

NETGEAR®

Hardware Installation Guide

8-Port Easy Mount Gigabit Ethernet PoE+ Smart Managed Plus Switch

Model GS408EPP

January 2019
202-11694-03

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See the regulatory compliance document before connecting the power supply.

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Revision History

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202-11694-03	January 2019	• Updated the product name and published the manual in a new format. • Removed information about the resource CD. • Added Overview on page 5. • Changed Safety instructions and warnings on page 7. • Changed Status LEDs on page 12. • Changed Step 1: Prepare the site on page 19. • Changed Step 3: Unpack the switch on page 20. • Added Step 5: Connect devices to the switch on page 24. • Added Step 8: Manage the switch on page 25. • Added PoE troubleshooting suggestions on page 29. • Made multiple other minor changes.
202-11694-02	December 2016	Updated the table in Step 1: Prepare the site on page 19.
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Introduction

The NETGEAR 8-Port Easy Mount Gigabit Ethernet PoE+ Smart Managed Plus Switch Model GS408EPP is specifically designed to “put your ports where you want them” to power your IP security cameras, WiFi access points, or VoIP phones with PoE+ (802.3at) up to 30W per port.

This switch provides eight Gigabit ports in a unique form factor that can be wall mounted, pole mounted, under table, ceiling air-duct, desktop, or 1U rack mounted with two units per 1U slot with one facing forward and one facing the rear (all connections are on the front of the switch).

This hardware installation guide complements the installation guide that came with your switch.

This chapter serves as an introduction to the switch and includes the following sections:

- [Overview](#)
- [Features](#)
- [Safety instructions and warnings](#)

Note: For more information about the topics that are covered in this manual, visit the support website at netgear.com/support/.

Note: For technical specifications, see the data sheet at netgear.com/business/products/switches/web-managed/. For switch documentation, visit netgear.com/support/download/.

Overview

The switch provides eight 10/100/1000BASE-T RJ-45 copper ports that support nonstop 10/100/1000M Layer 2 networks. All RJ-45 ports support PoE+ with a total PoE power budget of 124W for the switch.

For information about PoE application samples, see [PoE Applications](#) on page 14.

The switch provides administrative management options that let you configure, monitor, and control the network. Using the local browser-based management interface, in this guide referred to as the local browser interface, you can configure the switch and the network, including the ports, the management VLAN, VLANs for traffic control, link aggregation for increased bandwidth, Quality of Service (QoS) for prioritizing traffic, and network security.

For initial discovery of the switch on the network, use one of the following methods, all of which are described in detail in the user manual:

- NETGEAR Insight mobile app
- NETGEAR Switch Discovery Tool
- NETGEAR ProSAFE Plus Utility

You can also get the IP address of the switch from the DHCP server in the network or use an IP scanner utility.

After discovery, you can configure the switch using the local browser interface for advanced setup and configuration of features, or the NETGEAR ProSAFE Plus Utility for very basic setup. For more information, see the user manual, which you can download from netgear.com/support/download/.

The switch is IEEE compliant and offers low latency. All ports can automatically negotiate to the highest speed, which makes the switch very suitable for a mixed environment with Fast Ethernet and Gigabit Ethernet.

Use Category 5e (Cat 5e) or higher-rated Ethernet cables terminated with RJ-45 connectors to make Gigabit connections.

Features

The switch supports the following key hardware features:

- 8 Gigabit Ethernet ports that support PoE+ (802.3at).
- Total PoE power budget of 124W for the switch.
- 16 Gbps switching fabric (duplex mode, all ports line-rate).
- Industry-unique chassis for desktop operation, wall operation, rack-mounting in a wiring closet or equipment room, or attachable almost anywhere using the Easy-Mount system.
- Full compatibility with IEEE standards:
 - IEEE 802.3 Ethernet
 - IEEE 802.3u 100BASE-T
 - IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX
 - IEEE 802.3ab 1000BASE-T
 - IEEE 802.3i 10BASE-T
 - IEEE 802.1Q VLAN tagging
 - IEEE 802.3x Full-duplex flow control
 - IEEE 802.1p Class of Service (QoS)
 - IEEE 802.3az Energy Efficient Ethernet (EEE)
 - IEEE 802.1af (PoE)
 - IEEE 802.1at (PoE+)
- AutoSensing and autonegotiating capabilities for all ports.
- Auto Uplink technology is supported on all ports.
- Automatic address learning function to build the packet-forwarding information table. The table contains up to 8K Media Access Control (MAC) addresses.
- Store-and-forward transmission to remove bad packets from the network.
- Active flow control to minimize packet loss and frame drops.
- Half-duplex backpressure control.
- Per-port status LEDs and system status LEDs.
- Per-port PoE status LEDs and system PoE Max LED.

- NETGEAR green power-saving features:
 - Energy efficiency mode that fully conforms to the IEEE802.3az standard.
 - Per-port automatic change to a lower power mode when the port link is down.

