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Allied Telesis GS950PS V2 Series Gigabit WebSmart Ethernet Switches Installation Guide

Contents

Allied Telesis GS950PS V2 Series Gigabit WebSmart Ethernet Switches

Introduction

This Quick Installation Guide contains a short version of the installation instructions for the GS950PS V2 Series of Gigabit WebSmart Ethernet Switches. For complete instructions, refer to the GS950PS V2 Gigabit Ethernet Switch Series Installation Guide on the Allied Telesis web site at **www.alliedtelesis.com/us/en/services-support**. This guide contains the following sections:

Front Panels

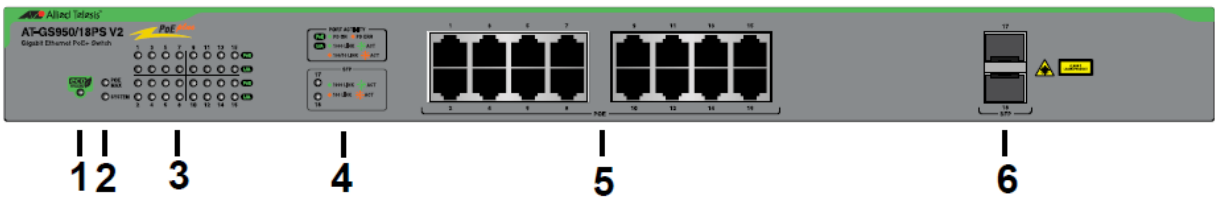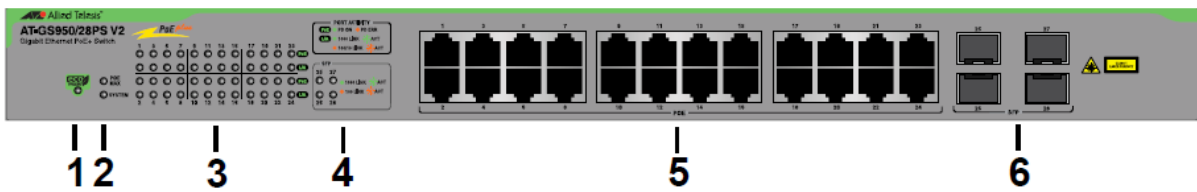Here are the front panels of the switches.

GS950/10PS V2

1 2   3   4   5   6

GS950/18PS V2

1 2   3   4   5   6

GS950/28PS V2

1 2   3   4   5   6
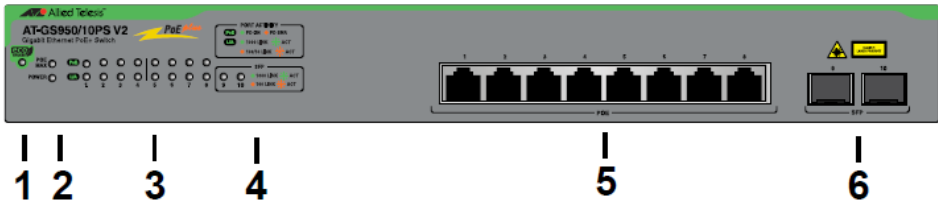
GS950/52PS V2

1	eco-friendly button that turns the LEDs on and off.
2	PoE MAX and POWER LEDs – GS950/10PS V2 Switch. PoE MAX and SYSTEM LEDs
3	Ethernet copper port LEDs.
4	SFP ports LEDs
5	10/100/1000Mbps Ethernet copper ports with PoE+.
6	100Mbps and 1Gbps SFP transceiver ports.
7	Ports 25 to 48 10/100/1000Mbps Ethernet copper on the GS950/52PS V2 Switch – no PoE+

Here are the 10/100/1000Mbps Ethernet copper ports.

Switch	10/100/1000Mbps Ports (no PoE+)	10/100/1000Mbps Ports with PoE+
GS950/10PS V2		1 to 8
GS950/18PS V2		1 to 16
GS950/28PS V2		1 to 24
GS950/52PS V2	25 to 48	1 to 24

Here are the 100Mbps and 1Gbps SFP transceiver ports.

Switch	SFP Transceiver Ports
GS950/10PS V2	9 and 10
GS950/18PS V2	17 and 18
GS950/28PS V2	25 to 28

Switch	SFP Transceiver Ports
GS950/52PS V2	49 to 52

PoE+ Power Budgets
Here are the PoE+ power budgets of the switches. Power budgets are the maximum amounts of power that PoE+ switches can supply to powered devices on the Ethernet copper ports. The switches can support IEEE 802.3at

Classes 0 to 4 powered devices (maximum 30W at the ports.)

Switch	PoE+ Budget
GS950/10PS V2	75 watts
GS950/18PS V2	185 watts
GS950/28PS V2	185 watts
GS950/52PS V2	370 watts

Beginning the Installation

Reviewing Safety Precautions
Review the following safety precautions before installing the product.

Note: The symbol indicates that a translation of the safety statement is available in the PDF document "Translated Safety Statements" on the Allied Telesis website at
**www.alliedtelesis.com/us/en/documents/translated-safety-statements.**

- Warning: Class 1 Laser product. L1
- Warning: Do not stare into the laser beam. L2
- Warning: Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. E3
- Warning: To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified
- technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the cables. E1
- Warning: Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place
- hazardous voltages on accessible metal parts. E4
- Warning: The device is heavy. Always ask for assistance before moving or lifting it to avoid injuring yourself or damaging the equipment. E122
- Warning: To reduce the risk of electric shock, the PoE ports on this product must not connect to cabling that is routed outside the building where this device is located. E40
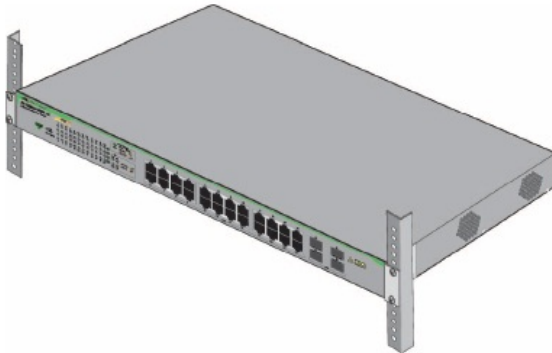
Installation Options

