from the table if it has not seen a frame from the end-node with that address within five minutes. This prevents the table from becoming filled with addresses of end-nodes that are no longer active.

The switch forwards all multicast, broadcast, and unicast packets when the MAC address table has exceeded its storage limit.

## Store and Forward

The AT-FS713FC/xx and AT-FS717FC/xx Series Switches support store and forward switching at Fast Ethernet full-wire speed in 100 Mbps, half- or full-duplex mode. Packets entering each port are stored in buffers. Once the full packet is received, the switch will forward or discard the packet, depending on its destination address and error status. This ensures that only error-free packets destined for another segment will be transferred across the switch, reducing network load. For example, if the packet entering from Port 1 is destined for an end-node on Port 2, the switch forwards the frame if the frame does not contain any errors. If the packet from Port 1 is destined for an end-node also connected to Port 1, the packet is discarded.

The switch will discard CRC errors, misaligned, runt, and under-oversized packets. When the packet has dribble bits at the end, the switch will truncate to octet boundary and check for a good FCS before forwarding.

## Network Topologies

The AT-FS713FC/xx or AT-FS717FC/xx Series Switches can be used in several network topologies. Some of these topologies are described below.

### Workgroup Topology

Figure 3 illustrates a workgroup topology where each end-node is connected directly to a port on an AT-FS713FC/SC switch, giving each end-node a dedicated 10 Mbps or 100 Mbps link.

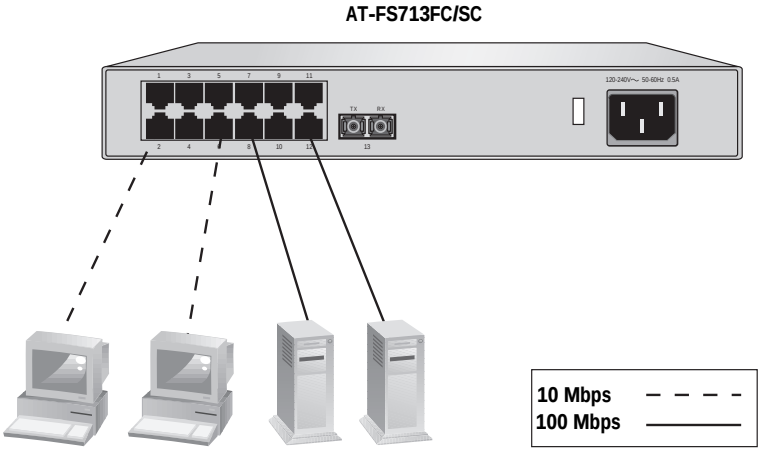


**Figure 3** Power Workgroup Topology

## Ethernet Hub Workgroup Topology

Figure 4 illustrates an Ethernet hub workgroup topology where an AT-FS713FC/SC is used to connect together four 10/100 Mbps Ethernet hubs. This allows the switch to function as a bridge between the different workgroups by controlling the flow of data between the workgroups. The switch transfers an Ethernet frame from hub-to-hub only when the destination end-node for the frame is on a different hub than the end-node that originated the frame. This reduces the amount of unnecessary data traffic in each workgroup. This frees up bandwidth and improves network performance.

