

# HP NJ5000-5G-PoE+ Walljack Switch

## Getting Started Guide

Part number: 5998-7331a

Document version: 6W101-20151223



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# Preparing for installation

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**!** **IMPORTANT:**

For regulatory identification purposes, the HP NJ5000-5G-PoE+ is assigned a regulatory model number (RMN) HNGZA-HA0025. This regulatory number should not be confused with the marketing name HP NJ5000-5G-PoE+, or product code JH237A.

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The HP NJ5000-5G-PoE+ Walljack Switch is hereinafter referred to as the HP NJ5000-5G-PoE+.

## General safety recommendations

To avoid possible bodily injury or equipment damage, read the following safety recommendations before you install an HP NJ5000-5G-PoE+. The recommendations do not cover every possible hazardous condition.

- Keep the chassis clean and dust-free.
- Make sure the ground is dry and flat and anti-slip measures are in place.
- Do not place the switch in a moist area and avoid liquid surrounding the switch.
- Keep the chassis and installation tools away from walkways.

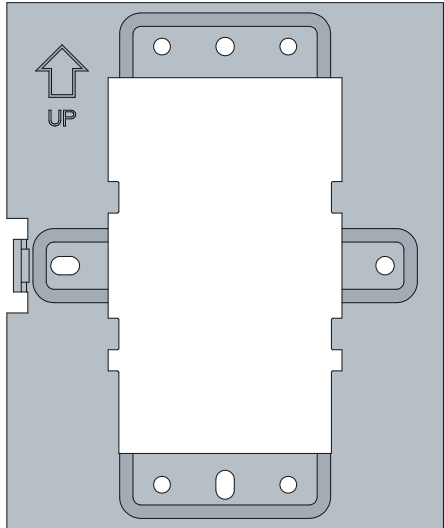

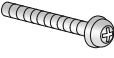



## Examining the installation site

The HP NJ5000-5G-PoE+ must be used indoors. To ensure correct operation and long service life of your switch, install it in an environment that meets the requirements described in [Table 1](#).

**Table 1 Environmental specifications**

<b>Operating temperature</b>	<b>Relative humidity</b>
0°C to 45°C (32°F to 113°F)	5% to 95%, noncondensing

# Accessories provided with the switch

	
× 1	× 1
Wall-mounting bracket	Ethernet network cable
	
× 2	× 2
M3.5 × 25 Phillips-head screw (Length: 25 mm, 0.98 in)	M3.5 × 12 Phillips-head screw (Length: 12 mm, 0.47 in)
	
× 1	× 1
M2.9 × 4 Phillips-head screw (Length: 4 mm, 0.16 in)	M2.9 × 4 security Torx-10 screw (Length: 4 mm, 0.16 in)

## Installation preparation checklist

Before you install the switch, verify the following items:

- Connect the power cord and connect the switch to the network. Examine the LED status to make sure the switch can operate correctly. For more information about switch LEDs, see "[Appendix B LEDs.](#)"
- Verify that cabling has been completed.

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# Installing the switch

The NJ5000-5G-PoE+ Walljack is designed to be mounted on a standard NEMA-WD6 (US) or BS 4662 (International) electrical outlet box.

You can also install the HP NJ5000-5G-PoE+ using the optional HP unified wired-WLAN walljack table/flush wall mount kit (JL022A). This kit, which is purchased separately, lets you install the switch on a horizontal surface or wall.

## Restrictions and guidelines

This equipment must be installed in compliance with local and national building codes, regulatory restrictions, and FCC rules. For the safety of people and equipment, only professional network personnel should install the device.

To avoid possible bodily injury or equipment damage, read the following safety recommendations before you install an HP NJ5000-5G-PoE+. The recommendations do not cover every possible hazardous condition.

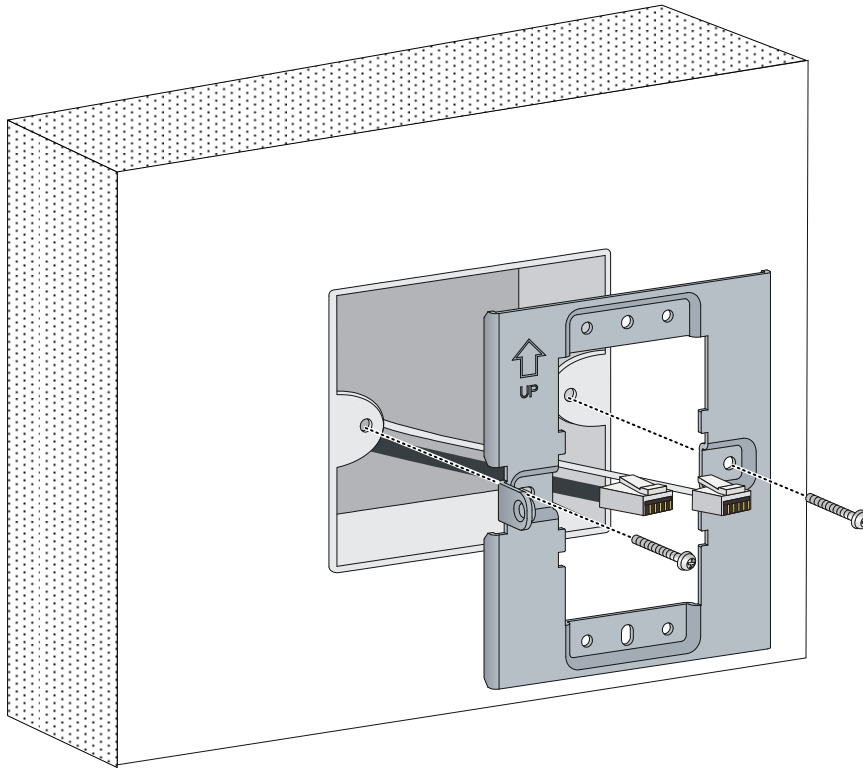
- Install with six inches or more of clearance around the device.
- Keep the device clean and dust-free.
- Make sure the ground is dry and flat and anti-slip measures are in place.
- Do not place the device in a moist area and avoid liquid surrounding the device.
- Keep the device and installation tools away from walkways.