Safety instructions and warnings

Use the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage.

To reduce the risk of bodily injury, electrical shock, fire, and damage to the equipment, observe the following precautions:

- This product is designed for indoor use only in a temperature-controlled and humidity-controlled environment. For more information, see the environmental specifications in the appendix or the data sheet.
Any device that is located outdoors and connected to this product must be properly grounded and surge protected.
Failure to follow these guidelines can result in damage to your NETGEAR product, which might not be covered by NETGEAR's warranty, to the extent permissible by applicable law.
- Observe and follow service markings:
 - Do not service any product except as explained in your system documentation. Some devices should never be opened.
 - If applicable to your device, opening or removing covers that are marked with the triangular symbol with a lightning bolt can expose you to electrical shock. We recommend that only a trained technician services components inside these compartments.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:
 - Depending on your device, the power adapter, power adapter cable, power cable, extension cable, or plug is damaged.
 - An object fell into the product.
 - The product was exposed to water.
 - The product was dropped or damaged.
 - The product does not operate correctly when you follow the operating instructions.

- Keep your system away from radiators and heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on your system components, and never operate the product in a wet environment. If the system gets wet, see the appropriate section in your troubleshooting guide, or contact your trained service provider.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Use the product only with approved equipment.
- If applicable to your device, allow the product to cool before removing covers or touching internal components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.
- To avoid damaging your system, if your device uses a power supply with a voltage selector, be sure that the selector is set to match the power at your location:
 - 115V, 60 Hz in most of North and South America and some Far Eastern countries such as South Korea and Taiwan
 - 100V, 50 Hz in eastern Japan and 100V, 60 Hz in western Japan
 - 230V, 50 Hz in most of Europe, the Middle East, and the Far East
- Be sure that attached devices are electrically rated to operate with the power available in your location.
- Depending on your device, use only a supplied power adapter or approved power cable:
If your device uses a power adapter:
 - If you were not provided with a power adapter, contact your local NETGEAR reseller.
 - The power adapter must be rated for the product and for the voltage and current marked on the product electrical ratings label.
If your device uses a power cable:
 - If you were not provided with a power cable for your system or for any AC-powered option intended for your system, purchase a power cable approved for your country.
 - The power cable must be rated for the product and for the voltage and current marked on the product electrical ratings label. The voltage and current rating of the cable must be greater than the ratings marked on the product.

- To help prevent electric shock, plug the system and peripheral power cables into properly grounded electrical outlets.
- If applicable to your device, the peripheral power cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a three-wire cable with properly grounded plugs.
- Observe extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables, power adapter cables, or power cables carefully. Route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables.
- Do not modify power adapters, power adapter cables, power cables or plugs. Consult a licensed electrician or your power company for site modifications.
- Always follow your local and national wiring rules.

2

Hardware Overview

This chapter describes the switch hardware features.

- [Front panel](#)
- [Back panel and bottom panel](#)
- [Status LEDs](#)
- [Switch hardware interfaces](#)

Front panel

The switch provides eight 10/100/1000BASE-T RJ-45 PoE+ ports.

The following figure shows the front panel.



Figure 1. Front panel

From the left to the right, the front panel contains the following components:

- A Power LED, Fan LED, and PoE Max LED (see [Status LEDs](#) on page 12).
- A recessed **Factory Default** button (see [Factory Defaults button](#) on page 13).
- Eight independent 10/100/1000BASE-T RJ-45 PoE+ ports, each with a right LED that indicates the PoE status and a left LED that functions as the combined speed and activity LED (see [Status LEDs](#) on page 12).
- An AC power receptacle.

Back panel and bottom panel

The switch integrates a fixed, internal power supply unit.

The back panel does not contain any components other than two mounting holes that allow you to mount the switch horizontally or vertically. The bottom panel also contains mounting holes. For more information, see [Step 4: Install the switch](#) on page 21.

The following figure shows the back panel with the mounting holes.



Figure 2. Back panel

The following figure shows the bottom panel with the mounting holes.



Figure 3. Bottom panel

Status LEDs

This section describes the status LEDs on the front panel of the switch.

Table 1. Front panel status LEDs

LED	Description
Power LED	Off. Power is not supplied to the switch. Solid green. The switch is powered on.
Fan LED	Off. The internal fan is operating normally. Solid yellow. The internal fan failed.
PoE Max LED	Off. Sufficient (more than 7W of) PoE power is available. Solid amber. Less than 7W of PoE power is available. Blinking amber. At least once during the previous two minutes, less than 7W of PoE power was available.
RJ-45 left port LEDs These LEDs indicate the link status, speed, and activity of the port.	Off. No Ethernet link is established. Solid green. A valid 1000 Mbps Ethernet link is established. Blinking green. The port is transmitting or receiving packets at 1000 Mbps. Solid yellow. A valid 10 Mbps or 100 Mbps Ethernet link is established. Blinking yellow. The port is transmitting or receiving packets at 10 Mbps or 100 Mbps.
RJ-45 right port LEDs 1-24 These LEDs indicate the PoE status the port.	Off. The port is not delivering PoE. Solid green. The port is delivering PoE. Solid yellow. A PoE fault occurred. For more information, see PoE troubleshooting suggestions on page 29.

