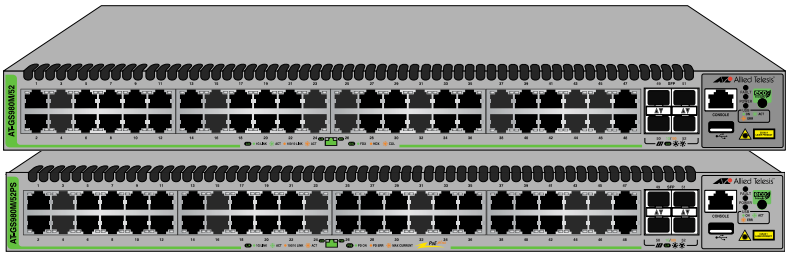
CentreCOM® GS980M Series

Gigabit Ethernet Switches

AlliedWare Plus™

GS980M/52

GS980M/52PS



Quick Installation Guide

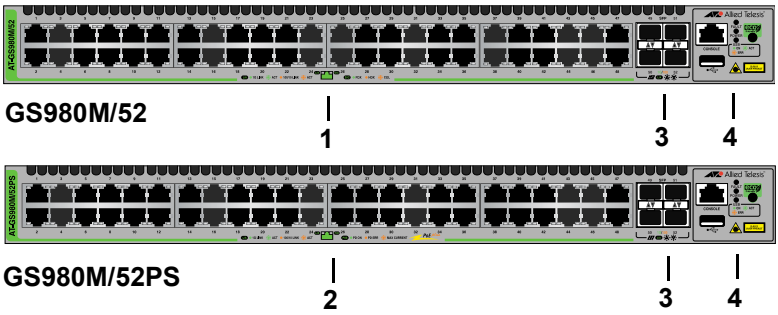
613-003045 Rev. A

Introduction

This Quick Installation Guide contains a short version of the installation instructions for the GS980M Series of Gigabit Ethernet Switches. For more instructions, refer to the *GS980M Gigabit Ethernet Switch Series Installation Guide* on the Allied Telesis web site at **www.alliedtelesis.com/us/en/services-support**. The guide contains the following sections:

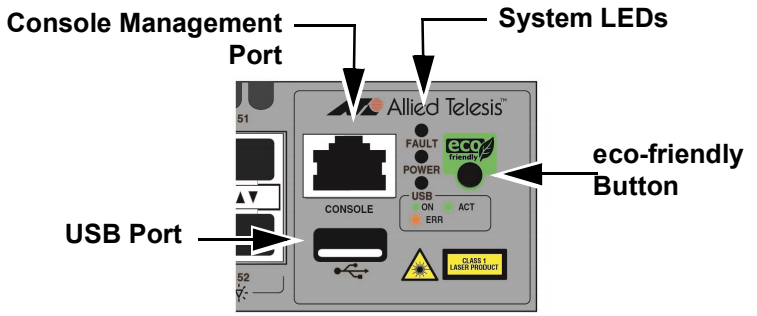
Front Panels

The front panels of switches are illustrated here.



1	10/100/1000Mbps: 48 Ethernet copper ports
2	10/100/1000Mbps: 48 Ethernet copper ports with PoE+
3	100Mbps and 1Gbps: Four Ethernet SFP transceiver ports
4	Management panel

The management panel is illustrated here.



PoE+ Power Budget

The GS980M/52PS Switch has a PoE+ budget of 740W. The power budget is the maximum amount of power that the switch can supply to powered devices on the Ethernet copper ports. The switch supports IEEE 802.3at Classes 0 to 4 (maximum 30.0W at the ports).

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

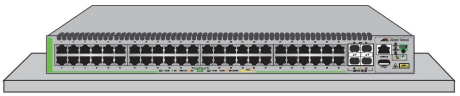
Warning: Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts. E4

Warning: The device is heavy. Always ask for assistance before moving or lifting it to avoid injuring yourself or damaging the equipment. E122

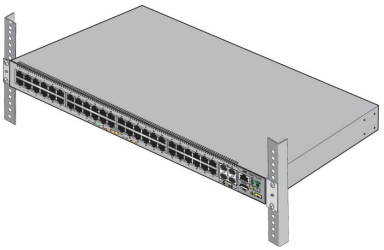
Warning: To reduce the risk of electric shock, the PoE ports on this product must not connect to cabling that is routed outside the building where this device is located. E40

Installation Options

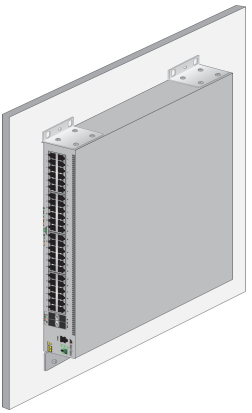
This figure illustrates the three installation options.