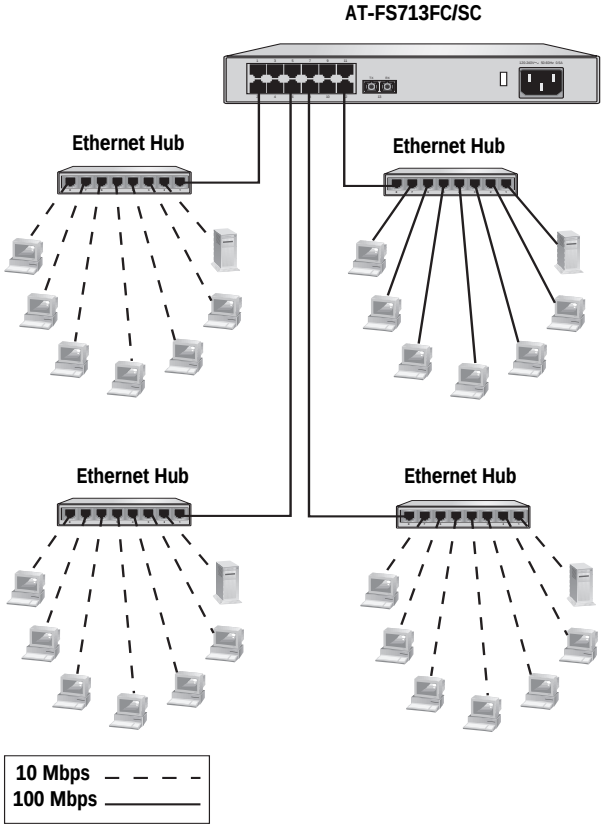


**Figure 4** Ethernet Hub Workgroup Topology

## Backbone Topology

If your network consists of several AT-FS713FC/xx or AT-FS717FC/xx Series Switches, then you will probably want to connect them together to form an integrated network. Here the fiber optic ports can be extremely useful. You can use the ports to create a fiber optic backbone. With a maximum operating distance of 2 kilometers (1.2 miles), the ports can be used to connect together switches that are physically far apart. Figure 5 shows an AT-FS713FC/ST switch and an AT-FS717FC/ST switch interconnected using the fiber optic ports to create a backbone topology.

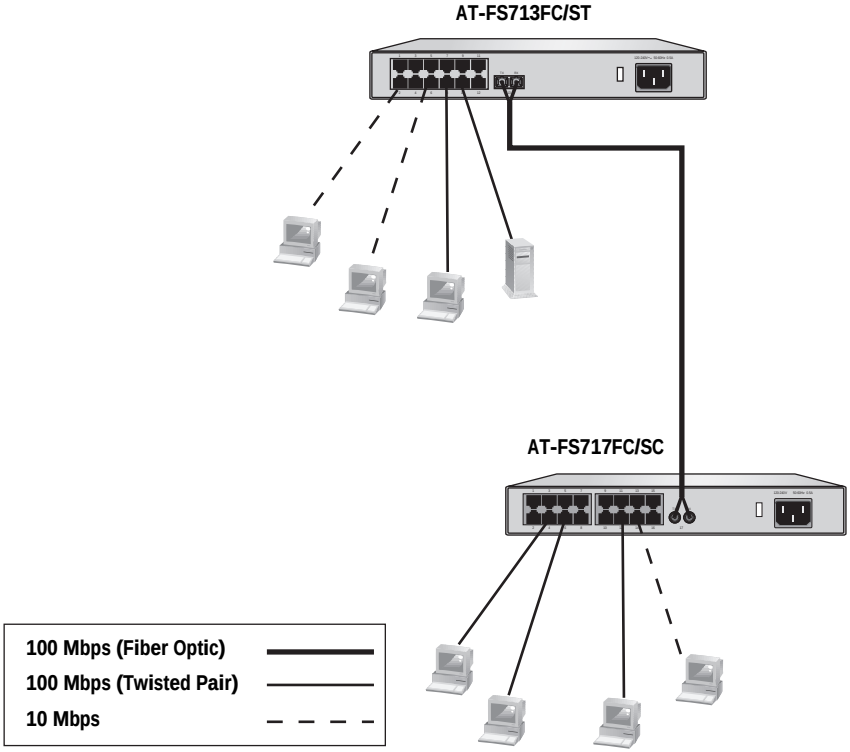


**Figure 5** Backbone Topology

*Chapter 2*

# *Installing the Switch*

This chapter contains desktop and wall-mounting installation instructions for an AT-FS713FC/xx or AT-FS717FC/xx Series Switch.

## Reviewing Safety Guidelines

Please review the following safety guidelines before you begin to install the switch.

**Warning**
Class 1 laser product. 5

**Warning**
Do not stare into the laser beam. 6

**Warning**
**Electric Shock Hazard**: To prevent electric shock, do not remove the cover. There are no user-serviceable parts inside. The unit contains hazardous voltages and should only be opened by a trained and qualified technician. 7

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

**Warning**
**Power cord is used as a disconnection device:** To de-energize equipment, disconnect the power cord. 9

**Caution**
**Pluggable Equipment**: The socket outlet should be installed near the equipment and should be easily accessible. 10

**Caution**
**Air vents**: The air vents must not be blocked on the unit and must have free access to the room ambient air for cooling. 11

**Caution**
**Operating Temperature**: This product is designed for a maximum ambient temperature of 40°C. 12

**Caution**
**All Countries**: Install this product in accordance with local and National Electric Codes. 13

## Verifying the 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-FS713FC/xx or AT-FS717FC/xx Series Switch
- Power cord
- Four protective feet (for desktop use only)
- This installation guide
- Warranty card

## Planning the Installation

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

- The end-node connected to the 100Base-FX fiber optic port must be able to operate at 100 Mbps.
- The end-node connected to a 10/100Base-TX twisted pair port must be able to operate at 10 or 100 Mbps.
- The end-node connected to a port on the switch can be a network adapter card, repeater, router, hub, or another switch.
- Refer to Table 4 for the cabling specifications for the twisted pair ports.

