

NETGEAR®

Hardware Installation Guide

8-Port Gigabit (PoE+) Ethernet Smart Managed Pro Switch with (2 SFP or 2 Copper Ports and) Cloud Management

Models

GS108Tv3
GS110TPv3
GS110TPP

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8-Port Gigabit (PoE+) Ethernet Smart Managed Pro Switch with (2 SFP or 2 Copper Ports and) Cloud Management

Support

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1

Introduction

This hardware installation guide is for the following NETGEAR Smart Managed Pro Switches:

- **GS108Tv3**. 8-Port Gigabit Ethernet Smart Managed Pro Switch with Cloud Management
- **GS110TPv3**. 8-Port Gigabit PoE+ Ethernet Smart Managed Pro Switch with 2 SFP Ports and Cloud Management
- **GS110TPP**. 8-Port Gigabit PoE+ Ethernet Smart Managed Pro Switch with 2 Copper Ports and Cloud Management

For descriptions of these models, see [Model descriptions](#) on page 6.

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:

- [Model descriptions](#)
- [Overview](#)
- [Management options](#)
- [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/smart/. For switch documentation, visit netgear.com/support/download/.

Model descriptions

This guide describes the following NETGEAR Smart Managed Pro Switches:

- **GS108Tv3.** 8-Port Gigabit Ethernet Smart Managed Pro Switch with Cloud Management
This model provides eight Gigabit RJ-45 copper ports and is Insight-manageable. Port 1 is a powered device (PD) port that can receive Power over Ethernet (PoE) from a PoE switch.
- **GS110TPv3.** 8-Port Gigabit PoE+ Ethernet Smart Managed Pro Switch with 2 SFP Ports and Cloud Management
This model provides eight Gigabit PoE+ RJ-45 copper ports and two dedicated SFP fiber ports and is Insight-manageable. PoE lets you provide power to PoE-capable devices such as WiFi access points, VoIP phones, and IP security cameras so that you do not need to use power supplies for those devices. The switch can supply up to 30W PoE+ (IEEE 802.3at) to each copper port, with a maximum PoE power budget of 55W across all active PoE+ copper ports.
- **GS110TPP.** 8-Port Gigabit PoE+ Ethernet Smart Managed Pro Switch with 2 Copper Ports and Cloud Management
This model provides eight Gigabit PoE+ RJ-45 copper ports and two dedicated copper uplink ports and is Insight-manageable. PoE lets you provide power to PoE-capable devices such as WiFi access points, VoIP phones, and IP security cameras so that you do not need to use power supplies for those devices. The switch can supply up to 30W PoE+ (IEEE 802.3at) to copper ports 1 through 8, with a maximum PoE power budget of 120W across all active PoE+ copper ports. Model GS110TPP supports NETGEAR FlexPoE power so that you can upgrade the PoE power budget to 190W by purchasing and connecting the NETGEAR optional power adapter model EPS200W.

Overview

The switch provides eight 10/100/1000BASE-T RJ-45 copper ports that support nonstop 10/100/1000M Layer 2 networks.

On model GS108Tv3, port 1 is a PoE PD port that can receive PoE power from a PoE switch so that you can use model GS108Tv3 without a power adapter.

On model GS110TPv3, all RJ-45 ports support PoE+ so that the switch can provide PoE power to PoE devices, and two additional ports can accept small form-factor pluggable (SFP) gigabit interface converters (GBICs) for 1G fiber connectivity.

On model GS110TPP, RJ-45 ports 1 through 8 support PoE+ so that the switch can provide PoE power to PoE devices. Model GS110TPP also provides two dedicated

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10/100/1000BASE-T RJ-45 copper *uplink* ports, numbered 9 and 10. (These uplink ports are intended for network connection and, therefore, do not provide PoE.)

Note: For information about application samples, see [Applications](#) on page 22.

You can use the switch freestanding as a desktop or table model or mount the switch to a wall. 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.

Management options

The switch provides management options that let you discover the switch on the network and configure, monitor, and control the switch:

- **Local browser-based management interface.** By default, the management mode of the switch is set to Directly Connect to Web Browser Interface, which lets you access the local browser-based management interface (in this guide referred to as the local browser interface). In this mode, you can change all settings of the switch. For more information about the local browser interface, see the user manual, which you can download from netgear.com/support/download/.

Note: If you plan to use the NETGEAR Insight app or Insight Cloud portal to manage the switch, we recommend that you do not use the local browser interface to change settings that are *Insight manageable* because they would not be synchronized with Insight or to the network location and other devices to which you assigned the switch.

- **NETGEAR Insight app and Insight Cloud portal.** If you set the management mode of the switch to NETGEAR Insight Mobile App and Insight Cloud Portal, you can use the following applications to manage the switch remotely:
 - **NETGEAR Insight app.** With the NETGEAR Insight app, you can discover the switch on the network and add the switch to the NETGEAR Insight app so that you can set up the switch in the network and manage and monitor the switch remotely from your smartphone or tablet. You can choose from four methods to add the switch to the NETGEAR Insight app: You can scan your network for the switch, scan the QR code or the barcode of the switch, or add the serial number of the switch.
 - **Insight Cloud portal.** As an Insight Premium or Insight Pro subscriber, you can use the NETGEAR Insight Cloud portal to set up the switch in the network, perform

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advanced remote setup, configuration, and management, monitor the switch, analyze the switch and network usage, and, if necessary, troubleshoot the switch and the network.

For more information about NETGEAR Insight, visit netgear.com/insight and see the NETGEAR knowledge base articles at netgear.com/support.

By default, the management mode is set to Directly Connect to Web Browser Interface (which is the same as the local browser interface). Note the following about changing the management mode:

- **Changing to NETGEAR Insight Mobile App and Insight Cloud Portal mode.** The first time that you change to this mode, the switch is set to factory default settings so that you can manage the switch using the Insight app or the Insight Cloud portal. However, if you added the switch to a network on the Insight app or Insight portal before, all Insight-manageable device settings are returned to the last configuration saved on the cloud server, including the switch password (that is, the password is reset to the Insight network password).

Note: If you use the NETGEAR Insight app or the Insight Cloud portal, you can temporarily change the management mode of the switch back to Directly Connect to Web Browser Interface and access the local browser interface for settings that are not Insight-manageable, for complex tasks such as integrating with an existing network of devices that are not managed through Insight, and for debugging purposes. When you are done, you can change the management mode back to NETGEAR Insight Mobile App and Insight Cloud Portal.

