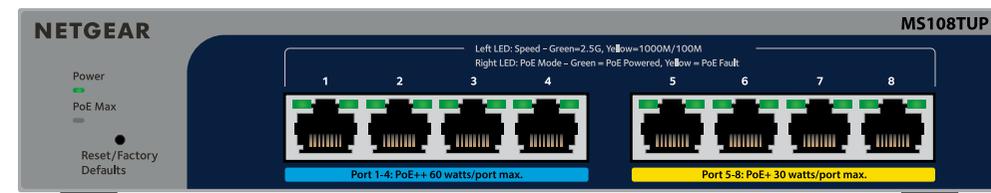# NETGEAR® BUSINESS

# Installation Guide

## 8-port Ultra60 PoE++ Multi-Gigabit (2.5G) Ethernet Smart Switch

MS108TUP



## Package contents

- NETGEAR 8-port Ultra60 PoE++ Multi-Gigabit (2.5G) Ethernet Smart Switch
- Power adapter (power cable varies by region)
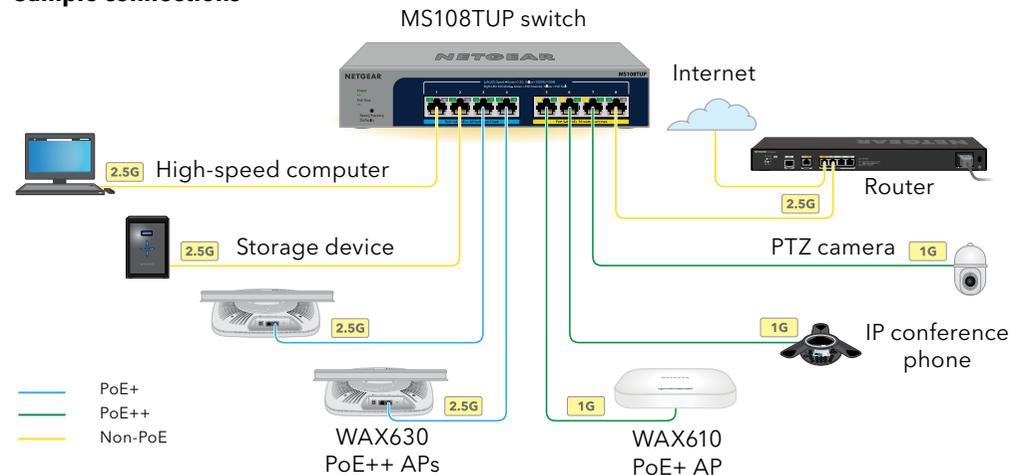- Wall-mount installation kit
- Rubber feet
- Installation Guide



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# Step 1. Connect the switch

**Sample connections**



1. Connect devices to the RJ-45 multi-gigabit ports (1–8) on the switch front panel.

   Ports 1–4 support PoE++ (IEEE 802.3bt). Ports 5–8 support PoE+ (IEEE 802.3at).

   Use Category 5e (Cat 5e) or higher rated Ethernet cables terminated with RJ-45 connectors to make connections at 1G and 2.5G speed.

2. Connect one port on the switch to a network that includes a DHCP server such as a router.

   In a small office or home office network, connect the switch to the LAN port of a router that is connected to a modem, or to a gateway.

3. Power on the switch and wait two minutes.

   If you connected the switch to a network with a DHCP server, the switch is automatically assigned a new IP address.
   (The default switch IP address is 192.168.0.239.)

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This switch is designed for indoor use only. If you want to connect it to a device located outdoors, the outdoor device must be properly grounded and surge protected, and you must install an Ethernet surge protector inline between the switch and the outdoor device. Failure to do so can damage the switch.

⚠️ **WARNING:** Before connecting this switch to outdoor cables or devices, see https://kb.netgear.com/000057103 for safety and warranty information.

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# Step 2. Check the PoE status

The switch can supply up to 60W PoE++ (IEEE 802.3bt) to ports 1–4 and up to 30W PoE+ (IEEE 802.3at) to port 5–8. The maximum PoE power budget across all active PoE ports is 230W.