**Table 4** 10/100Base-TX Twisted Pair Cabling Specifications

| Operating Mode | Twisted Pair Cable | Maximum Operating Distance |
|---|---|---|
| 10Base-T | Shielded or unshielded Category 3 or better | 100 m (328 ft) |
| 100Base-TX | Shielded or unshielded Category 5 or better | 100 m (328 ft) |

- Refer to Table 5 for the cabling specifications for the fiber optic port operating in full-duplex mode.

**Table 5** 100Base-FX Fiber Optic Cabling Specifications (Full-duplex)

| Model | Fiber Optic Cable | Maximum Operating Distance | Maximum Allowable Loss Budget |
|---|---|---|---|
| All models | 50/125 or 62.5/125 micron multimode | 2 km (1.2 mi) | 13 dB at 1310 nm |

**Note**
Refer to “Fiber Optic Port Specifications” on page 22 for additional information on the fiber optic port.

- ❑ Refer to Table 6 for the cabling specifications for the fiber optic port operating in half-duplex mode.

**Table 6** 100Base-FX Fiber Optic Ports (Half-duplex)[1]

| Number of Media Converters | Connected Devices | Maximum Operating Distance |
|---|---|---|
| One Media Converter Inline | Switch to switch | 372 m (1,221 ft) |
| | Workstation to switch | 372 m (1,221 ft) |
| | Switch to Class I repeater | 137 m (450 ft) |
| | Switch to Class II repeater | 185 m (607 ft) |
| Two Media Converters Inline | Switch to switch | 332 m (1,089 ft) |
| | Workstation to switch | 322 m (1, 089 ft) |
| | Switch to Class I repeater | 97 m (318 ft) |
| | Switch to Class II repeater | 145 m (476 ft) |

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

## Selecting a Site

Be sure to observe the following guidelines when selecting a site for your switch.

- ❑ Select a site that is dust-free and moisture-free.
- ❑ Select a site that will allow you to easily access the data cables and power cord.
- ❑ Make sure the air flow around the switch and through its vents on the side and back are not restricted.
- ❑ For use on a desktop, make sure the desktop is level and secure.
- ❑ Use dedicated power circuits or power conditioners to supply reliable power to the device.
- ❑ Keep the twisted pair cabling away from sources of electrical noise, such as radios, transmitters, power lines, broadband amplifiers, electrical motor, and fluorescent fixtures.

## Installing the Switch On a Table or Desktop

To wall-mount the switch, refer to "Wall-mounting the Switch" on page 16. To install the switch on a table or desktop, perform the following procedure:

1. Remove all components from the shipping package and store the packaging material in a safe location.

   **Note**
   Do not remove the dust covers from the fiber optic port until you are ready to connect the fiber optic cable. Dust contamination can adversely impact the operating performance of the port and the switch.

2. Attach the four protective feet (provided) to each corner of the base of the unit.

3. Connect the twisted pair cables to the RJ-45 connectors.

4. Remove the dust cover from the fiber optic port and connect the fiber optic cable to the port.

5. Set the 100FX DUPLEX switch on the fiber optic port to either HALF for half-duplex or FULL for full-duplex operation. The capabilities of the end-node connected to the fiber optic port will determine the correct setting for this switch. If the end-node is capable of only half-duplex, set the switch to HALF. If the end-node is capable of full-duplex, set the switch to FULL.

   
   **Caution**
   **Power cord is used as a disconnection device:** To de-energize equipment, disconnect the power cord. ↷ 10

6. Power ON the switch by plugging one end of the power cord to the back of the switch and the other end of the power cord to a power outlet. The PWR LED should be green. If the LED is OFF, refer to "Troubleshooting" on page 19 for assistance.

7. Power ON the end-nodes connected to the ports on the switch.

8. Check the LNK/ACT LED for each port. The LED should be green or blinking. If the LED is OFF, refer to "Troubleshooting" on page 19 for assistance.

The switch is now ready for use.

## Wall-mounting the Switch

The switch can be mounted either vertically or horizontally on a wall using the keyholes on the bottom of the chassis. For wall-mount installation, you will need two panhead screws and plastic anchors.

To wall-mount the switch, perform the following procedure:

1. If attached, remove the rubber feet, data cables, and power cord from the switch.

2. Select a wall location for the device.

3. Install the plastic anchors and panhead screws 100 millimeters (3.94 inches) apart on the wall.

4. Position the device onto the wall screws. If you are mounting the switch horizontally, position the switch so that the ports are facing down and the LEDs are facing up. If you are mounting the switch vertically, position the switch so that the ports are facing to the left and the LEDs to the right.

5. Connect the twisted pair cables to the RJ-45 connectors.

6. Connect the fiber optic cable to the fiber optic port.

7. Set the 100FX DUPLEX switch on the fiber optic port to either HALF for half-duplex or FULL for full-duplex operation. The capabilities of the end-node connected to the fiber optic port will determine the correct setting for this switch. If the end-node is capable of only half-duplex, set the switch to HALF. If the end-node is capable of full-duplex, set the switch to FULL.