## Installing the switch over an electrical outlet box

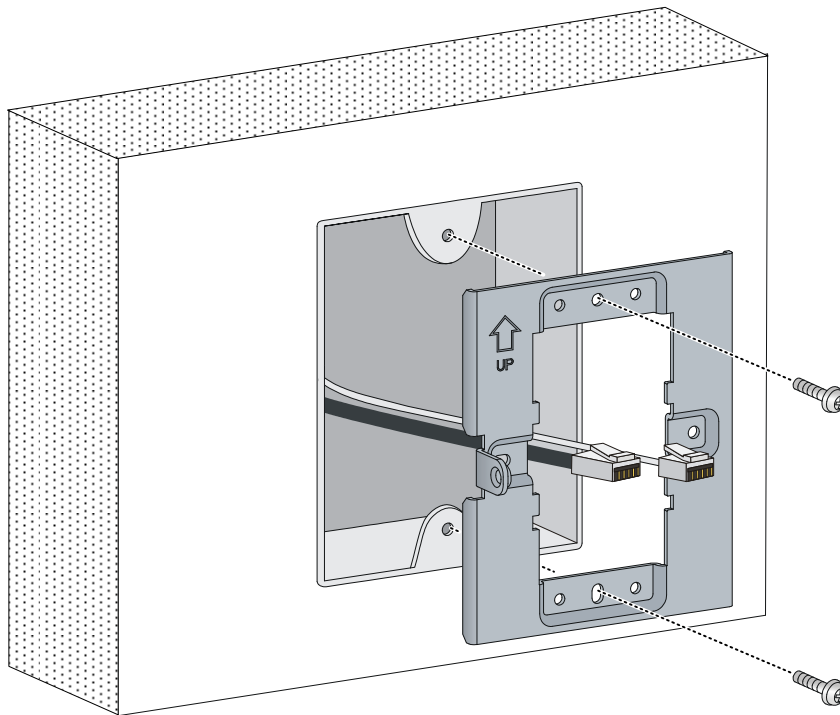
1. Place the mounting bracket, with the UP arrow pointing up, over the electrical outlet box, and then use two of the supplied mounting screws to secure the bracket to the box.

The two long mounting screws are for an EU electrical outlet box. The two short mounting screws are for a US electrical outlet box.

**Figure 1 Securing the mounting bracket to an electrical outlet box (EU)**

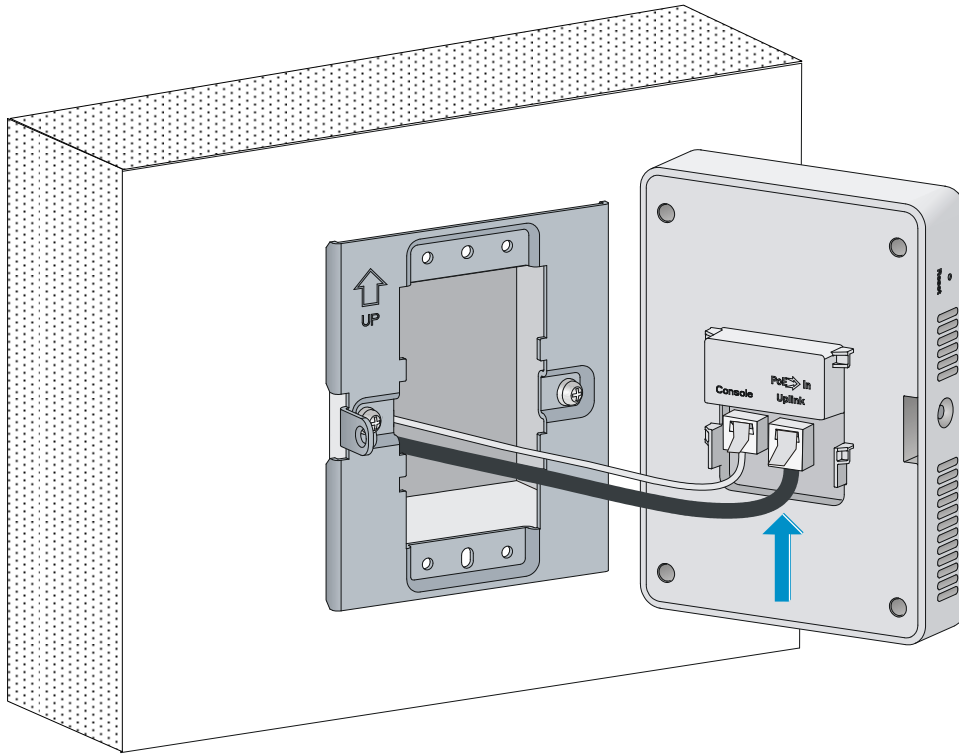


**Figure 2 Securing the mounting bracket to an electrical outlet box (US)**



2. Connect the network cable from the electrical outlet box to the RJ-45 uplink port on the back of the HP NJ5000-5G-PoE+.