Table



Standard 19-inch equipment rack



Wood or concrete wall

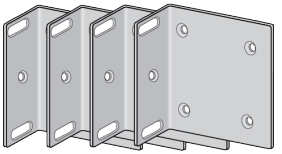
Unpacking the Switch

The following figure and table list the accessory items included with the switch.

One 2m (6.6 ft) local management cable with RJ-45 (8P8C) and DB-9 (D-sub 9-pin) connectors

One AC power cord

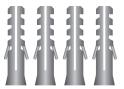
One power cord retaining clip



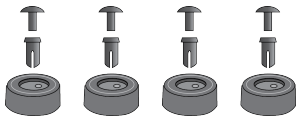
Four wall/equipment rack brackets

Sixteen M3x6 screws for attaching the wall/ equipment rack brackets to the switch.

Four M4x32.3 screws for wood or concrete walls



Four M6x4x29.6 wall anchors



Four bumper feet with rivets

Choosing a Site for the Switch

Review these site recommendations and requirements.

- ❒ Before installing the switch in an equipment rack, check 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 front and rear panels. (The ventilation direction is from front to back.)
- ❒ 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 that does not have adequate airflow. The switch might overheat and shutdown.

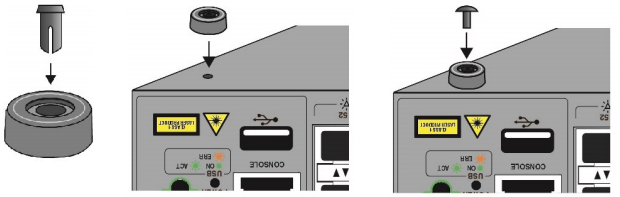
Warning: Switches should not be stacked on a table or desktop. They could present a physical safety hazard if you need to move or replace switches. E91

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 a table.
2. Inset a rivet housing into a bumper foot.
3. Place the bumper foot on one of the corner holes in the bottom panel of the switch.
4. Insert the rivet to secure the bumper foot to the base.



5. Repeat steps 2 to 4 to install the remaining bumper feet.
6. Turn the switch over.
7. Go to “Ports” on page 11.

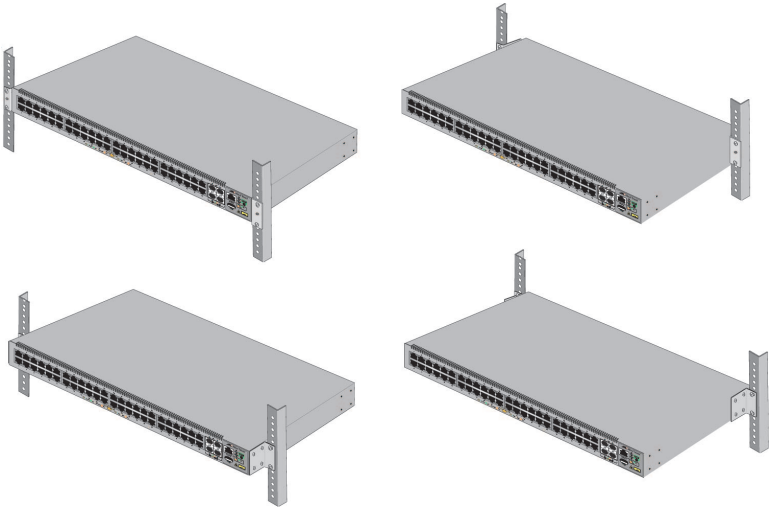
Installing the Switch in an Equipment Rack

The following items are required to install the switch in an equipment rack:

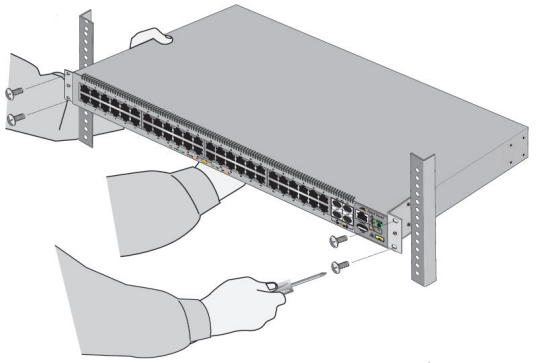
- ❒ Two equipment rack brackets (included with the switch)
- ❒ Eight M3x6mm bracket screws (included with the switch)
- ❒ Cross-head screwdriver (not provided)
- ❒ Four standard equipment rack screws (not provided)