- **Changing back to Directly Connect to Web Browser Interface mode.** The NETGEAR Insight Mobile App and Insight Cloud Portal management mode is disabled and the current Insight-manageable device settings are saved to the cloud server. Any changes that you make using the Directly Connect to Web Browser Interface management mode are not saved to the cloud server.

Features

The switch supports the following key hardware features:

- Eight 10/100/1000BASE-T RJ-45 copper ports.
- Models GS110TPv3 and GS110TPP support additional ports:
 - 2 dedicated SFP fiber ports (model GS110TPv3)
 - 2 dedicated 10/100/1000BASE copper uplink ports (model GS110TPP)
- PoE PD support (model GS108Tv3), so that the switch can *receive* PoE power and you can use the switch without a power adapter.
- PoE support (models GS110TPv3 and GS110TPP), so that the switch can *provide* PoE power to PoE devices:
 - 8 PoE+ (802.3at) ports
 - Total PoE power budget of 55W for model GS110TPv3 or 120W for model GS110TPP.

Models GS110TPv3 and GS110TPP require a power adapter. (These models can provide PoE power but cannot receive PoE power.) You can upgrade the PoE power budget for model GS110TPP to 190W by purchasing and connecting the NETGEAR optional power adapter model EPS200W.

- MAC table size of 8K.
- 16 Gbps (model GS108Tv3) or 20 Gbps (models GS110TPv3 and GS110TPP) full-duplex, nonblocking switch fabric.
- 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 802.3ad Link Aggregation Control Protocol (LACP)
 - IEEE 802.1ab LLDP
 - IEEE 802.1p Class of Service (QoS)

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- IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE 802.1x RADIUS network access control
 - IEEE 802.3az Energy Efficient Ethernet (EEE)
- 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 (models GS110TPv3 and GS110TPP).
 - 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.

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- 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

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- 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.

The chapter includes the following sections:

- [Hardware overview of model GS108Tv3](#)
- [Hardware overview of model GS110TPv3](#)
- [Hardware overview of model GS110TPP](#)
- [RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity](#)
- [Reset button](#)

Hardware overview of model GS108Tv3

Model GS108Tv3 provides eight 10/100/1000BASE-T RJ-45 ports, one of which is a PoE PD port that can receive PoE power.

Model GS108Tv3: Front panel with ports and LEDs

The following figure shows the front panel of model GS108Tv3.

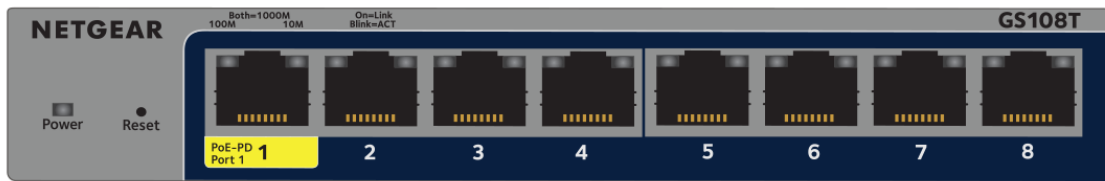


Figure 1. Model GS108Tv3 front panel

From left to right, the front panel of model GS108Tv3 provides the following components:

- Power LED (see [Model GS108Tv3: LEDs](#) on page 15).
- Recessed **Reset** button (see [Reset button](#) on page 21).
- Eight independent 10/100/1000BASE-T RJ-45 ports (1-8, see [RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity](#) on page 20), each with a left LED and a right LED that, combined, indicate the link, speed, and activity (see [Model GS108Tv3: LEDs](#) on page 15). Port 1 is a PoE PD port that can receive PoE power so that you can use the switch without a power adapter.

Model GS108Tv3: Back panel

The back panel of model GS108Tv3 contains a Kensington lock slot for an optional security cable and a 12V, 1.0A DC power connector for the DC power adapter that came in the switch package.

The following figure shows the back panel of model GS108Tv3.



Figure 2. Model GS108Tv3 back panel

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Model GS108Tv3: LEDs

This section describes the LED designations of model GS108Tv3.

Table 1. Model GS108Tv3 LEDs on the front panel

LEDs		Description
Power LED	Solid green	The switch is powered on and operating normally.
	Solid yellow	The switch is booting.
	Off	Power is not supplied to the switch.
Left port LED	Right port LED	Combined, these RJ-45 port LEDs indicate link, speed, and activity for Ethernet ports 1 to 8.
Solid green	Solid green	A valid 1 Gbps port link is established.
Blinking green	Blinking green	The port is transmitting or receiving packets at 1 Gbps.
Solid green	Off	A valid 100 Mbps port link is established.
Blinking green	Off	The port is transmitting or receiving packets 100 Mbps.
Off	Solid green	A valid 10 Mbps port link is established.
Off	Blinking green	The port is transmitting or receiving packets 10 Mbps.
Off	Off	No port link is established.

Hardware overview of model GS110TPv3

Model GS110TPv3 provides eight 10/100/1000BASE-T RJ-45 *PoE+* ports and two dedicated Gigabit SFP fiber ports.

Model GS110TPv3: Front panel with ports and LEDs

The following figure shows the front panel of model GS110TPv3.

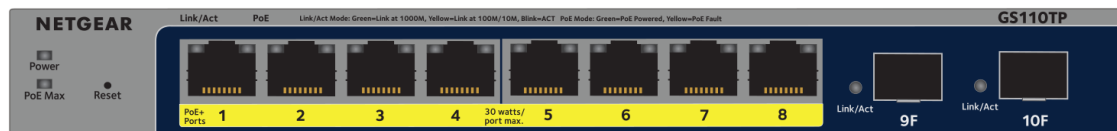


Figure 3. Model GS110TPv3 front panel

8-Port Gigabit (PoE+) Ethernet Smart Managed Pro Switch with (2 SFP or 2 Copper Ports and) Cloud Management

From left to right, the front panel of model GS110TPv3 provides the following components:

- Power LED (see [Model GS110TPv3: LEDs](#) on page 16).
- PoE Max LED (see [Model GS110TPv3: LEDs](#) on page 16), which is off (that is, not yellow) in the previous figure.
- Recessed **Reset** button (see [Reset button](#) on page 21).
- Eight independent 10/100/1000BASE-T RJ-45 PoE+ ports (1-8, see [RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity](#) on page 20), each with a left LED that functions as the combined link, speed, and activity LED and a right LED that indicates the PoE status (see [Model GS110TPv3: LEDs](#) on page 16).
- Two dedicated Gigabit SFP fiber ports (9F and 10F) that can accept optional transceiver modules (see [Model GS110TPv3: SFP ports for fiber connectivity](#) on page 17), each with a single LED that functions as the combined link and activity LED (see [Model GS110TPv3: LEDs](#) on page 16).