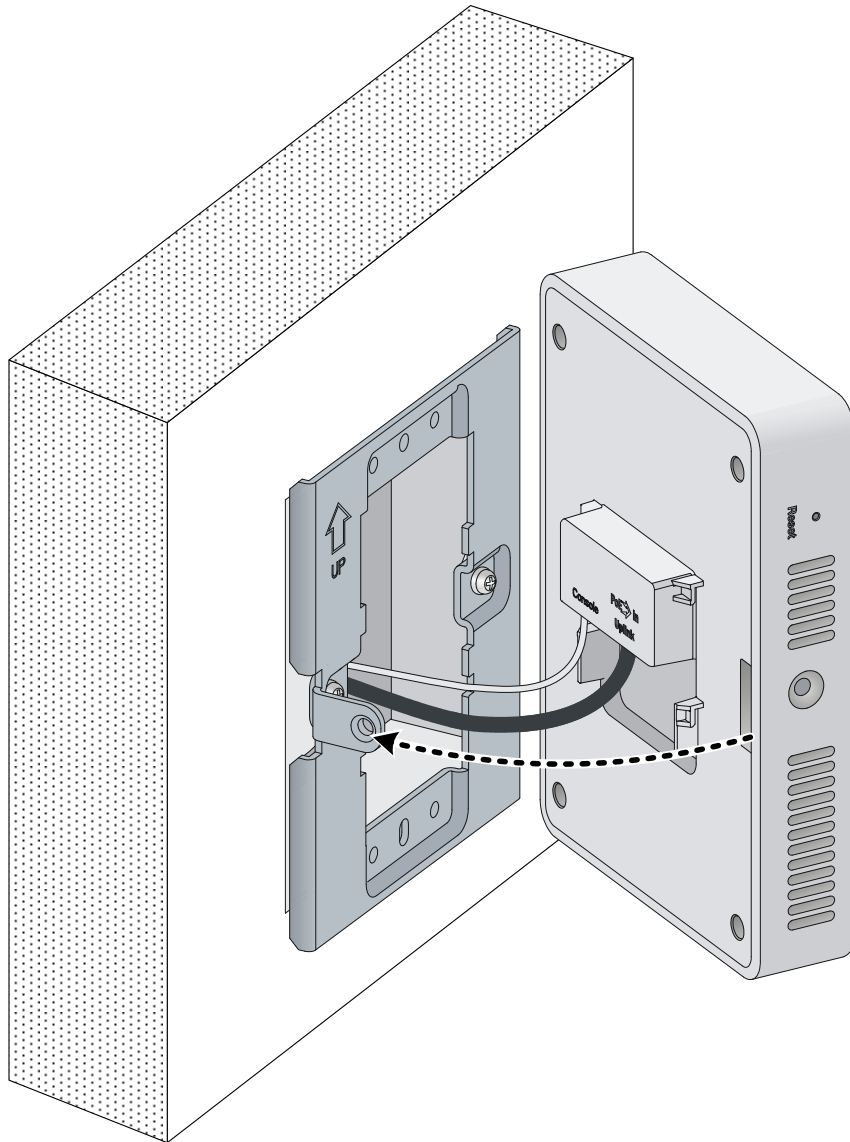
Figure 3 Connecting the network cable



3. Align the installation hole in the rear of the switch with the standout on the mounting bracket.

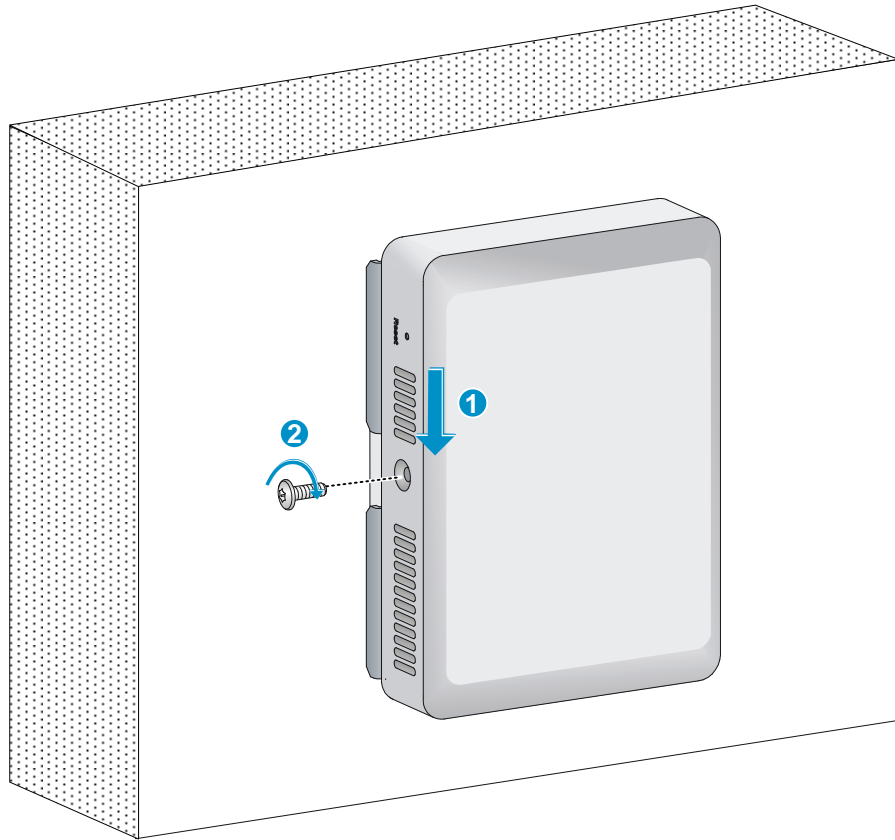


Figure 4 Aligning the installation hole



4. Push the HP NJ5000-5G-PoE+ onto the mounting bracket, and then slide it down until it is fully engaged. Then secure the switch to the bracket by using the Phillips-head screw or security-head security Torx-10 screw. Do not release the HP NJ5000-5G-PoE+ until you confirm that it is secured in place.