Switch hardware interfaces

The following sections describe the hardware interfaces on the switch.

RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity

All RJ-45 copper ports support autosensing. When you insert a cable into an RJ-45 port, the switch automatically ascertains the maximum speed (10 Mbps, 100 Mbps, or 1 Gbps) and duplex mode (half-duplex or full-duplex) of the attached device. All ports support a Cat 5e cable (or higher-rated Ethernet cable) terminated with an 8-pin RJ-45 connector.

To simplify the procedure for attaching devices, all RJ-45 ports support Auto Uplink technology. This technology allows attaching devices to the RJ-45 ports with either straight-through or crossover cables.

When you insert a cable into the switch's RJ-45 port, the switch automatically performs the following actions:

- Senses whether the cable is a straight-through or crossover cable.
- Determines whether the link to the attached device requires a normal connection (such as when you are connecting the port to a computer) or an uplink connection (such as when you are connecting the port to a router, switch, or hub).
- Automatically configures the RJ-45 port to enable communications with the attached device. The Auto Uplink technology compensates for setting uplink connections while eliminating concern about whether to use crossover or straight-through cables when you attach devices.

All RJ-45 copper ports support PoE+.

Factory Defaults button

The switch provides a **Factory Defaults** button on the front panel so that you can return the switch to its factory settings.

To return the switch to its factory default settings:

1. Insert a device such as a straightened paper clip into the opening.
2. Press the recessed **Factory Defaults** button for about three seconds.
The switch reboots and returns to its factory settings.

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PoE Applications

The switch is designed to provide flexibility in configuring network connections. You can use the switch as your only network traffic-distribution device for PoE and non-PoE devices or with 10 Mbps, 100 Mbps, and 1 Gbps Ethernet hubs, routers, access points, and other switches.

This chapter includes the following sections:

- [PoE overview](#)
- [Connect PoE equipment for surveillance and security](#)
- [Connect PoE equipment in a business environment](#)

PoE overview

The switch supports eight Power over Ethernet Plus (PoE+) ports. The switch can supply up to 30W PoE+ (IEEE 802.3at) to each port up to its total maximum PoE power budget of 124W across all active PoE+ ports. The switch is also compatible with PoE (IEEE 802.3af).

Supplied power is prioritized according to the port order, up to the total power budget of the device. If the power requirements for attached devices exceed the total power budget of the switch, the PoE power to the device on the highest-numbered active PoE+ port is disabled to make sure that the devices connected to the higher-priority, lower-numbered PoE+ ports are supported first. That means that port 1 receives the highest PoE priority, while port 8 is relegated to the lowest PoE priority.

Although a device is listed as an 802.3at PoE+-or 802.3af PoE-powered device, it might not require the maximum power limit that is specified by its IEEE standard. Many devices require less power, allowing all eight PoE+ ports to be active simultaneously when the devices correctly report their PoE class to the switch.

For more information about PoE, see the installation guide and user manual, both of which you can download from netgear.com/support/download/.

Connect PoE equipment for surveillance and security

The following figure shows an example of how you can connect PoE and non-PoE equipment to the GS408EPP switch for surveillance and security purposes.