Model GS110TPv3: Back panel

The back panel of model GS110TPv3 contains a Kensington lock slot for an optional security cable, air ventilation holes, and a 54V, 1.25A DC power connector for the DC power adapter with detachable power cable that came in the switch package.

The following figure shows the back panel of model GS110TPv3.



Figure 4. Model GS110TPv3 back panel

Model GS110TPv3: LEDs

This section describes the LED designations of model GS110TPv3.

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Table 2. Model GS110TPv3 LEDs on the front panel

LED	Description
Power LED	Solid green. The switch is powered on and operating normally. Solid yellow. The switch is booting. Off. Power is not supplied to the switch.
PoE Max LED	Off. Sufficient (more than 7W of) PoE power is available. Solid yellow. Less than 7W of PoE power is available. Blinking yellow. At least once during the previous two minutes, less than 7W of PoE power was available.
RJ-45 left LED Link, speed, and activity for Ethernet ports 1 to 8	Solid green. A valid 1 Gbps port link is established. Blinking green. The port is transmitting or receiving packets at 1 Gbps. Solid yellow. A valid 10 Mbps or 100 Mbps port link is established. Blinking yellow. The port is transmitting or receiving packets at 10 Mbps or 100 Mbps. Off. No port link is established.
RJ-45 right LED PoE status for Ethernet ports 1 to 8.	Off. The port is not delivering PoE power. Solid green. The port is delivering PoE power. Solid yellow. A PoE fault occurred.
Link/ACT LED Link and activity for SFP fiber ports 9 and 10	Off. No SFP module link is established. Solid green. A valid 1 Gbps link is established. Blinking green. The SFP fiber port is transmitting or receiving packets at 1 Gbps.

Model GS110TPv3: SFP ports for fiber connectivity

To enable fiber connections on model GS110TPv3, SFP fiber ports accommodate standard small form-factor pluggable (SFP) gigabit interface converters (GBICs, also referred to as transceiver modules). GBICs are sold separately from the switch.

Model GS110TPv3 supports the NETGEAR SFP transceiver modules that are listed in the following table.

Table 3. Supported SFP transceiver modules

Speed and Medium	Model	Description
1G Ethernet short-reach fiber	AGM731F	SFP transceiver 1000BASE-SX
1G Ethernet long-reach fiber	AGM732F	SFP transceiver 1000BASE-LX
1G Ethernet copper	AGM734	SFP transceiver 1000BASE-T

For more information about NETGEAR SFP transceiver modules, visit [netgear.com/business/products/switches/modules-accessories](https://www.netgear.com/business/products/switches/modules-accessories).

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Note: If you use a third-party passive direct-attach cable (DAC), the length of the cable must not exceed 5 meters (16.4 feet).

Hardware overview of model GS110TPP

Model GS110TPP provides eight 10/100/1000BASE-T RJ-45 PoE+ ports and two dedicated 10/100/1000BASE-T RJ-45 copper uplink ports.

Model GS110TPP: Front panel with ports and LEDs

The following figure shows the front panel of model GS110TPP.

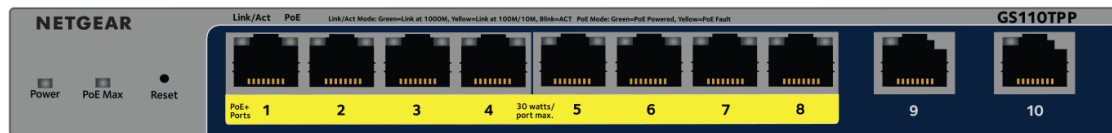


Figure 5. Model GS110TPP front panel

From left to right, the front panel of model GS110TPP provides the following components:

- Power LED (see [Model GS110TPP: LEDs](#) on page 19).
- PoE Max LED (see [Model GS110TPP: LEDs](#) on page 19), which is off (that is, not yellow) in the previous figure.
- Recessed **Reset** button (see [Reset button](#) on page 21).
- Eight independent 10/100/1000BASE-T RJ-45 PoE+ ports (1-8, see [RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity](#) on page 20), each with a left LED that functions as the combined link, speed, and activity LED and a right LED that indicates the PoE status (see [Model GS110TPP: LEDs](#) on page 19).
- Two dedicated, non-PoE, 10/100/1000BASE-T RJ-45 uplink ports (9 and 10, see [RJ-45 ports for 10/100/1000M BASE-T Ethernet connectivity](#) on page 20), each with a single LED that functions as the combined link and activity LED (see [Model GS110TPP: LEDs](#) on page 19).

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Model GS110TPP: Back panel

The back panel of model GS110TPP contains a Kensington lock slot for an optional security cable, air ventilation holes, and a 54V, 2.4A to 3.7A DC power connector for the DC power adapter with detachable power cable that came in the switch package. By default, the switch comes with a 130V power adapter that provides 54V, 2.4A. You can purchase and connect the NETGEAR optional power adapter model EPS200W, which provides 54V, 3.7A.

The following figure shows the back panel of model GS110TPP.



Figure 6. Model GS110TPP back panel

Model GS110TPP: LEDs

This section describes the LED designations of model GS110TPP.

Table 4. Model GS110TPP LEDs on the front panel

LED	Description
Power LED	<p>Solid green. The switch is powered on and operating normally. If you changed the management mode of the switch to NETGEAR Insight, the switch is not yet added to an Insight managed network or not yet connected to the Insight cloud management server.</p> <p>Solid blue. The management mode of the switch is NETGEAR Insight, the switch is added to an Insight managed network, and the switch is connected to the Insight cloud management server. You can manage and monitor the switch using the NETGEAR Insight app or Insight Cloud portal.</p> <p>Solid yellow. The switch is booting.</p> <p>Off. Power is not supplied to the switch.</p>
PoE Max LED	<p>Off. Sufficient (more than 7W of) PoE power is available.</p> <p>Solid yellow. Less than 7W of PoE power is available.</p> <p>Blinking yellow. At least once during the previous two minutes, less than 7W of PoE power was available.</p>

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Table 4. Model GS110TPP LEDs on the front panel (Continued)

LED	Description
RJ-45 left LED Link, speed, and activity for Ethernet ports 1 to 10	Solid green. A valid 1 Gbps port link is established. Blinking green. The port is transmitting or receiving packets at 1 Gbps. Solid yellow. A valid 10 Mbps or 100 Mbps port link is established. Blinking yellow. The port is transmitting or receiving packets at 10 Mbps or 100 Mbps. Off. No port link is established.
RJ-45 right LED PoE status for Ethernet ports 1 to 8.	Off. The port is not delivering PoE power. Solid green. The port is delivering PoE power. Solid yellow. A PoE fault occurred.

