

# HPE FlexNetwork NJ5000 5G PoE+ Walljack Switch

**Getting Started Guide** 

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# **Preparing for installation**

### (!) IMPORTANT:

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

The HPE FlexNetwork NJ5000 5G PoE+ Walljack Switch is hereinafter referred to as the switch.

# General safety recommendations

To avoid possible bodily injury or equipment damage, read the following safety recommendations before you install the switch. 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 switch 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**

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

# Accessories provided with the switch

	¥ 1
Wall-mounting bracket	Ethernet network cable
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	×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	در ۲ × ۱
M2.9 x 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.

# Installing the switch

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

You can also install the switch using the optional HPE 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 the switch. 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 switch.

### Figure 3 Connecting the network cable



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



4. Push the switch 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 switch until you confirm that it is secured in place.

#### Figure 5 Securing the switch



### Installing the switch on a wall

Before installing the switch 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 switch.
- 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 switch.

#### 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 switch 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 switch until you confirm that it is secured in place.

#### Figure 9 Securing the switch



# Installing the switch on a horizontal surface

### $\triangle$ 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.

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 switch.
- 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 switch.
- 7. Push the switch onto the mounting bracket, and then slide it down until it is fully engaged. Do not release the switch 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 switch 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.

# **Powering the switch**

The switch 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 HPE power injectors are recommended for use with the switch: J9867A HPE Single-Port 802.3at Gigabit PoE In-Line Power Supply and J9407B HPE 1-port Power Injector (802.3af PoE power).

# Accessing the switch for the first time

The switch 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 switch.

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

### NOTE:

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

Power the switch and attach it to a network with a DHCP Server.

By default, HTTP and HTTPS are enabled.

By default, the switch 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 switch 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 HPE Network Discovery Tool downloadable from Hewlett Packard Enterprise website. This free utility will scan your network and identify the switch 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-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.

## Default login settings

Use settings in Table 2 for the first login.

### Table 2 Default login settings

Item	Setting	
Device IP (VLAN-interface 1)		
IP address mask	See "Accessing the switch for the first time."	

Item	Setting
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



Pos.1-

#### 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	СТЅ	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 the switch. The console cable is shipped with many HPE products, such as HPE 1620, HPE 19XX, HPE 5120SI, HPE 5130EI switches. The part can also be purchased separately on HPE parts store PartSurfer (<u>http://partsurfer.hpe.com/</u>) 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:

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

### 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



# 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.

#### NOTE:

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

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

<HPE> system-view
[HPE] manage-mode on /\* Managed mode \*/
[HPE] 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. Hewlett Packard Enterprise recommends that you use the Web interface.

For more information about switch configuration, see HPE FlexNetwork NJ5000 5G PoE+ Walljack Switch User Guide.

# **Document conventions and icons**

# Conventions

This section describes the conventions used in the documentation.

### Port numbering in examples

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

### **Command conventions**

Convention	Description
Boldface	Bold text represents commands and keywords that you enter literally as shown.
Italic	Italic 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
Boldface	Window names, button names, field names, and menu items are in Boldface. 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
	An alert that calls attention to important information that if not understood or followed can result in personal injury.
$\Delta$ caution:	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.
() IMPORTANT:	An alert that calls attention to essential information.
NOTE:	An alert that contains additional or supplementary information.
<sup>™</sup> Ω <sup>™</sup> TIP:	An alert that provides helpful information.

# Network topology icons

Convention	Description
	Represents a generic network device, such as a router, switch, or firewall.
ROUTER	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 access controller engine on a unified wired-WLAN switch.
(67.3)	Represents an access point.
<b>T</b> • <b>)</b> )	Represents a wireless terminator unit.
( <b>T</b> )	Represents a wireless terminator.
	Represents a mesh access point.
u))))	Represents omnidirectional signals.
	Represents directional signals.
	Represents a security product, such as a firewall, UTM, multiservice security gateway, or load balancing device.
<b>*</b>	Represents a security card, such as a firewall, load balancing, NetStream, SSL VPN, IPS, or ACG card.

# Support and other resources

# Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website: <u>www.hpe.com/assistance</u>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

www.hpe.com/support/hpesc

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

# Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates, go to either of the following:
  - Hewlett Packard Enterprise Support Center Get connected with updates page: <u>www.hpe.com/support/e-updates</u>
  - Software Depot website: <u>www.hpe.com/support/softwaredepot</u>
- To view and update your entitlements, and to link your contracts, Care Packs, and warranties with your profile, go to the Hewlett Packard Enterprise Support Center More Information on Access to Support Materials page:

www.hpe.com/support/AccessToSupportMaterials

### (!) IMPORTANT:

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.

### Websites

Website	Link
Networking websites	
Hewlett Packard Enterprise Information Library for Networking	www.hpe.com/networking/resourcefinder
Hewlett Packard Enterprise Networking website	www.hpe.com/info/networking
Hewlett Packard Enterprise My Networking website	www.hpe.com/networking/support
Hewlett Packard Enterprise My Networking Portal	www.hpe.com/networking/mynetworking
Hewlett Packard Enterprise Networking Warranty	www.hpe.com/networking/warranty
General websites	
Hewlett Packard Enterprise Information Library	www.hpe.com/info/enterprise/docs
Hewlett Packard Enterprise Support Center	www.hpe.com/support/hpesc
Hewlett Packard Enterprise Support Services Central	ssc.hpe.com/portal/site/ssc/
Contact Hewlett Packard Enterprise Worldwide	www.hpe.com/assistance
Subscription Service/Support Alerts	www.hpe.com/support/e-updates
Software Depot	www.hpe.com/support/softwaredepot
Customer Self Repair (not applicable to all devices)	www.hpe.com/support/selfrepair
Insight Remote Support (not applicable to all devices)	www.hpe.com/info/insightremotesupport/docs

### Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

www.hpe.com/support/selfrepair

### Remote support

Remote support is available with supported devices as part of your warranty, Care Pack Service, or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

For more information and device support details, go to the following website:

www.hpe.com/info/insightremotesupport/docs

### Documentation feedback

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part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

# Appendix A Chassis views and technical specifications

### Overview

Figure 12 shows the front, back, and bottom views of the switch.

### Figure 12 Switch views





### **Front view**



### Back view

1: Console port 2: Uplink port

### **Bottom view**

3: GigabitEthernet LAN ports 1 and 2

4: PoE output GigabitEthernet LAN ports 3 and 4

### 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 debugging and customizing directed by Hewlett Packard Enterprise. 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 switch.

To reboot the switch:

- 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 switch:

- 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 switch to factory defaults:

- 1. Insert a pin or paper clip into the reset button hole.
- **2.** Press and hold the button for more than 15 seconds until the status LEDs (Power and Uplink) flash.
- 3. 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

Item	Description
Minimum power consumption	6.7 W
Maximum power consumption	26.8 W

### Storage media and memory specifications

Item	Description
Flash	32 MB
Memory	128 MB

# Power specifications

Item	Description	
PoE In	Supports 802.3at and 802.3af PoE	
PoE Out	<ul> <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</li> </ul>	
	provide 802.3af class 1 (4 W) PoE power on port 3 or 4.	

# **Appendix B LEDs**

Figure 13 shows the status LEDs on the switch.

### Figure 13 LED



### Table 5 LED status descriptions

LED	Status	Description
	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.
Power status LED	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.
	Steady green	A link is present.
LAN port LED	Flashing green	The port is receiving or sending data.
	Off	No link is present.
	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	On	The switch is operating in managed mode.
LED	Off	The switch is operating in unmanaged mode.