Overview

HP 8200 zl Switch Series

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 the total 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, these features deliver an agile, cost-effective, high-availability network solution.

With key technologies to provide solution longevity, the 8200 zl Switch Series delivers long-term investment protection—without added complexity for network core, aggregation, and high-availability access layer deployments. In addition to all of these capabilities, this switch series comes with Limited Lifetime Warranty 2.0 — making it a compelling switching solution.

Front of 8206 zl Switch J9638A

1. Power and Fault LEDs
2. Locator LED
3. Reset and Clear buttons
4. Self Test LED
5. Status LEDs for the Fans, Power Supplies, and Switch Modules
6. LED Mode Select button and indicator LEDs
7. Management Module Reset button, and Status LEDs
8. Component Status LEDs Switch
9. Console Port
10. Auxiliary Port
11. Switch Modules and slots with Link and Mode LEDs for each port located on each module
QuickSpecs
HP 8200 zl Switch Series

Overview

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

Back of the 8206zl Switch J9638A
Front of 8212 zlSwitch J9639A

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

Rear of 8212 zlSwitch J9639A

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

Key features
- Core, distribution, mission-critical access layer
- Advanced high-availability switches
- Integration with HP AllianceONE solutions
- L2-to-L4 intelligent edge feature set
- Enterprise-class performance and security

Features and Benefits
Software-defined networking

- OpenFlow
  supports OpenFlow 1.0 and 1.3 specifications to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths
Overview

Unified Wired and Wireless

- **HTTP redirect function**
  supports HP Intelligent Management Center (IMC) bring your own device (BYOD) solution

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
QuickSpecs

HP 8200 zl Switch Series

Overview

- **Dual flash images**
  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

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

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Overview

- **Security**
  - Provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown

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

- **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

- **Virtual Route Redundancy Protocol**
  - Allows groups of two routers to dynamically back each other up to create highly available routed environments

- **NEW SmartLink**
QuickSpecs

Overview

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
- **DHCP server:**
  centralizes and reduces the cost of IPv4 address management

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)**
  provide filtering based on the IP field, source/destination IP address/subnet, and source/destination TCP/UDP port
**QuickSpecs**

**HP 8200 zl Switch Series**

**Overview**

- **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 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

- **STP Root Guard**
Overview

- 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

- Limited Lifetime Warranty v2.0
  advance hardware replacement with next-business-day delivery (available in most countries). See www.hp.com/networking/warrantysummary for duration details.
- Electronic and telephone support (for Limited Lifetime Warranty 2.0)
  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
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
- 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
- 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

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

PDU CABLE ROW
- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord
- NEMA L6-20P Cord (NA/MEX/JP/TW)

HP 8212 zl Switch with Premium Software
- 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
- 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
QuickSpecs  

HP 8200 zl Switch Series  

Configuration  

- 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  

PDU CABLE NA/MEX/TW/JP  

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

PDU CABLE ROW  

- C15 PDU Jumper Cord (ROW)  

High Volt Switch to Wall Power Cord  

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

Note 1  
The following Transceivers install into this Chassis:  
- HP X121 1G SFP LC SX Transceiver  
- HP X121 1G SFP LC LX Transceiver  
- HP X121 1G SFP LC LH Transceiver  
- HP X121 1G SFP RJ45 T Transceiver  
- HP X122 1G SFP LC BX-D Transceiver  
- HP X122 1G SFP LC BX-U Transceiver  
- HP X132 10G SFP+ LC ER Transceiver  
- HP X132 10G SFP+ LC LR Transceiver  
- HP X132 10G SFP+ LC LRM Transceiver  
- HP X132 10G SFP+ LC SR Transceiver  
- HP X242 SFP+ SFP+ 1m Direct Attach Cable  
- HP X242 SFP+ SFP+ 3m Direct Attach Cable  
- HP X242 SFP+ SFP+ 7m Direct Attach Cable  
- HP X244 XFP SFP+ 1m Direct Attach Cable  
- HP X244 XFP SFP+ 3m Direct Attach Cable  
- HP X244 XFP SFP+ 5m Direct Attach Cable  
- HP X242 10G SFP+ 10m DAC Cable  
- HP X242 10G SFP+ 15m DAC Cable  

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
QuickSpecs

HP 8200 zl Switch Series

Configuration

- SSP trigger sku

CTO Base Sku

HP 8206 zl Switch with Premium Software

- 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 Switch with Premium Software

- 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

PDU CABLE NA/MEX/TW/JP

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

PDU CABLE ROW

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord

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

HP 8212 zl Switch with Premium Software

- 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 Switch with Premium Software

- 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

Note: 1, 2, 5, 8, 9
QuickSpecs

HP 8200 zl Switch Series

Configuration

- 1 - J9095A - HP E8200 zl System Support Module Included
- 3 - J9534A - HP 24-port Gig-T PoE+ v2 zl Module Included
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- 9U - Height

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

Note 1

The following Transceivers install into this Chassis : (Use #0D1 or #B01 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 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 with Premium Software

- 1 Power Supply required

J9640A
QuickSpecs

HP 8200 zl Switch Series

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HP 8206-44G-PoE+-2XG v2 zl Switch with Premium Software

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- 1 - J9095A - HP E8200 zl System Support Module Included
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- 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

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

PDU CABLE ROW

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord

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

HP 8212 zl Switch with Premium Software

- 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 Switch with Premium Software