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.

RJ-45 copper port 1 on model GS108Tv3 can function as a PoE PD port so that it can receive PoE power.

RJ-45 copper ports 1-8 on models GS110TPv3 and GS110TPP support PoE+ so that they can provide PoE power.

Reset button

The switch provides a recessed **Reset** button on the front panel so that you can either restart (power-cycle) the switch or return the switch to its factory default settings, causing all custom settings to be erased.

To restart the switch or return the switch to its factory default settings:

1. Insert a device such as a straightened paper clip into the opening.
2. Do one of the following:
 - **Restart the switch.** Press the **Reset** button for about two seconds. (Do not press the button for more than five seconds!)
The switch restarts but retains its custom settings. During this process, the Power LED lights yellow.
 - **Return the switch to its factory default settings.** Press the **Reset** button for at least five seconds.
The switch restarts and returns to its factory default settings. During this process, the Power LED lights yellow.

3

Applications

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

This chapter includes the following sections:

- [Desktop switching](#)
- [PoE overview](#)
- [PoE and desktop switching](#)
- [Hi-power PoE for surveillance and security](#)

Desktop switching

You can use the switch as a desktop switch to build a small network that provides up to 1 Gbps access to desktop computers, non-PoE IP cameras, a NAS, servers such as a file server, a smart TV, and so on. In a small network such as a small office or home office network, connect the switch to a router that is connected to an Internet modem.

With 1 Gbps connections, the switch always functions in full-duplex mode. Any switch port that is connected to a computer or file server can provide up to 2 Gbps bidirectional throughput.

You must connect one LAN port on the switch to a LAN port on your router (see device 2 in the following figure). If you use a WiFi router (see device 2) or connect a WiFi access point to the switch, you can connect a laptop (see device 4) or smartphone (see device 5) to the WiFi network and use NETGEAR Insight to discover and manage the switch.

On model GS108Tv3, port 1 is a PoE PD port that can receive PoE power from a PoE switch so that you can use model GS108Tv3 without a power adapter.

On model GS110TPv3, you can also make a 1 Gbps fiber connection to a router that supports fiber and that is connected to the Internet or to another device that supports fiber.

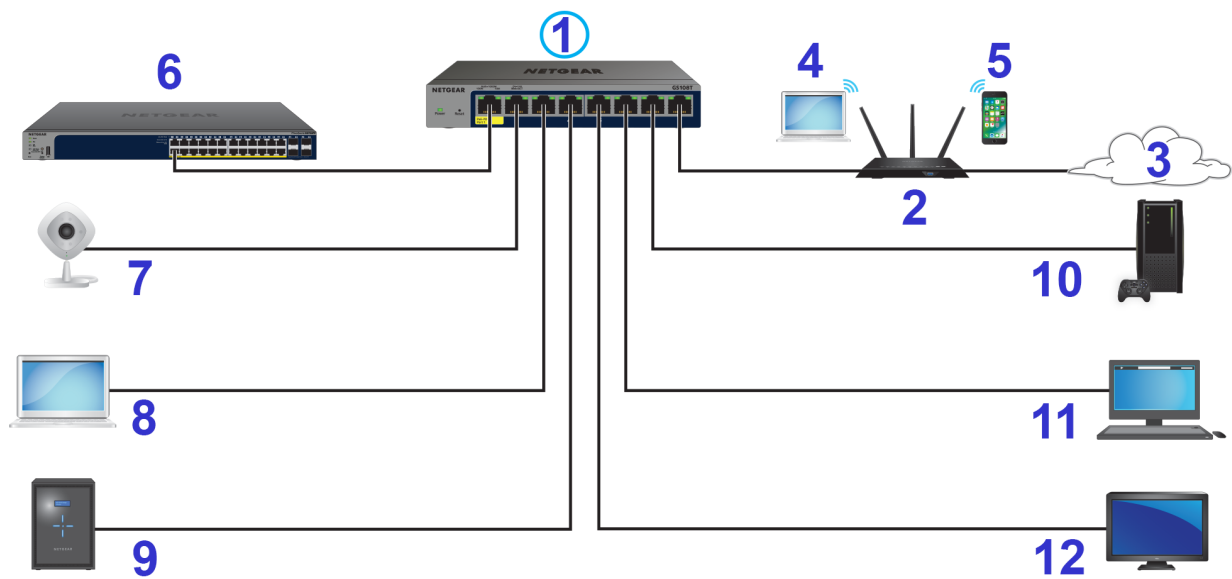


Figure 7. Sample desktop switching with model GS108Tv3

Number	Device	Number	Device
1	Switch model GS108Tv3	7	IP camera
2	WiFi router	8	Laptop

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(Continued)

Number	Device	Number	Device
3	Internet	9	ReadyNAS storage system
4	Laptop, which, as an Insight Premium or Insight Pro subscriber, allows you to use the NETGEAR Insight Cloud portal to manage the switch.	10	Gaming console
5	Smartphone, which allows you use the NETGEAR Insight app to discover and manage the switch.	11	Desktop
6	PoE switch, which can provide PoE power to model GS108Tv3.	12	Smart TV

PoE overview

Models GS110TPv3 and GS110TPP supports eight Power over Ethernet plus (PoE+) ports. Each model can supply up to 30W PoE+ (IEEE 802.3at) to each port up to its total maximum PoE power budget of 55W (model GS110TPv3) or 120W (model GS110TPP) across all active PoE+ ports. The switch is also compatible with PoE (IEEE 802.3af).

Note: Model GS110TPP supports NETGEAR FlexPoE power. As your network grows or your needs change, you can increase the 120W PoE power budget to 190W by swapping out the included power adapter to the NETGEAR optional power adapter model EPS200W.

