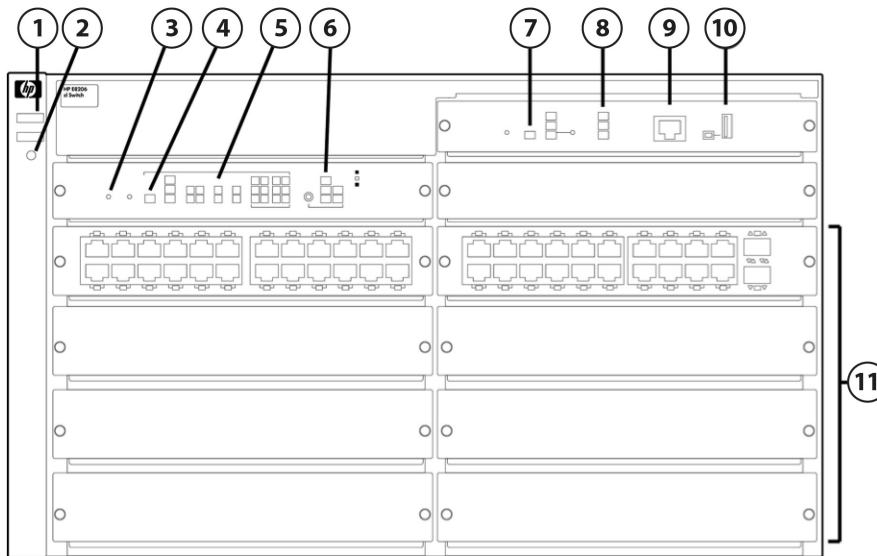


Overview

Product overview

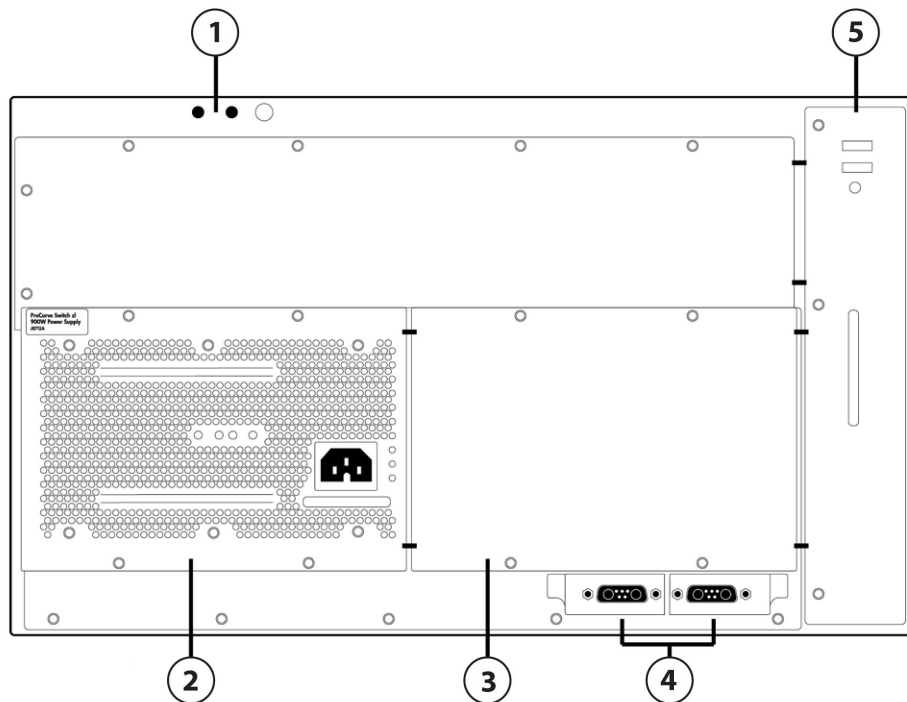
The HP 8200 zl Switch Series offers high performance, scalability, and a wide range of features in a high-availability platform that dramatically reduces complexity and provides reduced cost of ownership. As part of a unified wired and wireless network infrastructure solution, the 8200 zl switch series provides platform technology, system software, system management, application integration, wired and wireless integration, network security, and support that are common across HP modular and fixed-port switches. Together, they deliver an agile, cost-effective, high-availability network solution. With key technologies to provide solution longevity, the 8200 zl switch series is built to deliver long-term investment protection without added complexity for network core, aggregation, and high-availability access layer deployments. It provides these capabilities while bringing to market the industry's first highly available switch with a lifetime warranty.



Front of 8206 zl Switch J9638A

- | | | | |
|---|--|----|---|
| 1 | Power and Fault LEDs | 7 | Management Module Reset button, and Status LEDs |
| 2 | Locator LED | 8 | Component Status LEDs Switch |
| 3 | Reset and Clear buttons | 9 | Console Port |
| 4 | Self Test LED | 10 | Auxiliary Port |
| 5 | Status LEDs for the Fans, Power Supplies, and Switch Modules | 11 | Switch Modules and slots with Link and Mode LEDs for each port located on each module |
| 6 | LED Mode Select button and indicator LEDs | | |

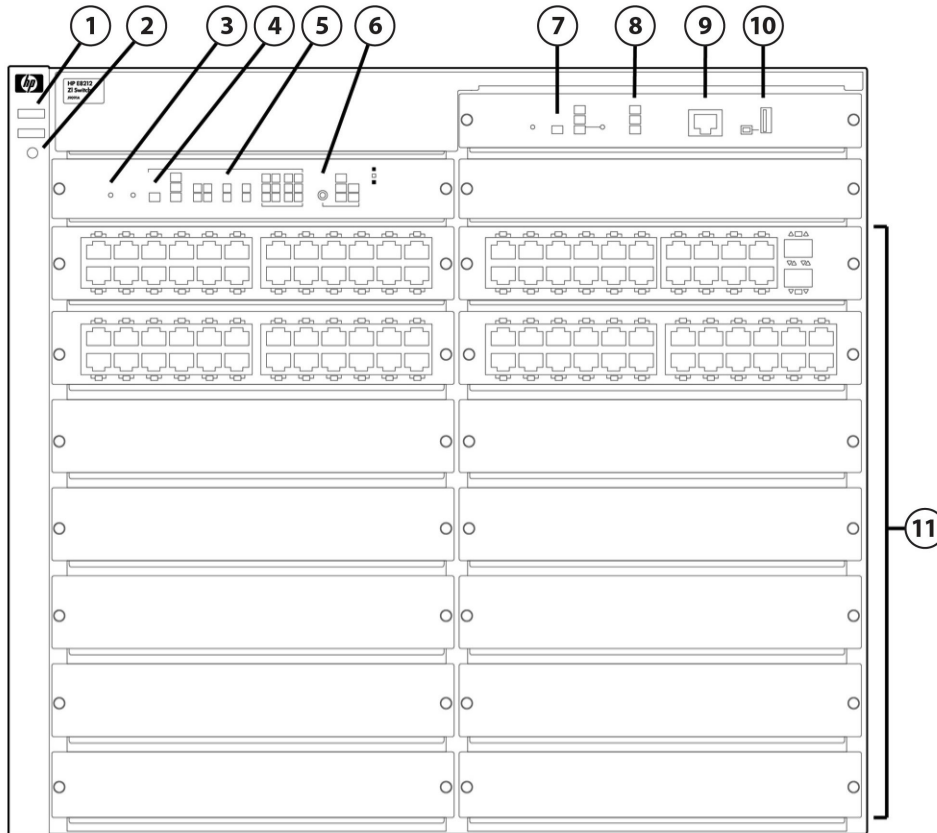
Overview



Back of the 8206zL Switch J9638A

- | | | | |
|---|---------------------------------------|---|------------------------------------|
| 1 | Grounding lug mounting holes External | 4 | External PoE/PoE+ power connectors |
| 2 | Power supply | 5 | Fan Power, Fault and Locator LEDs |
| 3 | Optional redundant power supply | | |

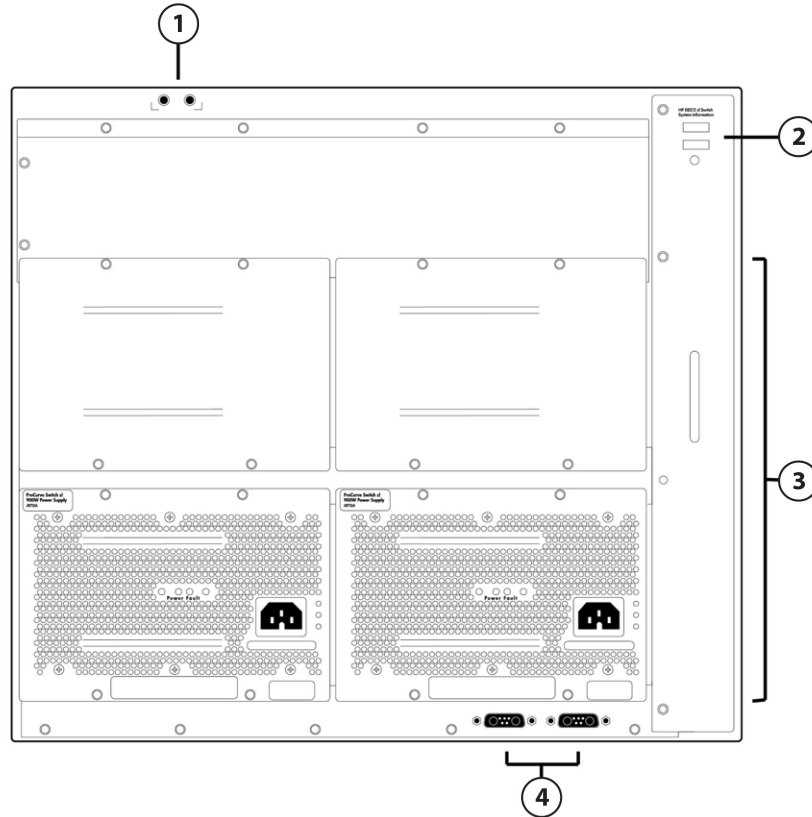
Overview



Front of 8212 zL Switch J9639A

- | | | | |
|---|--|----|---|
| 1 | Power and Fault LEDs | 7 | Management Module Reset button, and Status LEDs |
| 2 | Locator LED | 8 | Component Status LEDs Switch |
| 3 | Reset and Clear buttons | 9 | Console Port |
| 4 | Self Test LED | 10 | Auxiliary Port |
| 5 | Status LEDs for the Fans, Power Supplies, and Switch Modules | 11 | Switch Modules and slots with Link and Mode LEDs for each port located on each module |
| 6 | LED Mode Select button and indicator LEDs | | |

