



# *AT-FS708LE*

*Fast Ethernet Switch*

*Version 2*

## *Installation Guide*

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# *Electrical Safety and Emission Statement*

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

## **U.S. Federal Communications Commission**

### **DECLARATION OF CONFORMITY**

Manufacture Name:	Allied Telesyn, Inc.
Manufacture Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94086 USA
Manufacture Telephone:	408-730-0950
Declares that the product:	Fast Ethernet Switch
Model Number:	AT-FS708LE Version 2

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

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

### **RADIATED ENERGY**

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


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

### Industry Canada


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

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


#### RFI Emission

FCC Part 15, EN55022,  
C-Tick, CISPR 22, VCCI  
(Class B)  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, CSA C22.2  
No. 950, EN60950  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.



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## **Appendix A**

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# *Welcome to Allied Telesyn*

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This guide contains instructions on how to install an Allied Telesyn AT-FS708LE Fast Ethernet Switch.

## Where to Find Web-based Guides

The Allied Telesyn web site at **www.alliedtelesyn.com** offers you 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 the following conventions:

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**Note**

Notes provide additional information.

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**Caution**

Caution informs you that performing or omitting a specific action may result in equipment damage or loss of data.

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**Warning**

Warnings informs you that performing or omitting a specific action may result in bodily injury.

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## Contacting Allied Telesyn

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

### Online Support

You can request technical support online by accessing the Allied Telesyn Knowledge Base from the following web site: **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.

## E-mail and Telephone Support

For Technical Support via E-mail or telephone, refer to the Support & Services section of the Allied Telesyn web site:

**<http://www.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 a RMA number, contact Allied Telesyn's Technical Support at our web site:

**<http://www.alliedtelesyn.com>.**

## For Sales or Corporate Information

You can contact Allied Telesyn for sales or corporate information at our web site: **<http://www.alliedtelesyn.com>**. To find the contact information for your country, select "Contact Us" then "Worldwide Contacts."



# AT-FS708LE Fast Ethernet Switch

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## Overview

The AT-FS708LE unit is a 10Base-T/100Base-TX Fast Ethernet Switch. The unit provides you with a simple, cost-effective solution for Ethernet switching between end-nodes operating at either 10 or 100 Mbps.

Figure 1 and Figure 2 show the front and back panels of the switch.

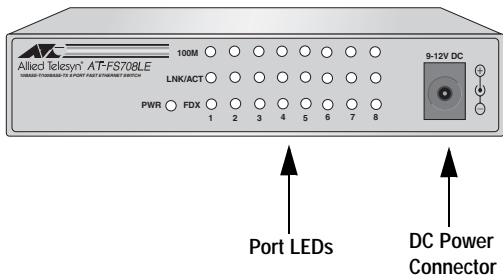
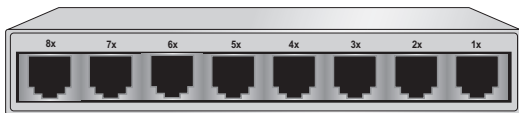


Figure 1 Front Panel



**Figure 2** Back Panel

## Key Features

The AT-FS708LE Ethernet Switch has the following features:

- LEDs for unit and port status
- 8 Auto-Negotiating 10/100 Mbps twisted pair ports with RJ-45 connectors
- Auto MDI/MDI-X on all ports
- IEEE 802.3 and IEEE 802.3u compliant
- Store and forward switching mode
- MAC address table capacity of up to 4,000 entries
- IEEE 802.3x flow control in full-duplex operation and back pressure flow control in half-duplex operation
- External power adapter
- Desktop or wall-mount installation

## Status LEDs

Refer to Table 1 for a description of the device LEDs.

**Table 1** LED Functions

LEDs	Color	Description
PWR	Green	Indicates the switch is receiving power.
100M	Green	Indicates the port is operating at 100 Mbps.
	OFF	Indicates the port is operating at 10 Mbps.
LNK/ACT	Green	Indicates a valid physical link on the port.
	Blinking	Indicates data is being transmitted or received on the port.
FDX	Green	Indicates the port is operating in full-duplex mode.
	OFF	Indicates the port is operating in half-duplex mode.