Here are the installation options:
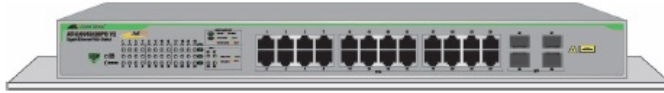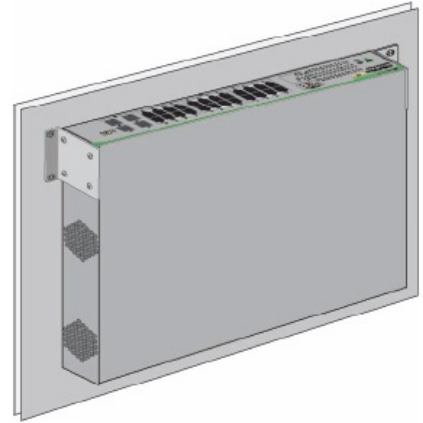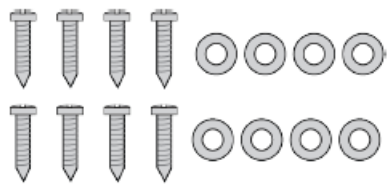
1. Table
2. Standard 19-inch Equipment Rack
3. Wood or concrete wall

Note: Installing the GS950/52PS V2 Switch on a wall requires the BRKT-J22 kit. The kit is sold separately.

Unpacking the Switch
The switches come with these items:

Eight 3.5mm x 16mm wall screws and washers

Eight 4mm x 22.2mm wall anchors

Eight M3 3mm x 6mm bracket screws

Four 10#-32T 4.7mm x 11mm equipment rack screws
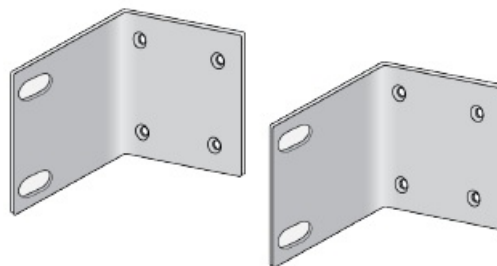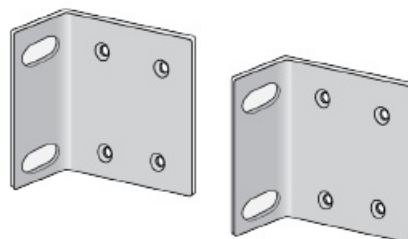
Four bumper feet
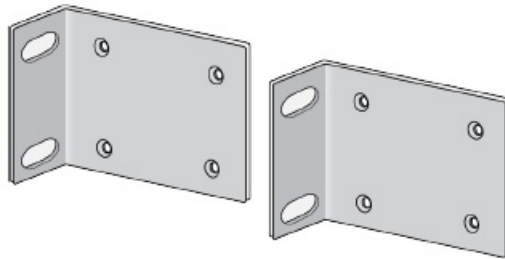
One AC power cord

Power cord retaining clip

Equipment rack/wall brackets for the GS950/10PS V2 switch

Equipment rack/wall brackets for the GS950/18PS V2 and GS950/28PS V2 switches

Equipment rack brackets for the GS950/52PS V2 switch

Note: The GS950/52PS V2 Switch does not include the eight wall screws, washers, and wall anchors.

Choosing a Site for the Switch
Review these site recommendations and requirements.

- Before installing the switch in an equipment rack, verify that the rack is safely secured so that it will not tip over. Devices in a rack should be installed starting at the bottom of the rack, with the heavier devices near the bottom.
- Before installing the switch on a table, verify that the table is level and stable.
- Before installing the switch on a wall, verify that the wall's material is strong enough to hold the switch's weight. You should position the device so that it can be screwed into the wall's framing timber or equivalent structural element.
- The power outlet should be located near the switch and be easily accessible.
- The site should allow for easy access to the ports on the front of the switch so that you can easily connect and disconnect cables, and view the port LEDs.
- The site should allow for adequate air flow around the unit and through the cooling vents on the side panels.
- Do not place objects on top of the switch.
- The site should not expose the switch to moisture or water. The site should be a dust-free environment.
- The site should use dedicated power circuits or power conditioners to supply reliable electrical power to the network devices.
- Do not install the switch in a wiring or utility box without adequate airflow and cooling. The switch might overheat and shutdown.
- Warning: Switches should not be stacked on a table or desktop. They could present a physical safety hazard if you need to move or replace switches. E91

The direction of Ventilation in the Switches
The GS950/18PS V2, GS950/28PS V2, and GS950/52PS V2 Switches have internal ventilation fans. Airflow is from left to right, when facing the front of the switch.
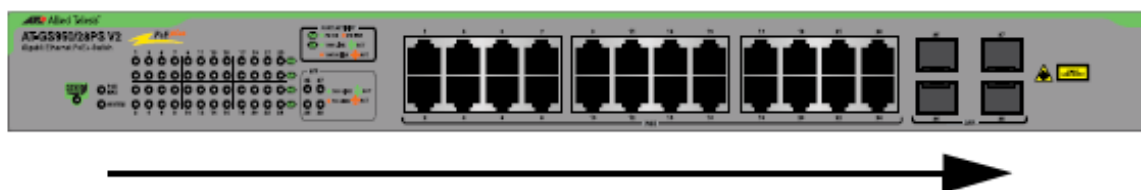

Note: The GS950/10PS V2 Switch does not have ventilation fans. The site must provide sufficient airflow to prevent overheating of the device.

Installing the Switch

Installing the Switch on a Desk or Table
To install the switch on a desk or table, perform the following procedure:

1. Place the switch upside down on the table.
2. Affix the bumper feet to the four corners on the bottom panel of the switch.
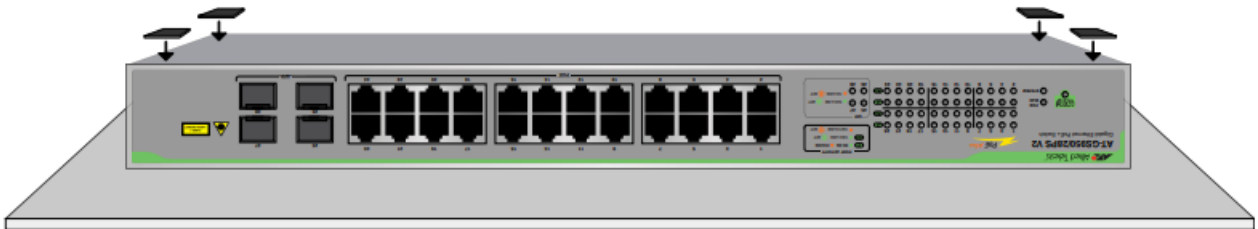
3. Turn over the switch.
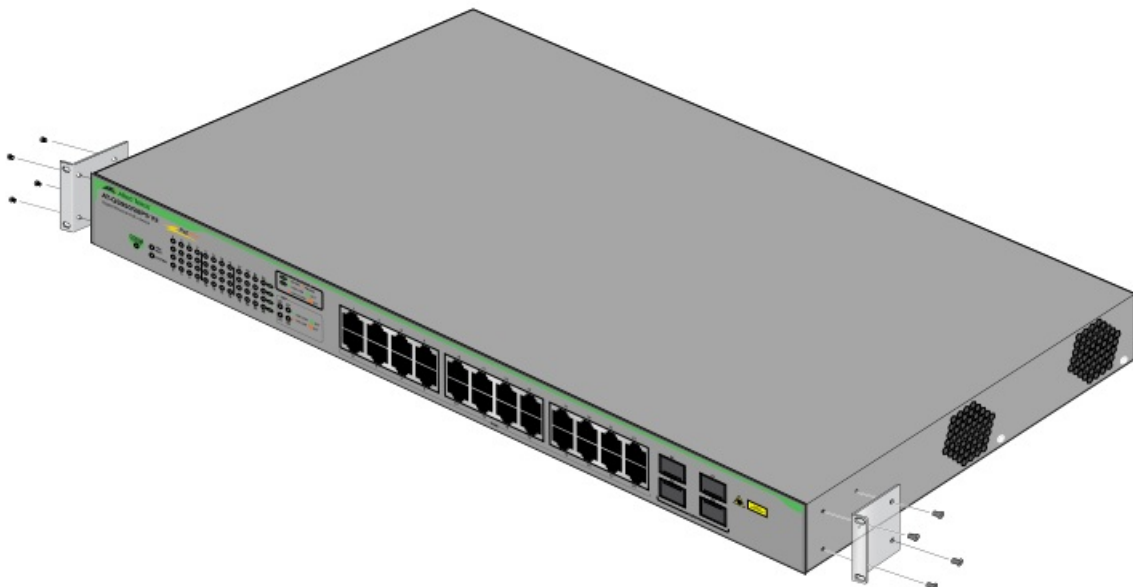4. Go to "Ports" on page 13.

Installing the Switch in an Equipment Rack
Here are the items for installing the switch in an equipment rack:

- Two equipment rack brackets (included with the switch)
- Eight M4x6mm bracket screws (included with the switch)
- Cross-head screwdriver (not provided)
- Four equipment rack screws (included with the switch)

To install the switch, perform the following procedure:

1. Place the switch on a table.
2. If the bumper feet are attached to the bottom panel of the switch, remove them with a flat-head screwdriver.
3. Attach the two brackets to the sides of the switch with the eight M3 3mm x 6mm screws included with the switch. This figure shows the GS950/28PS V2 Switch.

4. Have another person hold the switch in the equipment rack while you secure it using four equipment rack screws. The switch comes with equipment rack screws.
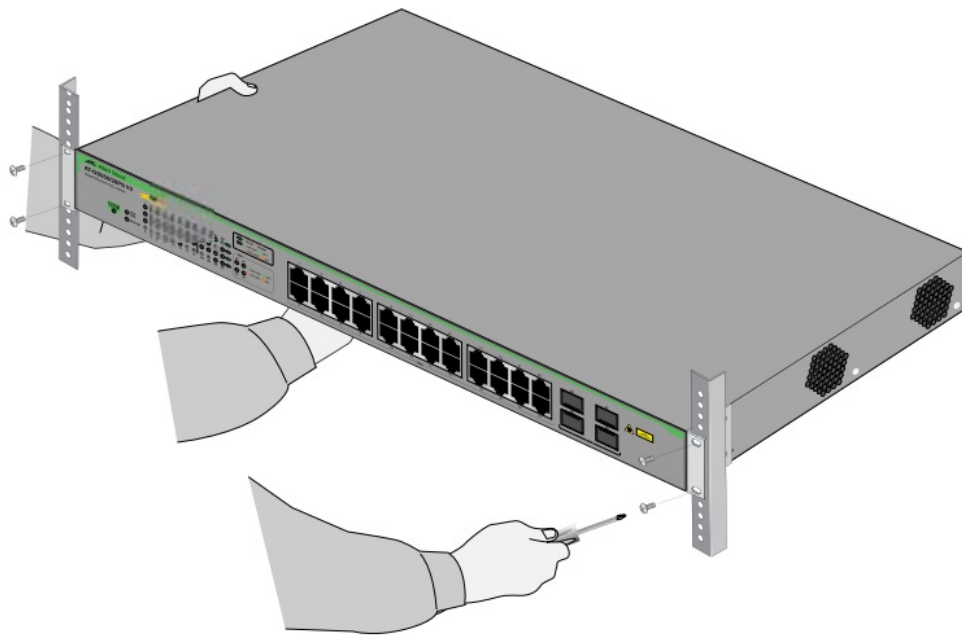

5. Go to "Ports" on page 13.

Installing the Switch on a Wall

Note: Wall installation of the GS950/52PS V2 Switch requires the BRKT-J22 brackets kit. The kit is sold separately. For installation instructions, refer to the GS950PS V2 Gigabit Ethernet Switch Series Installation Guide on the Allied Telesis web site at **www.alliedtelesis.com/us/en/services-support.**