**Warning**
The power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. ✍9

8. Power ON the switch by plugging one end of the power cord to the back of the switch and the other end of the power cord to a power outlet. The PWR LED should be green. If the LED is OFF, refer to “Troubleshooting” on page 19 for assistance.

9. Power ON the end-nodes connected to the ports on the switch.

10. Check the LNK/ACT LED for each port. The LED should be green or blinking. If the LED is OFF, refer to “Troubleshooting” on page 19 for assistance.

The switch is now ready for use.

## Warranty Registration

When you have finished installing the product, register your product by completing the enclosed warranty card and sending it in. You can also fill out the registration online by selecting “Warranties” under “Support & Services” from **www.alliedtelesyn.com**.

## *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:

- Make sure that the power cord is securely connected to the wall outlet and the power connector on the back of the switch.
- Verify that the power outlet has power by connecting another device to it.
- Try connecting the switch to another power source.
- Try using another power cord.

If a LNK/ACT LED for a 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 port on the switch and to the port on the end-node.
- Verify that the end-node is operating at 10 or 100 Mbps and half-duplex mode.
- Make sure that the twisted pair cable does not exceed 100 meters (328 feet) and that you are using a Category 3 or better cable for 10Base-T operation or a Category 5 or better cable for 100Base-TX operation.

If the LNK/ACT 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 port on the switch and to the port on the end-node.
- Check to be sure that the end-node connected to the port is operating at 100 Mbps.
- Make sure that the cable connected to the fiber optic receiver port on the switch is connected to the transmitter port on the end-node and that the fiber optic transmitter port on the switch is connected to the receiver port on the end-node.
- 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 cabling and that you have not exceeded the maximum operating distance. For cable types and operating distance, refer to Table 1 and Table 2 on page 3.
- Make sure that the 100FX DUPLEX switch is set correctly. The switch should be set to match the duplex mode of the end-node connected to the fiber optic port.
- Check that the operating specifications (e.g., wavelength and maximum operating distance) of the fiber optic port on the end-node are compatible with the operating specifications of the fiber optic port on the switch. See "Fiber Optic Port Specifications" on page 22 for additional information on the fiber optic port.

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

*Appendix A*

# *Technical Specifications*

## Physical

| | |
|---|---|
| Dimensions: | W x D x H<br>1.7 cm x 17.9 cm x 9.8 cm (0.7 in x 7 in x 3.9 in) |
| Weight: | 0.42 kg (0.9 lbs) |

## Temperature

| | |
|---|---|
| Maximum Operating: | 0° to 40° C (32° to 104° F) |
| Maximum Storage: | -25° to 70° C (-13° to 158° F) |
| Relative Humidity: | 5% to 95% non-condensing |
| Operating Altitude: | Up to 3,000 meters (9,843 feet) |

## Electrical Rating

| | |
|---|---|
| Input Supply Voltage: | 100-240 V AC |
| Maximum Current: | 0.5 A |
| Power Consumption: | 8 watts |

## Agency Certifications

| | |
|---|---|
| Safety: | UL/cUL, TUV |
| Standard: | UL1950, EN60950 |
| Immunity: | EN55024 |
| EMI/RFI: | FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3 |

## Fiber Optic Port Specifications

Table 7 through Table 10 list the specifications for the fiber optic port.

**Table 7** Fiber Optic Transmitter

| Model | Fiber Type | Fiber Optic Diameter (microns) | Optical Frequency | Launch Power (dBm)[1] | | |
|---|---|---|---|---|---|---|
| | | | | Maximum | Average | Minimum |
| All models | Multimode | 50/125 | 1310 nm | -14.0 | -20.3 | -22.5 |
| | Multimode | 62.5/125 | 1310 nm | -14.0 | -16.8 | -19.0 |

1. The launch power is measured at one meter from the transmitter.

**Table 8** Fiber Optic Receiver

| Model | Fiber Type | Fiber Optic Diameter (microns) | Optical Frequency | Receiver Power (dBm) | | |
|---|---|---|---|---|---|---|
| | | | | Minimum | Average | Saturation |
| All models | Multimode | 50/125 | 1310 nm | -31.8 | -34.5 | -14.0 |
| | Multimode | 62.5/125 | 1310 nm | -31.8 | -34.5 | -14.0 |

**Table 9** Fiber Optic Datalink

| Model | Fiber Type | Minimum Power/Link Budget | Average Signal Loss (dB) | Minimum Distance Specs.[1] | Maximum Distance Specs. |
|---|---|---|---|---|---|
| All models | 50/125 Multimode | 13.00 | 18.70 | 0 | 2 km (1.2 mi) |
| | 62.5/125 Multimode | 16.80 | 22.50 | 0 | 2 km (1.2 mi) |