Supplied power is prioritized according to the port order, up to the total power budget of the device. Port 1 receives the highest PoE priority, while port 8 is relegated to the lowest PoE priority.

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.

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/.

PoE and desktop switching

Models GS110TPv3 and GS110TPP support both PoE and non-PoE equipment. The following figure shows an example of how you can connect a PoE WiFi access point (see device 6), a PoE IP camera (see device 7), a PoE IP video phone (see device 8) and a PoE IP phone (see device 9) to the switch. In the following figure, non-PoE equipment is also attached to the switch (see devices 10 and 11).

You must connect one LAN port on the switch to a LAN port on a router (see device 2 in the following figure) that is connected to the Internet (see 3). For model GS110TPv3, you can also make a 1 Gbps fiber connection to a router that supports fiber and that is connected to the Internet or to another device that supports fiber.

If you use a WiFi router (see device 2 in the following figure) or connect a WiFi access point (see device 6) to the switch, you can connect a laptop (see device 4) or smartphone (see device 5) to the WiFi network and use NETGEAR Insight to discover and manage the switch.

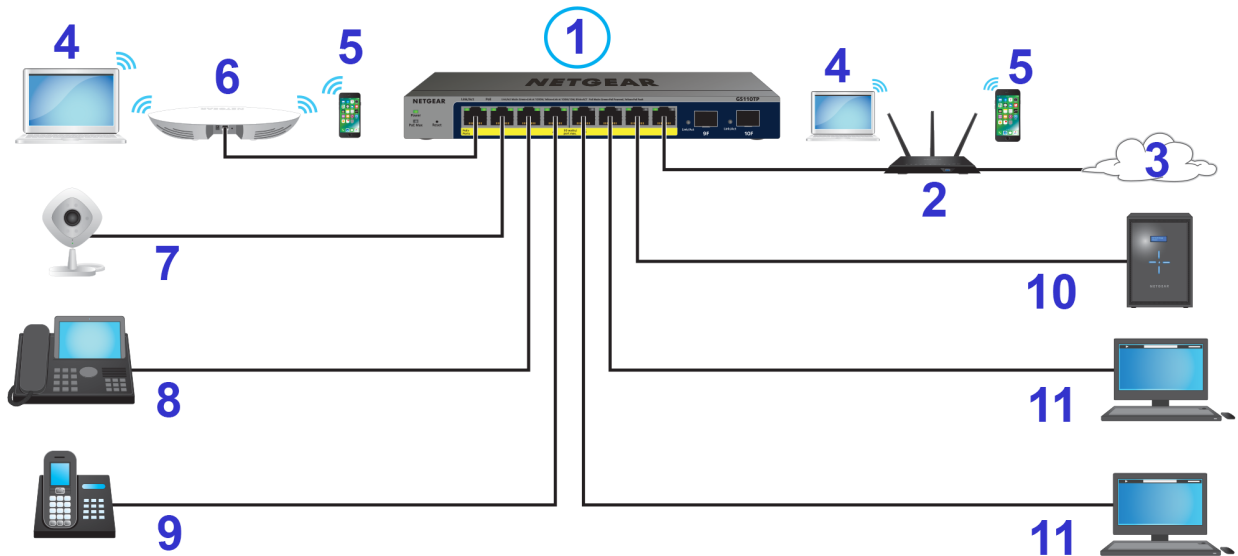


Figure 8. Sample PoE and desktop switching with model GS110TPv3

Number	Device	Number	Device
1	Switch model GS110TPv3	7	PoE IP camera
2	WiFi router	8	PoE IP video phone
3	Internet	9	PoE IP phone

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(Continued)

Number	Device	Number	Device
4	Laptop, which, as an Insight Premium or Insight Pro subscriber, allows you to use the NETGEAR Insight Cloud portal to manage the switch.	10	ReadyNAS storage system
5	Smartphone, which allows you use NETGEAR Insight to discover and manage the switch.	11	Desktop
6	PoE WiFi access point	11	Desktop

Hi-power PoE for surveillance and security

Models GS110TPv3 and GS110TPP support both PoE and non-PoE equipment. Model GS110TPP supports a hi-power PoE+ budget, which works well for a surveillance and security configuration. The following figure shows an example of how you can connect hi-power PoE+ pan-tilt-zoom (PTZ) cameras (see devices 7) together with a PoE WiFi access point (see device 4) and a non-PoE storage system such as a ReadyNAS (see device 8) to the switch.

You must connect one LAN port on the switch to a LAN port on a router (see device 2 in the following figure) that is connected to the Internet (see 3).

If you use a WiFi router (see device 2 in the following figure) or connect a WiFi access point (see device 4) to the switch, you can use a smartphone (see device 5) or laptop (see device 6) to the WiFi network and use NETGEAR Insight to discover and manage the switch.

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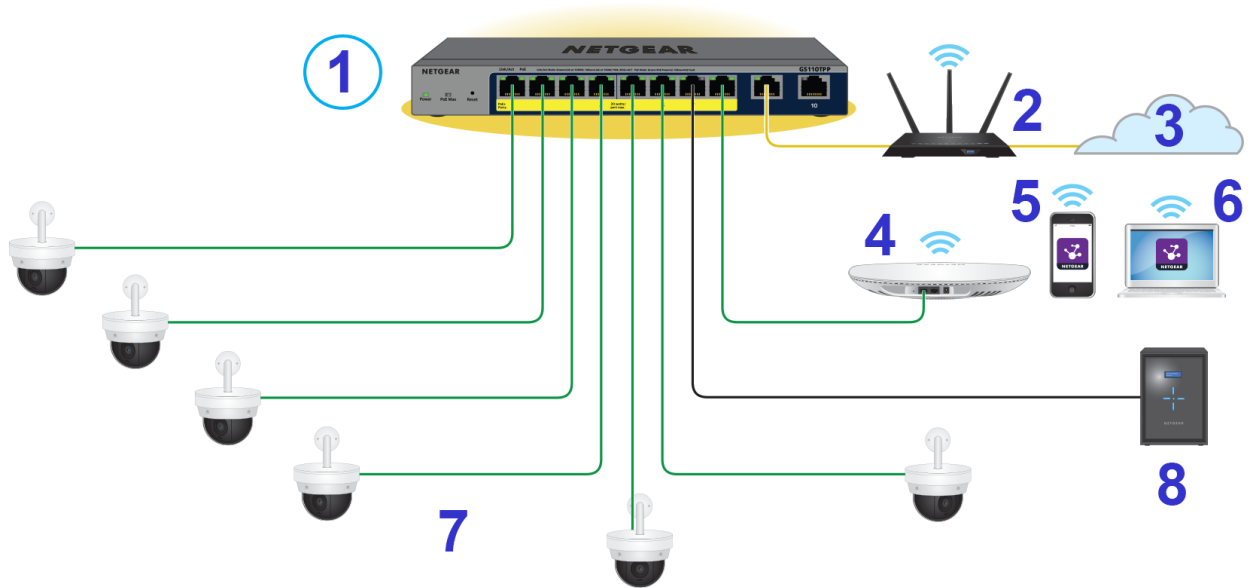