## Power Supply

The AT-FS708LE Ethernet Switch uses an external power adapter that comes standard with the unit.

## Store and Forward

The AT-FS708LE switch uses store and forward as the method for receiving and transmitting frames. When an Ethernet frame is received on a switch port, the switch does not retransmit the frame out the destination port until it has received the entire frame and stored the frame in a port buffer. It then examines the frame to determine if it is a valid frame. Invalid frames, such as fragments or runts, are discarded by the switch. This insures that only valid frames are transmitted out the switch ports and that damaged frames are not propagated on your network.

## Back Pressure and Flow Control

In order to maintain the orderly movement of data between the end-nodes, an Ethernet switch may periodically need to signal an end-node to stop sending data. This can occur under several circumstances. For example, if two end-nodes are operating at different speeds, the switch, while transferring data between the end-nodes, might need to instruct the faster



end-node to stop transmitting data to allow the slower end-node to catch up. An example of this would be when a server operating at 100 Mbps is sending data to a workstation operating at only 10 Mbps.

How a switch signals an end-node to stop transmitting data differs depending on the speed and duplex mode of the end-node and switch port. A twisted pair port operating at 100 Mbps port and half-duplex mode stops an end-node from transmitting data by forcing a collision. A collision on an Ethernet network occurs when two end-nodes attempt to transmit data using the same data link at the same time. A collision causes end-nodes to stop sending data. When the switch needs to stop a 100 Mbps, half-duplex end-node from transmitting data, it forces a collision on the data link, which stops the end-node. Once the switch is ready to receive data again, the switch stops forcing collisions. This is referred to as back pressure.

A port operating at 100 Mbps and full-duplex mode uses PAUSE frames, as specified in the IEEE 802.3x standard, to stop the transmission of data from an end-node. Whenever the switch wants an end-node to stop transmitting data, it issues this frame. The frame instructs the end-node to cease transmission. The switch continues to issue PAUSE frames until it is ready again to receive data from the end-node. This is referred to as flow control.

The AT-FS708LE supports TX Flow Control only. This means a PAUSE packet will be transmitted to the end-node connection if it receives data faster than it can switch the packets. The AT-FS708LE does not support RX Flow Control, however, and it will not respond to PAUSE packets sent to it by an end-node.

## Twisted Pair Ports

The AT-FS708LE switch has eight 10Base-T/100Base-TX twisted pair ports. Each twisted pair port features a RJ-45 connector. The maximum operating distance for the twisted pair ports is 100 meters (328 feet) when operating at either 10 Mbps or 100 Mbps.

## Port Speed

The twisted pair ports are compliant with the 10Base-T and 100Base-TX standards and are capable of either 10 Mbps or 100 Mbps operation. Since the ports are IEEE 802.3u Auto-Negotiation compliant, the switch will set the port speed automatically. With Auto-Negotiation, the speed of a port is set automatically by the switch after it determines the speed of the end-node connected to the port. Auto-negotiation is designed to ensure that the

port on the switch and the end-node are operating at the same speed and that they are communicating at the highest possible common speed of the devices.

## 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 twisted pair ports on the AT-FS708LE switch can operate in either half-duplex or full-duplex mode. The switch sets the duplex mode automatically through Auto-Negotiation. With Auto-Negotiation, if an end-node is capable of full-duplex, the port is set automatically to full-duplex mode. If an end-node is capable of half-duplex, the port is set automatically to half-duplex mode.

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**Note**

Since the AT-FS708LE ports operate in Auto-Negotiate mode only, the end-nodes connected to the AT-FS708LE must also be configured to operate in the Auto-Negotiate mode. If an end-node is configured to a specific duplex in a manual mode, it will not respond to the Auto-Negotiate protocol from the AT-FS708LE. (The speed is determined from the link pulses, however, so the speed is always detected correctly.) As a result, the AT-FS708LE port setting will end up at half-duplex. If the end port is manually configured to full-duplex, there will be a duplex mismatch and data will be lost. If the end port is manual configured to half-duplex, both ports will have the speed and duplex match up correctly.