You can install the GS950/10PS V2, GS950/18PS V2, and GS950/ 28PS V2 Switches on a wall with the front panels facing up or down.
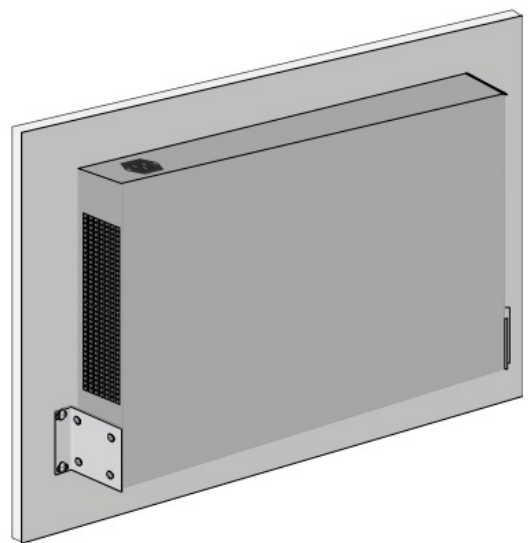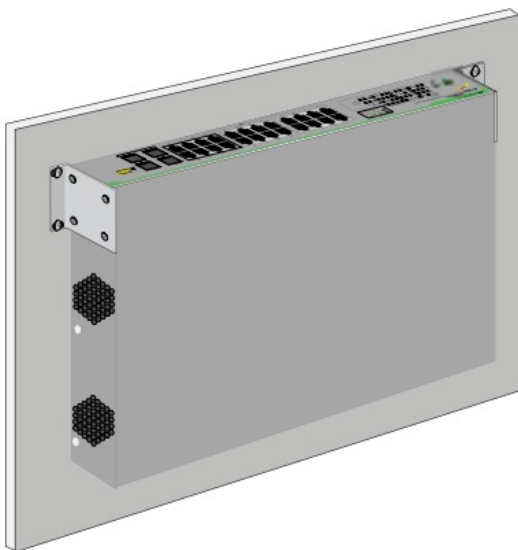

Note: Do not install the switches with the front panels facing left or right.

- Here are the items for installing the switches on a wall:
- Two brackets and eight screws (included with switch)

- Four wood or concrete wall screws and washers. The switch comes with four 3.5x16mm screws and washers.
- Four wall anchors. The switch comes with four 4×22.2mm anchors.
- Cross-head screwdriver (not provided)
- Flat-head screwdriver (not provided)
- Stud finder for a wooden wall, capable of identifying the middle of wall studs and hot electrical wiring (not provided)
- Drill and 1/4" carbide drill bit for a concrete wall (not provided)
- Warning: The device should be installed on the wall by a qualified building contractor. Serious injury to yourself or others or damage to the equipment may result if it is not properly fastened to the wall. E105
- Caution: The supplied screws and anchors might not be suitable for all walls. A qualified building contractor should determine the hardware requirements of your wall before installing the switch. E88

To install the switch on a wall, perform the following procedure:

1. Place the switch on a table.
2. If the four bumper feet are attached to the bottom of the switch, remove them with a flat-head screwdriver.
3. Install the two brackets to the sides of the unit with the eight screws included with the switch.
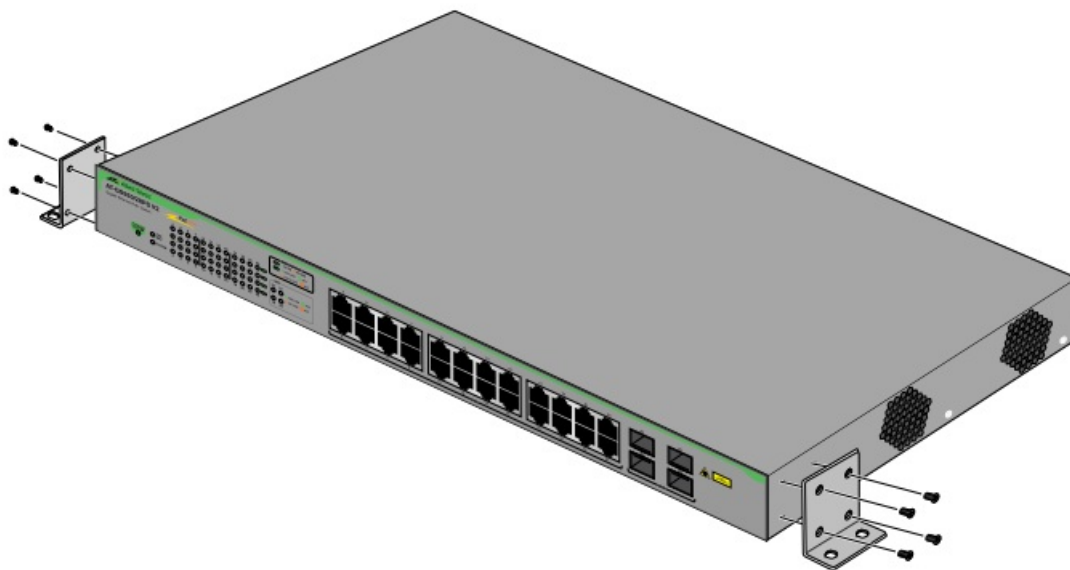
Note: If you need to drill holes in the wall for the screws, perform steps 4 to 8. Otherwise, go to step 9.

4. Have a person hold the switch on the wall at the selected location while you use a pencil to mark the wall with the locations of the four screw holes in the two brackets.
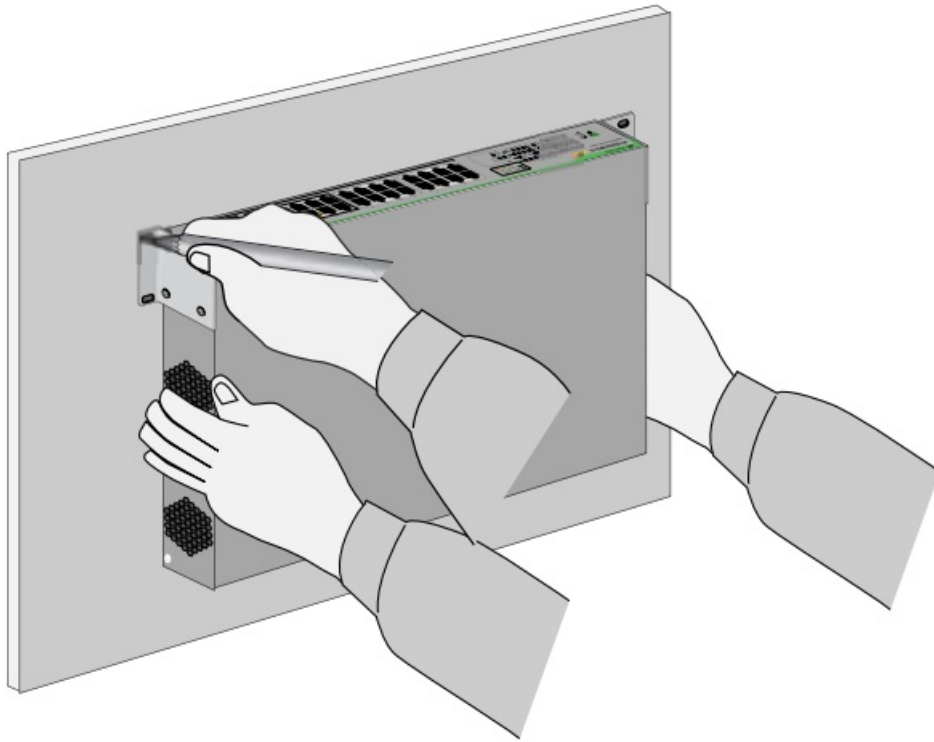
5. Place the switch on a table.
6. Use a stud finder to check for hot electrical wires at the locations of the screw holes.

