Overview

HPE FlexNetwork NJ5000 Walljack Switch Series

Models

HPE FlexNetwork NJ5000 5G PoE+ Walljack	JH237A

Key features

- Innovative switch with in-the-wall installation
- Easy, secure port expansion without new cabling
- PoE or PoE+ powered with PoE forwarding on up to 2 ports
- Supports both fully-managed and unmanaged modes
- Limited Lifetime warranty

Product overview

The HPE FlexNetwork NJ5000 Walljack Switch Series is a compact 10/100/1000 switch that can be installed in a standard wall outlet box, quickly converting an existing single-port LAN wall outlet into four switched Gigabit Ethernet ports. This walljack can provide a simple solution for adding network ports without running more cabling. Unlike conventional desktop switches, the NJ5000 resides out of the way—literally in-the-wall—and so are more secure from theft and difficult to accidentally disconnect or damage.

The innovative HPE FlexNetwork NJ5000 walljack provides four Ethernet ports for local connectivity plus one uplink port. It can be powered via standard PoE+ (IEEE 802.3at) or PoE (IEEE 802.3af), with capability of forwarding PoE on up to two ports to directly power attached devices such as IP phones or wireless access points.

The NJ5000 Walljack supports Layer 2 switching, with features like VLANs, Spanning Tree, RSTP, and MSTP. It comes with full enterprise-class management capability via the SNMP, CLI, and Web GUI, with flexibility of changing to unmanaged mode for plug-and-play simple deployment. The switch includes a limited lifetime warranty.

Features and benefits

Connectivity

- **5-port GbE wirespeed switching**
  five ports of Gigabit switching; one designated uplink on the inside and four front ports facing downward.
- **PoE / PoE+ powered device**
  Device is powered by Power over Ethernet. This simplifies set-up in a PoE-enabled environment. Compatible with IEEE 802.3af PoE or 802.3at PoE+. User must provide a standards-compliant PoE switch or PoE power injector.
- **Auto MDI/MDI-X**
  adjusts automatically for straight-through or crossover cables on all 10/100/1000 ports
- **Half duplex and full duplex auto-negotiation on all ports**
  Maximizes the performance through the network by taking advantage of full duplex operation.
- **IEEE 802.3X flow control**
  provides a flow throttling mechanism propagated through the network to prevent packet loss at a congested node
- **Jumbo packet support**
  supports up to 9600-byte frame size to improve the performance of large data transfers

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- **Cable diagnostics**
  detects cable issues remotely using a browser-based tool

Layer 2 switching

- **8K MAC addresses**
  provide access to many Layer 2 devices
- **Spanning Tree Protocol (STP)**
  supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- **VLAN support and tagging**
  supports up to 64 port-based VLANs and dynamic configuration of IEEE 802.1Q VLAN tagging, providing security between workgroups
- **BPDU filtering**
  drops BPDU packets when STP is enabled globally but disabled on a specific port
- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping**
  controls and manages the flooding of multicast packets in a Layer 2 network

Quality of Service (QoS)

- **Traffic prioritization**
  provides time-sensitive packets (like VoIP and video) with priority over other traffic based on DSCP or IEEE 802.1p classification; packets are mapped to eight hardware queues for more effective throughput
- **Advanced Classifier based QoS**
  classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port basis
- **Broadcast control**
  allows limitation of broadcast traffic rate to cut down on unwanted network broadcast traffic
- **Rate limiting**
  sets per-port ingress enforced maximums and per-port, per-queue minimums
- **Powerful QoS feature**
  supports the following congestion actions: strict priority queuing (SP), weighted round robin (WRR) queuing, and SP+WRR
- **Selectable queue configuration**
  allows for the adjustment of queue priority to optimize traffic flow and increase performance. Select the number of queues and associated memory buffering that best meet the requirements of the network applications.

Security

- **Advanced access control lists (ACLs)**
  enables network traffic filtering and enhances network control using MAC- and IP-based ACLs; time-based ACLs allow for greater flexibility with managing network access
- **IEEE 802.1X and RADIUS network logins**
  controls port-based access for authentication and accountability
- **Port security**
  combines and extends IEEE 802.1X and MAC authentication to provide MAC-based network access control
- **Secure Socket Layer (SSL)**
  encrypts all HTTP traffic, allowing safe access to the browser-based management GUI in the switch
- **Port isolation**

Overview

The port isolation feature isolates Layer 2 traffic for data privacy and security without using VLANs. This feature can also be used to isolate the hosts in a VLAN from one another.

