



AT-FS705LE

Fast Ethernet Switch

Installation Guide

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960 Stewart Drive, Suite B, Sunnyvale, CA 94085, USA

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Electrical Safety and Emission Compliance Statement

Standards: This product meets the following standards.

U.S. Federal Communications Commission

Declaration Of Conformity

Manufacturer Name:	Allied Telesyn, Inc.
Manufacturer Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94085 USA
Manufacturer Telephone:	408-730-0950
Declares that the product:	Fast Ethernet Switch
Model Number:	AT-FS705LE

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

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

Radiated Energy

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

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

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


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

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 Class B
EN55022 Class B
VCCI Class B
C-TICK  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


EN60950 (TUV)
UL60950 (_cUL_{us})  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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Welcome to Allied Telesyn

This guide contains instructions on how to install the AT-FS705LE Fast Ethernet Switch.

Where to Find Related 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:

Note

A note provides additional information.



Caution

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



Warning

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

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.

Welcome to Allied Telesyn

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."

Chapter 1

Overview

The AT-FS705LE Fast Ethernet Switch is a 10Base-T/100Base-TX unmanaged switch. The switch provides you with a simple, cost-effective solution for Ethernet switching between end-nodes operating at either 10 Mbps or 100 Mbps.

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

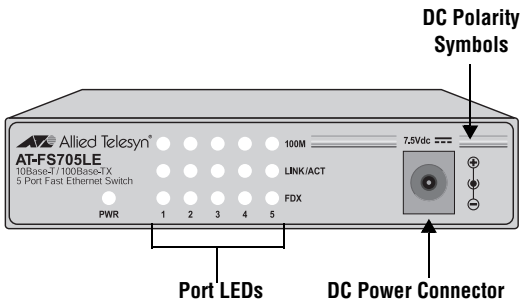


Figure 1 AT-FS705LE Front Panel

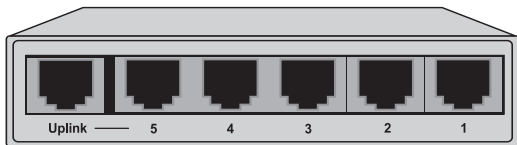


Figure 2 AT-FS705LE Back Panel

Key Features

The AT-FS705LE switch has the following features:

- Non-blocking architecture
- Five Auto-Negotiating 10/100 Mbps twisted pair ports with RJ-45 connectors wired as MDI-X
- One Auto-Negotiating 10/100 Mbps uplink twisted pair port with RJ-45 connector wired as MDI. This port is used to connect the AT-FS705LE switch to another switch or hub without a crossover cable.
- External AC/DC power adapter
- MAC address table with a capacity of 2,000 addresses.
- Small compact size for use on a desktop or wall-mountable

Physical Description

The physical description for the switch includes:

- Ports 1 through 4
- Port 5 and the Uplink port
- LEDs
- Power Supply
- MAC Address Table

Ports 1 Through 4

Ports 1 through 4 can operate at either 10 Mbps or 100 Mbps and in either half- or full-duplex mode. The ports, featuring RJ-45 connectors, are configured as MDI-X, meaning that you can connect a workstation or server to one of the ports without using a crossover cable. The ports have a maximum operating distance of 100 meters (328 feet) using Category 5 cable.

The ports are IEEE 802.3u Auto-Negotiation compliant. This means that the ports can automatically configure their speed and duplex mode to match the capabilities of the end-nodes connected to the ports.

Note

In order for a twisted pair port on the AT-FS705LE switch to successfully Auto-Negotiate its duplex mode with an end-node, the end-node should also be using Auto-Negotiation. Otherwise, a duplex mode mismatch can occur. The twisted pair port, using Auto-Negotiation, will default to half-duplex if it detects that the end-node is not using Auto-Negotiation. This will result in a mismatch if the end-node is operating at a fixed duplex mode of full-duplex.