Overview



Rear of 8212 zlSwitch J9639A

- | | | | |
|---|---------------------------------------|---|-------------------------------------|
| 1 | Grounding lug mounting holes External | 3 | Slots for installing power supplies |
| 2 | Fan Power, Fault and Locator LEDs | 4 | External PoE/PoE+ power connectors |

Key features

- Core, distribution, mission-critical access layer
- Advanced high-availability AllianceONE integrated
- Layer 2 to 4 and intelligent edge feature set
- Enterprise-class performance and security
- Scalable 10/100/1000 and 10 GbE connectivity

Features and Benefits

Software-defined networking

- **NEW OpenFlow**
supports OpenFlow 1.0 and 1.3 specifications to enable SDN by allowing separation of the data (packet forwarding) and control

Overview

(routing decision) paths

Quality of Service (QoS)

- **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 or per-VLAN basis
- **Layer 4 prioritization**
enables prioritization based on TCP/UDP port numbers
- **Traffic prioritization**
allows real-time traffic classification into eight priority levels mapped to eight queues
- **Bandwidth shaping**
 - **Port-based rate limiting**
provides per-port ingress-/egress-enforced increased bandwidth
 - **Classifier-based rate limiting**
uses an access control list (ACL) to enforce increased bandwidth for ingress traffic on each port
 - **Reduced bandwidth**
provides per-port, per-queue egress-based reduced bandwidth
- **Class of Service (CoS)**
sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

HP AllianceONE integration

- **HP AllianceONE Services zl Module**
allows you to embed applications directly into the network, either distributed throughout the network at the network edge or centralized in the core or distribution layer; for more information about the HP AllianceONE solution, visit the HP website

Management

- **Remote intelligent mirroring**
mirrors selected ingress/egress traffic based on ACL, port, MAC address, or VLAN to a local or remote HP 8200 zl, 6600, 6200 yl, 5400 zl, or 3500 Switch anywhere on the network
- **RMON, XRMON, and sFlow v5**
provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**
advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
- **Uni-Directional Link Detection (UDLD)**
monitors a cable between two switches and shuts down the ports on both ends if the cable is broken, turning the bidirectional link into a unidirectional one; this prevents network problems such as loops
- **HP unified core-to-edge device/network management tools**
provide HP networking portfolio-common device-level tools (CLI, Web GUI, and Menu) plus seamless integration into HP PCM+/Identity Driven Manager (IDM) network management deployments
- **Command authorization**
leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Friendly port names**
allow assignment of descriptive names to ports
- **Dual flash images**

Overview

provides independent primary and secondary operating system files for backup while upgrading or fine-tuning the switch configuration

- **Multiple configuration files**
can be stored to the flash image
- **HP unified core-to-edge features**
HP ProVision portfolio-common feature implementation allows faster solution deployment
- **NEW Comware-compatible CLI**
 - **Comware-compatible CLI**
bridges the experience of HP Comware CLI users who are using the HP ProVision software CLI
 - **Display and fundamental Comware CLI commands**
are embedded in the switch CLI as native commands; display output is formatted as on Comware-based switches, and fundamental commands provide a Comware-familiar initial switch setup
 - **Configuration Comware CLI commands**
when Comware commands are entered, CLI help is elicited to formulate the correct ProVision software CLI command

Connectivity

- **High-density port connectivity**
provides 12 interface module slots, up to 288 wire-speed 10/100/1000 PoE-enabled ports, or 96 10-GbE ports per system
- **IEEE 802.3az Energy Efficient Ethernet**
lowers power consumption in periods of low-link usage (supported on v2 zl 10/100/1000 and 10/100 modules)
- **IEEE 802.3af Power over Ethernet (PoE)**
provides up to 15.4 W per port to IEEE 802.3af-compliant PoE-powered devices such as IP phones, wireless access points, and security cameras
- **IEEE 802.3at Power Over Ethernet Plus**
provides up to 30 W per port to IEEE 802.3 for PoE-/PoE+-powered devices such as video IP phones, IEEE 802.11n wireless access points, and advanced pan/zoom/tilt security cameras
- **Jumbo frames**
on Gigabit Ethernet and 10-Gigabit Ethernet ports, jumbo frames allow high-performance remote backup and disaster-recovery services
- **HP unified core-to-edge hardware**
HP ProVision family-common interface and service modules, Gigabit optics/10 GbE transceivers, and power supplies enable sparing simplicity
- **Prestandard PoE support**
detects and provides power to prestandard PoE devices; see the list of supported devices in the product FAQs at www.hp.com/networking
- **Auto-MDIX**
automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **IPv6**
 - **IPv6 host**
enables switches to be managed in an IPv6 network
 - **Dual stack (IPv4 and IPv6)**
transitions from IPv4 to IPv6, supporting connectivity for both protocols
 - **MLD snooping**
forwards IPv6 multicast traffic to the appropriate interface
 - **IPv6 ACL/QoS**
supports ACL and QoS for IPv6 network traffic
 - **IPv6 routing**
supports static and OSPFv3 routing protocols

Overview

- **6in4 tunneling**
supports encapsulation of IPv6 traffic in IPv4 packets

Performance

- **High-speed, high-capacity architecture**
1.12 Tbps crossbar switching fabric provides intra-module and inter-module switching with 739.2 million pps throughput on the purpose-built HP ProVision ASICs
- **Selectable queue configurations**
allows for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications
- **Scalable system design**
chassis architecture/backplane provides built-in performance capacity/headroom to support next-generation high-density/high-speed connectivity

Resiliency and high availability

- **NEW Virtual Router Redundancy Protocol (VRRP)**
allows groups of two routers to dynamically back each other up to create highly available routed environments in IPv4 and IPv6 networks
- **Nonstop switching**
improves network availability to better support critical applications such as unified communication and mobility; interface and fabric modules continue switching traffic during failover from active to standby management module
- **Nonstop routing**
enhances Layer 3 high availability; OSPFv2/v3 and VRRP will continue to operate and route network traffic during failover from an active to a standby management module
- **Redundant management, fabric, and power**
provide enhanced system availability and continuity of operations
- **Distributed trunking**
enables loop-free and redundant network topology without using Spanning Tree Protocol; allows a server or switch to connect to two switches using one logical trunk for redundancy and load sharing
- **IEEE 802.1s Multiple Spanning Tree Protocol**
provides high link availability in multiple VLAN environments by allowing multiple spanning trees; encompasses IEEE 802.1D Spanning Tree Protocol and IEEE 802.1w Rapid Spanning Tree Protocol
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and HP port trunking**
support up to 144 trunks, each with up to eight links (ports) per trunk
- **Proven ASIC and system architecture**
the HP ProVision ASIC and platform architecture, leveraged from HP's successful 5400 zl, 3500, 6600, and 6200 yl switch series, reduces technology risk and provides reliable support and flexibility
- **HP zl family components**
employ market-proven intelligent edge switch interface modules, optics, and power supplies to reduce technology risk and enhance system reliability
- **Hot-swappable modules**
interface, management, and fabric modules as well as mini-GBIC optics and power supplies can be removed, swapped, or added to the system without interrupting ongoing switch operations
- **Redundant, hot-swappable cooling**
redundant fan design and hot-swappable fan tray provide continuity of operation in case of a single fan failure
- **Passive system design**
passive chassis backplane (no traffic-forwarding active componentry) provides system reliability and reduces the impact of a component failure

Overview

- **Virtual Route Redundancy Protocol**
allows groups of two routers to dynamically back each other up to create highly available routed environments
- **NEW SmartLink**
provides easy-to-configure link redundancy of active and standby links

Layer 2 switching

- **VLAN support and tagging**
supports the IEEE 802.1Q standard and 2,048 VLANs simultaneously
- **IEEE 802.1v protocol VLANs**
isolate select non-IPv4 protocols automatically into their own VLANs
- **GARP VLAN Registration Protocol**
allows automatic learning and dynamic assignment of VLANs
- **IEEE 802.1ad Q-in-Q**
increases the scalability of an Ethernet network by providing a hierarchical structure; connects multiple LANs on a high-speed campus or metro network
- **MAC-based VLAN**
provides granular control and security; uses RADIUS to map a MAC address/user to specific VLANs (requires v2 modules)
- **Rapid Per-VLAN Spanning Tree (RPVST+)**
allows each VLAN to build a separate spanning tree to improve link bandwidth usage; is compatible with PVST+
- **HP switch meshing**
dynamically load balances across multiple active redundant links to increase available aggregate bandwidth; allows concurrent Layer 3 routing with v2 modules

Layer 3 services

- **User Datagram Protocol (UDP) helper function**
allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- **Loopback interface address**
defines an address in Routing Information Protocol (RIP) and Open Standard Path First (OSPF), improving diagnostic capability
- **Route maps**
provide more control during route redistribution; allow filtering and altering of route metrics

Layer 3 routing

- **Static IP routing**
provides manually configured routing for both IPv4 and IPv6 networks
- **Routing Information Protocol (RIP)**
provides RIPv1 and RIPv2 routing
- **OSPF**
provides OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing
- **Policy-based routing**
uses a classifier to select traffic that can be forwarded based on policy set by the network administrator (requires v2 modules)
- **Border Gateway Protocol (BGP)**
provides IPv4 Border Gateway Protocol routing, which is scalable, robust, and flexible

Security

- **Access control lists (ACLs)**

Overview

provide filtering based on the IP field, source/destination IP address/subnet, and source/destination TCP/UDP port number on a per-VLAN or per-port basis