---

## 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. A RJ-45 port on a PC, router, or bridge is typically wired as MDI, while a twisted pair port on a switch or hubs is usually MDI-X.

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

The AT-FS708LE switch features automatic MDI/MDI-X. Each RJ-45 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 a crossover cable or a straight-through cable when connecting a device to a twisted pair port.

## Network Topologies

The AT-FS708LE switch can be used in a variety of network topologies, such as a standalone or cascade. Both topologies are described below.

### Standalone Topology

Figure 3 illustrates the standalone topology where each end-node is directly connected directly to a 10/100Base-TX port on an AT-FS708LE switch. This gives each end-node a dedicated 10 Mbps or 100 Mbps link.

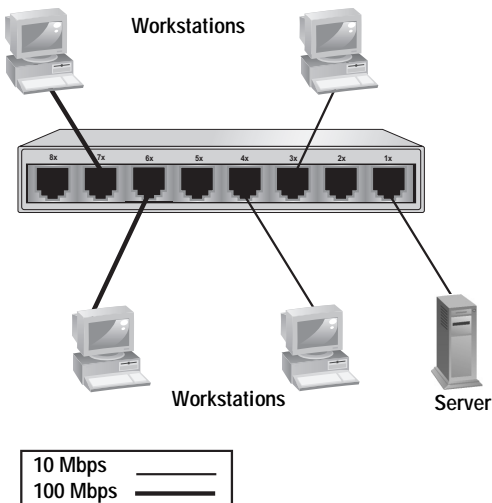


Figure 3 Standalone Topology

## Cascade Topology

Figure 4 illustrates the cascade topology where Port 1 on the AT-FS708LE switch is connected to Port 8 on the AT-FS716E switch. Since Port 1 is wired as auto MDI/MDI-X, a crossover or straight-through Category 5 or better twisted pair cable can be used.

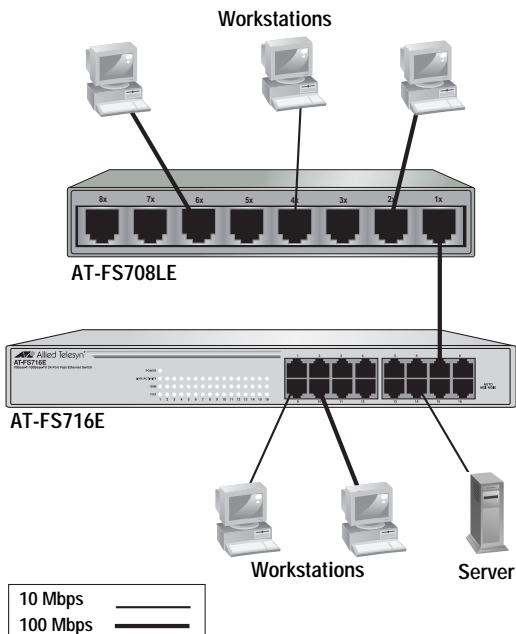


Figure 4 Cascade Topology

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**Note**

Cascading switches, as shown in Figure 4, can result in data loss between switches if the data rate exceeds 100 Mbps. Symptoms may include inability of certain workstations to “Log-On” to a server or unusually slow data transfer rates between workstations or servers.

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## Planning the Installation

This section contains the procedures for installing the unit.

### Verifying the Package Contents

Make sure that the package includes the following items. If any item is damaged or missing, contact your Allied Telesyn representative for assistance.

- One AT-FS708LE Ethernet Switch
- One power adapter
- Four protective rubber feet (desktop use only)
- This installation guide
- Warranty card



## Selecting a Site

Be sure to observe the following site requirements:

- Make sure you are placing the device in a dust-free and moisture-free environment.
- Do not block the ventilation openings on the unit. Allow at least 10 centimeters (4 inches) of space at the front and back of the unit for ventilation.
- Make sure that the unit's power is accessible and cables can be connected easily.
- Cabling should be away from sources of electrical noise such as radios, transmitters, broadband amplifiers, power lines, and fluorescent fixtures.
- Do not place objects on top of the unit.
- Use dedicated power circuits or power conditioners to supply power to the unit.
- Refer to Table 2 for the cabling specifications for the twisted pair ports.