Port 5 and the Uplink Port

Port 5 and the Uplink port allow you to connect an additional workstation to the switch or interconnect the switch with another switch or hub, without the use of a crossover cable. If you need to connect an additional workstation to the switch, use Port 5, which is configured as MDI-X. If you need to connect the switch to another Ethernet switch, use the Uplink port, which is configured as MDI.

Both Port 5 and the Uplink port offer 10 Mbps or 100 Mbps performance and Auto-Negotiation operation for both speed and duplex mode. Both ports feature a RJ-45 connector and have a maximum operating distance of 100 meters (328 feet) using Category 5 cable.

Note

You can use either Port 5 or the Uplink port, but you cannot use both simultaneously.

Status LEDs

Refer to Table 1 for a description of the switch's LEDs.

Table 1 LEDs

LEDs	Color	Description
PWR	Green	Power is applied to the switch.
100M	Green	The port is operating at 100 Mbps.
	OFF	The port is operating at 10 Mbps.

Table 1 LEDs (continued)

LEDs	Color	Description
LINK/ACT	Green	A valid link has been established on the port.
	Flashing	Data is being transmitted or received on the port.
FDX	Green	The port is operating in full-duplex mode.
	OFF	The port is operating in half-duplex mode.

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, 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 or MDI-X, you use a straight-through twisted pair cable. To connect two network devices that have the same wiring configuration, such as MDI to MDI, you use a crossover cable.

The AT-FS705LE switch features auto MDI/MDI-X on all ports. Auto MDI/MDI-X automatically determines the configuration of the port on the end-node 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 typically wired as MDI, the port on the switch automatically configures itself as MDI-X. This feature allows you to use a straight-through or a crossover cable when connecting end-nodes to the switch.

Auto-Negotiation

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.

Each twisted pair port on the AT-FS705LE switch can operate in either half-duplex or full-duplex mode. Since these twisted pair ports are IEEE 802.3u-compliant, the duplex mode can be set automatically through Auto-Negotiation. With Auto-Negotiation, if the end-node is capable of full-duplex, the port is set automatically to full-duplex mode. If the end-node is capable of half-duplex, the port is set automatically to half-duplex mode.

Note

In order for the twisted pair port on the AT-FS705LE switch to successfully Auto-Negotiate its duplex mode with an end-node, the end-node should also be using Auto-Negotiation. Otherwise, a duplex mode mismatch can occur. The twisted pair port, using Auto-Negotiation, will default to half-duplex if it detects that the end-node is not using Auto-Negotiation. This will result in a mismatch if the end-node is operating at a fixed duplex mode of full-duplex.

MAC Address Table

The heart of an Ethernet switch is the Media Access Control (MAC) address table. Every device that you attach to an Ethernet network has a MAC address. This address is assigned to the device by the device's manufacturer. For example, each Network Interface Card (NIC) that you install into your network computers has a MAC address that was assigned to it by the card's manufacturer.

A switch's MAC address table is a list of the MAC addresses of the devices that are connected to its ports. The switch uses this table to direct data frames to their appropriate destination end-nodes, and in some cases, to discard frames that it receives. The switch creates the MAC address table by examining the frames that it receives on its ports. Each frame is examined for its source address; that is, the MAC address of the end-node that sent the frame. The switch checks to determine whether the address is already in its MAC address table. If it is not, the switch adds the address to the table along with the port number on which the frame was received. The result is a table that contains a list of all the MAC addresses of end-nodes that have sent frames to the switch and the ports on the switch to which the end-nodes are connected.

The switch also checks the destination MAC address of each frame it receives. The destination address is the MAC address of the end-node to which the frame is intended. If the address is in the table, the switch directs the frame directly to the port where the end-node is located. This helps to ensure that end-nodes will only receive traffic that is intended for them and not have to deal with traffic intended for other end-nodes.

If the destination address is not in the MAC address table, the switch broadcasts the frame to all switch ports. When the destination end-node responds, the switch will be able to match the address to a port so that the next time a frame is destined to that particular end-node, the switch will be able to forward the frame to the correct port instead of having to broadcast the frame to all ports.