Figure 9. Sample switch surveillance and security application with model GS110TPP

Number	Device	Number	Device
1	Switch model GS110TPP	5	Smartphone, which allows you use NETGEAR Insight to discover and manage the switch.
2	WiFi router	6	Laptop, which, as an Insight Premium or Insight Pro subscriber, allows you to use the NETGEAR Insight Cloud portal to manage the switch.
3	Internet	7	PoE+ Pan-tilt-zoom (PTZ) cameras
4	PoE WiFi access point	8	ReadyNAS storage system

4

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](#)
- [Optional Step 5: Install SFP transceiver modules \(model GS110TPv3\)](#)
- [Step 6: Connect devices to the switch](#)
- [Step 7: Check the installation](#)
- [Step 8: Apply power and check the LEDs](#)
- [Step 9: 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 5. Site requirements

Characteristics	Requirements
Mounting	<p>Desktop installations. Provide a flat table or shelf surface.</p> <p>Wall installations. Use the wall-mount screws that are supplied with the switch to attach the switch to a wall.</p> <p>Pole (or other surface) installations. Use an off-the-shelf 75 mm (model GS108Tv3) or 100 mm (models GS110TPv3 and GS110TPP) VESA standard mount to secure the switch to a pole or another surface. The bottom panel of the switch provides four mount holes that are VESA-compliant.</p>
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	<p>Use the DC power adapter and power cord that are 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.</p> <p>Because model GS108Tv3 can function as a PoE powered device (PD), instead of connecting a power adapter, you can let this model receive power from PoE power sourcing equipment (PSE) such as a PoE switch.</p>
Cabling	Route cables to avoid sources of electrical noise such as radio transmitters, broadcast amplifiers, power lines, and fluorescent lighting fixtures.
Environmental	<p>Temperature. Install the switch in a dry area with an ambient temperature between 32°F and 104°F (0°C and 40°C). Keep the switch away from heat sources such as direct sunlight, warm-air exhausts, hot-air vents, and heaters.</p> <p>Operating humidity. The maximum relative humidity of the installation location must not exceed 90 percent, noncondensing.</p> <p>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.</p> <p>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.</p>

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

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:
 - **Model GS108Tv3:**
 - Switch model GS108Tv3
 - DC power adapter (varies by region)
 - Wall-mount kit
 - Four rubber footpads
 - Installation guide

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- **Models GS110TPv3 and GS110TPP:**

- Switch model GS110TPv3 or model GS110TPP
- DC power adapter with a detachable power cable (varies by region)
- Wall-mount kit
- Four rubber footpads
- Installation guide

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 or attach it to a wall.

You can also use any off-the-shelf 75 mm VESA standard mount to secure the switch to a wall, a pole, or another surface.

Wall-mount model GS108Tv3

The bottom panel of the switch provides two VESA mount holes that allow you to mount the switch to a wall. The switch comes with wall-mount screws and anchors that you can secure to a wall and attach the switch to.

The distance between the VESA holes is 2.95 in. (75 mm). The following figure shows the bottom panel of the switch.

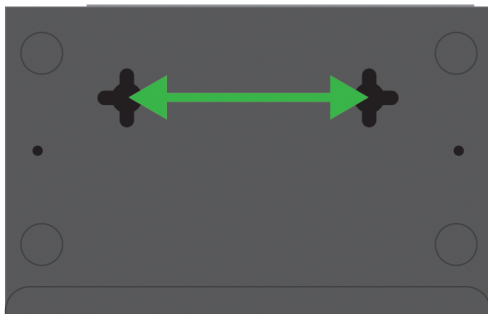


Figure 10. VESA holes at the bottom panel of model GS108Tv3

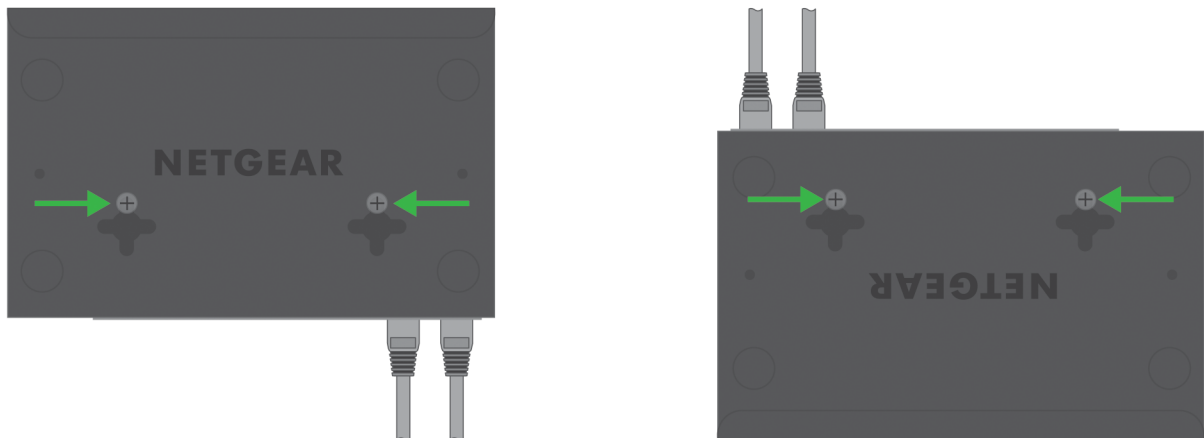
Wall-mount model GS108Tv3 horizontally

You can mount model GS108Tv3 horizontally to a wall, either with the back panel facing down (the cables will be at the bottom) or facing up (the cables will be at the top).