- **Multiple user authentication methods**

- **IEEE 802.1X users per port**
provides authentication of multiple IEEE 802.1X users per port
- **Web-based authentication**
authenticates from a Web browser for clients that do not support IEEE 802.1X supplicant
- **MAC-based authentication**
authenticates client with the RADIUS server based on a client's MAC address
- **Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port**
accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications

- **Virus throttling**

detects traffic patterns typical of worm-type viruses and either throttles or entirely prevents the virus from spreading across the routed VLANs or bridged interfaces without requiring external appliances

- **DHCP protection**

blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- **Secure management access**

securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3

- **Management Interface Wizard**

helps secure management interfaces such as SNMP, telnet, SSH, SSL, Web, and USB at the desired level

- **Switch CPU protection**

provides automatic protection against malicious network traffic trying to shut down the switch

- **ICMP throttling**

defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic

- **Identity-driven ACL**

enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user

- **STP BPDU port protection**

blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

- **Dynamic IP lockdown**

works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing

- **Dynamic ARP protection**

blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data

- **Detection of malicious attacks**

monitors 10 types of network traffic and sends a warning when an anomaly that potentially can be caused by malicious attacks is detected

- **Port security**

allows access only to specified MAC addresses, which can be learned or specified by the administrator

- **MAC address lockout**

prevents particular configured MAC addresses from connecting to the network

- **Source-port filtering**

allows only specified ports to communicate with each other

- **RADIUS/TACACS+**

eases switch management security administration by using a password authentication server

- **Secure Shell**

encrypts all transmitted data for secure remote CLI access over IP networks

- **Secure Sockets Layer (SSL)**

encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch

- **Secure FTP**

allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch

Overview

- configuration file
- **Switch management logon security**
can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **Security banner**
displays a customized security policy when users log in to the switch
- **USB Secure Autorun (requires HP PCM+)**
deploys, diagnoses, and updates a switch using a USB flash drive; works with a secure credential to prevent tampering
- **STP Root Guard**
protects the root bridge from malicious attacks or configuration mistakes
- **Integrated Threat Management applications**
includes advanced, scalable, switch-integrated security tools such as stateful firewall, intrusion detection/prevention system (IDS/IPS), and VPN concentrator via the HP Threat Management Services zl Module

Convergence

- **IP multicast routing**
includes PIM Sparse and Dense modes to route IP multicast traffic
- **IP multicast snooping (data-driven IGMP)**
automatically prevents flooding of IP multicast traffic
- **LLDP-MED (Media Endpoint Discovery)**
is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **PoE allocations**
support multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings
- **Auto VLAN configuration for voice**
 - **RADIUS VLAN**
uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones
 - **CDPv2**
uses CDPv2 to configure legacy IP phones
- **NEW Local MAC Authentication**
assigns attributes such as VLAN and QoS using locally configured profile that can be a list of MAC prefixes

Flexibility

- **Unified wired and wireless deployment and management**
employs the MSM765zl mobility controller and offers secure, advanced wireless services with simplified management and unified wired and wireless operation across the network
- **Complete feature set**
provides Gigabit PoE for edge VoIP solutions, scalable 10 GbE for enterprise-class distribution-layer implementations, advanced wireless management for comprehensive mobility solutions, and critical high-availability features for midmarket core network deployments
- **Programmable ASIC design**
allows the seamless addition of new QoS and security features over time without costly hardware upgrades

Warranty and support

- **Lifetime Warranty 2.0:**
advance hardware replacement for as long as you own the product with next-business-day delivery (available in most countries)†
- **Electronic and telephone support (for Lifetime Warranty 2.0):**

Overview

limited 24x7 telephone support is available from HP for the first 3 years; limited electronic and business hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary

- **Software releases**

to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

†HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zL Modules, HP Threat Management Services zL Module, HP AllianceOne Extended zL Module with Riverbed Steelhead, HP MSM765zL Mobility Controller and HP Survivable Branch Communication zL Module powered by Microsoft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at www.hp.com/networking/warranty.

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.

Standard Switch Chassis

HP 8206 zl Switch w/Premium Software	J9640A
<ul style="list-style-type: none">• 1 Power Supply required• 1 - J9092A - HP E8200 zl Management Module Included• 2 - J9093A - HP E8200 zl Fabric Module Included• 1 - J9095A - HP E8200 zl System Support Module Included• 6U - Height	
HP 8206-44G-PoE+-2XG v2 zl Swch w Pm SW	J9638A
<ul style="list-style-type: none">• 44 RJ-45 autosensing 10/100/1000 PoE+ ports• 1 - J9306A - HP 1500 W PoE+ zl Power Supply Included• 1 - J9092A - HP E8200 zl Management Module Included• 2 - J9093A - HP E8200 zl Fabric Module Included• 1 - J9095A - HP E8200 zl System Support Module Included• 1 - J9534A - HP 24-port Gig-T PoE+ v2 zl Module Included• 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module Included (Min 0 // Max 2 SFP+ Transceivers)• 6U - Height	See Configuration Note:1, 2, 5
PDU CABLE NA/MEX/TW/JP	J9638A
<ul style="list-style-type: none">• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
PDU CABLE ROW	J9638A
<ul style="list-style-type: none">• C15 PDU Jumper Cord (ROW)	
High Volt Switch to Wall Power Cord	J9638A
<ul style="list-style-type: none">• NEMA L6-20P Cord (NA/MEX/JP/TW)	
HP 8212 zl Switch with Premium Software	J9641A
<ul style="list-style-type: none">• 2 Power Supply required• 1 - J9092A - HP E8200 zl Management Module Included• 2 - J9093A - HP E8200 zl Fabric Module Included• 1 - J9095A - HP E8200 zl System Support Module Included• 9U - Height	
HP 8212-92G-PoE+-2XG v2 zl Swch w Pm SW	J9639A
<ul style="list-style-type: none">• 92 RJ-45 autosensing 10/100/1000 PoE+ ports• 2 - J9306A - HP 1500 W PoE+ zl Power Supply Included• 1 - J9092A - HP E8200 zl Management Module Included• 2 - J9093A - HP E8200 zl Fabric Module Included• 1 - J9095A - HP E8200 zl System Support Module Included• 3 - J9534A - HP 24-port Gig-T PoE+ v2 zl Module Included• 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module Included (Min 0 // Max 2 SFP+ Transceivers)	See Configuration Note:1, 2, 5

Configuration

- 9U - Height

PDU CABLE NA/MEX/TW/JP J9639A

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW J9639A

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord J9639A

- NEMA L6-20P Cord (NA/MEX/JP/TW)

Note 1 The following Transceivers install into this Chassis:

HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X242 SFP+ SFP+ 1m Direct Attach Cable	J9281B
HP X242 SFP+ SFP+ 3m Direct Attach Cable	J9283B
HP X242 SFP+ SFP+ 7m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5m Direct Attach Cable	J9302A
HP X242 10G SFP+ 10m DAC Cable	J9286B
HP X242 10G SFP+ 15m DAC Cable	J9287B

Note 2 Localization required. (See Localization Menu for list.)

Note 5 If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch . (Offered only in North America, Mexico Taiwan, and Japan)

Box Level Integration CTO Models

CTO Solution Sku

HP 82xx CTO Switch Solution J9849A

- SSP trigger sku

CTO Base Sku



Configuration

HP 8206 zl Switch w/Premium Software - CTO

- 1 Power Supply required
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included
- 1 - J9095A - HP E8200 zl System Support Module Included
- 6U - Height

J9640A
See Configuration
Note:9

HP 8206-44G-PoE+-2XG v2 zl Swch w Pm SW - CTO

- 44 RJ-45 autosensing 10/100/1000 PoE+ ports
- 1 - J9306A - HP 1500 W PoE+ zl Power Supply Included
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included
- 1 - J9095A - HP E8200 zl System Support Module Included
- 1 - J9534A - HP 24-port Gig-T PoE+ v2 zl Module Included
- 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module Included (Min 0 // Max 2 SFP+ Transceivers)
- 6U - Height

J9638A
See Configuration
Note:1, 2, 5, 8, 9

PDU CABLE NA/MEX/TW/JP

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

#B2B

PDU CABLE ROW

- C15 PDU Jumper Cord (ROW)

#B2C

High Volt Switch to Wall Power Cord

- NEMA L6-20P Cord (NA/MEX/JP/TW)

#B2E

HP 8212 zl Switch with Premium Software - CTO

- 2 Power Supply required
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included
- 1 - J9095A - HP E8200 zl System Support Module Included
- 9U - Height

J9641A
See Configuration
Note:9

HP 8212-92G-PoE+-2XG v2 zl Swch w Pm SW - CTO

- 92 RJ-45 autosensing 10/100/1000 PoE+ ports
- 2 - J9306A - HP 1500 W PoE+ zl Power Supply Included
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included
- 1 - J9095A - HP E8200 zl System Support Module Included
- 3 - J9534A - HP 24-port Gig-T PoE+ v2 zl Module Included
- 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module Included (Min 0 // Max 2 SFP+ Transceivers)
- 9U - Height

J9639A
See Configuration
Note:1, 2, 5, 8, 9

PDU CABLE NA/MEX/TW/JP

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

#B2B

Configuration

PDU CABLE ROW

#B2C

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord

#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

Note 1 The following Transceivers install into this Chassis :

HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
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HP X132 10G SFP+ LC LRM Transceiver	J9152A
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HP X242 SFP+ SFP+ 7m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5m Direct Attach Cable	J9302A
HP X242 10G SFP+ 10m DAC Cable	J9286B
HP X242 10G SFP+ 15m DAC Cable	J9287B

Note 2 Localization required (See Localization Menu)

Note 5 If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch . (Offered only in North America, Mexico Taiwan, and Japan)

Note 8 If this Switch is selected, Then a Minimum of 1 factory integrated accessory must be ordered and integrated to CTO chassis. See Menu below, option must have a #0D1 to be integrated to the CTO Chassis.