To install the switch, perform the following procedure:

1. If the bumper feet are attached to the bottom of the switch, remove them using a flat-head screwdriver.
2. Attach two brackets to the sides of the switch with eight M3x6mm screws included with the unit. The following figure illustrates the four possible positions of the brackets on the switch in a standard 19-inch equipment rack.



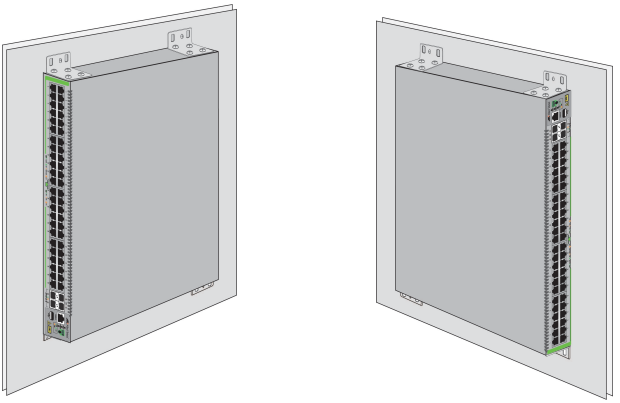
3. Have another person hold the switch in the equipment rack while you secure it using four standard equipment rack screws (not provided).



4. Go to “Ports” on page 11.

Installing the Switch on a Wall

You can install the switch on a wall with the front panel facing left or right, as shown in the next figure. Do not install it with the front panel facing up or down.



Here are the required tools and material for installing the switch on a wall:

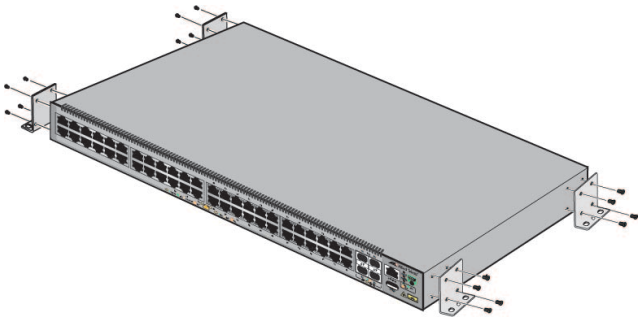
- ❒ Four wall/equipment rack brackets and sixteen screws (included with the switch)
- ❒ Four wood or concrete wall screws (included with the switch)
- ❒ Four wall anchors (included with the switch)
- ❒ Cross-head screwdriver (not provided)
- ❒ Flat-head screwdriver (not provided)
- ❒ Stud finder for 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

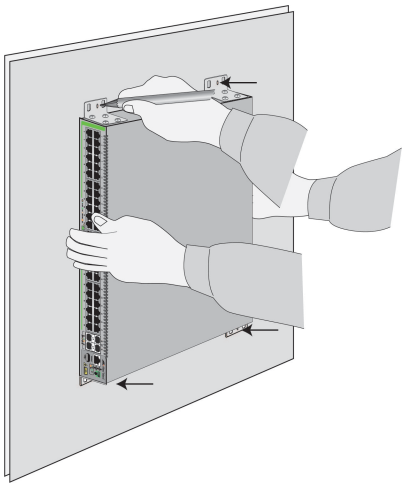
To install the switch on the wall, perform the following procedure:

1. Place the switch in a table.
2. Install the four wall/equipment rack brackets to the sides of the unit with the sixteen M3x6mm screws included with the switch.



Note: If you need to drill holes in the wall for the screws, perform steps 3 to 7. Otherwise, go to step 8.

3. 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 four brackets (one screw per bracket).



4. Place the switch on a table or desk.
5. Use the 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.

6. If the wall material requires pre-drilling the screw holes, use an appropriate drill to drill the holes. The switch comes with four M4x32.3mm screws.
7. If the wall material requires anchors, insert the anchors into the screw holes. The switch comes with four M6x4x29.6 mm anchors.
8. Have another person hold the switch at the selected wall location while you secure it to the wall with four screws.
9. Go to “Ports” next.