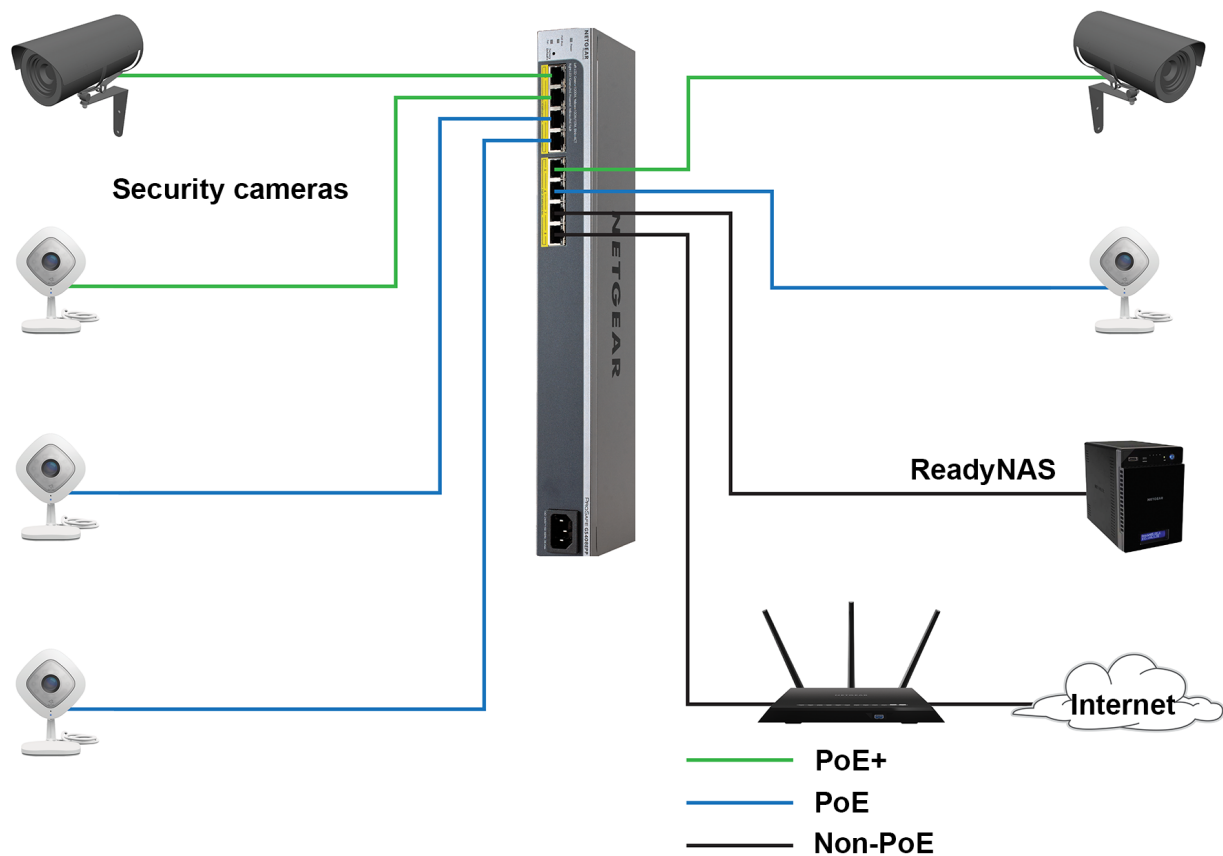


Figure 4. GS408EPP switch surveillance and security application

Connect PoE equipment in a business environment

The following figure shows an example of how you can connect VoIP phones to the PoE ports on the GS408EPP switch along with other PoE and non-PoE equipment in a business environment.