- A**RP attack protection**
  The ARP detection feature enables access devices to block ARP packets from unauthorized clients to prevent user spoofing and gateway spoofing attacks.
- **Automatic VLAN assignment**
  assigns users automatically to the appropriate VLAN based on their identity, location and time of day
- **STP BPDU port protection**
  blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **STP root guard**
  protects the root bridge from malicious attacks or configuration mistakes
- **Automatic denial-of-service protection**
  monitors for malicious attacks and protects the network by blocking the attacks
- **Management password**
  provides security so that only authorized access to the Web browser interface is allowed

M**anagement**

- **Command-line interface (CLI)**
  provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **Secure Web GUI**
  provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- **Console port**
  Simplified setup and initial configuration using an RJ45 console port.
- **SNMPv1, v2c, and v3**
  facilitates management of the switch, as the device can be discovered and monitored from an SNMP management station
- **Network management**
  HPE Intelligent Management Center (IMC) centrally configures, updates, monitors, and troubleshoots
- **Management security**
  restricts access to critical configuration commands; offers multiple privilege levels with password protection; ACLs secure Telnet and SNMP access; local and remote syslog capabilities can log administrative actions
- **Network Time Protocol (NTP)**
  synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- **Dual flash images**
  provides independent primary and secondary operating system files for backup while upgrading
- **FTP, TFTP, and SFTP support**
  offers different mechanisms for configuration updates; FTP allows bidirectional transfers over a TCP/IP network; trivial FTP (TFTP) is a simpler method using User Datagram Protocol (UDP); Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security
- **Remote monitoring (RMON)**
  uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **Telnet/SSH support**
  provides a secure access to remotely manage the device through a command-line interface

Convergence

Overview

- **LLDP-MED (Media Endpoint Discovery)**
  defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **PSE PoE forwarding**
  Device can forward PoE power to attached downstream devices. If powered by a PoE+ switch or power injector, unit can power two attached devices with a total power budget of 15.4 watts; if powered by a PoE switch or injector, unit can power one attached device with a total power budget of 4 Watts.
- **PoE allocations**
  supports multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user-specified) to allocate PoE power for more efficient energy savings
- **Auto voice VLAN**
  recognizes IP phones and automatically assigns voice traffic to dedicated VLAN for IP phones

Additional information

- **Green initiative support**
  provides support for RoHS and WEEE regulations
- **Green IT and power**
  improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports, reducing energy costs
- **Energy Efficient Ethernet**
  Compliant with IEEE 802.3az standard requirements to save energy during periods of low data activity.

W**arranty and support**

- **Limited Lifetime Warranty**
  See **http://www.hpe.com/networking/warrantysummary** for warranty and support information included with your product purchase.

Configuration

Build To Order: BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

HPE FlexNetwork NJ5000 5G PoE+ Walljack JH237A

- 1 RJ-45 autosensing 10/100/1000 WAN port
- 4 RJ-45 autosensing 10/100/1000 WAN LAN ports
- PoE Power Only - Forwarding PoE on 2 Ports

Remarks:

Configurator Blue Text: A console cable is not provided with the HP NJ5000-5G-PoE+ Walljack. The console cable that works with the HPE FlexNetwork NJ5000 5G PoE+ Walljack, 5184-6719, is shipped with many HPE products, such as the following switches: HPE 1620, HPE 19XX, HPE 5120SI and HPE 5130EI. The cable can also be purchased separately on the HP parts store PartSurfer using part number 5184-6719.

Internal Power Supplies

None

NJ5000-5G-PoE+ Walljack Options

External Power Supplies

HP Single-Port 802.3at Gigabit PoE In-Line Power Supply J9867A See Configuration **NOTE:**1, 3

HP 1-port Power Injector J9407B See Configuration **NOTE:**2, 3

Configuration Rules:

Note 1 This power supply is supported on the following Walljacks:
HPE FlexNetwork NJ5000 5G PoE+ Walljack JH237A

Note 2 Using this 1-port Power Injector will only enable Class 1e PoE Output port on the HPE FlexNetwork NJ5000 5G PoE+ Walljack. It is recommended you use the J9867A - HP Single-PRT 802.3at Gig PoE PS instead:

Configuration

	HPE FlexNetwork NJ5000 5G PoE+ Walljack	JH237A
Note 3	Localization required. (See Localization Menu)	