Figure 5 Securing the HP NJ5000-5G-PoE+



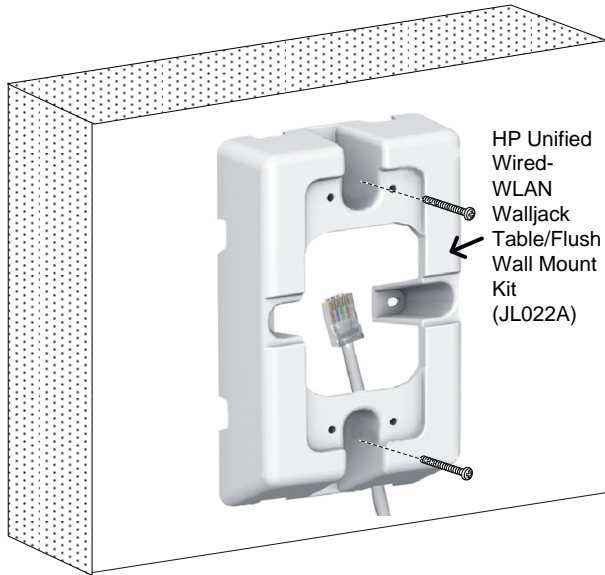
## Installing the switch on a wall

Before installing the HP NJ5000-5G-PoE+ on a wall, make sure the surface of the wall can support a minimum weight of 0.9 kg (2 lbs) and extra cables.

To install the switch on a wall:

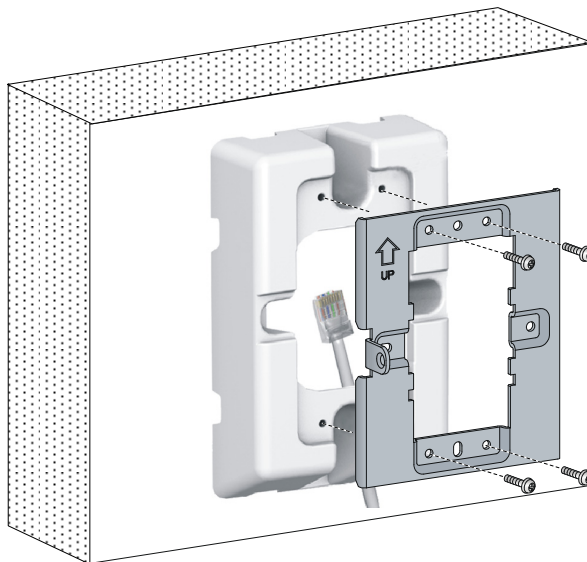
1. Hold the optional unified wired WLAN walljack table/flush wall mount panel in a vertical orientation against the wall where it will be installed. Mark two holes for the screws or user-supplied wall anchors.
2. Use the two supplied screws or user-supplied wall anchors to loosely attach the mount panel to the wall. If using wall anchors, drill two holes, typically 4.7 mm (0.19 in) in diameter, and then insert the anchors.

**Figure 6 Attaching the mount panel to the wall**



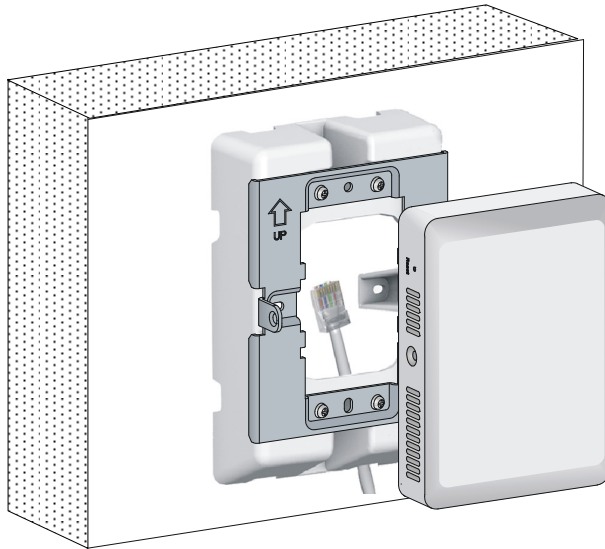
3. Run the required network cable through the top, bottom, or side of the wall mount panel allowing sufficient length for the cable to reach the not-yet installed HP NJ5000-5G-PoE+.
4. Tighten the screws or tap the wall anchors flush with the wall to secure the mount panel to the wall.
5. Place the mounting bracket, with the UP arrow pointing up, on the wall mount panel. Use four mounting screws to secure the bracket to the panel.

**Figure 7 Attaching the mounting bracket to the wall mount panel**



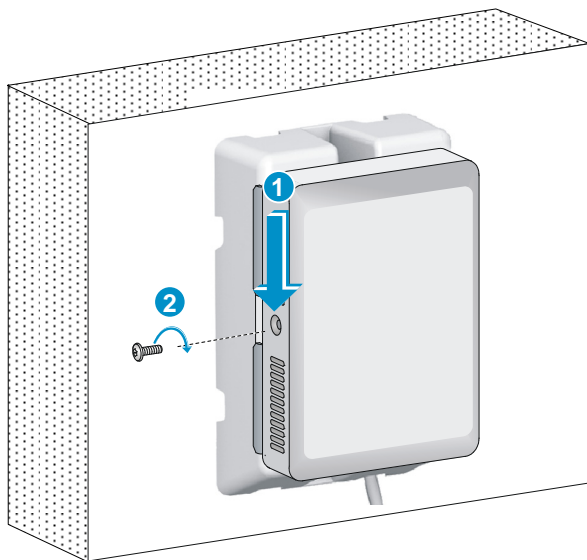
6. Connect the network cable from the panel to the RJ-45 uplink port on the back of the HP NJ5000-5G-PoE+.