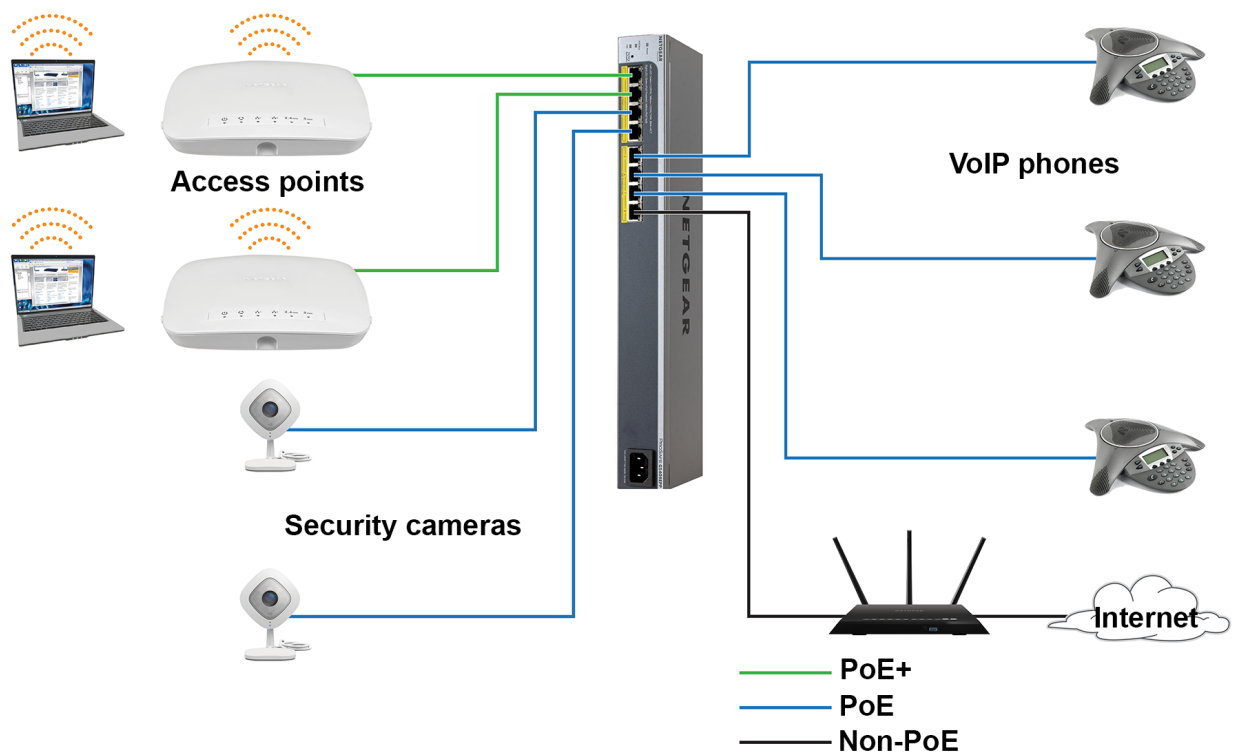


Figure 5. GS408EPP switch PoE business use case

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Installation

This chapter describes the installation procedures for the switch. Switch installation involves the steps described in the following sections:

- [Step 1: Prepare the site](#)
- [Step 2: Protect against electrostatic discharge](#)
- [Step 3: Unpack the switch](#)
- [Step 4: Install the switch](#)
- [Step 5: Connect devices to the switch](#)
- [Step 6: Check the installation](#)
- [Step 7: Apply power and check the LEDs](#)
- [Step 8: Manage the switch](#)

Step 1: Prepare the site

Before you install the switch, make sure that the operating environment meets the site requirements that are listed in the following table.

Table 2. Site requirements

Characteristics	Requirements
Mounting	Desktop installations. Provide a flat table or shelf surface. Wall installations. Use the mount and screws that are supplied with the switch to attach the switch to a wall. Pole or table leg installations. Use the straps and mount that are supplied with the switch to attach the switch to a pole or table leg. Rack-mount installations. Use a 19-inch (48.3-centimeter) EIA standard equipment rack that is grounded and physically secure. You also need the rack-mounting brackets and screws that are supplied with the switch.
Access	Locate the switch in a position that allows you to access the front panel ports, view the front panel LEDs, and access the power connector on the back panel.
Power source	Use the AC power cord that is supplied with the switch. Make sure that the AC outlet is not controlled by a wall switch, which can accidentally turn off power to the outlet and the switch. The power supply cord must not be attached to the building surface, and cannot run through walls, ceilings, floors, or similar openings in the building structure.
Cabling	Route cables to avoid sources of electrical noise such as radio transmitters, broadcast amplifiers, power lines, and fluorescent lighting fixtures.
Environmental	Temperature. Install the switch in a dry area with an ambient temperature between 32°F and 122°F (0°C and 50°C). Keep the switch away from heat sources such as direct sunlight, warm-air exhausts, hot-air vents, and heaters. Operating humidity. The maximum relative humidity of the installation location must not exceed 90 percent, noncondensing. Ventilation. Do not restrict airflow by covering or obstructing air inlets on the sides of the switch. Keep at least 2 inches (5.08 centimeters) free on all sides for cooling. The room or wiring closet in which you install the switch must provide adequate airflow. Operating conditions. Keep the switch at least 6 feet (1.83 meters) away from the nearest source of electromagnetic noise, such as a photocopy machine.

Step 2: Protect against electrostatic discharge

Warning: Static electricity can harm delicate components inside your switch. To prevent static damage, discharge static electricity from your body before you touch any of the electronic components. You can do so by periodically touching an unpainted metal surface on the switch.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, leave it in the antistatic package until you are ready to install it. Just before unwrapping the antistatic package, discharge static electricity from your body.
- Before moving a sensitive component, place it in an antistatic container or package.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads, and an antistatic grounding strap.

Step 3: Unpack the switch

The following figure shows the package contents.



Figure 6. Switch package contents

Check the contents of the boxes to make sure that all items are present before installing the switch.

To check the package contents:

1. Place the container on a clean flat surface, and cut all straps securing the container.
2. Unpack the hardware from the boxes by carefully removing the hardware and placing it on a secure and clean surface.
3. Remove all packing material.
4. Verify that the package contains the following items:
 - a. Switch model GS408EPP
 - b. Power cord (varies by region)
 - c. Rack-mounting brackets (2)
 - d. Screws
 - e. Straps for mounting (2)
 - f. Mount

The package also contains the installation guide, which is not shown in the previous figure.

5. If any item is missing or damaged, contact your local NETGEAR reseller for replacement.

Step 4: Install the switch

You can install the switch on a flat surface, attach it to a wall, pole, or table leg, or install the switch in a standard 19-inch (48.26-centimeter) network equipment rack.

Mount the switch to a wall

The switch comes with a mount to which you can click-attach the back or bottom of the switch.

To mount the switch to a wall:

1. Place the mount on the wall where you want to mount the switch.
2. Mark the wall where the two mounting holes are.
3. Attach the mount to the wall using the M4 x L25 mm screws provided in the package.
4. Tighten the screws with a No. 2 Phillips screwdriver to secure the mount.
5. Line up the back of the switch (see the left figure) or the bottom of the switch (see the right figure) with the mount.