Optional Mounting Kit

HP Unified Wired-WLAN Walljack Table / Flush Wall Mount Kit	JL022A See Configuration **NOTE:1**

Configuration Rules:

Note 1	This Mounting Kit is supported on the following Walljacks:	
	HPE FlexNetwork NJ5000 5G PoE+ Walljack	JH237A

Technical Specifications

HPE FlexNetwork NJ5000 5G PoE+ Walljack (JH237A)

I/O ports and slots	5 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Supports a maximum of 5 autosensing 10/100/1000 ports	
Additional ports and slots	1 RJ-45 serial console port	
Physical characteristics	**Dimensions**	3.39(w) x 1.38(d) x 4.72(h) in (8.6 x 3.5 x 12 cm)
	Weight	0.44 lb (0.2 kg)
Memory and processor	SingleCore @ 500 MHz, 32 MB flash; Packet buffer size: 512 KB, 128 MB DDR SODIMM	
Mounting and enclosure	Mounts in a standard wall outlet box or on optional Flush Mount / Desktop Mount kit.	
Performance	**100 Mb Latency**	< 40 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 8 µs (LIFO 64-byte packets)
	Throughput	up to 7.4 Mpps (64-byte packets)
	Switching capacity	10 Gbps
	MAC address table size	8192 entries
Reliability	**MTBF (years)**	50
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 16,404 ft (5 km)
	Acoustic	Pressure: 0 dB No Fan
Electrical characteristics	**Description**	The device is powered by a standard IEEE 802.3af PoE or IEEE 802.3at PoE+ power source. Local DC power is not supported. User must provide a standards-compliant PoE / PoE+ switch or power injector in order to power this device.
	Voltage	Powered by PoE
	Maximum power rating	26.8 W
	Idle power	6.7 W
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	CSA 22.2 No. 60950; EN 60950/IEC 60950; UL 60950	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; EN 61000-3-2 2000, 61000-3-3; ICES-003 Class A	

Technical Specifications

Management	IMC - Intelligent Management Center; Command-line interface; Web browser; SNMP manager; IEEE 802.3 Ethernet mib
Notes	Device does not come with a power adapter for local powering. Only powered by Power over Ethernet, either a PoE+ or PoE switch or a PoE power injector. Power source must be provided by the user. Console cable is not provided with HP NJ5000-5G-PoE+. The console cable 5184-6719 is shipped with many Hewlett Packard Enterprise products, such as HP 1620, HP 19XX, HP 5120SI and HP 5130EI switches. The part can also be purchased separately on HP parts store PartSurfer.
Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office

Standards and protocols (applies to all products in series)

General protocols

IEEE 802.1D Spanning Tree Protocol
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1W Rapid Spanning Tree Protocol
IEEE 802.3 Type 10BASE-T
IEEE 802.3ab 1000BASE-T
IEEE 802.3af Power over Ethernet
IEEE 802.3at Power over Ethernet Plus
IEEE 802.3az Energy Efficient Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3x Flow Control

MIBs

RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2021 RMONv2 MIB
RFC 2233 Interface MIB
RFC 2233 Interfaces MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB
RFC 2667 IP Tunnel MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3418 MIB for SNMPv3

Network management

Technical Specifications

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1157 SNMPv1
RFC 1215 SNMP Generic traps
RFC 2571 SNMP Management Frameworks
RFC 2572 SNMPv3 Message Processing
RFC 2573 SNMPv3 Applications
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
RFC 3415 SNMPv3 View-based Access Control Model VACM)
RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)

QoS/CoS

IEEE 802.1p (CoS)
RFC 2474 DiffServ Precedence, including 8 queues/port

Security

IEEE 802.1X Port Based Network Access Control

Accessories

HPE FlexNetwork NJ5000 Walljack Switch Series accessories

Power Supply

HP 1-port Power Injector	J9407B
HP Single-Port 802.3at Gigabit PoE In-Line Power Supply	J9867A

Mounting Kit

HP Unified Wired-WLAN Walljack Table / Flush Wall Mount Kit	JL022A

Summary of Changes

Date	Version History	Action	Description of Change
06-Jun-2016	From Version 3 to 4	Changed	Document name changed to HPE FlexNetwork NJ5000 Walljack Switch Series. Product description updated.
01-Dec-2015	From Version 2 to 3	Changed	Overview and Technical Specifications updated
28-Aug-2015	From Version 1 to 2	Changed	Minor change made on Features and Benefits.

Summary of Changes

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To learn more, visit: **http://www.hpe.com/networking**

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