**Figure 8 Connecting the network cable**



7. Align the installation hole in the rear of the switch with the standout on the mounting bracket.
8. Push the HP NJ5000-5G-PoE+ onto the mounting bracket, and then slide it down until it is fully engaged. Then secure the switch to the bracket by using the Phillips-head screws or security-head security Torx-10 screws. Do not release the HP NJ5000-5G-PoE+ until you confirm that it is secured in place.

**Figure 9 Securing the HP NJ5000-5G-PoE+**



# Installing the switch on a horizontal surface

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## **△ CAUTION:**

Be sure to install the units in an area that is well ventilated and maintains an ambient temperature of less than 45°C (113°F). Do not install in enclosed spaces or close to or directly above any heat sources or heat-emitting devices. If the installation area has any obstructions to air flow, you must take steps to ensure adequate airflow is maintained. The ventilation slots must not be blocked in any way. Make sure there is a minimum of 15.25 cm (6 inches) of clearance from all vents.

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To install the switch on a horizontal surface:

1. Hold the optional Unified Wired WLAN Walljack Table/Flush Wall Mount panel on the desktop where it will be installed. Mark two holes for the screws.
2. Use the supplied two screws to loosely attach the mount panel to the table.
3. Run the required network cables through the top, bottom, or sides of the mount panel allowing sufficient length for the cables to reach the not-yet installed HP NJ5000-5G-PoE+.
4. Tighten the screws to secure the mount panel to the table.
5. Place the mounting bracket on the mount panel, and then use four mounting screws to secure the bracket to the panel.
6. Connect the network cable from the panel to the RJ-45 Uplink port on the back of the HP NJ5000-5G-PoE+.
7. Push the HP NJ5000-5G-PoE+ onto the mounting bracket, then slide it down until it is fully engaged. Do not release the HP NJ5000-5G-PoE+ until you confirm that it is securely in place.
8. Use the supplied small Phillips head bracket screw or Torx-10 security screw to secure the side of the HP NJ5000-5G-PoE+ to the bracket.
9. Connect cables:
  - Connect equipment that requires PoE to ports 3 and 4.
  - Connect other equipment to ports 1, 2, 3, and 4.

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# Powering the switch

The HP NJ5000-5G-PoE+ can be powered by a PoE-enabled switch or by a compatible PoE Power Injector.

Note: A PoE Power Injector may be convenient for providing local power when initially configuring the device before installation. These HP power injectors are recommended for use with the HP NJ5000-5G-PoE+: J9867A HP Single-Port 802.3at Gigabit PoE In-Line Power Supply and J9407B HP 1-port Power Injector (802.3af PoE power).

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# Accessing the switch for the first time

The HP NJ5000-5G-PoE+ device has a Web-based interface, and also has a Command Line Interface (CLI) accessible through the console port or through Telnet.

The Web-based interface is accessible from a Web browser using the device's assigned IP address.

Access to the CLI through the console port requires a console cable (purchased separately) and requires that the unit not be fully installed as the console port is on the back of the HP N5000-5G-PoE+ device.

To Telnet to the device and use the CLI also requires knowledge of the device's assigned IP address.

Here are three common scenarios for initial switch configuration:

- Install device on a network with a DHCP Server and configure the device from its Web interface or Telnet CLI.
- Install device on a network without a DHCP Server and configure the device from its Web interface or Telnet CLI.
- Configure the device from its console port.

## Connecting the device to a network with a DHCP server and configuring the device from its Web interface

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### NOTE:

For security purposes, HP recommends that you change the login information and assign access permissions immediately after the first successful login.

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Power the NJ5000-5G-PoE+ device and attach it to a network with a DHCP Server.

By default, HTTP and HTTPS are enabled.

By default, the HP NJ5000-5G-PoE+ device is configured to get its IP address from a DHCP server.

You will need to determine the assigned IP address. Here are common methods:

- Go to the DHCP Server and identify the new HP NJ5000-5G-PoE+ and its assigned address. Note: Sometimes the DHCP Server is a service of a specific device, such as a network router or switch with this capability.
- Use the HP Network Discovery Tool downloadable from HP website. This free utility will scan your network and identify the HP NJ5000-5G-PoE+ device and its assigned IP address.

To log in to the Web interface:

1. Use an Ethernet cable to connect the PC or the configuration terminal to an Ethernet port on the device.
2. Assign the login host an IP address in the same subnet as the device.
3. Open the browser, and then enter login information:
  - a. In the address bar, enter the IP address of the device.
    - **HTTP access**—`http://ip-address`
    - **HTTPS access**—`https://ip-address`

The *ip-address* argument represents the IP address of the device.

- b. On the login page, enter the default username (**admin**) and leave blank the password line. You do not need to enter a password at the first login.
- c. Click **Login**.

## Connecting the device to a network without a DHCP server and configuring the device from its Web interface

1. Use an Ethernet cable to connect the PC or the configuration terminal to an Ethernet port on the device.
2. Identify the IP address and mask of the device.

If the device is not connected to the network, or no DHCP server exists on the network, the device uses the default IP address and mask. The default mask is 255.255.0.0. The default IP address is 169.254.xxx.xxx, where xxx.xxx depends on the last two bytes of the MAC address. Find the MAC address label on the device and use the following rules to determine the last two bytes for the IP address:

Last two bytes of the MAC address	Last two bytes for the IP address
All 0s	0.1
All Fs	255.1
Not all 0s or all Fs	Decimal values of the last two bytes of the MAC address

For example:

MAC address	IP address
08004E080000	169.254.0.1
08004E08FFFF	169.254.255.1
08004E082A3F	169.254.42.63 (The decimal value of 2A is 42. The value of 3F is 63.)