Note 9 If the Switch Chassis is to be Box Level Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis and integrated to the J9849A - HP 82xx CTO Enablement. (Min 1/Max 1 Switch per SSP)

Rack Level Integration CTO Models

HP 8206 zl Switch w/Premium Software - CTO

J9640A

- 1 Power Supply required
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included
- 1 - J9095A - HP E8200 zl System Support Module Included
- 6U - Height

HP 8206-44G-PoE+-2XG v2 zl Swch w Pm SW - CTO

J9638A

- 44 RJ-45 autosensing 10/100/1000 PoE+ ports
- 1 - J9306A - HP 1500 W PoE+ zl Power Supply Included
- 1 - J9092A - HP E8200 zl Management Module Included
- 2 - J9093A - HP E8200 zl Fabric Module Included

See Configuration Note:1, 9



Configuration

- 1 - J9095A - HP E8200 zL System Support Module Included
- 1 - J9534A - HP 24-port Gig-T PoE+ v2 zL Module Included
- 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zL Module Included (Min 0 // Max 2 SFP+ Transceivers)
- 6U - Height

PDU CABLE NA/MEX/TW/JP

#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW

#B2C

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord

#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

HP 8212 zL Switch with Premium Software - CTO

J9641A

- 2 Power Supply required
- 1 - J9092A - HP E8200 zL Management Module Included
- 2 - J9093A - HP E8200 zL Fabric Module Included
- 1 - J9095A - HP E8200 zL System Support Module Included
- 9U - Height

HP 8212-92G-PoE+-2XG v2 zL Swch w Pm SW - CTO

J9639A

- 92 RJ-45 autosensing 10/100/1000 PoE+ ports
- 2 - J9306A - HP 1500 W PoE+ zL Power Supply Included
- 1 - J9092A - HP E8200 zL Management Module Included
- 2 - J9093A - HP E8200 zL Fabric Module Included
- 1 - J9095A - HP E8200 zL System Support Module Included
- 3 - J9534A - HP 24-port Gig-T PoE+ v2 zL Module Included
- 1 - J9536A - HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zL Module Included (Min 0 // Max 2 SFP+ Transceivers)
- 9U - Height

See Configuration
Note:1, 9

PDU CABLE NA/MEX/TW/JP

#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW

#B2C

- C15 to C14 Jumper Cord (ROW)

High Volt Switch to Wall Power Cord

#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

Configuration

Configuration rules

Note 1 The following Transceivers install into this Chassis : (Use #0D1 quoted to switch if switch is CTO) - if applicable

HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X242 SFP+ SFP+ 1m Direct Attach Cable	J9281B
HP X242 SFP+ SFP+ 3m Direct Attach Cable	J9283B
HP X242 SFP+ SFP+ 7m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5m Direct Attach Cable	J9302A
HP X242 10G SFP+ 10m DAC Cable	J9286B
HP X242 10G SFP+ 15m DAC Cable	J9287B

Note 2 Localization required (See Localization Menu)

Note 9 Localization required on orders without #B2B or #B2C options.

Internal Power Supplies

J9640x only - System (std 0 // max=2) User Selection (min 1 / max=2) per Chassis
 J9638x only - System (std 1 // max=2) User Selection (min 0 / max=1) per Chassis
 J9641x only - System (std 0 // max=4) User Selection (min 2 / max=4) per Chassis
 J9639x only - System (std 2 // max=4) User Selection (min 0 / max=2) per Chassis

HP 1500 W PoE+ zl Power Supply	J9306A#0D1
<ul style="list-style-type: none"> C15 Outlet 	See Configuration Note:1, 2, 6
PDU CABLE NA/MEX/TW/JP	J9306A#B2B
<ul style="list-style-type: none"> C15 PDU Jumper Cord (NA/MEX/TW/JP) 	
PDU CABLE ROW	J9306A#B2C
<ul style="list-style-type: none"> C15 PDU Jumper Cord (ROW) 	
High Volt Switch to Wall Power Cord	J9306A#B2E
<ul style="list-style-type: none"> NEMA L6-20P Cord (NA/MEX/JP/TW) 	
HP 875W zl Power Supply	J8712A#0D1

Configuration

<ul style="list-style-type: none"> • C15 Outlet 	<p>See Configuration Note:1, 2, 5, 6</p>
<p>PDU CABLE NA/MEX/TW/JP</p> <ul style="list-style-type: none"> • C15 PDU Jumper Cord (NA/MEX/TW/JP) 	<p>J8712A#B2B</p>
<p>PDU CABLE ROW</p> <ul style="list-style-type: none"> • C15 PDU Jumper Cord (ROW) 	<p>J8712A#B2C</p>
<p>High Volt Switch to Wall Power Cord</p> <ul style="list-style-type: none"> • NEMA L6-20P Cord (NA/MEX/JP/TW) 	<p>J8712A#B2E</p>
<p>HP 1500 W zl Power Supply</p> <ul style="list-style-type: none"> • C20 Outlet 	<p>J8713A#0D1 See Configuration Note:1, 2, 5, 6</p>
<p>C19 PDU WW</p> <ul style="list-style-type: none"> • C19 to C20 Jumper Cord 	<p>J8713A#B2D</p>
<p>High Volt Switch to Wall Power Cord</p> <ul style="list-style-type: none"> • NEMA L6-20P Cord (NA/MEX/JP/TW) 	<p>J8713A#B2E</p>

Note 1 Power Supplies cannot be mixed for a switch enclosure

Note 2 Localization required on orders without #B2B, #B2C, or #B2E options.

Note 5 This power supply is not supported on the J9638x and J9639x switches.

Note 6 If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch . (Offered only in North America, Mexico Taiwan, and Japan)

Remarks: "Drop down under power supply should offer the following options and results:

Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)

Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)"

Modules	Interface Modules	
		J9640x only - System (std 0 // max=6) User Selection (min 0 / max=6) per Chassis
		J9641x only - System (std 0 // max=12) User Selection (min 0 / max=12) per Chassis
		J9638x only - System (std 2 // max=6) User Selection (min 0 / max=4) per Chassis
		J9639x only - System (std 4 // max=12) User Selection (min 0 / max=8) per Chassis

Configuration

HP 20-port GT PoE+/4-port SFP v2 zl Mod <ul style="list-style-type: none">• min=0 \ max=4 SFP Transceivers	J9535A#0D1 See Configuration Note:1
HP 24-port SFP v2 zl Module <ul style="list-style-type: none">• min=0 \ max=24 SFP Transceivers	J9537A#0D1 See Configuration Note:1
HP 12p Gig-T PoE+/12p SFP v2 zl Mod <ul style="list-style-type: none">• min=0 \ max=12 SFP Transceivers	J9637A#0D1 See Configuration Note:1
HP 20-port Gig-T / 4-port SFP v2 zl Mod <ul style="list-style-type: none">• min=0 \ max=4 SFP Transceivers	J9549A#0D1 See Configuration Note:1
HP 4-port 10GbE SFP+ zl Module <ul style="list-style-type: none">• min=0 \ max=4 SFP+ Transceivers	J9309A#0D1 See Configuration Note:2
HP 8-port 10 GbE SFP+ v2 zl Module <ul style="list-style-type: none">• min=0 \ max=8 SFP+ Transceivers	J9538A#0D1 See Configuration Note:5
HP 20p GT PoE+ / 2p SFP+ v2 zl Module <ul style="list-style-type: none">• min=0 \ max=2 SFP+ Transceivers	J9536A#0D1 See Configuration Note:5
HP 20-port Gig-T / 2-port SFP+ v2 zl Mod <ul style="list-style-type: none">• min=0 \ max=2 SFP+ Transceivers	J9548A#0D1 See Configuration Note:5
HP 4-Port 10 GbE X2 zl Module <ul style="list-style-type: none">• min=0 \ max=4 X2 Transceivers	J8707A#0D1 See Configuration Note:3
HP 4-Port 10 GbE CX4 zl Module <ul style="list-style-type: none">• min=0 \ max=4 CX4 Media Converter	J8708A#0D1

Configuration

HP 8-port 10GBase-T v2 zl Module	J9546A#0D1
• No Transceivers	
HP 24-Port 10/100/1000 PoE zl Module	J8702A#0D1
• No Transceivers	
HP 20p 10/100/1000 PoE+/4p MGBIC zl Mod	J9308A#0D1
• min=0 \ max=4 SFP Transceivers	See Configuration Note:1
HP 20-Port Gig-T/4-Port Mini-GBIC zl Module	J8705A#0D1
• min=0 \ max=4 SFP Transceivers	See Configuration Note:11
HP 24-Port Mini-GBIC zl Module	J8706A#0D1
• min=0 \ max=24 SFP Transceivers	See Configuration Note:11
HP 24-Port 10/100/1000 PoE+ zl Module	J9307A#0D1
• No Transceivers	
HP 24-port Gig-T PoE+ v2 zl Module	J9534A#0D1
• No Transceivers	
HP 24-Port 10/100 PoE+ zl Module	J9478A#0D1
• No Transceivers	
HP 24-port 10/100 PoE+ v2 zl Module	J9547A#0D1
• No Transceivers	
HP 24-port Gig-T v2 zl Module	J9550A#0D1
• No Transceivers	
HP MSM765 zl Mobility Controller	J9370A
• No Transceivers	See Configuration Note:6, 7
HP MSM775 zl Premium Controller Module	J9840A
• No Transceivers	See Configuration Note:9

Configuration

HP Surv Brch Com zl Mod pwrby Msft Lync <ul style="list-style-type: none">No Transceivers.Double Height Module, takes up 2 Vertical slots*	J9485A See Configuration Note: 6, 7, 8
HP Svc zlMod f/AvayaSBC pwrby AcmePacket <ul style="list-style-type: none">No Transceivers.Double Height Module, takes up 2 Vertical slots*	J9486A See Configuration Note:6, 7, 8
HP Advanced Services v2 zl Module w/ HDD <ul style="list-style-type: none">No Transceivers	J9857A See Configuration Note:10
HP Advanced Services v2 zl Module w/ SSD <ul style="list-style-type: none">No Transceivers	J9858A See Configuration Note:10
HP Adv Srvs zl Mod w/XenServer Platform <ul style="list-style-type: none">No Transceivers	J9747A See Configuration Note:6, 7
HP Adv Srvs zl Mod w/vSphere Platform <ul style="list-style-type: none">No Transceivers	J9748A See Configuration Note:6, 7