To mount model GS108Tv3 horizontally to a wall:

1. Locate the two holes on the bottom panel of the switch.
2. Mark the two mounting holes on the wall where you want to mount the switch.
The two mounting holes must be at a precise horizontal distance of 2.95 in. (75 mm) from each other.
3. Drill holes into the wall for two anchors in which you will insert M4 x L25 mm screws.
The screws and anchors are in the switch package.
4. Insert the anchors into the wall and tighten the screws with a No. 2 Phillips screwdriver.
Leave about 6 mm (¼ inch) of each screw protruding from the wall so that you can insert the screws into the holes on the bottom of the switch.
5. Line up the holes on the bottom panel of the switch with the screws in the wall and mount the switch to the wall.

You can mount the switch with the back panel facing down (the cables will be at the bottom, see the figure on the left) or facing up (the cables will be at the top, see the figure on the right). Both figures show the top panel of the switch, with the VESA holes at the bottom shown transparently.



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Wall-mount model GS108Tv3 vertically

You can mount model GS108Tv3 vertically to a wall, either with the back panel facing left (the cables will be on the left) or facing right (the cables will be on the right).

To mount model GS108Tv3 vertically to a wall:

1. Locate the two holes on the bottom panel of the switch.
2. Mark the two mounting holes on the wall where you want to mount the switch.
The two mounting holes must be at a precise horizontal distance of 2.95 in. (75 mm) from each other.
3. Drill holes into the wall for two anchors in which you will insert M4 x L25 mm screws. The screws and anchors are in the switch package.
4. Insert the anchors into the wall and tighten the screws with a No. 2 Phillips screwdriver. Leave about 6 mm (¼ inch) of each screw protruding from the wall so that you can insert the screws into the holes on the bottom of the switch.
5. Line up the holes on the bottom panel of the switch with the screws in the wall and mount the switch to the wall.

You can mount the switch with the back panel facing left (the cables will be on the left, see the figure on the left) or facing right (the cables will be on the right, see the figure on the right). Both figures show the top panel of the switch, with the VESA holes at the bottom shown transparently.



Wall-mount model GS110TPv3 or model GS110TPP

The bottom panel of the switch provides two VESA mount holes that allow you to mount the switch to a wall. The switch comes with wall-mount screws and anchors that you can secure to a wall and attach the switch to.

The distance between the VESA holes is 3.94 in. (100 mm). The following figure shows the bottom panel of the switch.

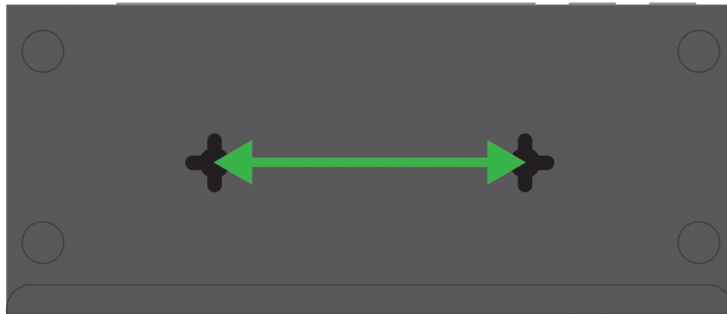


Figure 11. VESA holes at the bottom panel of model GS110TPv3 or model GS110TPP

Wall-mount model GS110TPv3 or model GS110TPP horizontally

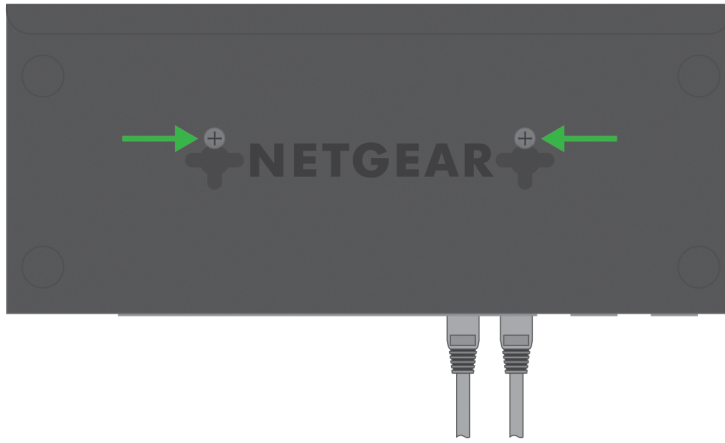
You can mount model GS110TPv3 or model GS110TPP horizontally to a wall, either with the back panel facing down (the cables will be at the bottom) or facing up (the cables will be at the top).

To mount model GS110TPv3 or model GS110TPP horizontally to a wall:

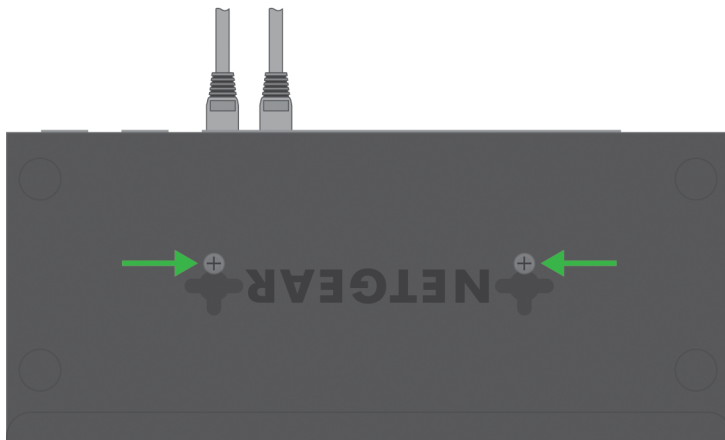
1. Locate the two holes on the bottom panel of the switch.
2. Mark the two mounting holes on the wall where you want to mount the switch.
The two mounting holes must be at a precise horizontal distance of 3.94 in. (100 mm) from each other.
3. Drill holes into the wall for two anchors in which you will insert M4 x L25 mm screws.
The screws and anchors are in the switch package.
4. Insert the anchors into the wall and tighten the screws with a No. 2 Phillips screwdriver.
Leave about 6 mm (¼ inch) of each screw protruding from the wall so that you can insert the screws into the holes on the bottom of the switch.
5. Line up the holes on the bottom panel of the switch with the screws in the wall and mount the switch to the wall.

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You can mount the switch with the back panel facing down (the cables will be at the bottom). The following figure shows the top panel of the switch, with the VESA holes at the bottom shown transparently.