8-Port Easy Mount Gigabit Ethernet PoE+ Smart Managed Plus Switch GS408EPP

6. Insert the mount's locking tab and hook into the notches on the back or bottom of the switch.
7. Slide the switch into the mount.

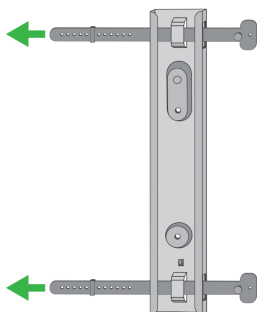


Attach the switch to a pole or table leg

The switch comes with straps and a mount. You can attach the straps to a pole or table leg, attach the mount to the straps, and click-attach the back or bottom of the switch to the mount.

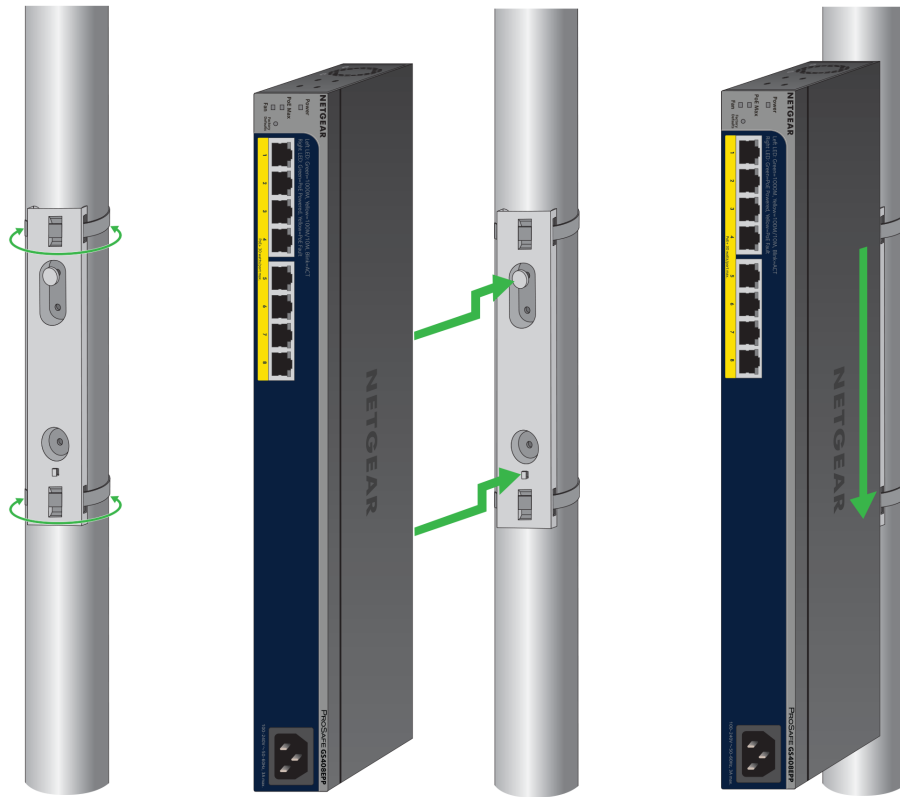
To attach the switch to a pole or table leg:

1. Attach the straps to the mount by pulling the straps through the openings in the mount.



2. Attach the straps with the attached mount to the pole or table leg.

8-Port Easy Mount Gigabit Ethernet PoE+ Smart Managed Plus Switch GS408EPP



3. Line up the back or bottom of the switch with the mount.
4. Insert the mount's locking tab and hook into the notches on the back or bottom of the switch
5. Slide the switch into the mount.