Note 1 The following Transceivers install into this Module: (Use #0D1 quoted to switch if switch is CTO)

HP X111 100M SFP LC FX Transceiver	J9054C
HP X112 100M SFP LC BX-D Transceiver	J9099B
HP X112 100M SFP LC BX-U Transceiver	J9100B
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X121 1G SFP RJ45 T Transceiver	J8177C

Note 2 The following Transceivers install into this Module: (Use #0D1 quoted to switch if switch is CTO)

HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A

Configuration

HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X242 SFP+ SFP+ 1m Direct Attach Cable	J9281B
HP X242 SFP+ SFP+ 3m Direct Attach Cable	J9283B
HP X242 SFP+ SFP+ 7m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5m Direct Attach Cable	J9302A
HP X242 10G SFP+ 10m DAC Cable	J9286B
HP X242 10G SFP+ 15m DAC Cable	J9287B

Note 3

The following Transceivers install into this Module: (Use #0D1 quoted to switch if switch is CTO)

HP X131 10G X2 SC SR Transceiver	J8436A
HP X131 10G X2 SC LR Transceiver	J8437A
HP X131 10G X2 SC ER Transceiver	J8438A
HP X131 10G X2 CX4 Transceiver	J8440C
HP X131 10G X2 SC LRM Transceiver	J9144A

The following Transceivers install into this Module: (Use #0D1 quoted to switch if switch is CTO)

HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X242 SFP+ SFP+ 1m Direct Attach Cable	J9281B
HP X242 SFP+ SFP+ 3m Direct Attach Cable	J9283B
HP X242 SFP+ SFP+ 7m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5m Direct Attach Cable	J9302A
HP X242 10G SFP+ 10m DAC Cable	J9286A
HP X242 10G SFP+ 15m DAC Cable	J9287A

Note 6

If this module is selected, Then:

J9641A, J9639A Max = 4 Modules of any combination or pairing of the following modules: J9517A, J9485A, J9486A, J9289A, J9483A, J9666A, J9747A, J9748A. Double Height Modules occupy 2 vertical slots.

J9640A, J9638A Max = 2 Slots for Modules of any combination or pairing of the following modules: J9517A, J9485A, J9486A, J9289A, J9483A, J9666A, J9747A, J9748A. Double Height Modules occupy 2

Configuration

vertical slots.

Note 7 If this module is selected, Then show following message - For all OA modules, it is preferred that they be populated on the left side of the Chassis as it gets better airflow.

Note 8 This module occupies 2 Vertical Slots.

Note 9 Maximum of this Module per Chassis:
 J9638x min=0\max= 4 per Chassis
 J9640x min=0\max=5 per Chassis
 J9639x, J9641x min=0\max=6 per Chassis
 There are no restrictions on which slots these modules may go in.

Note 10 Maximum of this Module per Chassis:
 J9638x, J9640x min=0\max=3 per Chassis
 J9639x, J9641x min=0\max=6 per Chassis
 There are no restrictions on which slots these modules may go in.

Management Modules System (std 1 // max 2) User Selection (min 0 / max 1)
 HP 8200 zl Management Module J9092A

Fabric Modules System (std 2 // max 2) User Selection (min 0 / max 0)
 HP 8200 zl Fabric Module J9093A
 Order for Spares only.

System Support Modules System (std 1 // max 1) User Selection (min 0 / max 1)
 HP 8200 zl System Support Module J9095A
 Order for Spares only.

Transceivers

SFP Transceivers	HP X111 100M SFP LC FX Transceiver	J9054C
	HP X112 100M SFP LC BX-D Transceiver	J9099B
	HP X112 100M SFP LC BX-U Transceiver	J9100B
	HP X121 1G SFP LC LH Transceiver	J4860C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X122 1G SFP LC BX-D Transceiver	J9142B
	HP X122 1G SFP LC BX-U Transceiver	J9143B
	HP X121 1G SFP RJ45 T Transceiver	J8177C

SFP+ Transceivers	HP X132 10G SFP+ LC ER Transceiver	J9153A
	HP X132 10G SFP+ LC LR Transceiver	J9151A
	HP X132 10G SFP+ LC LRM Transceiver	J9152A
	HP X132 10G SFP+ LC SR Transceiver	J9150A
	HP X242 10G SFP+ SFP+ 1m DAC Cable	J9281B

Configuration

		HP X242 10G SFP+ SFP+ 3m DAC Cable	J9283B
		HP X242 10G SFP+ SFP+ 7m DAC Cable	J9285B
		HP X242 10G SFP+ 10m DAC Cable	J9286B
		HP X242 10G SFP+ 15m DAC Cable	J9287B
		HP X244 10G XFP SFP+ 1m DAC Cable	J9300A
		HP X244 10G XFP SFP+ 3m DAC Cable	J9301A
		HP X244 10G XFP SFP+ 5m DAC Cable	J9302A
	X2 Transceivers	HP X131 10G X2 SC ER Transceiver	J8438A
		HP X131 10G X2 SC LR Transceiver	J8437A
		HP X131 10G X2 SC LRM Transceiver	J9144A
		HP X131 10G X2 SC SR Transceiver	J8436A
Cables	Multi-Mode Cables	HP .5m Multi-mode OM3 LC/LC FC Cable	AJ833A
		HP 1m Multi-mode OM3 LC/LC FC Cable	AJ834A
		HP 2 m Multimode OM3 LC/LC FC Cable	AJ835A
		HP 5 m Multimode OM3 LC/LC FC Cable	AJ836A
		HP 15 m Multimode OM3 LC/LC FC Cable	AJ837A
		HP 30 m Multimode OM3 LC/LC FC Cable	AJ838A
		HP 50 m Multimode OM3 LC/LC FC Cable	AJ839A
		HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
		HP Premier Flex LC/LC OM4 2f 2m Cbl	QK733A
		HP Premier Flex LC/LC OM4 2f 5m Cbl	QK734A
		HP Premier Flex LC/LC OM4 2f 15m Cbl	QK735A
		HP Premier Flex LC/LC OM4 2f 30m Cbl	QK736A
		HP Premier Flex LC/LC OM4 2f 50m Cbl	QK737A
Switch Enclosure Options	License	HP 8200 zL Switch Premium License	J9474A
	Fan Trays	HP 8212 zL Fan Tray	J9094A
		HP 8206 zL Switch Fan Tray	J9476A
	Survivable Branch Communication Upgrades	Sangoma 2-port T1/E1/J1 Telephony Card	J9488A
		Sangoma 4-port T1/E1/J1 Telephony Card	J9489A
		Sangoma 4-port FXO Telephony Card	J9516A
		Sangoma 4-port FXS Telephony Card	J9482A
		Sangoma 2-port FXO / 2-port FXS Telephony Card	J9518A
		Sangoma 1-port T1/E1/J1 Telephony Card	J9487A
	US Federal Government certifications	HP zL Chassis FIPS 10K Rack Mounting Kit	J9708A
			See Configuration Note:1
		HP 16mm x 32mm Tmpr-Evidence (20) Labels	J9740A

Configuration

	See Configuration Note:1
HP 16mm x 32mm Tmpr-Evidence (120) Label	J9709A See Configuration Note:1
HP 8206 zL FIPS Opacity Shield Kit	J9712A See Configuration Note:1
HP 8212 zL FIPS Opacity Shield Kit	J9713A See Configuration Note:1
HP 8206 zL High Performance Fan Tray	J9723A See Configuration Note:1
HP 8212 zL High Performance Fan Tray	J9724A See Configuration Note:1

Note 1 Do not display in Watson.

Technical Specifications

HP 8206 zL Switch with Premium Software (J9640A)	Included accessories	1 HP 8200 zL Management Module (J9092A) 2 HP 8200 zL Fabric Module (J9093A) 1 HP 8200 zL System Support Module (J9095A)
	I/O ports and slots	6 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 48 10-GbE ports or 144 mini-GBICs, or a combination
	Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)
Physical characteristics	Dimensions	17.42(w) x 17.49(d) x 10.35(h) in (44.25 x 44.42 x 26.29 cm) (6U height)
	Weight	48.1 lb (21.82 kg)
	Memory and processor	
	Gigabit Module	ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM
	10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM
	Management Module	Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
Mounting	Mounts in an EIA-standard 19 in telco rack/equipment cabinet (hardware included); horizontal surface mounting only. An optional 4-post cabinet rail is available (see ordering guide).	
Performance	1000 Mb Latency	< 3.7 μ s (FIFO 64-byte packets)
	10 Gbps Latency	< 2.1 μ s (FIFO 64-byte packets)
	Throughput	up to 369.6 million pps
	Routing/Switching capacity	496.8 Gbps
	Switch fabric speed	561.6 Gbps
	Routing table size	10000 entries (IPv4)
	MAC address table size	64000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 60.0 dB, Pressure: 41.3 dB; ISO 7779, ISO 9296
Electrical characteristics	Achieved Miercom Certified Green Award	
	Frequency	50/60 Hz

Technical Specifications

	Description
	Chassis ships without power supplies. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation 2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. PoE)
	Voltage 100-127/200-240 VAC
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825
Emissions	FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 Class A
Immunity	EN EN 55024, CISPR 24 ESD IEC 61000-4-2; 4 kV CD, 8 kV AD Radiated IEC 61000-4-3; 3 V/m EFT/Burst IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line) Surge IEC 61000-4-5; 1 kV/2 kV AC Conducted IEC 61000-4-6; 3 V Power frequency magnetic field IEC 61000-4-8; 1 A/m, 50 or 60 Hz Voltage dips and interruptions IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods Harmonics EN 61000-3-2, IEC 61000-3-2 Flicker EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
Notes	Interface/Service modules, power supplies, and redundant management module must be ordered separately. RS-232C console port via an RJ-45 connector. Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UW442E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UW443E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UW444E) 3-year, 24x7 SW phone support, software updates (UW445E) Installation with minimum configuration, system-based pricing (U4828E) Installation with HP-provided configuration, system-based pricing (U4832E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW462E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UW463E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UW464E) 4-year, 24x7 SW phone support, software updates (UW465E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UY921E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UY922E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY923E)

Technical Specifications

- 5-year, 24x7 SW phone support, software updates (UY924E)
- 3 Yr 6 hr Call-to-Repair Onsite (UW446E)
- 4 Yr 6 hr Call-to-Repair Onsite (UW466E)
- 5 Yr 6 hr Call-to-Repair Onsite (UY925E)
- 1-year, 4-hour onsite, 13x5 coverage for hardware (HR609E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware (HR610E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR613E)
- 1-year, 24x7 software phone support, software updates (HR612E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR611E)
- 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS762E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS763E)
- 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS764E)
- 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS765E)
- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS766E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS767E)
- 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS768E)
- 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS769E)

Refer to the HP website at: www.hp.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 HP sales office.

