Installation Guide

16-Port Gigabit Ethernet Unmanaged High-power PoE+ Switch, Model GS516PP
24-Port Gigabit Ethernet Unmanaged High-power PoE+ Switch, Model GS524PP

Package contents

- Switch model GS516PP or GS524PP
- Power cord (varies by region)
- Rack-mount kit
- Four rubber feet
- Installation guide and Insight flyer

Note: We recommend that you use a Category 5e (Cat 5e) cable or higher-rated cable for Gigabit Ethernet connections.

1. Register with the NETGEAR Insight app

1. Search for NETGEAR Insight and download the latest app.
2. Set up a NETGEAR account if you do not have one.
3. Tap the menu in the upper-left corner.
4. Tap REGISTER ANY NETGEAR DEVICE.
5. Enter the serial number located on the bottom of the switch, or use the camera on your mobile device to scan the serial number bar code.
6. Tap GO.

The switch is registered and added to your account. You can now view the switch in the NETGEAR Insight app.

Note: Because this is an unmanaged switch, you cannot configure or manage it in NETGEAR Insight.

2. Connect the switch

Sample connections

- GS516PP switch
- PoE+ access points
- PoE+ zoom camera
- PoE+ IP camera
- Computer
- Internet
- PoE+ (The status of the switch’s PoE budget)
- non-PoE
- PoE+

Note: This switch is designed for indoor use only. If you want to connect 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.

Note: We recommend that you use a Category 5e (Cat 5e) cable or higher-rated cable for Gigabit Ethernet connections.

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

3. Check the LEDs

When you connect the power cord to the switch and plug it into an electrical outlet, the LEDs indicate the status.

<table>
<thead>
<tr>
<th>LED Description</th>
<th>LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Solid green. The switch is powered on and operating normally. Off. Power is not supplied to the switch.</td>
</tr>
<tr>
<td>Fan</td>
<td>Off. The fan is working correctly. Solid yellow. The fan is not working correctly.</td>
</tr>
<tr>
<td>PoE Max</td>
<td>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.</td>
</tr>
<tr>
<td>Left Port LED</td>
<td>Solid green. 1000 Mbps link on this port. Blinking green. 1000 Mbps activity on this port. Solid yellow. 100 Mbps or 10 Mbps link on this port. Blinking yellow. 100 Mbps or 10 Mbps activity on this port. Off. No link is detected on this port.</td>
</tr>
<tr>
<td>Right Port LED</td>
<td>Solid green. The port is delivering PoE power. Blinking green. 1000 Mbps activity on this port. Solid yellow. 100 Mbps or 10 Mbps link on this port. Blinking yellow. 100 Mbps or 10 Mbps activity on this port. Off. No link is detected on this port.</td>
</tr>
</tbody>
</table>

Model GS516PP provides PoE+ (802.3at) power on all 16 Gigabit Ethernet ports, with up to 30W to each port. The total PoE power budget for the switch is 260W across all active PoE ports.

Model GS524PP provides PoE+ (802.3at) power on all 24 Gigabit Ethernet ports, with up to 30W to each port. The total PoE power budget for the switch is 300W across all active PoE ports.

Note:

- This switch is designed for indoor use only.
- If you want to connect 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.
- When you connect the power cord to the switch and plug it into an electrical outlet, the LEDs indicate the status.

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

Model GS516PP provides PoE+ (802.3at) power on all 16 Gigabit Ethernet ports, with up to 30W to each port. The total PoE power budget for the switch is 260W across all active PoE ports.

Model GS524PP provides PoE+ (802.3at) power on all 24 Gigabit Ethernet ports, with up to 30W to each port. The total PoE power budget for the switch is 300W across all active PoE ports.
PoE considerations

The PoE power that the switch supplies to powered devices (PDs) is prioritized in ascending port order. If the power requirements for the attached PDs exceed the total power budget of the switch, the PD on the highest-numbered port is disabled to make sure that the PDs connected to the higher-priority, lower-numbered ports are supported first. A PD listed as an 802.3at PoE+ powered device does not necessarily require the maximum power limit of the specification. Many PDs require less power, potentially allowing all PoE+ ports to be active simultaneously. The following table shows the standard power ranges calculated with the maximum cable length of 328 feet (100 meters).