**Table 2** 10Base-T/100Base-TX Twisted Pair Port  
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)

## Reviewing Safety Guidelines

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



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### **Warning**

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

---

**Caution**

**Pluggable Equipment:** The socket outlet should be installed near the equipment and should be easily accessible. 6

---

**Caution**

**Air vents:** The air vents on the unit must not be blocked and must have free access to the room ambient air for cooling. 7

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**Caution**

**Operating Temperature:** This product is designed for a maximum ambient temperature of 40°C. 8

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**Caution**

**All Countries:** Install this product in accordance with local and National Electric Codes. 9

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**Caution**

**EUROPE - EU:** Use TÜV licensed AC adapter of DC 9V, 1A. 10

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**Caution**

**USA/CANADA:** Use a UL Listed/CSA Certified AC adapter of DC 9V, 1A. 11

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## Installing the Unit on a Desktop

To wall-mount the switch on a wall, refer to “Installing the Unit on a Wall” on page 29.

To install the switch on the desktop, perform the following procedure.

1. Attach the four self-adhesive rubber feet to the bottom of the device, positioning them in the indentations.
2. Place the device on a flat, level surface.



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### **Warning**

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

*5*

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3. Plug the power adapter into a power source and then plug the DC power cord into the DC connector on the front panel of the switch.
4. Make sure the PWR LED on the front panel is green. If the LED is OFF, refer to “Troubleshooting” on page 31.
5. Connect the twisted pair cables to the twisted pair ports on the switch and on the end-nodes.

6. Power ON the end-nodes connected to the switch.
7. Check that the LNK/ACT LED for each port on the switch is green. If a LED is OFF, refer to “Troubleshooting” on page 31.

The AT-FS708LE switch is now ready for use.

## Installing the Unit on a Wall

For wall-mount installation, you can position the switch vertically or horizontally on the wall using the keyhole cutouts in the bottom of the switch chassis.

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### **Note**

For wall-mount installation, you must supply the two screws and plastic anchors or other material necessary to physically mount the switch to the wall.

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1. If attached, remove the rubber feet, data cables, and power cord from the switch.
2. Select a wall location for the switch.
3. Install two plastic anchors and two pan-head screws into the wall, separated by 5 centimeters (approximately 2 inches).

4. Position the switch onto the wall screws with the LEDs either facing up or down.



### **Warning**

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

 5

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5. Plug the power adapter into a power source and then plug the DC power cord into the DC connector on the front panel of the switch.
6. Make sure the PWR LED on the front panel is green. If the LED is OFF, refer to “Troubleshooting” on page 31.
7. Connect the twisted pair cables to the twisted pair ports on the switch and on the end-nodes.
8. Power ON the end-nodes connected to the switch.
9. Check that the LNK/ACT LED for each port on the switch is green. If a LED is OFF, refer to “Troubleshooting” on page 31.

The AT-FS708LE switch is now ready for use.

## Warranty Registration

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

## Troubleshooting

The following procedure should be performed after you have initially installed the unit to check to be sure that the device is operating properly. You can also perform this procedure to troubleshoot the unit in the event you experience any problems with the device.

1. Check the PWR LED. The LED should be ON. If the LED is OFF, check the following:
  - Verify that the power adapter is securely connected to the power source and to the DC connector on the front of the AT-FS708LE unit.
  - Check to be sure that the power outlet has power by connecting another device to it.
  - Try replacing the power adapter with another power adapter.
2. Check the LNK/ACT LED for each port. The LED should be lit steady or flashing. If a LNK/ACT LED is OFF, check the following:

- Verify that the node connected to the port on the switch is powered ON. If the node is OFF, power the unit ON.
  - Verify that the distance between the switch and the connected network device is no greater than 100 meters (328 feet).
  - Check to be sure that you are using the correct type of cable: Category 3, 4, or 5 for 10 Mbps operation and Category 5 cable for 100 Mbps operation.
  - Verify that the cable has not been cut or damaged.
3. If the LNK/ACT LED for a port is ON but there is a communication problem to the end-node connected to the port, such as the loss of data, check the following:
- Check to be sure that the distance between the switch and the connected network device is no greater than 100 meters (328 feet).
  - Verify that you are using the correct type of cable: Category 3, 4, or 5 for 10 Mbps operation and Category 5 cable for 100 Mbps operation.