HP 8212 zl Switch with Premium Software (J9641A)	Included accessories	1 HP 8200 zl Management Module (J9092A) 2 HP 8200 zl Fabric Module (J9093A) 1 HP 8200 zl System Support Module (J9095A) 1 HP 8200 zl Switch Premium License (J9474A)
	I/O ports and slots	12 open module slots Supports a maximum of 288 autosensing 10/100/1000 ports or 96 10-GbE ports or 288 mini-GBICs, or a combination
	Power supplies	4 power supply slots 2 minimum power supplies required (ordered separately)
	Physical characteristics	Dimensions 17.5(w) x 18.7(d) x 15.6(h) in (44.45 x 47.5 x 39.62 cm) (9U height) Weight 50.44 lb (22.88 kg)
	Memory and processor	Gigabit Module ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM 10G Module ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM

Technical Specifications

	Management Module	Freescaple PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
Mounting		Mounts in an EIA-standard 19 in telco rack or equipment cabinet (hardware included); horizontal surface mounting only. An optional 4-post cabinet rail is available (see ordering guide).
Performance	1000 Mb Latency	< 3.7 μ s (FIFO 64-byte packets)
	10 Gbps Latency	< 2.1 μ s (FIFO 64-byte packets)
	Throughput	up to 739 million pps
	Routing/Switching capacity	993.6 Gbps
	Switch fabric speed	1.1 Tbps
	Routing table size	10000 entries (IPv4)
	MAC address table size	64000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 63.0 dB, Pressure: 47.8 dB; ISO 7779, ISO 9296
Electrical characteristics	Achieved Miercom Certified Green Award	
	Frequency	50/60 Hz
	Description	Chassis ships without power supplies. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	4900 BTU/hr (5170 kJ/hr), (max. non-PoE); 7400 BTU/hr (7807 kJ/hr) (max. PoE)
	Voltage	100-127/200-240 VAC
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825	
Emissions	FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 Class A	
Immunity	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC

Technical Specifications

	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Notes	Interface/Service modules, power supplies, and redundant management module must be ordered separately. RS-232C console port via an RJ-45 connector. Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).	
Services	<p>3-year, 4-hour onsite, 13x5 coverage for hardware (UW447E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (UW448E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UW449E)</p> <p>3-year, 24x7 SW phone support, software updates (UW450E)</p> <p>Installation with minimum configuration, system-based pricing (U4828E)</p> <p>Installation with HP-provided configuration, system-based pricing (U4832E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (UW467E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (UW468E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UW469E)</p> <p>4-year, 24x7 SW phone support, software updates (UW471E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (UY926E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (UY927E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY928E)</p> <p>5-year, 24x7 SW phone support, software updates (UY929E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (UY937E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (UW472E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (UY930E)</p> <p>1-year, 4-hour onsite, 13x5 coverage for hardware (HR614E)</p> <p>1-year, 4-hour onsite, 24x7 coverage for hardware (HR615E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR618E)</p> <p>1-year, 24x7 software phone support, software updates (HR617E)</p> <p>1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR616E)</p> <p>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS754E)</p> <p>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS755E)</p> <p>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS756E)</p> <p>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS757E)</p> <p>4-year, 24x7 software phone support, software updates + Next Business Day</p>	

Technical Specifications

Hardware Exchange (HS758E)
 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS759E)
 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS760E)
 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS761E)

Refer to the HP website at: www.hp.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 HP sales office.

HP 8206-44G-PoE+-2XG v2 zL Switch with Premium Software (J9638A)	Included accessories	1 HP 8200 zL Management Module (J9092A) 2 HP 8200 zL Fabric Module (J9093A) 1 HP 8200 zL System Support Module (J9095A) 1 HP 1500W PoE+ zL Power Supply (J9306A) 1 HP 24-port Gig-T PoE+ v2 zL Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zL Module (J9536A) 1 HP 8200 zL Switch Premium License (J9474A)						
	I/O ports and slots	44 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP+ 10-GbE ports; Duplex: full only 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 48 10-GbE ports or 144 mini-GBICs, or a combination						
	Power supplies	2 power supply slots 1 minimum power supply required includes: 1 x J9306A (HP 1500W PoE+ zL Power Supply)						
	Physical characteristics	<table border="0"> <tr> <td style="vertical-align: top;">Dimensions</td> <td>17.42(w) x 17.49(d) x 10.35(h) in (44.25 x 44.42 x 26.29 cm) (6U height)</td> </tr> <tr> <td style="vertical-align: top;">Weight</td> <td>61.49 lb (27.89 kg)</td> </tr> </table>	Dimensions	17.42(w) x 17.49(d) x 10.35(h) in (44.25 x 44.42 x 26.29 cm) (6U height)	Weight	61.49 lb (27.89 kg)		
Dimensions	17.42(w) x 17.49(d) x 10.35(h) in (44.25 x 44.42 x 26.29 cm) (6U height)							
Weight	61.49 lb (27.89 kg)							
	Memory and processor	<table border="0"> <tr> <td style="vertical-align: top;">Gigabit Module</td> <td>ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM</td> </tr> <tr> <td style="vertical-align: top;">10G Module</td> <td>ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM</td> </tr> <tr> <td style="vertical-align: top;">Management Module</td> <td>Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM</td> </tr> </table>	Gigabit Module	ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM	10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM	Management Module	Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
Gigabit Module	ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM							
10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM							
Management Module	Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM							
	Mounting	Mounts in an EIA-standard 19 in telco rack/equipment cabinet (hardware included); horizontal surface mounting only. An optional 4-post cabinet rail is available (see ordering guide).						
	Performance	<table border="0"> <tr> <td style="vertical-align: top;">1000 Mb Latency</td> <td>< 3.7 μs (FIFO 64-byte packets)</td> </tr> <tr> <td style="vertical-align: top;">10 Gbps Latency</td> <td>< 2.1 μs (FIFO 64-byte packets)</td> </tr> </table>	1000 Mb Latency	< 3.7 μs (FIFO 64-byte packets)	10 Gbps Latency	< 2.1 μs (FIFO 64-byte packets)		
1000 Mb Latency	< 3.7 μs (FIFO 64-byte packets)							
10 Gbps Latency	< 2.1 μs (FIFO 64-byte packets)							

Technical Specifications

	Throughput	up to 369.6 million pps
	Routing/Switching capacity	496.8 Gbps
	Switch fabric speed	561.6 Gbps
	Routing table size	10000 entries (IPv4)
	MAC address table size	64000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 60.0 dB, Pressure: 41.3 dB; ISO 7779, ISO 9296
Electrical characteristics	Achieved Miercom Certified Green Award	
	Frequency	50/60 Hz
	Description	Chassis ships without power supplies. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. PoE)
	Voltage	100-127/200-240 VAC
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825
Emissions		FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 Class A
Immunity	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3

Technical Specifications

Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (Serial RS-232C)
Notes	Interface/Service modules, power supplies, and redundant management module must be ordered separately. RS-232C console port via an RJ-45 connector. Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UW442E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UW443E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UW444E) 3-year, 24x7 SW phone support, software updates (UW445E) Installation with minimum configuration, system-based pricing (U4828E) Installation with HP-provided configuration, system-based pricing (U4832E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW462E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UW463E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UW464E) 4-year, 24x7 SW phone support, software updates (UW465E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UY921E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UY922E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY923E) 5-year, 24x7 SW phone support, software updates (UY924E) 3 Yr 6 hr Call-to-Repair Onsite (UW446E) 4 Yr 6 hr Call-to-Repair Onsite (UW466E) 5 Yr 6 hr Call-to-Repair Onsite (UY925E) 1-year, 4-hour onsite, 13x5 coverage for hardware (HR609E) 1-year, 4-hour onsite, 24x7 coverage for hardware (HR610E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR613E) 1-year, 24x7 software phone support, software updates (HR612E) 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR611E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS762E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS763E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS764E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS765E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS766E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS767E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS768E) 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS769E)

Technical Specifications

Refer to the HP website at: www.hp.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 HP sales office.