    Warning: Do not install the switch on a wall near hot electrical wires.
7. Use an appropriate drill to drill the holes. The dimensions of the supplied anchors are 4×22.2mm. The dimensions of the supplied screws are 3.5x16mm.
8. If the wall material requires anchors, insert the anchors into the screw holes.
9. Have another person hold the switch at the selected wall location while you secure it to the wall with four screws.
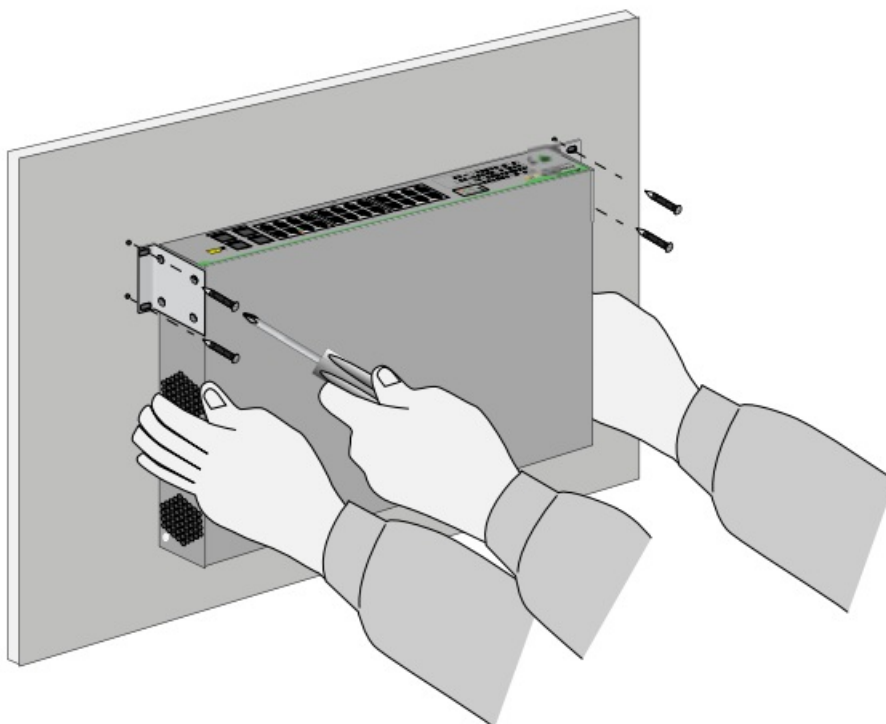
10. Go to "Ports" next.

Ports

Ethernet Copper Cable Specifications
The minimum cable requirements for the copper Ethernet ports are. 10Mbps or 100Mbps: Standard TIA/EIA 568-B-compliant
unshielded Category 3 cabling.
1000Mbps: Standard TIA/EIA 568-A-compliant Category 5 or TIA/ EIA 568-B-compliant unshielded Enhanced Category 5 (Cat 5e) cabling.

Cabling Ethernet Copper Ports

Observe the following guidelines when connecting Ethernet copper cables to the ports on the switch:

- The connectors on the cables should fit snugly into the ports, and the tabs should lock the connectors into place.
- The default speed setting for the ports is Auto-Negotiation. This setting is appropriate for ports connected to network devices that also support Auto-Negotiation.
- The ports must be set to Auto-Negotiation, the default setting, to operate at 1000Mbps.
- The ports support half- and full-duplex at 10Mbps and 100Mbps.
- The ports support only full-duplex at 1000Mbps.
- Do not attach cables to ports of static or LACP port trunks until after configuring the switch trunks. This is to prevent the ports from forming network loops that can adversely affect network performance.
- PoE+ is enabled by default on the ports on the switches.

Installing SFP Transceivers

Here are general installation guidelines:

- You can install SFP transceivers while the switch is powered on.
- For a list of supported transceivers, refer to the product's data sheet on the Allied Telesis web site at **www.alliedtelesis.com.**
- The operational specifications and fiber optic cable requirements are included with the transceivers.
- Install the transceivers before connecting their fiber optic cables.
- Fiber optic transceivers are dust sensitive. Always keep the dust cover in the optical ports when a fiber optic cable is not installed.
- Unnecessary removal and insertion of transceivers can lead to premature failures.
- Warning: Transceivers can be damaged by static electricity. Be sure to observe all standard electrostatic discharge (ESD) precautions, such as wearing an antistatic wrist strap, to avoid damaging the devices. E86

To install SFP transceivers, perform the following procedure:

1. To install a transceiver in a top port, position it with the Allied Telesis label facing up. To install it in a bottom port, position it with the label facing down.
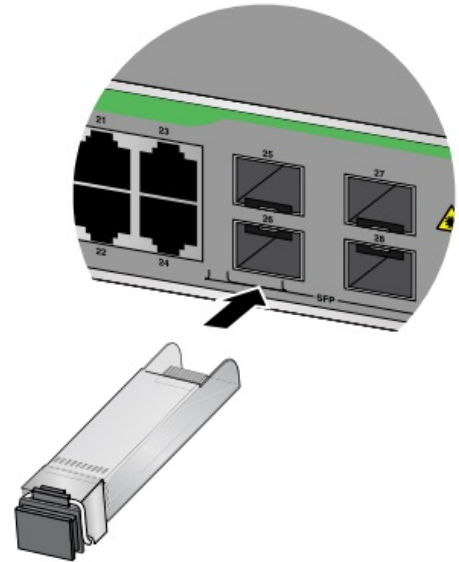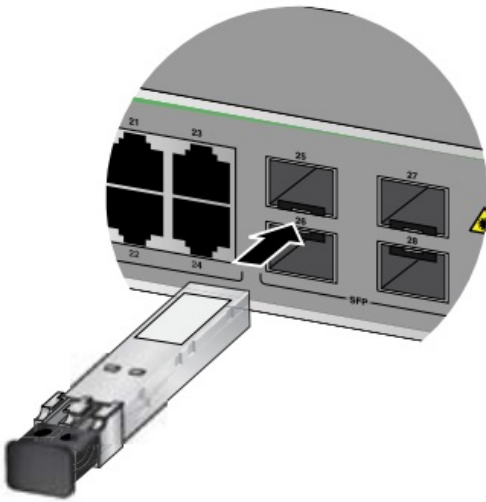
2. Slide the transceiver into the port until it clicks into place.