## Technical Specifications

<b>Standards Compatibility:</b>	<b>IEEE 802.3, IEEE802.3u</b>
<b>Power Supply:</b>	<b>Input: 120V @ 1A</b>
<b>Connectors:</b>	<b>RJ-45</b>
<b>Address Table:</b>	<b>Up to 4,000 entries</b>
<b>Queue Buffer:</b>	<b>256K bytes</b>
<b>Physical Dimensions:</b>	<b>W x D x H 14.6 x 8.2 x 2.6 cm (5.8 x 3.3 x 1.0 in)</b>
<b>Weight:</b>	<b>350 g (0.77 lbs)</b>
<b>Operating Temperature:</b>	<b>0° to 40° C</b>
<b>Storage Temperature:</b>	<b>-20° to 70° C</b>
<b>Operating Humidity:</b>	<b>5% to 90% (non- condensing)</b>
<b>Storage Humidity:</b>	<b>5% to 95% (non- condensing)</b>
<b>EMI:</b>	<b>FCC Part 15 Class B, CISPR 22 Class B EN55022 Class B</b>

**Safety:**

UL - USA  
TUV (EN60950) -  
Europe  
CSA or cUL - Canada  
C-Tick - Australia  
CE Mark

**Immunity:**

EN55024

## *Appendix A*

# *Translated Safety and Emission Information*

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**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**

#### **DECLARATION OF CONFORMITY**

Manufacture Name: Allied Telesyn, Inc.  
 Manufacture Address: 950 Stewart Drive, Suite B  
 Sunnyvale, CA 94085 USA  
 Manufacture Telephone: 408-730-0950  
 Declares that the product: Fast Ethernet Switch  
 Model Number: AT-FS708LE

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

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

#### **RADIATED ENERGY**

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


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

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







## Industry Canada


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

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


- 1 **RFI Emissions** FCC Part 15,  
EN55022, C-Tick,  
CISPR 22, VCCI  
(Class B)
- 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, CSA C22.2  
No. 950, EN60950

### Safety







- 5  **Caution:** POWER CORD IS USED AS A DISCONNECTION DEVICE. TO DE-ENERGIZE EQUIPMENT, disconnect the power cord.
- 6  **PLUGGABLE EQUIPMENT,** the socket outlet shall be installed near the equipment and shall be easily accessible.
- 7  **CAUTION:** Air vents must not be blocked and must have free access to the room ambient air for cooling.
- 8  **OPERATING TEMPERATURE:** This product is designed for a maximum ambient temperature of 40° degrees C.
- 9  **ALL COUNTRIES:** Install product in accordance with local and National Electrical Codes.
- 10  **EUROPE - EU:** Use TÜV licensed AC adapter of DC 7.5V, 1A.

- 11  **USA/CANADA:** Use a UL Listed/CSA Certified AC adapter of DC 9V, 1A.

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


- 1 Hochfrequenzstörung      FCC Part 15,  
EN55022, C-Tick,  
CISPR 22, VCCI  
(Class B)
- 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, CSA C22.2  
No. 950, EN60950

### SICHERHEIT







- 5  **VORSICHT:** DAS NETZKABEL DIENST ZUM TRENNEN DER STROMVERSORGUNG. ZUR TRENNUNG VOM NETZ, KABEL AUS DER STECKDOSE ZIEHEN.
- 6  **STECKBARES GERÄT:** Die Anschlußbuchse sollte in der Nähe der Einrichtung angebracht werden und leicht zugänglich sein."
- 7  **VORSICHT**  
Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.
- 8  **BETRIEBSTEMPERATUR:** Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.
- 9  **ALLE LÄNDER:** Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.
- 10  Gebrauchen Sie einen von TÜV zugelassenen Wechselstromadapter für Gleichstrom 9 V, 1A.