The PoE Max LED at the left side of the front panel indicates the status of the PoE budget on the switch:

- **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.

For information about the system LEDs, port LEDs, and installation, see the hardware installation guide, which you can download by visiting www.netgear.com/support/download and entering your model number.

# Step 3. Discover the switch in your network

You can use the NETGEAR Switch Discovery Tool to discover the switch IP address in your network. NETGEAR Insight subscribers can use the Insight app to discover the switch.

## Option A: Use the NETGEAR Switch Discovery Tool

The NETGEAR Switch Discovery Tool lets you discover the IP address of the switch in your network from a Mac or Windows-based computer connected to the same network as the switch. To download this tool, visit netgear.com/support/product/netgear-switch-discovery-tool.aspx.

## Option B: Use the NETGEAR Insight app

You can use the Insight app to discover and register the switch, and activate your warranty.

1. On your mobile device, visit the app store, search for NETGEAR Insight, and download the latest version of the app.

2. Open the NETGEAR Insight app.

3. If you do not have a NETGEAR account, tap **Create NETGEAR Account** and follow the onscreen instructions.

4. Enter the email address and password for your NETGEAR account and tap **LOG IN**.

   - **Option 1: Your switch and mobile device are connected to the same network**. Your switch and its IP address display in the Devices list. Do the following:

     a. Select the switch or tap **Unclaimed**.

     b. On the next screen, tap **ADD DEVICE**, and continue with Step 3.5.

If the switch does not display in the devices list, tap **+** in the upper-right corner, and tap **Scan Network**. If the switch still does not display, follow Option 2.

   - **Option 2: Your switch and mobile device are not connected to the same network**. Your switch and its IP address do not display in the devices list. Do the following:

     a. Tap **+** in the upper-right corner.

     b. Either use the camera on your mobile device to scan the bar code or QR code, or type in the serial number, and then continue with Step 3.5.

5. Follow the onscreen instructions to complete the registration of the switch. During the set up process, decide whether you want to manage and monitor the switch from the device UI or remotely from the cloud using NETGEAR Insight:

   - **Device UI**: Tap **Not Now**.
     Then, continue with Step 4. Log in to the switch device UI.

   - **NETGEAR Insight Cloud Portal or Insight app**: Tap **Manage with Insight**.
     Then, continue with Step 4. Log in to the switch device UI and Optional Step 5: Change the management mode to NETGEAR Insight.

# Step 4. Log in to the switch device UI

You can use the switch as a plug-and-play device or you can change the settings by logging in to the device user interface (UI).

1. Open a web browser from a computer or tablet connected to the same network as your switch. You can use a wired or WiFi connection.

2. In the address field of your web browser, enter the switch IP address that you discovered in Step 3. Discover the switch in your network.

   If the switch is connected to the Internet, the Register to activate your warranty page displays. However, if you already registered the switch with the NETGEAR Insight app, the Device UI login page displays, and you can continue with Step 4.4.

3. If you did not yet register the switch with the NETGEAR Insight app, click one of the following buttons:

   - **Register Your Device**: This button displays if the switch is connected to the Internet. You can register the switch and activate the warranty. For information about the many benefits of registering your switch, visit netgear.com/why-register/.

   - **Enter Registration Key**: If you obtained a registration key, for example by registering your switch on the MyNETGEAR.com site, you can enter the key and then log in to the device UI.

   - **Skip Registration and Access the UI**: Registration is not mandatory, but we highly recommend it. If you do not register the switch within 30 days of purchase, your warranty entitlement might be affected.

4. If prompted, enter the default device admin password, which is **password**, and click the **Login** button.

5. If the Change Default Password page displays, specify and confirm a new device admin password, click the **Submit** button, and log in again using your new password.

   The System Information page displays. You can now configure the switch. For more information about configuring the switch from the device UI, see the user manual, which you can download by visiting www.netgear.com/support/download and entering your model number.