   To attach the fiber optic cable to the transceiver, continue with the next step. Otherwise, repeat steps 1 and 2 to install the remaining transceivers in the switch.

3. Remove the dust cover from the transceiver.

4. Connect the fiber optic cable to the transceiver. The connector should fit snugly into the port, and the tab should lock the connector into place.

5. Repeat this procedure to install additional transceivers.

6. Go to "Powering On the Switch" next.

Powering On the Switch

Warning: Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. E3
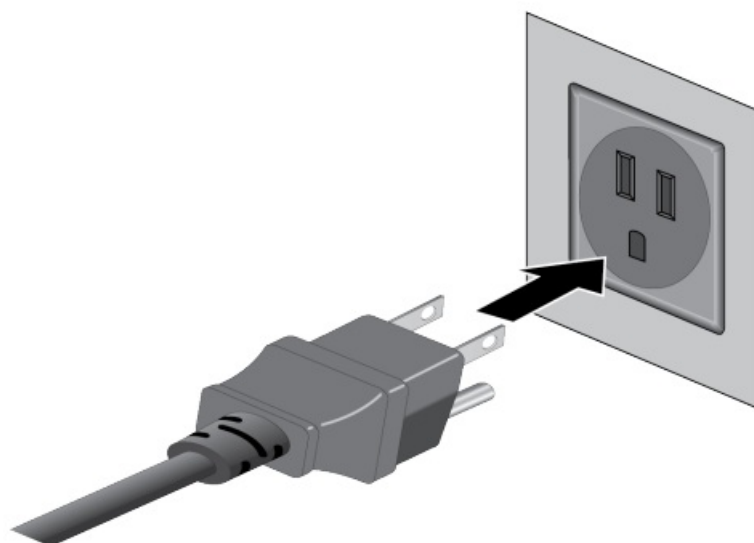
1. Install the power cord retaining clip on the AC power connector on the rear panel of the switch, and raise the clip.
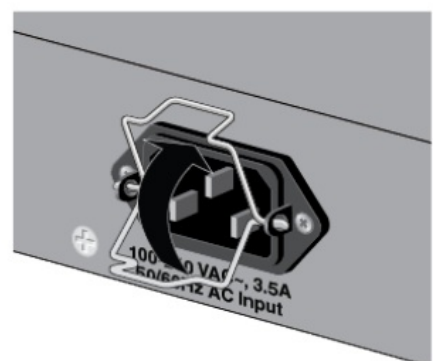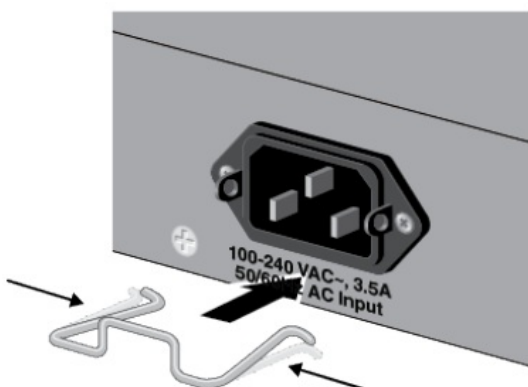
2. Connect the power cord to the connector and lower the retaining clip to secure the power cord.
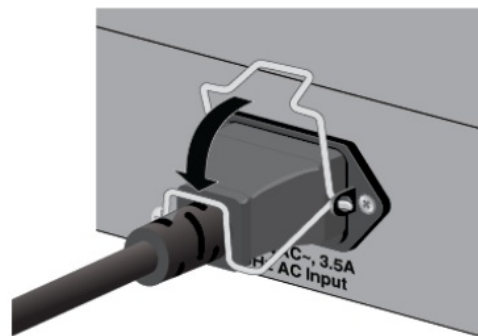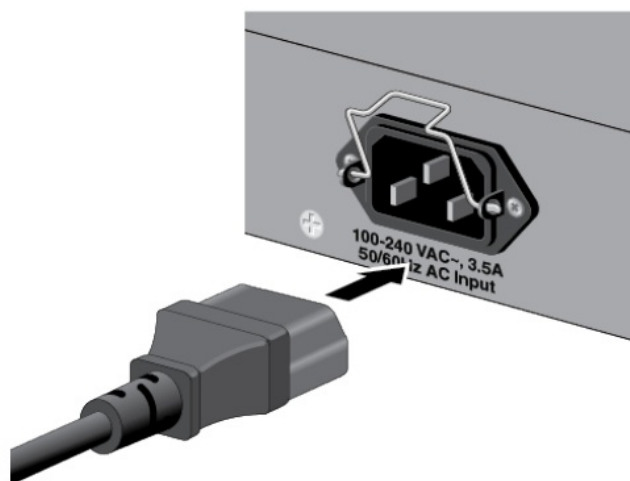
3. Plug the other end of the power cord into an appropriate AC power source.

4. Wait two minutes for the switch to start its management software.

5. Verify that the POWER LED is green. If the LED is off, see "Troubleshooting" on page 22.

Starting the First Management Session

This procedure explains how to start the first management session on the switch. The procedure assumes that your network has a DHCP server.

Note: For instructions on how to start the first management session in a network without a DHCP server, refer to the GS950PS V2 Gigabit Ethernet Switch Series Installation Guide. The guide is available at **www.alliedtelesis.com/us/en/services-support.**

1. Assign the switch an IPv4 address on the DHCP server on the network. (The MAC address of the switch is provided on a label on the rear panel.)

2. Connect at least one port on the switch to a network device, such as another Ethernet switch.

3. Power on the switch. Refer to "Powering On the Switch" on page 15.

4. Wait two minutes. The switch start its management software and obtains its IPv4 address from the DHCP server.

5. Start the web browser on your workstation.

6. Enter the IPv4 address of the switch in the URL field of the browser. This is the IPv4 address you assigned the switch on the DHCP server.