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


- 1 Radiofrekvens  
forstyrrelsesemission: FCC Part 15,  
EN55022, C-Tick,  
CISPR 22, VCCI  
(Class B)
- 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, CSA C22.2  
No. 950, EN60950

### SIKKERHED







- 5  **ADVARSEL:** DEN STRØMFØRENDE LEDNING BRUGES TIL AT AFBRYDE STRØMMEN. SKAL STRØMMEN TIL APPARATET AFBRYDES, tages ledningen ud af stikket.
- 6  **UDSTYR TIL STIKKONTAKT,** stikkontakten bør installeres nær ved udstyret og skal være lettilgængelig.
- 7  **ADVARSEL:** Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.
- 8  **BETJENINGSTEMPERATUR:** Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.
- 9  **ALLE LANDE:** Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.
- 10  Brug kun TÜV godkendt vekselstrømstransformator på 9 V jævnstrøm, 1A.



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








- 1 RFI Emissie FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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 Elektrische Veiligheid UL 1950, CSA C22.2 No. 950, EN60950

### VEILIGHEID


- 5  **WAARSCHUWING:** HET TOESTEL WORDT UITGESCHAKELD DOOR DE STROOMKABEL TE ONTKOPPELEN. OM HET TOESTEL STROOMLOOS TE MAKEN: de stroomkabel ontkoppelen.
- 6  **AAN TE SLUITEN APPARATUUR,** de contactdoos wordt in de nabijheid van de apparatuur geïnstalleerd en is gemakkelijk te bereiken."
- 7  **OPGELET:** De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.
- 8  **BEDRIJFSTEMPERATUUR:** De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.
- 9  **ALLE LANDEN:** het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.
- 10  Gebruik een door TÜV gekeurde wisselstroomadapter van 9 Volt gelijkstroom, 1 ampères.

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

- 1 Emission d'interférences radioélectriques      FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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, CSA C22.2 No. 950, EN60950
- 5  **DANGER DE Foudre**  
**DANGER:** NE PAS MANIER le matériel ou les CÂBLES lors d'activité orageuse.
- 6  EQUIPEMENT POUR BRANCHEMENT ELECTRIQUE, la prise de sortie doit être placée près de l'équipement et facilement accessible".
- 7  **ATTENTION:** Ne pas bloquer les fentes d'aération, ceci empêcherait l'air ambiant de circuler librement pour le refroidissement.
- 8  **TEMPÉRATURE DE FONCTIONNEMENT:** Ce matériel est capable de tolérer une température ambiante maximum de ou 40 degrés Celsius.
- 9  **POUR TOUS PAYS:** Installer le matériel conformément aux normes électriques nationales et locales.
- 10  Utiliser un adaptateur secteur conforme TÜV de 9 V, 1 A en courant continu.

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


- ☞ 1 Radioaaltojen häirintä      FCC Part 15,  
EN55022, C-Tick,  
CISPR 22, VCCI  
(Class B)
- ☞ 2  VAROITUS: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häirintää, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.
- ☞ 3 Kestävyys      EN55024
- ☞ 4 Sähköturvallisuus      UL 1950, CSA C22.2  
No. 950, EN60950

### TURVALLISUUS

- ☞ 5  **HUOMAUTUS:** VIRTAJOHTOA KÄYTETÄÄN VIRRANKATKAISULAITTEENA. VIRTA KATKAISTAAN irrottamalla virtajohto.
- ☞ 6  PISTORASIAAN KYTKETTÄVÄ LAITE; pistorasia on asennettava laitteen lähelle ja siihen on oltava esteetön pääsy."
- ☞ 7  **HUOMAUTUS:** Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.
- ☞ 8  **KÄYTTÖLÄMPÖTILA:** Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40°C.
- ☞ 9  **KAIKKI MAAT:** Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.
- ☞ 10  Käytä TÜV-lisenssillä valmistettua verkkosovitinta, jonka tasajännitteen nimellisarvot ovat DC 9 V, 1 A (ampeeria).