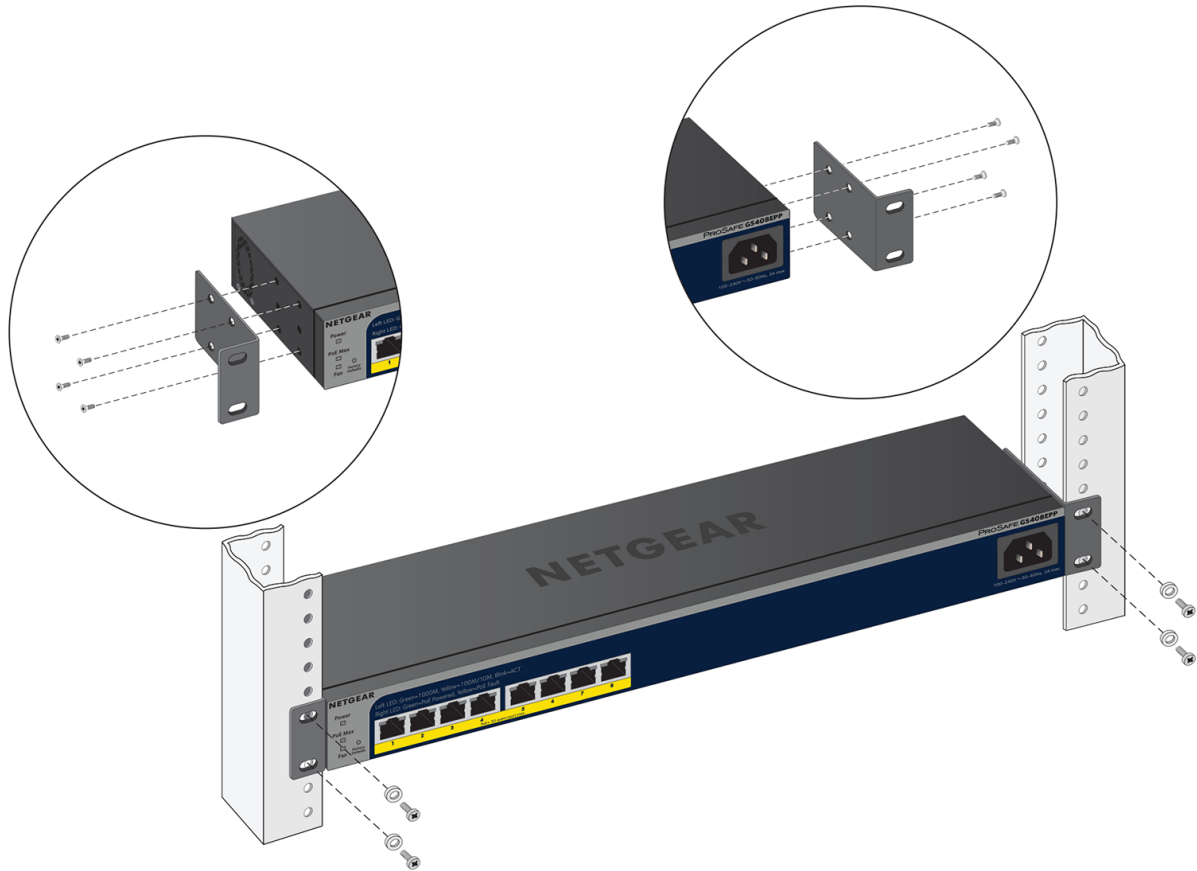
Install the switch in a rack

To install the switch in a rack, you need the 19-inch rack-mount kit supplied with the switch.

To install the switch in a rack:

1. Attach the rack-mounting brackets to the side of the switch.
2. Insert the screws through each bracket and into the bracket mounting holes in the switch.
3. Tighten the screws with a No. 2 Phillips screwdriver to secure each bracket.
4. Align the mounting holes in the brackets with the holes in the rack, and insert two pan-head screws with nylon washers through each bracket and into the rack.

5. Tighten the screws with a No. 2 Phillips screwdriver to secure mounting brackets to the rack.



Step 5: Connect devices to the switch

The following procedure describes how to connect devices to the switch's RJ-45 ports. The switch supports Auto Uplink technology, which allows you to attach devices using either straight-through or crossover cables. Use a Category 5 (Cat 5), Cat 5e, or Cat 6 cable that is terminated with an RJ-45 connector.

Note: Ethernet specifications limit the cable length between the switch and the attached device to 328 feet (100 meters).

To connect devices to the switch's RJ-45 ports:

1. Connect a PoE or non-PoE device to an RJ-45 network port on the switch.
2. Verify that all cables are installed correctly.

Step 6: Check the installation

Before you apply power to the switch, perform the following steps.

To check the installation:

1. Inspect the equipment thoroughly.
2. Verify that all cables are installed correctly.
3. Check cable routing to make sure that cables are not damaged or creating a safety hazard.
4. Make sure that all equipment is mounted properly and securely.

Step 7: Apply power and check the LEDs

The switch does not provide an on/off power switch. The AC power cable connection controls the power.

Before you connect the AC power cable to the AC connector on the switch, select an AC outlet for the AC power cable. Make sure that the AC outlet is not controlled by a wall switch, which can turn off power to the switch.

To apply power:

1. Connect the plug of the AC power cable to the AC power receptacle on the front of the switch.
2. Plug the AC power cable into a power source such as a wall socket or power strip.
3. Check to see that the LEDs on the switch light correctly.

When you apply power, the Power LED on the switch front panel lights and the port LEDs for attached devices light.

If the Power LED does not light, check to see that the AC power cable is plugged in correctly and that the power source is good.

Step 8: Manage the switch

The switch contains built-in web browser-accessible software (referred to as the local browser interface) for viewing, changing, and monitoring the way it functions. This management software is not required for the switch to work. You can use the ports without using the management software. However, the management software enables the setup of VLAN and trunking features and also improves the efficiency of the switch,

which results in the improvement of its overall performance as well as the performance of the network.