In some cases a switch will even discard a frame. If the switch receives a frame that is destined to an end-node on the same port on which the frame was received, the switch discards the frame.

The MAC address table in the AT-FS705LE switch can store up to 2,000 MAC addresses. To prevent the table from becoming filled with addresses of end-nodes that are no longer active, the switch has a MAC address aging timer. This timer will delete a MAC address

from the table if it does not see a frame from the end-node with the address on any port after five minutes (300 seconds). The aging timer also helps to ensure that the table is correct should an end-node be moved from one port on the switch to another port.

External Power Supply

The AT-FS705LE switch uses an external AC/DC power adapter that comes standard with the switch.

Network Topologies

The AT-FS705LE switch can be used in a variety of network topologies, such as standalone or back-to-back. Both topologies are described below.

Standalone Topology

Figure 3 illustrates a network of one AT-FS705LE switch used to interconnect four workstations and a server. In this configuration, the Uplink port is not used.

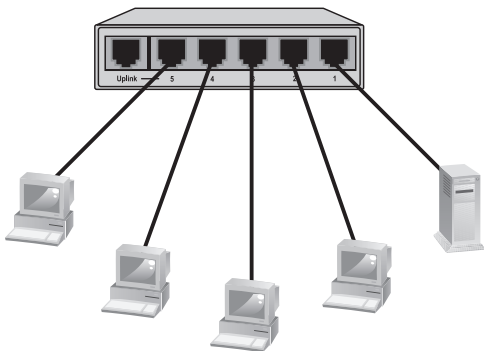


Figure 3 Standalone Topology

Back-to-Back Topology

Figure 4 illustrates a network of two AT-FS705LE switches that have been interconnected using one of the Uplink ports on one of the units. Using the Uplink port eliminates the need for a crossover cable to interconnect the switches.

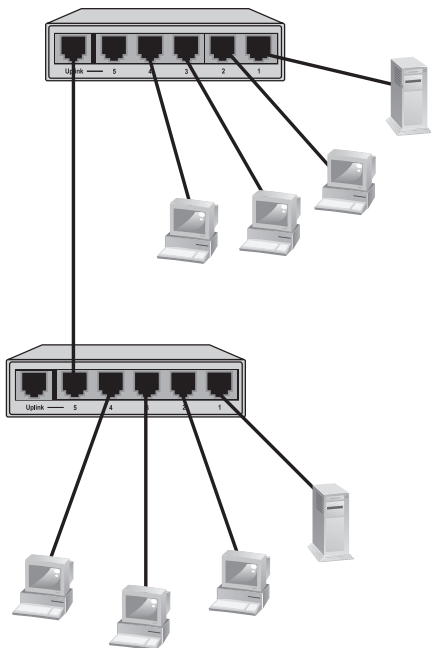


Figure 4 Back-to-Back Topology

Chapter 2

Installation

This section contains the procedures for installing the switch.

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.

- An AT-FS705LE Fast Ethernet Switch
- One external power adapter
- Four protective rubber feet (for desktop use only)
- Two wall-mount anchors
- Two self-tapping screws
- This installation guide
- Warranty card

Note

For wall-mount installation, the screws, plastic anchors, and any other material necessary to physically mount the switch to the wall are not provided.

Selecting a Site

Be sure to observe the following requirements when choosing a site for your switch.

- Make sure you are placing the switch 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 switch'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 switch.
- Use dedicated power circuits or power conditioners to supply power to the switch.

Observe the following cabling specifications:

Ports	Connector Type	Type of Cable	Maximum Distance
1 through 5	RJ-45	Category 5	100 m (328 ft)
Uplink	RJ-45	Category 5	100 m (328 ft)

Reviewing Safety Guidelines

Please review the following safety guidelines before installing the switch.



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 must not be blocked on the unit and must have free access to the room ambient air for cooling.

↪ 7



Caution

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



Caution

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



Caution

Europe - EU: Use TÜV licensed AC adapter of DC 7.5V, 1A.