Here is the login window:

7. Enter "manager" for the User Name and "friend" for the Password.

8. Click the Sign In button.

LEDs

### Ethernet Copper Port LEDs

The LEDs for the Ethernet copper ports on the GS950/10PS V2, GS950/18PS V2, and GS950/28PS V2 Switches are on the left side of the front panels. The ports have L/A (Link/Activity) LEDs and PoE LEDs. This example is from the GS950/10PS V2 Switch.
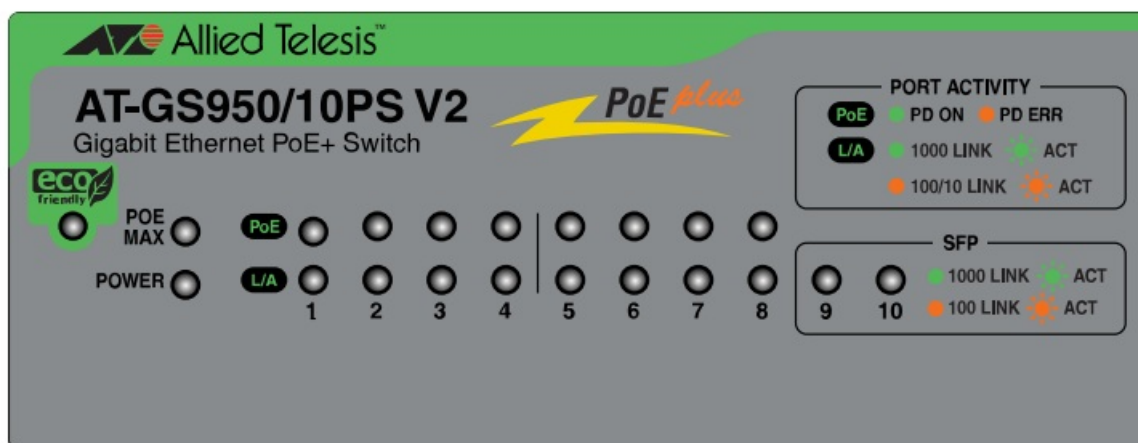
The LEDs for the Ethernet copper ports on the GS950/52PS V2 Switch are in the upper and lower corners of the ports. The left LEDs are L/A (Link/Activity). The right LEDs for ports 1 to 24 are PoE+. The right LEDs for ports 25 to 48 are not used.
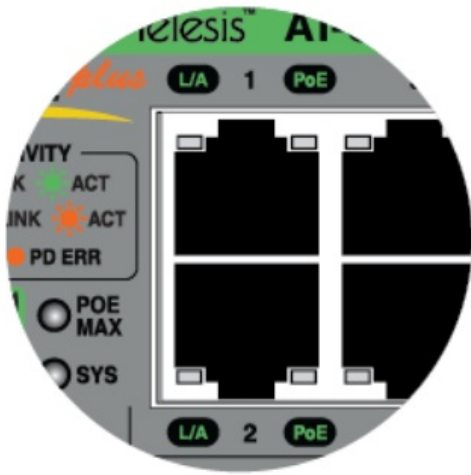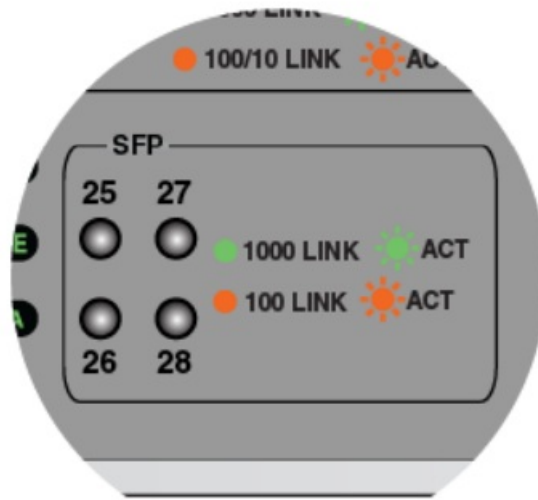
Ports 1 to 24
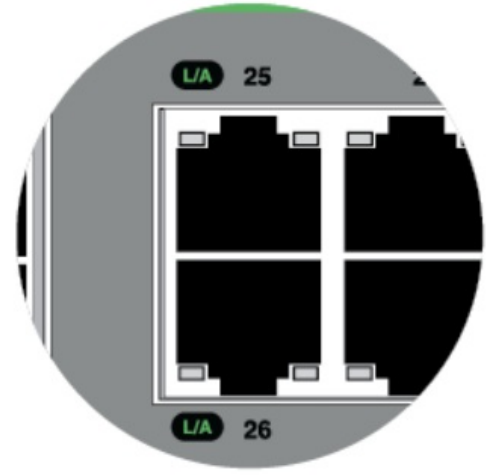
Ports 25 to 48

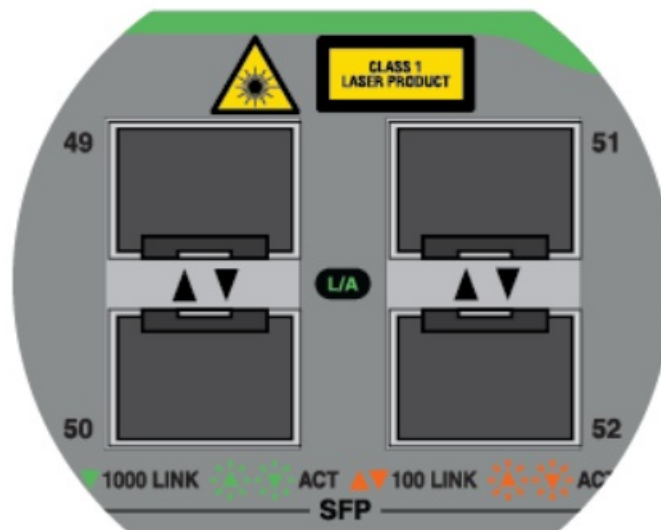| L/A (Link/Activity) LEDs	
Solid green	The port has established a 1Gbps link to a network device.
Flashing green	The port is transmitting or receiving packets at 1Gbps.
Solid amber	The port has established a 10 or 100Mbps link to a network device.
Flashing amber	The port is transmitting or receiving packets at 10 or 100Mbps.
Off	Possible causes of this state are listed here: – The port has not established a link with another network device. – The LEDs are turned off. To turn on the LEDs, use the eco-friendly button.
PoE LEDs	
Solid green	The port is delivering power to a powered device.
Solid amber	The switch shut down PoE+ on the port because of a fault condition.