HP 8212-92G-PoE+-2XG v2 zL Switch with Premium Software (J9639A)	Included accessories	<ul style="list-style-type: none"> 1 HP 8200 zL Management Module (J9092A) 2 HP 8200 zL Fabric Module (J9093A) 1 HP 8200 zL System Support Module (J9095A) 1 HP 8200 zL Switch Premium License (J9474A) 2 HP 1500W PoE+ zL Power Supply (J9306A) 3 HP 24-port Gig-T PoE+ v2 zL Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zL Module (J9536A)
	I/O ports and slots	<ul style="list-style-type: none"> 92 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP+ 10-GbE ports; Duplex: full only 8 open module slots Supports a maximum of 288 autosensing 10/100/1000 ports or 96 10-GbE ports or 288 mini-GBICs, or a combination
	Power supplies	<ul style="list-style-type: none"> 4 power supply slots 2 minimum power supplies required includes: 2 x J9306A (HP 1500W PoE+ zL Power Supply)
	Physical characteristics	<ul style="list-style-type: none"> Dimensions 17.5(w) x 18.7(d) x 15.6(h) in (44.45 x 47.5 x 39.62 cm) (9U height) Weight 102.76 lb (46.61 kg)
	Memory and processor	<ul style="list-style-type: none"> Gigabit Module ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM 10G Module ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM Management Module Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
	Mounting	Mounts in an EIA-standard 19 in telco rack or equipment cabinet (hardware included); horizontal surface mounting only. An optional 4-post cabinet rail is available (see ordering guide).
	Performance	<ul style="list-style-type: none"> 1000 Mb Latency < 3.7 μs (FIFO 64-byte packets) 10 Gbps Latency < 2.1 μs (FIFO 64-byte packets) Throughput up to 739 million pps Routing/Switching capacity 993.6 Gbps Switch fabric speed 1.1 Tbps Routing table size 10000 entries (IPv4) MAC address table size 64000 entries

Technical Specifications

Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 63.0 dB, Pressure: 47.8 dB; ISO 7779, ISO 9296
	Electrical characteristics	Achieved Miercom Certified Green Award
Frequency		50/60 Hz
Description		Chassis ships without power supplies. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
Maximum heat dissipation		4900 BTU/hr (5170 kJ/hr), (max. non-PoE); 7400 BTU/hr (7807 kJ/hr) (max. PoE)
Voltage		100-127/200-240 VAC
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825	
Emissions	FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 Class A	
Immunity	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Notes	Interface/Service modules, power supplies, and redundant management module must be ordered separately. RS-232C console port via an RJ-45 connector. Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UW447E)	

Technical Specifications

3-year, 4-hour onsite, 24x7 coverage for hardware (UW448E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UW449E)
3-year, 24x7 SW phone support, software updates (UW450E)
Installation with minimum configuration, system-based pricing (U4828E)
Installation with HP-provided configuration, system-based pricing (U4832E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UW467E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UW468E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UW469E)
4-year, 24x7 SW phone support, software updates (UW471E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UY926E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UY927E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY928E)
5-year, 24x7 SW phone support, software updates (UY929E)
3 Yr 6 hr Call-to-Repair Onsite (UY937E)
4 Yr 6 hr Call-to-Repair Onsite (UW472E)
5 Yr 6 hr Call-to-Repair Onsite (UY930E)
1-year, 4-hour onsite, 13x5 coverage for hardware (HR614E)
1-year, 4-hour onsite, 24x7 coverage for hardware (HR615E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR618E)
1-year, 24x7 software phone support, software updates (HR617E)
1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR616E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS754E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS755E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS756E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS757E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS758E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS759E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS760E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS761E)

Refer to the HP website at: www.hp.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 HP sales office.

Standards and protocols
(applies to all products in series)

BGP
RFC 1997 BGP Communities Attribute
RFC 2918 Route Refresh Capability
RFC 4271 A Border Gateway Protocol 4 (BGP-4)
RFC 4456 BGP Route Reflection: An Alternative to Full
Mesh Internal BGP (IBGP)

Technical Specifications

Denial of service protection

RFC 4724 Graceful Restart Mechanism for BGP
RFC 5492 Capabilities Advertisement with BGP-4
CPU DoS Protection

Device management

RFC 1591 DNS (client)
HTML and telnet management

General protocols

802.1ad Q-in-Q
IEEE 802.1AX-2008 Link Aggregation
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1v VLAN classification by Protocol and Port
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3af Power over Ethernet
IEEE 802.3x Flow Control
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 868 Time Protocol
RFC 951 BOOTP
RFC 1058 RIPv1
RFC 1350 TFTP Protocol (revision 2)
RFC 1519 CIDR
RFC 1542 BOOTP Extensions
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 2131 DHCP
RFC 2453 RIPv2
RFC 2548 (MS-RAS-Vendor only)
RFC 3046 DHCP Relay Agent Information Option
RFC 3576 Ext to RADIUS (CoA only)
RFC 3768 VRRP
RFC 4675 RADIUS VLAN & Priority
UDLD (Uni-directional Link Detection)

IP multicast

RFC 3376 IGMPv3 (host joins only)
RFC 3973 PIM Dense Mode
RFC 4601 PIM Sparse Mode

IPv6

RFC 1981 IPv6 Path MTU Discovery
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2464 Transmission of IPv6 over Ethernet Networks

Technical Specifications

RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)
RFC 3019 MLDv1 MIB
RFC 3315 DHCPv6 (client and relay)
RFC 3484 Default Address Selection for IPv6
RFC 3587 IPv6 Global Unicast Address Format
RFC 3596 DNS Extension for IPv6
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
RFC 4022 MIB for TCP
RFC 4087 IP Tunnel MIB
RFC 4113 MIB for UDP
RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
RFC 4251 SSHv6 Architecture
RFC 4252 SSHv6 Authentication
RFC 4253 SSHv6 Transport Layer
RFC 4254 SSHv6 Connection
RFC 4291 IP Version 6 Addressing Architecture
RFC 4293 MIB for IP
RFC 4294 IPv6 Node Requirements
RFC 4419 Key Exchange for SSH
RFC 4443 ICMPv6
RFC 4541 IGMP & MLD Snooping Switch
RFC 4861 IPv6 Neighbor Discovery
RFC 4862 IPv6 Stateless Address Auto-configuration
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
RFC 5340 OSPFv3 for IPv6
RFC 5453 Reserved IPv6 Interface Identifiers
RFC 5519 Multicast Group Membership Discovery MIB (MLDv2 only)
RFC 5722 Handling of Overlapping IPv6 Fragments
IEEE 802.1ap (MSTP and STP MIB's only)
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 1724 RIPv2 MIB
RFC 1850 OSPFv2 MIB
RFC 2021 RMONv2 MIB
RFC 2096 IP Forwarding Table MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB

MIBs

Technical Specifications

	RFC 2665 Ethernet-Like-MIB
	RFC 2668 802.3 MAU MIB
	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
	RFC 2737 Entity MIB (Version 2)
	RFC 2787 VRRP MIB
	RFC 2863 The Interfaces Group MIB
	RFC 2925 Ping MIB
	RFC 2933 IGMP MIB
Network management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
	RFC 3176 sFlow
	ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
	SNMPv1/v2c/v3
	XRMON
OSPF	RFC 2328 OSPFv2
	RFC 3101 OSPF NSSA
	RFC 3623 Graceful OSPF Restart (Unplanned Outages only)
	RFC 5340 OSPFv3 for IPv6
QoS/CoS	RFC 2474 DiffServ Precedence, including 8 queues/port
	RFC 2597 DiffServ Assured Forwarding (AF)
	RFC 2598 DiffServ Expedited Forwarding (EF)
Security	IEEE 802.1X Port Based Network Access Control
	RFC 1492 TACACS+
	RFC 2865 RADIUS (client only)
	RFC 2866 RADIUS Accounting
	RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
	Secure Sockets Layer (SSL)
	SSHv2 Secure Shell

Accessories

HP 8200 zl Switch Series accessories	Modules	
	HP 8-port 10GBase-T v2 zl Module	J9546A
	HP 8-port 10 GbE SFP+ v2 zl Module	J9538A
	HP 4-Port 10 GbE CX4 zl Module	J8708A
	HP 4-Port 10 GbE X2 zl Module	J8707A
	HP 4-Port 10 GbE SFP+ zl Module	J9309A
	HP 20-port Gig-T PoE+/2-port 10-GbE SFP+ v2 zl Module	J9536A
	HP 20-port Gig-T/2-port 10-GbE SFP+ v2 zl Module	J9548A
	HP 20-port Gig-T PoE+/4-port SFP v2 zl Module	J9535A
	HP 20-port Gig-T/4-port SFP v2 zl Module	J9549A
	HP 24-port SFP v2 zl Module	J9537A
	HP 12-port Gig-T PoE+/12-port SFP v2 zl Module	J9637A
	HP 24-port Gig-T PoE+ v2 zl Module	J9534A
	HP 24-port Gig-T v2 zl Module	J9550A
	HP 24-Port 10/100/1000 PoE zl Module	J8702A
	HP 20-Port Gig-T/4-Port Mini-GBIC zl Module	J8705A
	HP 24-Port Mini-GBIC zl Module	J8706A
	HP 24-port 10/100 PoE+ v2 zl Module	J9547A
	HP 24-Port 10/100 PoE+ zl Module	J9478A
	HP 24-Port 10/100/1000 PoE+ zl Module	J9307A
	HP 20-Port 10/100/1000 PoE+/4-Port Mini-GBIC zl Module	J9308A
	HP 8200 zl System Support Module	J9095A
	HP 8200 zl Management Module	J9092A
	HP 8200 zl Fabric Module	J9093A
	HP Extended Services zl Module with Riverbed Steelhead RiOS™ Application	J9517A
	HP Survivable Branch Communication zl Module powered by Microsoft Lync	J9485A
	HP Services zl Module for Avaya Aura Session Border Controller powered by Acme Packet	J9486A
	NEW HP Advanced Services v2 zl Module with HDD	J9857A
	HP Advanced Services v2 zl Module with SSD	J9858A
	Transceivers	
	HP X131 10G X2 SC ER Transceiver	J8438A
	HP X131 10G X2 SC SR Transceiver	J8436A
	HP X131 10G X2 CX4 Transceiver	J8440C
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP X131 10G X2 SC LR Transceiver	J8437A
	HP X131 10G X2 SC LRM Transceiver	J9144A
	HP X112 100M SFP LC BX-D Transceiver	J9099B
	HP X112 100M SFP LC BX-U Transceiver	J9100B
	HP X132 10G SFP+ LC SR Transceiver	J9150A

Accessories

HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X132 10G SFP+ LC ER Transceiver	J9153A

Cables

HP X242 SFP+ SFP+ 1 m Direct Attach Cable	J9281B
HP X242 SFP+ SFP+ 3 m Direct Attach Cable	J9283B
HP X242 SFP+ SFP+ 7 m Direct Attach Cable	J9285B
HP X244 XFP SFP+ 1 m Direct Attach Cable	J9300A
HP X244 XFP SFP+ 3 m Direct Attach Cable	J9301A
HP X244 XFP SFP+ 5 m Direct Attach Cable	J9302A
HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
HP 50 m Multimode OM3 LC/LC Optical Cable	AJ839A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
HP X242 10G SFP+ to SFP+ 10m Direct Attach Copper Cable	J9286B
HP X242 10G SFP+ to SFP+ 15m Direct Attach Copper Cable	J9287B