USA/Canada: Use a UL Listed/CSA Certified AC adapter of DC 7.5V, 1A.

↪ 10

Installing the Switch on a Table or Desktop

To install the switch on a table or desktop, perform the following procedure:

1. Remove all the items from the packaging and store the packaging material in a safe place. In the event a problem occurs and you need to return the unit, please use as much of the original shipping material as possible.
2. Attach the four protective rubber feet to the bottom of the switch, as illustrated in Figure 1.

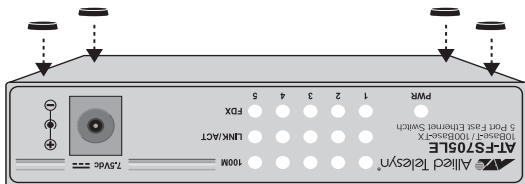


Figure 1 Attaching the Rubber Feet

3. Place the switch on a flat and secure surface, leaving ample space around the switch for ventilation.
4. Connected the twisted pair cables to the twisted pair ports.

Note

You can use either Port 5 or the Uplink port, but you cannot use both simultaneously.

When connecting a twisted pair cable to a port, observe the following guidelines:

- An RJ-45 connector should fit snugly into the port on the switch. The tab on the connector should lock the connector into place.
 - You should check to be sure that you are using the appropriate type of twisted pair cabling. Refer to Table 4 on page 10 for twisted pair cable specifications.
 - Since the twisted pair port, when operating in Auto-Negotiation, is Auto MDI/MDI-X, you can use either a straight-through or crossover twisted pair cable to connect any type of network device to a port on the switch. If you disable Auto-Negotiation on the port, the port defaults to MDI-X.
5. Apply power to the switch by plugging the AC/DC power adapter into an AC power outlet, the plug the DC connector to the power receptable of the switch.



Warning

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

5

6. Verify that either the PWR LED is green. If the LED is OFF, refer to “Troubleshooting” on page 27 for instructions.

Note

The switch perform a self-diagnostic test upon power up. This takes about 20 seconds to complete.

7. Power ON the end-nodes connected to the switch.
8. Check that all the LINK/ACT LEDs are green. If any of the LEDs is OFF, refer to “Troubleshooting” on page 27 for instructions.

The switch is now ready for use.

Wall-Mounting the Switch

The switch can be mounted vertically or horizontally on a wall using the keyholes on the bottom of the switch. Except for the plastic anchors, the screws and other materials necessary to mount the switch on a wall are not provided.

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 switch.
3. Install two plastic anchors and two screws into the wall.

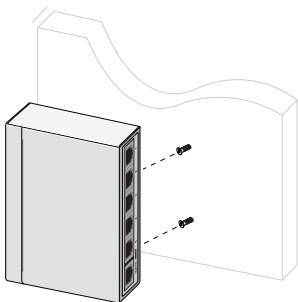


Figure 2 Installing the Plastic Anchors and Screws Onto The Wall

4. Position the switch onto the wall screws, as illustrated in .

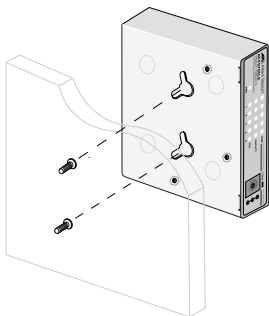


Figure 3 Positioning the Switch Onto the Wall Screws

5. Connected the twisted pair cables to the twisted pair ports.

Note

You can use either Port 5 or the Uplink port, but you cannot use both simultaneously.

When connecting a twisted pair cable to a port, observe the following guidelines:

- An RJ-45 connector should fit snugly into the port on the switch. The tab on the connector should lock the connector into place.