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

**Table 10** Fiber Optic Loss Specification (Benchmark)

| Fiber Type | Fiber Optic Diameter | Optical Frequency | Typical Loss Factor | Worst Case Loss Factor | Bandwidth |
|---|---|---|---|---|---|
| Multimode | 50/125 microns | 1310 nm | 1.00 dB/km | 1.50 dB/km | 400 Mhz-km |
| | 62.5/125 microns | 1310 nm | 1.00 dB/km | 1.50 dB/km | 500 Mhz-km |

## Pinout Assignments

Figure 6 shows the pin assignments of the RJ-45 connector.

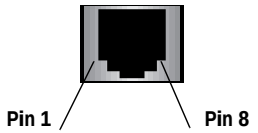


**Figure 6** RJ-45 Pin Assignments

Table 11 lists the 10/100Base-TX connector pins and their signals when the port is operating in either MDI or MDI-X configuration.

**Table 11** RJ-45 Pinouts

| MDI-X (Default) | Signal | MDI | Signal |
|---|---|---|---|
| 1 | RX+ | 1 | TX+ |
| 2 | RX- | 2 | TX- |
| 3 | TX+ | 3 | RX+ |
| 4 | - | 4 | - |
| 5 | - | 5 | - |
| 6 | TX- | 6 | RX- |
| 7 | - | 7 | - |
| 8 | - | 8 | - |

## *Appendix B*

# *Translated Electrical Safety Emission Information*

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

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

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

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

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

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

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

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

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

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

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

**Standards**: This product meets the following standards.

**U.S. Federal Communications Commission**

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.

**1** RFI Emission — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

**2** **Warning**: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**3** Immunity — EN55024

**4** Electrical Safety — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

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

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

**7** **ELECTRICAL NOTICES**
**Warning:** ELECTRIC SHOCK HAZARD
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.

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

**9** **Caution:** POWER CORD IS USED AS A DISCONNECTION DEVICE. TO DE-ENERGIZE EQUIPMENT, disconnect the power cord.

**10** PLUGGABLE EQUIPMENT, the socket outlet shall be installed near the equipment and shall be easily accessible.

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

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

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

---

**Normen**: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.

1 Hochfrequenzstörung — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Warnung**: Bei Verwendung zu Hause kann dieses Produkt Funkstörungen hervorrufen. In diesem Fall müßte der Anwender angemessene Gegenmaßnahmen ergreifen.

3 Störsicherheit — EN55024

4 Elektrische Sicherheit — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 **WARNUNG:** Laserprodukt der Klasse 1.

6 **Warnung:** Nicht direkt in den Strahl blicken.

7 **Achtung:** GEFÄHRLICHE SPANNUNG
Das Gehäuse nicht öffnen. Das Gerät enthält keine vom Benutzer wartbaren Teile. Das Gerät steht unter Hochspannung und darf nur von qualifiziertem technischem Personal geöffnet werden. Vor Anschluß der LAN-Kabel, Gerät vom Netz trennen.

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

9 **Vorsicht:** DAS NETZKABEL DIENT ZUM TRENNEN DER STROMVERSORGUNG. ZUR TRENNUNG VOM NETZ, KABEL AUS DER STECKDOSE ZIEHEN.

10 STECKBARES GERÄT: Die Anschlußbuchse sollte in der Nähe der Einrichtung angebracht werden und leicht zugänglich sein."

11 **Vorsicht:** Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.

12 **Betriebstemperatur:** Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.

13 **Alle Länder:** Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

---

**Standarder**: Dette produkt tilfredsstiller de følgende standarder.

1 Radiofrekvens forstyrrelsesemission — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Advarsel**: I et hjemligt miljø kunne dette produkt forårsage radio forstyrrelse. Bliver det tilfældet, påkræves brugeren muligvis at tage tilstrækkelige foranstaltninger.

3 Immunitet — EN55024

4 Elektrisk sikkerhed — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 **Advarsel** Laserprodukt av klasse 1**.**

6 **Advarsel** Stirr ikke på strålen.

7 **ELEKTRISKE FORHOLDSREGLER**
**Advarsel:** RISIKO FOR ELEKTRISK STØD For at forebygge ELEKTRISK stød, undlad at åbne apparatet. Der er ingen indre dele, der kan repareres af brugeren. Denne enhed indeholder LIVSFARLIGE STRØMSPÆNDINGER og bør kun åbnes af en uddannet og kvalificeret tekniker. For at undgå risiko for ELEKTRISK STØD, afbrydes den elektriske strøm til produktet, før LAN-kablerne monteres eller afmonteres.