Ports

Ethernet Copper Cable Specifications

The minimum cable requirements for the Ethernet copper ports are.

- 10Mbps or 100Mbps: Standard TIA/EIA 568-B-compliant Category 3 unshielded cabling.
- 1000Mbps: Standard TIA/EIA 568-A-compliant Category 5 or TIA/EIA 568-B-compliant Enhanced Category 5 (Cat 5e) unshielded 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 or 100Mbps.
- The ports support only full-duplex at 1000Mbps.

- Do not attach cables to ports of static or LACP port trunks until after you configure the trunks on the switch. Otherwise, the ports will form network loops that can adversely affect network performance.
- PoE+ is enabled by default on the ports on the GS980M/52PS switch.

Installing SFP Transceivers

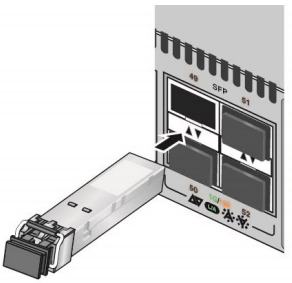
Here are general installation guidelines:

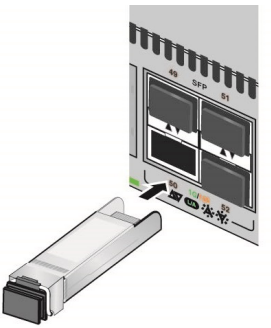
- You can install SFP transceivers while the switch is powered on.
- For a list of supported transceivers, refer to the product's data sheet on the Allied Telesis web site at **www.alliedtelesis.com**.
- The operational specifications and fiber optic cable requirements are included with the transceivers.
- 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. 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 ans 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.

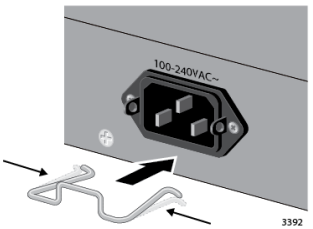
5. Repeat this procedure to install additional transceivers.

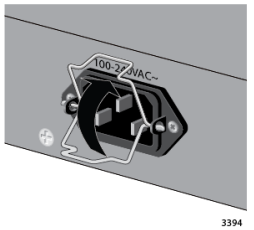
6. Go to “Powering On the Switch” on page 13.

Powering On the Switch

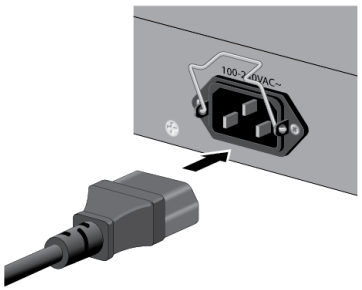
Warning: Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. E3

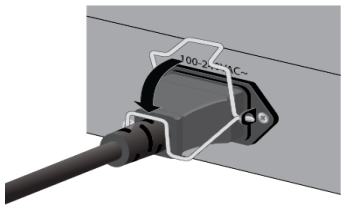
1. Install the power cord retaining clip on the AC power connector on the rear panel of the switch, and raise the clip.



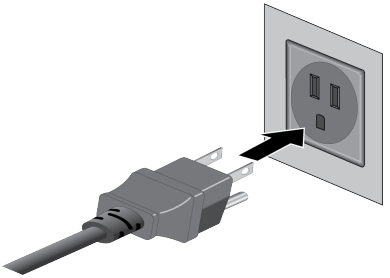


2. Connect the power cord to the connector and lower the retaining clip to secure the power cord.





3. Plug the other end of the power cord into an appropriate AC power source.

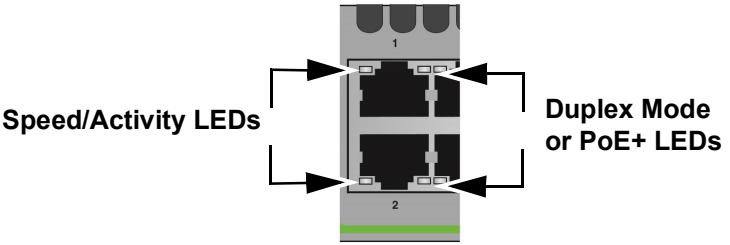


4. Wait two minutes for the switch to initialize its management software.
5. Verify that the POWER LED is green. If the LED is OFF, see “Troubleshooting” on page 18.

LEDs

Ethernet Copper Port LEDs

The Ethernet copper port LEDs on the switches are described here.