- You should check to be sure that you are using the appropriate type of twisted pair cabling. Refer to Table 4 on page 10 for twisted pair cable specifications.
 - Since the twisted pair port, when operating in Auto-Negotiation, is Auto MDI/MDI-X, you can use either a straight-through or crossover twisted pair cable to connect any type of network device to a port on the switch. If you disable Auto-Negotiation on the port, the port defaults to MDI-X.
6. Apply power to the switch by plugging the AC/DC power adapter into an AC power outlet, the plug the DC connector to the power receptacle of the switch.



Warning

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

 5

7. Verify that either the PWR LED is green. If the LED is OFF, refer to “Troubleshooting” on page 27 for instructions.

Note

The switch perform a self-diagnostic test upon power up. This takes about 20 seconds to complete.

8. Power ON the end-nodes connected to the switch.

9. Check that all the LINK/ACT LEDs are green. If any of the LEDs is OFF, refer to “Troubleshooting” on page 27 for instructions.

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:

- ❑ Check to be sure that the power adapter is securely connected to the power source and to the DC connector on the front of the AT-FS705LE switch.
- ❑ 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.

If the LINK/ACT LED is OFF, do the following:

- ❑ Check to be sure that the end-node connected to the port on the switch is powered ON. If the end-node is OFF, power the unit ON.
- ❑ Check that the cable is securely connected to the port on the switch and on the end-node.
- ❑ Check to be sure that the distance between the switch and the end-node does not exceed 100 meters (328 feet).
- ❑ Check to be sure that you are using Category 5 cable.
- ❑ Check to be sure that the cable has not been cut or damaged.

If there is a communication problem between the end-nodes connected to the switch, do the following:

- ❑ Verify that the switch and end-nodes are operating with the same duplex mode.

If you are still experiencing problems after testing and troubleshooting the installation, refer to “Contacting Allied Telesyn” on page xi . For support information, visit our web site at **www.alliedtelesyn.com**.

Appendix A

Technical Specifications

Physical

Dimensions: W x D x H
100 x 78.5 x 26 mm
(3.93 x 3.09 x 1.02 in)

Environmental

Temperature

Maximum Operating: 0° to 40° C
(32° F to 104° F)

Maximum Storage: -25° to 70° C
(-13° F to 158° F)

Humidity

Operating Humidity: 5% to 90%

Storage Humidity 5% to 95%

Altitude

Operating and Storage: Up to 3,048 meters
(10,000 feet)

Electrical Rating

Input Supply Voltage:	7.5V
Power Current:	1A Maximum
Power Consumption:	8W Maximum

Standards & Compliance

IEEE 802.3	10T Ethernet
IEEE 802.3u	100TX Fast Ethernet

Electrical/Mechanical Approvals

FCC	FCC Part 15 Class B
UL	UL60950 (_c UL _{us})
CE	EN55022 Class B EN60950 (TUV) EN55024
VCCI	VCCI Class B
C-TICK	

Pinout Assignments

Figure 5 shows the pinout assignments for the RJ-45 connector.

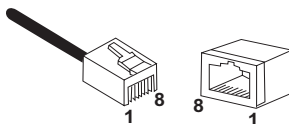


Figure 1 RJ-45 Pin Assignments

Table 5 lists the 10Base-T/100Base-TX connector pins and their signals when the port is operating in either MDI or MDI-X configuration.

Table 1: RJ-45 Pin Signals

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 Safety and Emission Information

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

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

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

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

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

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

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

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

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

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

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

Standards: This product meets the following standards:

U.S. Federal Communications Commission

Declaration Of Conformity

Manufacturer Name:	Allied Telesyn, Inc.
Manufacturer Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94085 USA
Manufacturer Telephone:	408-730-0950
Declares that the product:	Fast Ethernet Switch
Model Number:	AT-FS705LE

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

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

Radiated Energy

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






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

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











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 Class B
EN55022 Class B
VCCI Class B
C-TICK |
|  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 | EN60950 (TUV)
UL60950 (cUL _{us}) |

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.
USA/Canada: Use a UL Listed/CSA Certified AC adapter of DC 7.5V, 1A.

Normen: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.