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

9 **Advarsel:** DEN STRØMFØRENDE LEDNING BRUGES TIL AT AFBRYDE STRØMMEN. SKAL STRØMMEN TIL APPARATET AFBRYDES, tages ledningen ud af stikket.

10 UDSTYR TIL STIKKONTAKT, stikkontakten bør installeres nær ved udstyret og skal være lettilgængelig.

11 **Advarsel:** Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.

12 **Betjeningstemperatur:** Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.

13 **Alle Lande:** Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

---

**Eisen**: Dit product voldoet aan de volgende eisen.

| | | |
|---|---|---|
| 1 | RFI Emissie | FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3 |

2 **Waarschuwing**: Binnenshuis kan dit product radiostoring veroorzaken, in welk geval de gebruiker verplicht kan worden om gepaste maatregelen te nemen.

| | | |
|---|---|---|
| 3 | Immuniteit | EN55024 |
| 4 | Electrische Veiligheid | UL 1950 (UL/cUL), EN60950 (TUV), EN60825 |

5 **Waarshuwing** Klasse-1 laser produkt.

6 **Waarchuwing** Neit in de straal staren.

7 **WAARSCHUWINGEN MET BETREKKING TOT ELEKTRICITEIT**
**Waarschuwing:** GEVAAR VOOR ELEKTRISCHE SCHOKKEN
Verwijder het deksel niet, teneinde ELEKTRISCHE schokken te voorkomen. Binnenin bevinden zich geen onderdelen die door de gebruiker onderhouden kunnen worden. Dit toestel staat onder GEVAARLIJKE SPANNING en mag alleen worden geopend door een daartoe opgeleide en bevoegde technicus. Om het gevaar op ELEKTRISCHE SCHOKKEN te vermijden, moet u het toestel van de stroombron ontkoppelen alvorens de LAN-kabels te koppelen of ontkoppelen.

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

9 **Waarschuwing:** HET TOESTEL WORDT UITGESCHAKELD DOOR DE STROOMKABEL TE ONTKOPPELEN.OM HET TOESTEL STROOMLOOS TE MAKEN: de stroomkabel ontkoppelen.

10 AAN TE SLUITEN APPARATUUR, de contactdoos wordt in de nabijheid van de apparatuur geïnstalleerd en is gemakkelijk te bereiken."

11 **Opgelet:** De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.

12 **Bedrijfstemperatuur:** De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.

13 **Alle Landen:** het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

---

**Normes:** ce produit est conforme aux normes de suivantes:

1 Emission d'interférences radioélectriques — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Mise En Garde** : dans un environnement domestique, ce produit peut provoquer des interférences radioélectriques. Auquel cas, l'utilisateur devra prendre les mesures adéquates.

3 Immunité — EN55024

4 Sécurité électrique — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

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

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

7 **INFORMATION SUR LES RISQUES ÉLECTRIQUES**
**Avertissement**: DANGER D'ÉLECTROCUTION
Pour éviter toute ÉLECTROCUTION, ne pas ôter le revêtement protecteur du matériel. Ce matériel ne contient aucun élément réparable par l'utilisateur. Il comprend des TENSIONS DANGEREUSES et ne doit être ouvert que par un technicien dûment qualifié. Pour éviter tout risque d'ÉLECTROCUTION, débrancher le matériel avant de connecter ou de déconnecter les câbles LAN.

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

9 **Attention:** LE CORDON D'ALIMENTATION SERT DE MISE HORS CIRCUIT. POUR COUPER L'ALIMENTATION DU MATÉRIEL, débrancher le cordon.

10 EQUIPEMENT POUR BRANCHEMENT ELECTRIQUE, la prise de sortie doit être placée près de l'équipement et facilement accessible".

11 **Attention:** Ne pas bloquer les fentes d'aération, ceci empêcherait l'air ambiant de circuler librement pour le refroidissement.

12 **Température De Fonctionnement:** Ce matériel est capable de tolérer une température ambiante maximum de ou 40 degrés Celsius.

13 **Pour Tous Pays:** Installer le matériel conformément aux normes électriques nationales et locales.

**Standardit**: Tämä tuote on seuraavien standardien mukainen.

| | | |
|---|---|---|
| 1 | Radioaaltojen häirintä | FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3 |

2 **Varoitus**: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häiröitä, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.

| | | |
|---|---|---|
| 3 | Kestävyys | EN55024 |
| 4 | Sähköturvallisuus | UL 1950 (UL/cUL), EN60950 (TUV), EN60825 |

5 **VAROITUS** Luokan 1 Lasertuote.

6 **Variotus** Älä katso säteeseen.