3. Assign the login host an IP address in the same subnet as the device.
4. To access the device from a Web browser, open the browser, and then enter login information:
  - a. In the address bar, enter the IP address of the device.
    - **HTTP access**—http://ip-address
    - **HTTPS access**—https://ip-addressThe *ip-address* argument represents the IP address of the device.
  - b. On the login page, enter the default username (**admin**) and leave blank the password line. You do not need to enter a password at the first login.
  - c. Click **Login**.

### Default login settings

Use settings in [Table 2](#) for the first login.



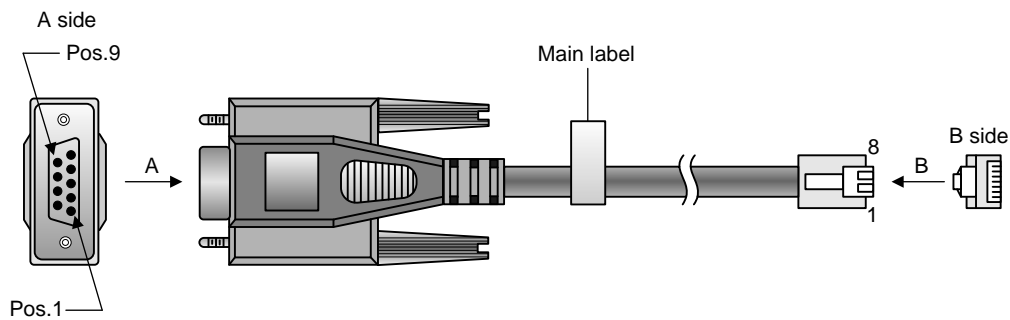
**Table 2 Default login settings**

Item	Setting
Device IP (VLAN-interface 1)	See "Accessing the switch for the first time."
IP address mask	
Username	admin
Password	None

## Configuring the device from a console port

You can use a compatible console cable (RJ-45 to DB-9 console cable) to connect a console terminal, for example, a PC, to the console port on the switch.

**Figure 10 Console cable**



**Table 3 Console cable pinouts**

RJ-45	Signal	DB-9	Signal
1	RTS	8	CTS
2	DTR	6	DSR
3	TXD	2	RXD
4	SG	5	SG
5	SG	5	SG
6	RXD	3	TXD
7	DSR	4	DTR
8	CTS	7	RTS

**NOTE:**

- Identify the mark on the console port and make sure you are connecting to the correct port.
- Console cable is not provided with HP NJ5000-5G-PoE+. The console cable is shipped with many HP products, such as HP 1620, HP 19XX, HP 5120SI, HP 5130EI switches. The part can also be purchased separately on HP parts store PartSurfer (<http://partsurfer.hp.com/>) using the part number 5184-6719.

The following example shows the procedure to connect a PC to the switch:

1. Connect the DB-9 female connector of the console cable to the serial port of the PC.

2. Connect the RJ-45 connector to the console port.

### Setting terminal parameters

Start a terminal application such as HyperTerminal on the computer. Configure the utility with the following parameters:

- **Bits per second**—38400
- **Data bits**—8
- **Parity**—None
- **Stop bits**—1
- **Flow control**—None
- **Emulation**—VT100

Use a console cable to log in to the device through the console port. To identify the address, log in to the device through the console port, and then execute the **display ip interface brief** command. The following is the sample output:

```
<HP> display ip interface brief
*down: administratively down
(s): spoofing
Interface                Physical Protocol IP Address      Description
Vlan1                    up        up        169.254.54.32  Vlan-interface1
<HP>
```

## Configuring the device through Telnet

You can Telnet to the device for remote management.

To control Telnet access to the device operating as a Telnet server, configure login authentication and user privilege levels for Telnet users.

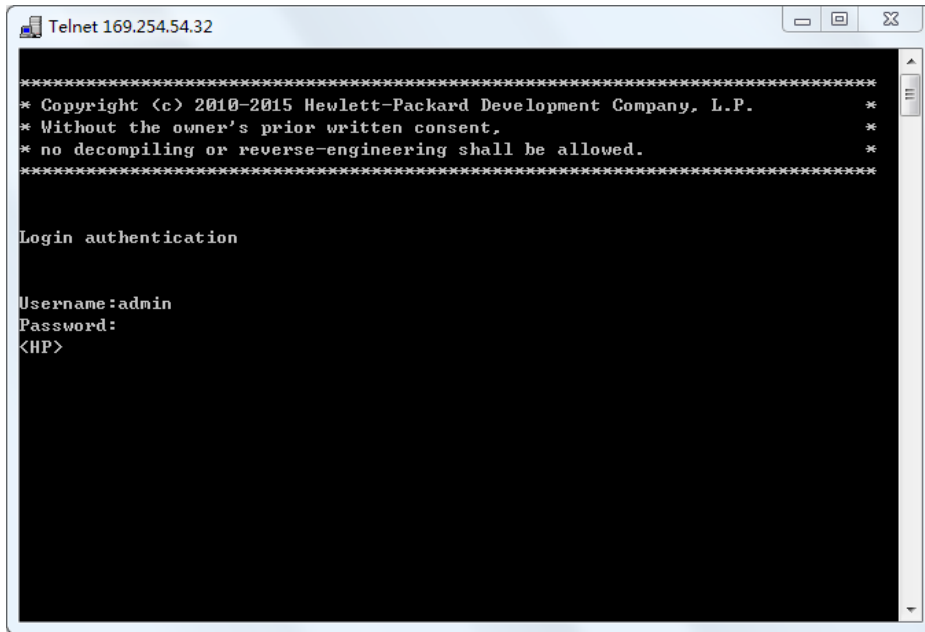
The following is the default login settings.

**Table 4 Default login settings**

Item	Setting
telnet server	enable
authentication-mode	scheme
authorization-attribute level	3
Username	admin
Password	None

When you telnet to the CLI, you must input the correct username (admin) and password is none, as shown in [Figure 11](#).