- 1 Hochfrequenzstörung FCC Klasse B
EN55022 Klasse B
VCCI Klasse B
C-TICK
- 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 EN60950 (TUV)
UL60950 (cUL_{us})

Sicherheit

- 5  **Vorsicht:** Das netzkabel dient 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 7,5 V, 1A.

Standarder: Dette produkt tilfredsstillter de følgende standarder.


- ↪
1 Radiofrekvens forstyrrelsesemission:
 - FCC Klasse B
 - EN55022 Klasse B
 - VCCI Klasse B
 - C-TICK


- ↪
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 EN60950 (TUV)
UL60950 (cUL_{us})


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 7.5 V jævnstrøm, 1A.








Eisen: Dit product voldoet aan de volgende eisen.

- 1 RFI Emissie FCC Klasse B
EN55022 Klasse B
VCCI Klasse B
C-TICK
- 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 EN60950 (TUV)
UL60950 (cUL_{us})


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 7,5 Volt gelijkstroom, 1 ampères.

Normes: ce produit est conforme aux normes de suivantes.

- 1 Emission d'interférences radioélectriques FCC Classe B
EN55022 Classe B
VCCI Classe B
C-TICK
- 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 EN50082 - 1 1997
- 4 Sécurité électrique EN60950 (TUV)
UL60950 (cUL_{us})
- 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 7,5 V, 1 A en courant continu.


Standardit: Tämä tuote on seuraavien standardien mukainen.

- ☞ 1 Radioaaltojen häirintä FCC Luokka B
EN55022 Luokka B
VCCI Luokka B
C-TICK
- ☞ 2  **Varoitus:** Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häirintää, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.
- ☞ 3 Kestävyys EN55024
- ☞ 4 Sähköturvallisuus EN60950 (TUV)
UL60950 (cUL_{us})







Turvallisuus

- ☞ 5  **Huomautus:** Virtajohtoa käytetään virrankatkaisulaitteena. Virta katkaistaan irrottamalla virtajohto.
- ☞ 6  Pistorasiaan Kytettävä 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 7,5 V, 1 A (ampeeria).


Standard: Questo prodotto è conforme ai seguenti standard.

- | | | |
|---|--|---|
| 1 | Emissione RFI
(interferenza di
radiofrequenza) | FCC Classe B
EN55022 Classe B
VCCI Classe B
C-TICK |
| 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 | EN60950 (TUV)
UL60950 (cUL _{us}) |



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 7,5 V c.c. e 1 A conforme alla normativa TÜV. |


Sikkerhetsnormer: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

- 1 RFI stråling FCC Klasse B
 EN55022 Klasse B
 VCCI Klasse B
 C-TICK
- 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 EN60950 (TUV)
 UL60950 (cUL_{us})







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 7,5V DC, 1A (milliampere).


Padrões: Este produto atende aos seguintes padrões.

- | | | |
|---|--|---|
| 1 | Emissão de interferência de radiofrequência | FCC Classe B
EN55022 Classe B
VCCI Classe B
C-TICK |
| 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 | EN60950 (TUV)
UL60950 (cUL _{us}) |







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 7,5V e 1A em conformidade com as especificações da TÜV. |


Estándares: Este producto cumple con los siguientes estándares.

- 1 Emisión RFI FCC Clase B
 EN55022 Clase B
 VCCI Clase B
 C-TICK
- 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 EN60950 (TUV)
 UL60950 (cUL_{us})







Seguridad

- 5  **Atencion:** El cable de alimentación se usa como un dispositivo de desconexión. 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  **Atencion:** 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 7,5 voltios de corriente continua y 1 amperios.

Standarder: Denna produkt uppfyller följande standarder.

- | | | |
|---|---|--|
| 1 | Radiostörning | FCC Klass B
EN55022 Klass B
VCCI Klass B
C-TICK |
| 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 | EN60950 (TUV)
UL60950 (cUL _{us}) |

Säkerhet

- | | | |
|----|---|--|
| 5 |  Varning: 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 |  Varning: 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 7,5V, 1A. | |