7 **SÄHKÖÖN LIITTYVIÄ HUOMAUTUKSIA**
**Varoitus:** SÄHKÖISKUVAARA
Estääksesi SÄHKÖISKUN älä poista kantta. Sisällä ei ole käyttäjän huollettavissa olevia osia. Tämä laite sisältää VAARALLISIA JÄNNITTEITÄ ja sen voi avata vain koulutettu ja pätevä teknikko. Välttääksesi SÄHKÖISKUN mahdollisuuden katkaise sähkövirta tuotteeseen ennen kuin liität tai irrotat paikallisverkon (LAN) kaapelit.

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

9 **Huomautus:** VIRTAJOHTOA KÄYTETÄÄN VIRRANKATKAISULAITTEENA. VIRTA KATKAISTAAN irrottamalla virtajohto.

10 PISTORASIAAN KYTKETTÄVÄ LAITE; pistorasia on asennettava laitteen lähelle ja siihen on oltava esteetön pääsy."

11 **Huomautus:** Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.

12 **Käyttölämpötila:** Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40°C.

13 **Kaikki Maat:** Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

---

**Standard**: Questo prodotto è conforme ai seguenti standard.

| | | |
|---|---|---|
| 1 | Emissione RFI (interferenza di radiofrequenza) | FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3 |

2 **Avvertenza:** in ambiente domestico questo prodotto potrebbe causare radio interferenza. In questo caso potrebbe richiedersi all'utente di prendere gli adeguati provvedimenti.

| | | |
|---|---|---|
| 3 | Immunità | EN55024 |
| 4 | Sicurezza elettrica | UL 1950 (UL/cUL), EN60950 (TUV), EN60825 |

5 **AVVERTENZA** Prodotto laser di Classe 1.

6 **Avertenza** Non fissare il raggio con gli occhi.

7 

**AVVERTENZE ELETTRICHE**
**Attenzione:** PERICOLO DI SCOSSE ELETTRICHE Per evitare SCOSSE ELETTRICHE non asportare il coperchio. Le componenti interne non sono riparabili dall'utente. Questa unità ha TENSIONI PERICOLOSE e va aperta solamente da un tecnico specializzato e qualificato. Per evitare ogni possibilità di SCOSSE ELETTRICHE, interrompere l'alimentazione del dispositivo prima di collegare o staccare i cavi LAN.

8 

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

9 

**Attenzione:** IL CAVO DI ALIMENTAZIONE È USATO COME DISPOSITIVO DI DISATTIVAZIONE. PER TOGLIERE LA CORRENTE AL DISPOSITIVO staccare il cavo di alimentazione.

10 

APPARECCHIATURA COLLEGABILE, la presa va installata vicino all'apparecchio per risultare facilmente accessibile".

11 

**Attenzione:** le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.

12 

**Temperatura Di Funzionamento:** Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.

13 

**Tutti I Paesi:** installare il prodotto in conformità delle vigenti normative elettriche nazionali.

---

**Sikkerhetsnormer**: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

1 RFI stråling — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 

**Advarsel**: Hvis dette produktet benyttes til privat bruk, kan produktet forårsake radioforstyrrelse. Hvis dette skjer, må brukeren ta de nødvendige forholdsregler.

3 Immunitet — EN55024

4 Elektrisk sikkerhet — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 

**Advarsel** Laserprodukt av klasse 1.

6 

**Advarsal** Stirr ikke på strålen.

7 

**ELEKTRISITET**
**Advarsel:** FARE FOR ELEKTRISK SJOKK For å unngå ELEKTRISK sjokk, må dekslet ikke tas av. Det finnes ingen deler som brukeren kan reparere på innsiden. Denne enheten inneholder FARLIGE SPENNINGER, og må kun åpnes av en faglig kvalifisert tekniker. For å unngå ELEKTRISK SJOKK må den elektriske strømmen til produktet være avslått før LAN-kablene til- eller frakobles.

8 

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

9 

**Forsiktig:** STRØMLEDNINGEN BRUKES TIL Å FRAKOBLE UTSTYRET. FOR Å DEAKTIVISERE UTSTYRET, må strømforsyningen kobles fra.

10 

UTSTYR FOR STIKKONTAKT. Stikkontakten skal monteres i nærheten av utstyret og skal være lett tilgjengelig."

11 

**Forsiktig:** Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.

12 **Driftstemperatur:** Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.

13 **Alle Land:** Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

---

**Padrões**: Este produto atende aos seguintes padrões.

1 Emissão de interferência de radiofrequência — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Aviso**: Num ambiente doméstico este produto pode causar interferência na radiorrecepção e, neste caso, pode ser necessário que o utente tome as medidas adequadas.