<table>
<thead>
<tr>
<th>Device Class</th>
<th>PoE and PoE+</th>
<th>Class Description</th>
<th>Maximum Power Supplied by the Switch</th>
<th>Power Delivered to the PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>PoE and PoE+</td>
<td>Default power (full)</td>
<td>0.44W</td>
<td>0.44W-12.95W</td>
</tr>
<tr>
<td>1</td>
<td>PoE and PoE+</td>
<td>Very low power</td>
<td>4.0W</td>
<td>0.44W-3.84W</td>
</tr>
<tr>
<td>2</td>
<td>PoE and PoE+</td>
<td>Low power</td>
<td>7.0W</td>
<td>3.84W-6.49W</td>
</tr>
<tr>
<td>3</td>
<td>PoE and PoE+</td>
<td>Mid power</td>
<td>15.4W</td>
<td>6.49W-12.95W</td>
</tr>
<tr>
<td>4</td>
<td>PoE only</td>
<td>High power</td>
<td>30.0W</td>
<td>12.95W-25.5W</td>
</tr>
</tbody>
</table>

If a device receives insufficient PoE power from the switch, consider using a shorter cable.

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.

<table>
<thead>
<tr>
<th>PoE Fault Condition</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A PoE-related short circuit occurred on the port.</td>
<td>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.</td>
</tr>
<tr>
<td>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 and 30W for a PoE+ connection.</td>
<td>The PoE current on the port exceeded the classification limit of the PD. Reset the switch to see if the condition resolves itself.</td>
</tr>
</tbody>
</table>

Mount the switch in a rack

We recommend that you use the brackets and screws that came with the switch.
1. Attach the supplied mounting brackets to the side of the switch.
2. Insert the supplied small screws through each bracket and into the bracket mounting holes in the switch.
3. Tighten the screws with a No. 1 Phillips screwdriver to secure each bracket.
4. Align the mounting holes in the brackets with the holes in the rack, and insert the provided pan-head screws (you can choose among two types of 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.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Model GS516PP</th>
<th>Model GS524PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ-45 ports</td>
<td>16 Gigabit Ethernet for 1 Gbps, 100 Mbps, and 10 Mbps.</td>
<td>24 Gigabit Ethernet for 1 Gbps, 100 Mbps, and 10 Mbps.</td>
</tr>
<tr>
<td>PoE ports All (1–16)</td>
<td>All (1–24)</td>
<td></td>
</tr>
<tr>
<td>Maximum PoE budget</td>
<td>260W for the entire switch</td>
<td>300W for the entire switch</td>
</tr>
<tr>
<td>AC power input</td>
<td>100-240V ~ 50/60 Hz, 5A</td>
<td>100–240V ~ 50/60 Hz, 6A</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>13.0 x 8.2 x 1.7 in.</td>
<td>15.4 x 8.7 x 1.7 in.</td>
</tr>
<tr>
<td>Weight</td>
<td>5.07 lb (2.3 kg)</td>
<td>6.37 lb (2.89 kg)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>32–122°F (0–50°C)</td>
<td></td>
</tr>
<tr>
<td>Operating humidity</td>
<td>10%-90% relative humidity, noncondensing</td>
<td></td>
</tr>
<tr>
<td>Compliance</td>
<td>FCC class A, UL 62368-1, CB, CE LVD, CE class A, VCCI class A, RCM class A, KC, BSMI</td>
<td></td>
</tr>
</tbody>
</table>

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See the regulatory compliance document before connecting the power supply.
For NETGEAR’s Privacy Policy, visit https://www.netgear.com/about/privacy-policy/.
By using this device, you are agreeing to NETGEAR’s Terms and Conditions at https://www.netgear.com/about/terms-and-conditions. If you do not agree, return the device to your place of purchase within your return period.
Do not use this device outdoors. The PoE source is intended for intra building connection only.