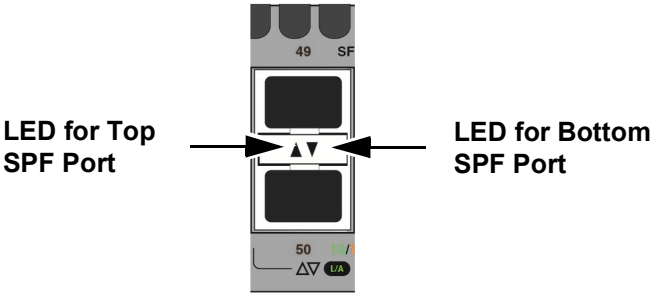


Speed/Activity LEDs	
Solid Green	The port has established a 1Gbps link to a network device.
Flashing Green	The port is transmitting or receiving packets at 1Gbps.
Solid Amber	The port has established a 10 or 100Mbps link to a network device.

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.
Duplex Mode LEDs - GS980M/52 Switch	
Solid Green	The port is operating in full-duplex mode.
Solid Amber	The port is operating in half-duplex mode.
Flashing Amber	The port is encountering collisions in half-duplex mode.
PoE+ LEDs - GS980M/52PS Switch	
Solid Green	The port is delivering power to a powered device.
Solid Amber	The switch has shut down PoE on the port because of a fault condition.
Flashing Amber	The switch has detected a powered device on the port but cannot supply power to it because it is already supplying its maximum power to other devices. The maximum power budget for the switch is 740W.
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

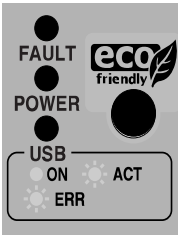
The SFP port LEDs are described here.



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 has not established a link with another network device. - The LEDs are turned off. To turn on the LEDs, use the eco-friendly button.

System LEDs

The System LEDs are described here.



Fault LED	
Off	The switch is operating normally or is not powered on.
Flashing amber	The switch is experiencing a problem. View the log messages to troubleshoot the problem.
Power LED	
Solid green	The power supply is operating normally.
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 its operating range. - The power supply has failed.
USB LED	
Off	The USB slot is empty or the LEDs are off.
Solid green	The switch has detected a USB drive in the slot.
Flashing green	The switch is writing to or reading from the USB drive.
Flashing amber	The switch encountered an error with the USB drive.

Starting a Local Management Session

The Console port on the front panel is used to manage the switch. locally. The switch does not need an IP address for local management.

Local management through the Console port requires a management cable. There are two cables. One cable comes with the switch. It is 2m (6.6 ft) long with RJ-45 (8P8C) and DB-9 (D-sub 9-pin) connectors. See “Unpacking the Switch” on page 5.

For workstations without a DB-9 connector, such as laptop computers, Allied Telesis offers the VT-Kit3 management cable. It has a USB-A male connector that connects to a USB port on your workstation. The cable requires a software driver from Allied Telesis. The VT-Kit3 management cable is sold separately.

To start a local management session, perform the following procedure:

1. Connect the RJ-45 end of the management card included with the switch to the Console RS-232 port on the management panel.
2. Connect the other end of the cable to an RS-232 port on a terminal or personal computer with a terminal emulation program.
3. Configure the VT-100 terminal or terminal emulation program as follows:

- ❒ Default baud rate: 9600 bps (The baud rates of the Console port are 9600, 19200, 38400, 57600, and 115200 bps.)
- ❒ Data bits: 8
- ❒ Parity: None
- ❒ Stop bits: 1
- ❒ Flow controller: None

4. Press Enter. You are prompted for a user name and password.
5. Enter the default user name and password. They are “manager” and “friend” (without quotes), respectively. The user name and password are case sensitive. The local management session starts when the User Exec mode `awplus>` prompt is displayed.

   For more information, refer to the *Software Reference for GS980M Series Switches, AlliedWare Plus Operating System* from **www.alliedtelesis.com/us/en/services-support**.

Troubleshooting

Problem: All port and system LEDs are off, and the has 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 that 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 on the GS980M/52PS Switch is not providing power to a PoE+ device.

Solutions: Try the following:

- ❒ Check the port's PoE LED. Refer to "Ethernet Copper Port LEDs" on page 14. 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. The maximum power budget for the switch is 740W.
- ❒ Review the powered device's documentation to confirm that the device supports Mode A 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.