## Optional Step 5: Change the management mode to NETGEAR Insight

(!) **NOTE:** Follow the instructions in this step only if you want to change the management mode to NETGEAR Insight.

By default, the management mode in the device UI is set to Directly Connect to Web Browser Interface, which lets you configure the switch from the device UI.

Change the management mode in the device UI to manage the switch remotely from the cloud with the Insight Cloud Portal or the Insight app.

1. Open a web browser from a computer or tablet connected to the same network as your switch.

   You can use a wired or WiFi connection.

2. In the address field of your web browser, enter the IP address of the switch.

   The Device UI login page displays.

   If you did not yet register the switch, the Register to activate your warranty page displays. For more information, see Step 4. Log in to the switch device UI.

3. Enter your device admin password.

   This is the password that you set the first time that you logged in to the device UI.

4. Click the **Login** button.

   The System Information page displays.

5. Select the **NETGEAR Insight Mobile App and Insight Cloud Portal** radio button.

6. In the pop-up window, click the **OK** button.

7. Click the **Apply** button.

8. In the pop-up window, click the **OK** button.

   Your settings are saved.

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The first time that you change the management mode to Insight, the switch is reset to its factory default settings, and you must configure the switch using the NETGEAR Insight Cloud Portal or Insight app. We recommend that you use the Insight Cloud Portal.

(!) **NOTE:** You can still log in to the device UI and access a limited menu, but instead of the device admin password, you now must enter the Insight network password for the Insight network location to which you added the switch.

## PoE considerations

PoE power supplied by the switch is prioritized in ascending port order (from port 1 to port 8). The switch can supply a total of 230W across all active PoE+ and PoE++ ports.

- **Ports 1–4**: Each port can supply up to 60W PoE++ (802.3bt) power.
- **Ports 5–8**: Each port can supply up to 30W PoE+ (802.3at) power.

The following table shows the standard power ranges without overrides applied, calculated with the maximum cable length of 328 feet (100 meters). If a device receives insufficient PoE power from the switch, consider using a shorter cable.

| Device class | Compatible PoE standard | Class description | Maximum power supplied by the switch | Power delivered to the device |
|---|---|---|---|---|
| 0 | PoE, PoE+, and PoE++ | Default power (full) | 15.4W | 0.44W–13.0W |
| 1 | PoE, PoE+, and PoE++ | Very low power | 4.0W | 0.44W–3.84W |
| 2 | PoE, PoE+, and PoE++ | Low power | 7.0W | 3.84W–6.49W |
| 3 | PoE, PoE+, and PoE++ | Mid power | 15.4W | 6.49W–13.0W |
| 4 | PoE+ and PoE++ | High power | 30.0W | 13.0W–25.5W |
| 5 | PoE++ | Ultra high power | 45.0W | 25.5W–40.0W |
| 6–8 | PoE++ | Ultra high power | 60.0W | 40.0W–51.0W |

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## PoE troubleshooting

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

- If the PoE Max LED is solid yellow, disconnect one or more PoE devices to prevent PoE oversubscription.

- For each powered device (PD) that is connected to the switch, the associated PoE LED on the switch lights solid green. If the PoE LED lights solid yellow, a PoE fault occurred and PoE halted because of one of the conditions listed in the following table.

| PoE Fault Condition | Possible Solution |
|---|---|
| A PoE-related short circuit occurred on the port. | |
| 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, 30W for a PoE+ connection, and 60W for a PoE++ connection. | The problem is most likely with the attached PD. Check the condition of the PD, restart the PD by disconnecting and reconnecting the PD, or try a shorter cable. |
| 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. Check the condition of the PD, restart the PD by disconnecting and reconnecting the PD, or try a shorter cable. |

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## Support and Community

Visit netgear.com/support to get your questions answered and access the latest downloads.

You can also check out our NETGEAR Community for helpful advice at community.netgear.com.

## Regulatory and Legal

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Do not use this device outdoors. The PoE port is intended for intra building connection only.

Applicable to 6 GHz devices only: Only use the device indoors. The operation of 6 GHz devices is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.