Figure 11 Telnet login



```
Telnet 169.254.54.32
*****
* Copyright (c) 2010-2015 Hewlett-Packard Development Company, L.P.
* Without the owner's prior written consent,
* no decompiling or reverse-engineering shall be allowed.
*****

Login authentication

Username:admin
Password:
<HP>
```

---

# Setting the operation mode

The switch can operate in managed mode (the default) or unmanaged mode.

You can change the switch operation mode by using one of the following methods:

- Use the reset button to change the operation mode.
  - a. Insert a pin or paper clip into the reset button hole.
  - b. Press and hold the button for 7 to 12 seconds until the management mode LED flashes (10 times per second).
  - c. Release the button. The management mode LED enters the target mode. If the LED is on, the switch operates in managed mode. If the LED is off, the switch operates in unmanaged mode. After the operation mode is changed, the switch starts saving configuration files. During the saving process, the Power LED flashes once per second and the reset button is unavailable for other operations. After the saving process is completed, the Power LED stops flashing.

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## NOTE:

To prevent damages to the flash memory, only the first 10 mode change operations after the reboot can cause configuration saving.

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- Connect to the console port of the switch and execute the following commands at the CLI:

```
<HP> system-view
[HP] manage-mode on          /* Managed mode */
[HP] undo manage-mode on    /* Unmanaged mode */
```

When the switch operates in unmanaged mode, you cannot configure the switch.

When the switch operates in managed mode, you can configure the switch at the CLI or the Web interface. HP recommends that you use the Web interface.

For more information about switch configuration, see *HP NJ5000-5G-PoE+ Switch Series User Guide*.

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# Support and other resources

## Contacting HP

For worldwide technical support information, see the HP support website:

<http://www.hp.com/support>

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers
- Error messages
- Operating system type and revision level
- Detailed questions

## Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website:

<http://www.hp.com/go/wwalerts>

After registering, you will receive email notification of product enhancements, new driver versions, firmware updates, and other product resources.

## Related information

### Documents

To find related documents, browse to the Manuals page of the HP Business Support Center website:

<http://www.hp.com/support/manuals>

- For related documentation, navigate to the Networking section, and select a networking category.
- For a complete list of acronyms and their definitions, see *HP FlexNetwork Technology Acronyms*.

### Websites

- HP.com <http://www.hp.com>
- HP Networking <http://www.hp.com/go/networking>
- HP manuals <http://www.hp.com/support/manuals>
- HP download drivers and software <http://www.hp.com/support/downloads>
- HP software depot <http://www.software.hp.com>
- HP Education <http://www.hp.com/learn>

# Conventions

This section describes the conventions used in this documentation set.





## Command conventions

Convention	Description
<b>Boldface</b>	<b>Bold</b> text represents commands and keywords that you enter literally as shown.
<i>Italic</i>	<i>Italic</i> text represents arguments that you replace with actual values.
[ ]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x   y   ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[ x   y   ... ]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x   y   ... } *	Asterisk-marked braces enclose a set of required syntax choices separated by vertical bars, from which you select at least one.
[ x   y   ... ] *	Asterisk-marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

## GUI conventions






Convention	Description
<b>Boldface</b>	Window names, button names, field names, and menu items are in bold text. For example, the <b>New User</b> window appears; click <b>OK</b> .
>	Multi-level menus are separated by angle brackets. For example, <b>File &gt; Create &gt; Folder</b> .

## Symbols

Convention	Description
 <b>WARNING</b>	An alert that calls attention to important information that if not understood or followed can result in personal injury.
 <b>CAUTION</b>	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
 <b>IMPORTANT</b>	An alert that calls attention to essential information.
<b>NOTE</b>	An alert that contains additional or supplementary information.
 <b>TIP</b>	An alert that provides helpful information.

## Network topology icons

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	Represents a generic network device, such as a router, switch, or firewall.
	Represents a routing-capable device, such as a router or Layer 3 switch.
	Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.
	Represents an access controller, a unified wired-WLAN module, or the switching engine on a unified wired-WLAN switch.
	Represents an access point.

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## Port numbering in examples

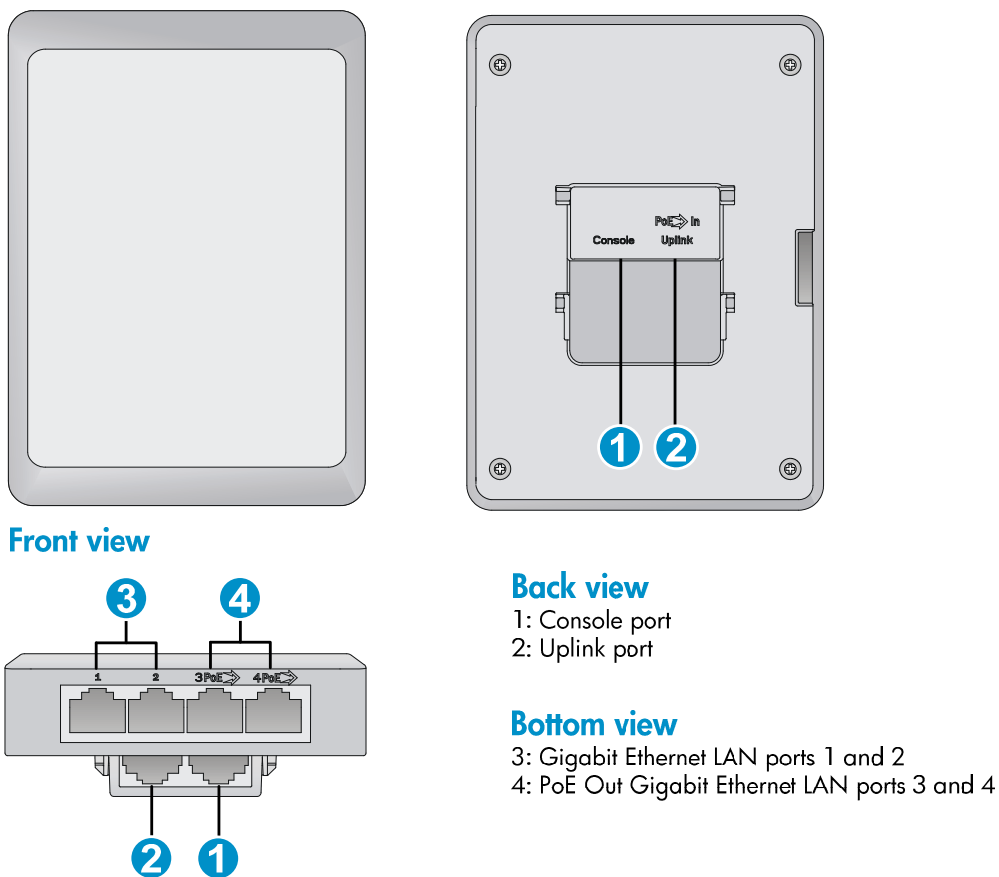
The port numbers in this document are for illustration only and might be unavailable on your device.