3 Imunidade — EN55024

4 Segurança Eléctrica — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 **AVISO** Produto laser de classe 1.

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

7 **AVISOS SOBRE CARACTERÍSTICAS ELÉTRICAS**
**Atenção:** PERIGO DE CHOQUE ELÉTRICO Para evitar CHOQUE ELÉTRICO, não retire a tampa. Não contém peças que possam ser consertadas pelo usuário. Este aparelho contém VOLTAGENS PERIGOSAS e só deve ser aberto por um técnico qualificado e treinado. Para evitar a possibilidade de CHOQUE ELÉTRICO, desconecte o aparelho da fonte de energia elétrica antes de conectar e desconectar os cabos da LAN.

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

9 **Cuidado:** O CABO DE ALIMENTAÇÃO É UTILIZADO COMO UM DISPOSITIVO DE DESCONEXÃO. PARA DESELETRIFICAR O EQUIPAMENTO, desconecte o cabo de ALIMENTAÇÃO.

10 EQUIPAMENTO DE LIGAÇÃO, a tomada eléctrica deve estar instalada perto do equipamento e ser de fácil acesso."

11 **Cuidado:** As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.

12 **Temperatura De Funcionamento:** Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.

13 **Todos Os Países:** Instale o produto de acordo com as normas nacionais e locais para instalações elétricas.

**Estándares:** Este producto cumple con los siguientes estándares.

1 Emisión RFI — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Advertencia**: en un entorno doméstico, este producto puede causar radiointerferencias, en cuyo caso, puede requerirse del usuario que tome las medidas que sean convenientes al respecto.

3 Inmunidad — EN55024

4 Seguridad eléctrica — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 **¡Advertencia!** Producto láser Clase 1.

6 **¡Advertencia!** No mirat fijamente el haz.

7 **AVISOS ELECTRICOS**
**Advertencia:** PELIGRO DE ELECTROCHOQUE Para evitar un ELECTROCHOQUE, no quite la tapa. No hay ningún componente en el interior al cual puede prestar servicio el usuario. Esta unidad contiene VOLTAJES PELIGROSOS y sólo deberá abrirla un técnico entrenado y calificado. Para evitar la posibilidad de ELECTROCHOQUE desconecte la corriente eléctrica que llega al producto antes de conectar o desconectar los cables LAN.

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

9 **Atencion:** EL CABLE DE ALIMENTACION SE USA COMO UN DISPOSITIVO DE DESCONEXION. PARA DESACTIVAR EL EQUIPO, desconecte el cable de alimentación.

10 EQUIPO CONECTABLE, el tomacorriente se debe instalar cerca del equipo, en un lugar con acceso fácil".

11 **Atencion:** Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.

12 **Temperatura Requerida Para La Operación:** Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.

13 **Para Todos Los Países:** Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

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**Standarder:** Denna produkt uppfyller följande standarder.

1 Radiostörning — FCC Part 15 (Class A), EN55022 (Class A), EN61000-3-2, EN61000-3-3

2 **Varning**: Denna produkt kan ge upphov till radiostörningar i hemmet, vilket kan tvinga användaren till att vidtaga erforderliga åtgärder.

3 Immunitet — EN55024

4 Elsäkerhet — UL 1950 (UL/cUL), EN60950 (TUV), EN60825

5 **Varning!** Laserprodukt av klass 1.

6 **Varning!** Laserstrålning när enheten är öppen.

7 

**Tillkännagivanden Beträffande Elektricitetsrisk:**
RISK FÖR ELEKTRISK STÖTFör att undvika ELEKTRISK stöt, ta ej av locket. Det finns inga delar inuti som behöver underhållas. Denna apparat är under HÖGSPÄNNING och får endast öppnas av en utbildad kvalificerad tekniker. För att undvika ELEKTRISK STÖT, koppla ifrån produktens strömanslutning innan LAN-kablarna ansluts eller kopplas ur.

8 

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

9 

**Varning:** NÄTKABELN ANVÄNDS SOM STRÖMBRYTARE FÖR ATT KOPPLA FRÅN STRÖMMEN, dra ur nätkabeln.

10 

UTRUSTNING MED PLUGG. Uttaget skall installeras i utrustningens närhet och vara lättåtkomligt".

11 

**Varning:** Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvalning.

12 

**Driftstemperatur:** Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.

13 

**Alla Länder:** Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.

*Appendix C*

# *Technical Support Fax Order*

Name _____

Company _____

Address _____

City _____ State/Province _____

Zip/Postal Code _____ Country _____

Phone _____ Fax _____

## Incident Summary

Model number of Allied Telesyn product I am using _____

Firmware release number of Allied Telesyn product _____

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

_____

_____

Brief summary of problem _____

_____

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

_____

_____

_____

_____

_____

Detailed description (Please use separate sheet)

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