You can also mount the switch with the back panel facing up (the cables will be at the top). The following figure shows the top panel of the switch, with the VESA holes at the bottom shown transparently.



Wall-mount model GS110TPv3 or model GS110TPP vertically

You can mount model GS110TPv3 or model GS110TPP vertically to a wall, either with the back panel facing left (the cables will be on the left) or facing right (the cables will be on the right).

To mount model GS110TPv3 or model GS110TPP vertically to a wall:

1. Locate the two holes on the bottom panel of the switch.
2. Mark the two mounting holes on the wall where you want to mount the switch.
The two mounting holes must be at a precise horizontal distance of 2.95 in. (75 mm) from each other.
3. Drill holes into the wall for two anchors in which you will insert M4 x L25 mm screws.

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The screws and anchors are in the switch package.

4. Insert the anchors into the wall and tighten the screws with a No. 2 Phillips screwdriver. Leave about 6 mm (¼ inch) of each screw protruding from the wall so that you can insert the screws into the holes on the bottom of the switch.
5. Line up the holes on the bottom panel of the switch with the screws in the wall and mount the switch to the wall.

You can mount the switch with the back panel facing left (the cables will be on the left, see the figure on the left) or facing right (the cables will be on the right, see the figure on the right). Both figures show the top panel of the switch, with the VESA holes at the bottom shown transparently.



Mount the switch to a pole or another surface

You can use an off-the-shelf 75 mm (model GS108Tv3) or 100 mm (model GS110TPv3 or model GS110TPP) VESA standard mount to secure the switch to a pole or another surface. The bottom panel of the switch provides two mount holes that are VESA-compliant.

Install the switch on a flat surface

The switch ships with four self-adhesive rubber footpads.

To install the switch on a flat surface:

Stick one rubber footpad on each of the four concave spaces on the bottom of the switch.

The rubber footpads cushion the switch against shock and vibrations. They also provide ventilation space between stacked switches.

Optional Step 5: Install SFP transceiver modules (model GS110TPv3)

The following optional procedure describes how to install an optional SFP transceiver module into one of the SFP ports. For information about SFP transceiver modules, see [Model GS110TPv3: SFP ports for fiber connectivity](#) on page 17.

Note: Contact your NETGEAR sales office to purchase these modules. If you do not want to install an SFP module, skip this procedure.

To install an SFP transceiver module:

1. Insert the transceiver into the SFP port.
You can install an SFP transceiver module in each SFP port.
2. Press firmly on the flange of the module to seat it securely into the connector.

Step 6: 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). For distances up to 328 feet with traffic at 1 Gbps speed, use a Cat 5e or higher-rated cable.

Model GS108Tv3 can function as a PoE powered device (PD) device but does not provide PoE power. It supports non-PoE devices only. If you use a PoE connection but model

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GS108Tv3 receives insufficient PoE power from the power sourcing equipment (PSE), consider using a shorter cable.

Model GS110TPv3 and model GS110TPP can function as a PSE. These models support both PoE and non-PoE devices. If you use a PoE connection but the PD receives insufficient PoE power from the switch, consider using a shorter cable.

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

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

Step 7: 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 8: Apply power and check the LEDs

The switch does not provide an on/off power switch. The DC power adapter connection controls the power.

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

Model GS108Tv3 can also function as a PoE powered device (PD) without a DC power adapter. In such a configuration, a PoE switch must function as the PSE and provide PoE power to model GS108Tv3.

Note: If you are using model GS110TPP with an optional power adapter model EPS200W, after the switch starts for the first time with the new power adapter, log in to the local browser interface, and select the new power adapter. For more information, see the user manual, which you can download from netgear.com/support/download.

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To apply power:

1. Connect the plug of the DC power adapter to the DC power receptacle on the back of the switch.
If you use model GS108Tv3 as a PoE PD, attach an Ethernet cable to port 1.
2. Plug the DC power adapter (or the detachable power cable) into a power source such as a wall socket or power strip.
If you use model GS108Tv3 as a PoE PD, attach the other end of the Ethernet cable to a PoE port on a PoE switch.
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.

Note: After you apply power, the Power LED lights solid yellow while the switch starts. After about two minutes, the switch completes its startup process and the Power LED turns from yellow to solid green.

If the Power LED does not light, check to see that the DC power adapter (or the detachable power cable) is plugged in correctly and that the power source is good. If you use model GS108Tv3 as a PoE PD, check to see that the Ethernet cable is plugged in correctly at both ends of the connection.

Step 9: Manage the switch

The switch is a plug-and-play device that starts switching as soon as you plug it into power and your network.

After you complete the initial log-in procedure, you can configure the switch using the local browser interface. After you complete the initial log-in procedure, you can also change the management mode so that you configure the switch using the Insight app, or if you are an Insight Premium or Insight Pro subscriber, the Insight Cloud portal. For more information, see [Management options](#) on page 7.

For more information about managing the switch using the local browser interface, 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/.

For more information about NETGEAR Insight, visit netgear.com/insight and see the NETGEAR knowledge base articles at netgear.com/support.

For very basic setup and management, you can use the Smart Control Center (SCC) utility (which requires a Windows-based computer). For information about the SCC utility, see netgear.com/support/product/SCC.

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Note: By default, the DHCP client of the switch is enabled. If the switch cannot get an IP address from a DHCP server, the switch's default IP address is 192.168.0.239 and the default subnet mask is 255.255.255.0.

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 6. Troubleshooting chart

Symptom	Possible Cause	Possible Solution
The Power LED is off.	Power is not supplied to the switch.	<ul style="list-style-type: none"> • 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.
<p>Model GS108Tv3. The left and right port LEDs for a port are off although the port is connected to a powered-on device.</p> <p>Models GS110TPv3 and GS110TPP. The left port LED for a port is off although the port is connected to a powered-on device.</p>	The port connection is not working.	<ul style="list-style-type: none"> • 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 cabling does not meet Ethernet guidelines.	<ul style="list-style-type: none"> • 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.
<p>Model GS108Tv3. The left and right port LEDs for all connected ports are blinking continuously and the network is disabled.</p> <p>Models GS110TPv3 and GS110TPP. The left port LEDs for all connected ports are blinking continuously and the network is disabled.</p>	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 models GS110TPv3 and GS110TPP:

- 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 7. 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.

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 new 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 DC power from the switch and then reconnect the DC power. 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.