Power Supply

HP 1500 W PoE+ zl Power Supply	J9306A
HP 1500 W zl Power Supply	J8713A
HP 875 W zl Power Supply	J8712A

License

HP 8200 zl Switch Premium License	J9474A
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WLAN

NEW HP MSM775 zl Premium Controller Module	J9840A
HP MSM765 zl Premium Mobility Controller	J9370A

Accessories

HP 8206 zl Switch with Premium Software (J9640A)

[HP 20-port Gig-T/4-port SFP v2 zl Module](#) J9549A

[HP 8206 zl Switch Fan Tray](#) J9476A

HP 8212 zl Switch with Premium Software (J9641A)

[HP 8212 zl Switch Fan Tray](#) J9094A

HP 8206-44G-PoE+/2XG-SFP+ v2 zl Switch with Premium Software (J9638A)

[HP 20-port Gig-T/4-port SFP v2 zl Module](#) J9549A

[HP 8206 zl Switch Fan Tray](#) J9476A

HP 8212-92G-PoE+/2XG-SFP+ v2 zl Switch with Premium Software (J9639A)

[HP 8212 zl Switch Fan Tray](#) J9094A

Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

HP 8-port 10GBase-T v2 zl Module (J9546A)	Physical characteristics	Ports	8 RJ-45 10-GbE ports; Duplex: full only
		Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight	2.1 lb. (0.95 kg)
	Environment	Full configuration weight	2.1 lb. (0.95 kg)
		Operating temperature	32°F to 131°F (0°C to 55°C)
		Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
	Notes	Fiber type	Single Mode
		Max Distance upto 100m with qualified 10Gbase-T Cat7(Shielded), Cat6a (Shielded/Unshielded) and Cat6 (Shielded, tested to 350Mhz TIA/EIA TSB-155A) cables. Max Distance upto 55m with Cat6 (unshielded, tested to 350Mhz TIA/EIA TSB-155A)	
Services	Refer to the HP website at www.hp.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 HP sales office.		

HP 8-port 10 GbE SFP+ v2 zl Module (J9538A)	Physical characteristics	Ports	8 open 10-GbE SFP+ transceiver slots
		Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight	2.09 lb (0.95 kg)
	Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
		Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
		Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9538A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).
	Services		Refer to the HP website at www.hp.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 HP sales office.

Accessory Product Details

HP 4-Port 10 GbE CX4 zl Module (J8708A)	Ports	4 CX4 10-GbE ports (IEEE 802.3ak Type 10GBASE-CX4); Duplex: full only
	Physical characteristics	Dimensions 10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight 1.74 lb. (0.79 kg)
	Environment	Operating temperature 32°F to 131°F (0°C to 55°C)
	Cabling	Maximum distance: <ul style="list-style-type: none"> • 15 m using CX4 cable • 300 m using optical media converters and multimode fiber cable
	Notes	Use CX4 10-GbE cable (0.5 m-15 m) or HP ProCurve 10-GbE CX4 Media Converter (J8439A). No CX4 cables are included with this module.
	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 4-Port 10 GbE X2 zl Module (J8707A)	Ports	4 open 10-GbE X2 transceiver slots
	Physical characteristics	Dimensions 10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight 1.74 lb. (0.79 kg)
	Environment	Operating temperature 32°F to 104°F (0°C to 40°C)
	Notes	When installed in a zl chassis, the J8707A module limits the operating temperature range of the chassis to 32°F to 104°F (0°C to 40°C).
	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 4-Port 10 GbE SFP+ zl Module (J9309A)	Ports	4 open 10-GbE SFP+ transceiver slots	
	Physical characteristics	Dimensions 10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)	
		Weight 1.64 lb. (0.74 kg)	
	Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
		Operating relative humidity	15% to 95% @ 113°F (45°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
Notes	When installed in a zl chassis, the J9309A module limits the operating temperature range of the chassis to 32F to 113F (0C to 45C).		

Accessory Product Details

Services	Refer to the HP website at www.hp.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 HP sales office.	
HP 20-port Gig-T PoE+/2-port 10-GbE SFP+ v2 zl Module (J9536A)	Ports	2 open 10-GbE SFP+ transceiver slots 20 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.1 lb. (0.95 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9308A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).	
Services	Refer to the HP website at www.hp.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 HP sales office.	

Accessory Product Details

HP 20-port Gig-T/2-port 10-GbE SFP+ v2 zl Module (J9548A)	Ports	2 open 10-GbE SFP+ transceiver slots 20 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.1 lb. (0.95 kg)
	Environment	
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
Environment	Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
	Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9308A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).	
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 20-port Gig-T PoE+/4-port SFP v2 zl Module (J9535A)	Ports	4 open mini-GBIC (SFP) slots 20 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.1 lb. (0.95 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing

Accessory Product Details

Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9308A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).
Services	Refer to the HP website at www.hp.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 HP sales office.

HP 20-port Gig-T/4-port SFP v2 zl Module (J9549A)

Ports	4 open mini-GBIC (SFP) slots 20 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only								
Physical characteristics	<table> <tr> <td>Dimensions</td> <td>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</td> </tr> <tr> <td>Weight</td> <td>2.1 lb. (0.95 kg)</td> </tr> </table>	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)	Weight	2.1 lb. (0.95 kg)				
Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)								
Weight	2.1 lb. (0.95 kg)								
Environment	<table> <tr> <td>Operating temperature</td> <td>32°F to 131°F (0°C to 55°C)</td> </tr> <tr> <td>Operating relative humidity</td> <td>15% to 95% @ 131°F (55°C), noncondensing</td> </tr> <tr> <td>Nonoperating/Storage temperature</td> <td>-40°F to 158°F (-40°C to 70°C)</td> </tr> <tr> <td>Nonoperating/Storage relative humidity</td> <td>15% to 95% @ 158°F (70°C), noncondensing</td> </tr> </table>	Operating temperature	32°F to 131°F (0°C to 55°C)	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
Operating temperature	32°F to 131°F (0°C to 55°C)								
Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing								
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)								
Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing								
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;								
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9549A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).								
Services	Refer to the HP website at www.hp.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 HP sales office.								

Accessory Product Details

HP 24-port SFP v2 zl Module (J9537A)	Ports	24 open mini-GBIC (SFP) slots				
	Physical characteristics	<table border="0"> <tr> <td>Dimensions</td> <td>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</td> </tr> <tr> <td>Weight</td> <td>2.01 lb. (0.91 kg)</td> </tr> </table>	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)	Weight	2.01 lb. (0.91 kg)
	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)				
	Weight	2.01 lb. (0.91 kg)				
Notes	<p>When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.</p> <p>When installed in a zl chassis, the J8706A module limits the operating temperature range of the chassis to 32°F to 104°F (0°C to 40°C).</p>					
Services	Refer to the HP website at www.hp.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 HP sales office.					

HP 12-port Gig-T PoE+/12-port SFP v2 zl Module (J9637A)	Ports	12 open mini-GBIC (SFP) slots 12 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only				
	Physical characteristics	<table border="0"> <tr> <td>Dimensions</td> <td>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</td> </tr> <tr> <td>Weight</td> <td>2.1 lb. (0.95 kg)</td> </tr> </table>	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)	Weight	2.1 lb. (0.95 kg)
	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)				
	Weight	2.1 lb. (0.95 kg)				
	Environment	Operating temperature	32°F to 131°F (0°C to 55°C)			
		Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing			
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)			
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing			
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;					
Notes	<p>When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.</p> <p>When mini-GBICs are inserted in any mini-GBIC slot of a J9308A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).</p>					
Services	Refer to the HP website at www.hp.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 HP sales office.					

Accessory Product Details

HP 24-port Gig-T PoE+ v2 Ports zl Module (J9534A)

24 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.0 lb. (0.98 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (-40°C), noncondensing
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 24-port Gig-T v2 zl Module (J9550A)

Ports	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.0 lb. (0.98 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (-40°C), noncondensing
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
Services	Refer to the HP website at www.hp.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 HP sales office.	

Accessory Product Details

HP 24-port 10/100 PoE+ v2 zl Module (J9547A)	Ports	24 RJ-45 autosensing 10/100 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: half or full	
	Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight	2.0 lb. (0.98 kg)
	Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
		Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
	Cabling	Cable type: 100BASE-TX: Category 5 (or better), 100 Ω differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100BASE-TX;	
	Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 24-Port 10/100 PoE+ zl Module (J9478A)	Ports	24 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Media Type: Auto-MDIX; Duplex: half or full	
	Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
		Weight	2.0 lb. (0.98 kg)
	Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
		Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
	Cabling	Cable type: 100BASE-TX: Category 5 (or better), 100 Ω unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100BASE-TX;	
	Services	Refer to the HP website at www.hp.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 HP sales office.	

Accessory Product Details

HP 24-Port 10/100/1000 PoE+ zl Module (J9307A)	Ports	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.0 lb. (0.98 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (-40°C), noncondensing
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 20-Port 10/100/1000 PoE+/4-Port Mini-GBIC zl Module (J9308A)	Ports	4 open mini-GBIC (SFP) slots 20 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	2.1 lb. (0.95 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 131°F (55°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 158°F (70°C), noncondensing
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 0 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. When mini-GBICs are inserted in any mini-GBIC slot of a J9308A, this limits the operating temperature range of the chassis to 32F to 104F (0C to 40C).	

Accessory Product Details

Services Refer to the HP website at www.hp.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 HP sales office.

HP 8200 zL System Support Module (J9095A)

Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.4(h) in. (26.16 x 20.65 x 3.55 cm)
	Weight	1.00 lb. (0.45 kg)
Environment	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95%, noncondensing
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 8200 zL Management Module (J9092A)

Ports	1 RJ-45 serial console port	
Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.4(h) in. (26.16 x 20.65 x 3.55 cm)
	Weight	1.20 lb. (0.54 kg)
Environment	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95%, noncondensing
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 8200 zL Fabric Module (J9093A)

Physical characteristics	Dimensions	10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)
	Weight	1.65 lb. (0.75 kg)
Environment	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95%, noncondensing
Services	Refer to the HP website at www.hp.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 HP sales office.	

HP Survivable Branch Communication zL Module powered by Microsoft Lync (J9485A)