Off	This LED state can result from the following conditions: – The port is not connected to a powered device or the device is powered off. – The port is disabled in the management software. – PoE+ is disabled on the port. – The LEDs are turned off. To turn on the LEDs, use the eco-friendly button.

SFP Port LEDs

The LEDs for the SFP ports on the GS950/10PS V2, GS950/18PS V2, and GS950/28PS V2 Switches are on the left side of the front panels. This example is from the GS950/28PS V2 Switch.
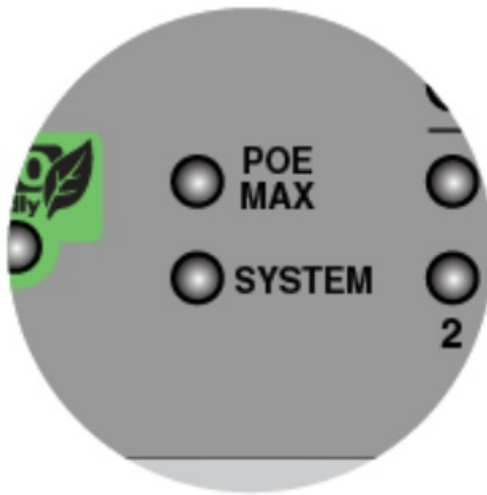
The LEDs for the SFP ports on the GS950/52PS V2 Switch are located between the ports.

Solid green	The port has established a 1Gbps link to a network device.
Flashing green	The port is transmitting or receiving packets at 1Gbps.

Solid amber	The port has established a 100Mbps link to a network device.
Flashing amber	The port is transmitting or receiving packets at 100Mbps.
Off	Possible causes of this state are listed here: – The SFP transceiver port is empty. – The SFP transceiver is not connected to a network device or the device is powered off. – The LEDs are turned off. To turn on the LEDs, use the eco-friendly button.

SYSTEM LED

The GS950/18PS V2, GS950/28PS V2, and GS950/52PS V2 Switches have a SYSTEM LED on the left side of the faceplates.

Green	The power supply is operating normally.
Red	A cooling fan has failed.
Off	Possible conditions of this state include: – The power supply is not receiving power. – The switch has overheated and shut down. – The input AC power is outside the permitted operating range. – The power supply has failed.

POWER LED

The GS950/10PS V2 Switch has a POWER LED on the left side of the faceplate.

Green	The switch is operating normally.
Off	The switch is powered off or has experienced a system failure.

PoE MAX LED

The switches have a PoE MAX LED on the left side of the faceplates.

Off	The switch is providing power to all powered devices on its ports.
Red	The total power requirements of the powered devices meet or exceed the switch's maximum power budget. The switch cannot support additional powered devices and may be denying power to some ports.

eco-friendly Button

You can use the eco-friendly button to perform the following functions:

- Toggle the eco-friendly mode: Pressing the button for less than five seconds toggles the port LEDs on and off. You might turn off the LEDs to conserve electricity when you are not using them to monitor the switch.
- Reboot the switch: Pressing the button for five to nine seconds reboots the switch.
- Restore the default settings: Pressing the button for more than 10 seconds restores the factory default values.

Note: Restoring the default settings returns the management IP address to 192.168.1.1. If your network does not have a DHCP server, you will need to change the IP address on your computer to connect to the switch again. Refer to the GS950PS V2 Gigabit Ethernet Switch Series Installation Guide.

Caution: The switch temporarily stops forwarding network traffic when you reboot it or restore the default settings. Some network traffic may be lost. E113

Note: You can disable the reboot and factory default functions of the eco-friendly button in the management software. Refer to the GS950 PS V2 Gigabit Ethernet PoE+ Switch User Guide.

Troubleshooting

- Problem: All port and system LEDs are off, and the fans have stopped.
- Solutions: The unit is not receiving power. Try the following:
- Verify that the power cord is securely connected to the power source and the AC connector on the back panel of the switch.
- Verify that the power outlet has power by connecting another device to it.
- Problem: All of the port LEDs are off even though the ports are connected to active network devices.
- Solution: The switch might be operating in the low power mode. To toggle on the LEDs, press the eco-friendly button on the front panel of the switch. You can also toggle the LEDs off and on with the ECOFRIENDLY LED and NO ECOFRIENDLY LED commands in the command line interface.
- Problem: A LINK/ACT LED is off for a Ethernet copper port that is connected to an active network device.
- Solutions: The port is unable to establish a link to a network device. Try the following:

- Verify that the network device connected to the Ethernet copper port is powered on and is operating properly.
- Verify the port is connected to the correct Ethernet copper cable.
- Problem: The LINK/ACT LED is off for an SFP transceiver that is connected to an active network device.
- Solutions: The fiber optic port on the transceiver is unable to establish a link to a network device. Try the following:
- Verify that the fiber optic cable is securely connected to the port on the transceiver and to the port on the remote network device.
- Check that the transceiver is fully inserted in the slot.
- Problem: A port is not supplying power to a PoE device.
- Solutions: Try the following:
- Check the port's PoE LED. Refer to "Ethernet Copper Port LEDs" on page 17. If the LED is flashing amber, the switch cannot support additional PoE devices device because it is already providing its maximum power to other devices. Refer to "PoE+ Power Budgets" on page 4.
- Review the powered device's documentation to confirm that the device supports Mode A (MDI-x) of the IEEE 802.3at standard and that it uses pins 1, 2, 3, and 6 on the RJ-45 port to receive power.
- Check that the device's power requirements do not exceed 25.5W by reviewing its documentation or data sheet.
- If the device is connected to the GS950/52PS V2 Switch, check that is connected to a port in the range of 1 to 24. Ports 25 to 48 do not support PoE.

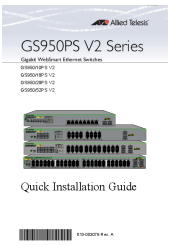## Documents / Resources

	Allied Telesis GS950PS V2 Series Gigabit WebSmart Ethernet Switches [pdf] Installation Guide GS950PS V2 Series, Gigabit WebSmart Ethernet Switches, GS950PS V2 Series Gigabit WebSmart Ethernet Switches, WebSmart Ethernet Switches, Ethernet Switches, Switches