After you power on the switch for the first time, you can configure the switch using the local browser interface for advanced setup and configuration of features, or the ProSAFE Plus Utility (which requires a Windows-based computer) for very basic setup. For more information about managing the switch, including information about tools to discover the switch IP address in your network, see the user manual, which you can download from netgear.com/support/download/.

Note: The switch's default IP address is 192.168.0.239 and its default subnet mask is 255.255.255.0. By default, the DHCP client of the switch is enabled.

5

Troubleshooting

This chapter provides information about troubleshooting the switch.

The chapter includes the following sections:

- [Troubleshooting chart](#)
- [PoE troubleshooting suggestions](#)
- [Additional troubleshooting suggestions](#)

Troubleshooting chart

The following table lists symptoms, possible causes, and possible solutions for problems that might occur.

Table 3. Troubleshooting chart

Symptom	Possible Cause	Possible Solution
The Power LED is off.	Power is not supplied to the switch.	• Check the power cable connections at the switch and the power source. • Make sure that all cables are used correctly and comply with the Ethernet specifications.
The left LED for a port is off although the port is connected to a powered-on device.	The port connection is not working.	• Check the crimp on the connectors and make sure that the plug is properly inserted and locked into the port at both the switch and the connecting device. • Make sure that all cables are used correctly and comply with the Ethernet specifications. • Check for a defective port, cable, or module by testing them in an alternate environment where all products are functioning.
A file transfer is slow or performance is degraded.	One possible cause is that a broadcast storm occurred and that a network loop (redundant path) was created.	Break the loop by making sure that only one path exists from any networked device to any other networked device. After you connect to the switch local browser interface, you can configure the Spanning Tree Protocol (STP) to prevent network loops.
A segment or device is not recognized as part of the network.	One or more devices are not properly connected, or the cabling does not meet Ethernet guidelines.	• Verify that the cabling is correct. • Make sure that all connectors are securely positioned in the required ports. It is possible that equipment was accidentally disconnected.
The left LEDs for all connected ports are blinking continuously and the network is disabled.	A network loop (redundant path) was created.	Break the loop by making sure that only one path exists from any networked device to any other networked device. After you connect to the switch local browser interface, you can configure the Spanning Tree Protocol (STP) to prevent network loops.

PoE troubleshooting suggestions

Here are some tips for correcting PoE problems that might occur on the switch:

- Make sure that the PoE Max LED is off. If the PoE Max LED is solid yellow, disconnect one or more PoE devices to prevent PoE oversubscription. Start by disconnecting the device from the highest-numbered port.
- Make sure that the Ethernet cables are plugged in correctly. For each powered device (PD) that is connected to the switch, the right port LED on the switch lights solid green. If the right port LED lights solid yellow, a PoE fault occurred and PoE halted because of one of the conditions that are listed in the following table.

Table 4. PoE fault conditions and possible solutions

PoE Fault Condition	Possible Solution
A PoE-related short circuit occurred on the port.	The problem is most likely with the attached PD. Check the condition of the PD or restart the PD by disconnecting and reconnecting the PD.
The PoE power demand of the PD exceeded the maximum level that the switch permits. The maximum level is 15.4W for a PoE connection or 30W for a PoE+ connection.	
The PoE current on the port exceeded the classification limit of the PD.	
The PoE voltage of the port is outside the range that the switch permits.	Restart the switch to see if the condition resolves itself.

Note: If you encounter a PoE fault condition, you can also change the PoE power mode to see if that resolves the condition. By default, the PoE power mode is 802.3at, but you can set the PoE power mode to 802.3af, Legacy, or Pre-802.3at. For more information, see the user manual, which you can download from netgear.com/support/download/.

Additional troubleshooting suggestions

If the suggestions in the troubleshooting chart do not resolve the problem, see the following troubleshooting suggestions:

- **Network adapter cards.** Make sure that the network adapters that are installed in the computers are in working condition and the software driver was installed.
- **Configuration.** If problems occur after you alter the network configuration, restore the original connections and determine the problem by implementing the changes,

one step at a time. Make sure that cable distances, repeater limits, and other physical aspects of the installation do not exceed the Ethernet limitations.

- **Switch integrity.** If necessary, verify the integrity of the switch by resetting it. To reset the switch, disconnect the AC power cord from the switch and then reconnect the AC power cord. If the problem continues, contact NETGEAR technical support. For more information, visit the support website at netgear.com/support/.
- **Autonegotiation.** The RJ-45 ports negotiate the correct duplex mode, speed, and flow control if the device at the other end of the link supports autonegotiation. If the device does not support autonegotiation, the switch determines only the speed correctly, and the duplex mode defaults to half-duplex. The Gigabit Ethernet ports negotiate speed, duplex mode, and flow control if the attached device supports autonegotiation.