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

- 1 Emissione RFI (interferenza di radiofrequenza) FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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, CSA C22.2 No. 950, EN60950






#### **NORME DI SICUREZZA**

- 5  **ATTENZIONE:** IL CAVO DI ALIMENTAZIONE È USATO COME DISPOSITIVO DI DISATTIVAZIONE. PER TOGLIERE LA CORRENTE AL DISPOSITIVO staccare il cavo di alimentazione.
- 6  APPARECCHIATURA COLLEGABILE, la presa va installata vicino all'apparecchio per risultare facilmente accessibile".
- 7  **ATTENZIONE:** le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.
- 8  **TEMPERATURA DI FUNZIONAMENTO:** Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.
- 9  **TUTTI I PAESI:** installare il prodotto in conformità delle vigenti normative elettriche nazionali.
- 10  Utilizzare l'adattatore per c.a. da 9 V c.c. e 1 A conforme alla normativa TÜV.

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


- 1 RFI stråling FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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, CSA C22.2 No. 950, EN60950

### SIKKERHET







- 5  **FORSIKTIG:** STRØMLEDNINGEN BRUKES TIL Å FRAKOBLE UTSTYRET. FOR Å DEAKTIVISERE UTSTYRET, må strømforsyningen kobles fra.
- 6  **UTSTYR FOR STIKKONTAKT.** Stikkontakten skal monteres i nærheten av utstyret og skal være lett tilgjengelig."
- 7  **FORSIKTIG:** Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.
- 8  **DRIFTSTEMPERATUR:** Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.
- 9  **ALLE LAND:** Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.
- 10  **Benytt TÜV-godkjent AC-adapter på 9V DC, 1A (milliamper).**

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

- 1 Emissão de interferência de radiofrequência FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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, CSA C22.2 No. 950, EN60950







### SEGURANÇA

- 5  **CUIDADO:** O CABO DE ALIMENTAÇÃO É UTILIZADO COMO UM DISPOSITIVO DE DESCONEXÃO. PARA DESELETRIFICAR O EQUIPAMENTO, desconecte o cabo de ALIMENTAÇÃO.
- 6  EQUIPAMENTO DE LIGAÇÃO, a tomada eléctrica deve estar instalada perto do equipamento e ser de fácil acesso."
- 7  **CUIDADO:** As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.
- 8  **TEMPERATURA DE FUNCIONAMENTO:** Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.
- 9  **TODOS OS PAÍSES:** Instale o produto de acordo com as normas nacionais e locais para instalações eléctricas.
- 10  Use um adaptador de corrente alternada com saída DC de 9V e 1A em conformidade com as especificações da TÜV.

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


- 1 Emisión RFI FCC Part 15, EN55022, C-Tick, CISPR 22, VCCI (Class B)
- 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, CSA C22.2 No. 950, EN60950

### SEGURIDAD






- 5  **ATENCIÓN:** EL CABLE DE ALIMENTACION SE USA COMO UN DISPOSITIVO DE DESCONEXION. PARA DESACTIVAR EL EQUIPO, desconecte el cable de alimentación.
- 6  EQUIPO CONECTABLE, el tomacorriente se debe instalar cerca del equipo, en un lugar con acceso fácil".
- 7  **ATENCIÓN:** Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.
- 8  **TEMPERATURA REQUERIDA PARA LA OPERACIÓN:** Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.
- 9  **PARA TODOS LOS PAÍSES:** Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.
- 10  Utilizar un adaptador de corriente alterna autorizado TÜV de 9 voltios de corriente continua y 1 amperios.

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

- ☞ 1 Radiostörning FCC Part 15,  
EN55022, C-Tick,  
CISPR 22, VCCI  
(Class B)
- ☞ 2  **WARNING:** 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, CSA C22.2  
No. 950, EN60950

### SÄKERHET

- ☞ 5  **WARNING: NÄTKABELN ANVÄNDS SOM STRÖMBRYTARE FÖR ATT KOPPLA FRÅN STRÖMMEN,** dra ur nätkabeln.
- ☞ 6  **UTRUSTNING MED PLUGG.** Uttaget skall installeras i utrustningens närhet och vara lättåtkomligt".
- ☞ 7  **WARNING:** Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvälning.
- ☞ 8  **DRIFTSTEMPERATUR:** Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.
- ☞ 9  **ALLA LÄNDER:** Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.
- ☞ 10  Använd en växelströmsanslutningsenhet licensierad av TÜV.Likström 9V, 1A.



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