# Appendix A Chassis views and technical specifications

## Overview

Figure 12 shows the front, back, and bottom views of the HP NJ5000-5G-PoE+.

Figure 12 HP NJ5000-5G-PoE+ views



## Ports

- **Four Gigabit Ethernet LAN ports**—Auto-sensing 1000BASE-T Ethernet ports with RJ-45 connectors. Two ports provide IEEE 802.3af or 802.3at power over Ethernet (PoE) to supply power to PD devices.
- **One Gigabit Ethernet uplink port**—An auto-sensing 1000BASE-T Ethernet port with an RJ-45 connector.



- **One console port**—For HP-directed debugging and customizing. The console port is located at the back of the unit.

## Reset button

The reset button is accessible through a hole on the side panel of the HP NJ5000-5G-PoE+.

To reboot the HP NJ5000-5G-PoE+:

1. Insert a pin or paper clip into the reset button hole.
2. Press and hold the button for 1 to 5 seconds.
3. Release the button.

To change the operation mode for the HP NJ5000-5G-PoE+:

1. Insert a pin or paper clip into the reset button hole.
2. Press and hold the button for 7 to 12 seconds until the management mode LED flashes (10 times per second).
3. Release the button. The management mode LED enters the target mode. If the LED is on, the switch operates in managed mode. If the LED is off, the switch operates in unmanaged mode.

To reset the HP NJ5000-5G-PoE+ to factory defaults:

1. Insert a pin or paper clip into the reset button hole.
1. Press and hold the button for more than 15 seconds until the status LEDs (Power and Uplink) flash.
2. Release the button.

## Weights and dimensions

Item	Description
Height	120 mm (4.72 in)
Width	86 mm (3.39 in)
Depth	35 mm (1.38 in)
Weight	200 g (7.05 oz)

## Power consumption

Chassis	Minimum power consumption	Maximum power consumption
HP NJ5000-5G-PoE+	6.7 W	26.8 W

## Storage media and memory specifications

Item	Description
Flash	32 MB

Item	Description
Memory	128 MB

## Power specifications

Item	Description
PoE In	Supports 802.3at and 802.3af PoE
PoE Out	<ul style="list-style-type: none"> <li>In 802.3at (PoE+) power supply mode, the switch can provide 802.3at class 0 (15.4 W) or class 3 (15.4 W) PoE power on port 3 or 4. It can provide 802.3at class 1 (4 W) or class 2 (7 W) PoE power on ports 3 and 4.</li> <li>In standard 802.3af power supply mode, the switch can provide 802.3af class 1 (4 W) PoE power on port 3 or 4.</li> </ul>

# Appendix B LEDs

Figure 13 shows the status LEDs on the HP NJ5000-5G-PoE+.

Figure 13 LED

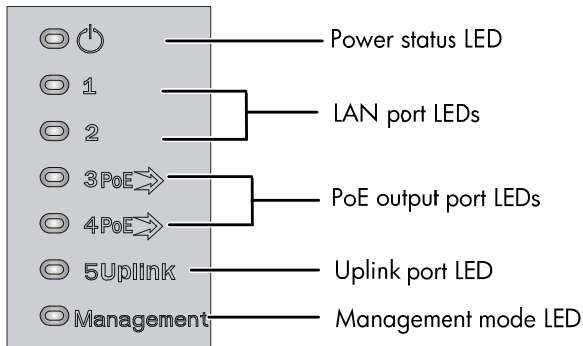


Table 5 LED status descriptions

LED	Status	Description
Power status LED	Steady green	The switch is powered by 802.3at PoE+ and the power supply is operating correctly.
	Flashing green	The switch is powered on and is performing a self-test.
	Slow flashing green	The switch is powered by 802.3af PoE and the power supply is operating correctly.
	Off	The switch is not powered on or the power supply is faulty.
	Steady red	An important failure has occurred.
LAN port LED	Steady green	A link is present.
	Flashing green	The port is receiving or sending data.
	Off	No link is present.
PoE output port LED	Steady green	A link is present (no PoE).
	Steady amber	A link is present (PoE).
	Flashing green	The port is sending or receiving data (no PoE).
	Flashing amber	The port is sending or receiving data (PoE).
	Slow flashing amber	The PoE power supply is faulty.
	Off	No link is present.
Uplink port LED	Steady green	A link is present.
	Flashing green	The port is sending or receiving data.
	Off	No Link is present.
Management mode LED	On	The switch is operating in managed mode.
	Off	The switch is operating in unmanaged mode.