- 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
QuickSpecs

HP 8200 zl Switch Series

Configuration

**PDU CAB NA/MEX/TW/JP**
- C15 PDU Jumper Cord (NA/MEX/TW/JP) #B2B

**PDU CAB ROW**
- C15 to C14 Jumper Cord (ROW) #B2C

**High Volt Switch to Wall Power Cord**
- NEMA L6-20P Cord (NA/MEX/JP/TW) #B2E

Configuration rules

**Note 1**
The following Transceivers install into this Chassis : (Use #0D1 or #B01 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
  - C15 Outlet J9306A#0D1

PDUCABLE NA/MEX/TW/JP
QuickSpecs

HP 8200 zl Switch Series

Configuration

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

PDU CABLE ROW
- C15 PDU Jumper Cord (ROW) J9306A#B2C

High Volt Switch to Wall Power Cord

HP 875W zl Power Supply
- C15 Outlet J8712A#0D1 See Configuration Note:1, 2, 5, 6

PDU CABLE NA/MEX/TW/JP

PDU CABLE ROW
- C15 PDU Jumper Cord (ROW) J8712A#B2C

HP 1500 W zl Power Supply
- C20 Outlet J8713A#0D1 See Configuration Note:1, 2, 5, 6

C19 PDU WW
- C19 to C20 Jumper Cord J8713A#B2D

High Volt Switch to Wall Power Cord

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

HP 20-port GT PoE+/4-port SFP v2 zl Mod
- min=0 \ max=4 SFP Transceivers

HP 24-port SFP v2 zl Module
- min=0 \ max=24 SFP Transceivers

HP 12p Gig-T PoE+/12p SFP v2 zl Mod
- min=0 \ max=12 SFP Transceivers

HP 20-port Gig-T / 4-port SFP v2 zl Mod
- min=0 \ max=4 SFP Transceivers

HP 4-port 10GbE SFP+ zl Module
- min=0 \ max=4 SFP+ Transceivers

HP 8-port 10 GbE SFP+ v2 zl Module
- min=0 \ max=8 SFP+ Transceivers

HP 20p GT PoE+ / 2p SFP+ v2 zl Module
- min=0 \ max=2 SFP+ Transceivers

HP 20-port Gig-T / 2-port SFP+ v2 zl Mod
QuickSpecs

HP 8200 zl Switch Series

Configuration

- min=0 \ max=2 SFP+ Transceivers

HP 4-Port 10 GbE X2 zl Module
- min=0 \ max=4 X2 Transceivers

HP 4-Port 10 GbE CX4 zl Module
- min=0 \ max=4 CX4 Media Converter

HP 8-port 10GBase-T v2 zl Module
- No Transceivers

HP 24-Port 10/100/1000 PoE zl Module
- No Transceivers

HP 20p 10/100/1000 PoE+/4p MGBIC zl Mod
- min=0 \ max=4 SFP Transceivers

HP 20-Port Gig-T/4-Port Mini-GBIC zl Module
- min=0 \ max=4 SFP Transceivers

HP 24-Port Mini-GBIC zl Module
- min=0 \ max=24 SFP Transceivers

HP 24-Port 10/100/1000 PoE+ zl Module
- No Transceivers

HP 24-port Gig-T PoE+ v2 zl Module
- No Transceivers

HP 24-Port 10/100 PoE+ zl Module
- No Transceivers

HP 24-port 10/100 PoE+ v2 zl Module
- No Transceivers

See Configuration Note:5

J8707A#0D1

See Configuration Note:3

J8708A#0D1

J9546A#0D1

J8702A#0D1

J9308A#0D1

J8705A#0D1

J8706A#0D1

J9307A#0D1

J9534A#0D1

J9478A#0D1

J9547A#0D1
HP 24-port Gig-T v2 zl Module
- No Transceivers

HP MSM765 zl Mobility Controller
- No Transceivers

HP MSM775 zl Premium Controller Module
- No Transceivers

HP Surv Brch Com zl Mod pwrby Msft Lync
- No Transceivers.
- Double Height Module, takes up 2 Vertical slots*

HP Svc zlMod f/AvayaSBC pwrby AcmePacket
- No Transceivers.
- Double Height Module, takes up 2 Vertical slots*

HP Advanced Services v2 zl Module w/ HDD
- No Transceivers

HP Advanced Services v2 zl Module w/ SSD
- No Transceivers

HP Adv Srvs zl Mod w/XenServer Platform
- No Transceivers

HP Adv Srvs zl Mod w/vSphere Platform
- No Transceivers

**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
- HP X112 100M SFP LC BX-D Transceiver
- HP X112 100M SFP LC BX-U Transceiver
- HP X121 1G SFP LC LH Transceiver

---

J9550A#0D1
J9370A
J9840A
J9485A
J9486A
J9857A
J9858A
J9747A
J9748A
J9054C
J9099B
J9100B
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 or #B01 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
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 J9286B
HP X242 10G SFP+ 15m DAC Cable J9287B

**Note 6** If this module is selected, Then:
QuickSpecs

HP 8200 zl Switch Series

Configuration


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 \( \text{max} = 4 \) per Chassis
J9640x min=0 \( \text{max} = 5 \) per Chassis
J9639x, J9641x min=0 \( \text{max} = 6 \) 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 \( \text{max} = 3 \) per Chassis
J9639x, J9641x min=0 \( \text{max} = 6 \) 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
# QuickSpecs

## HP 8200 zl Switch Series

### Configuration

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP X242 10G SFP+ SFP+ 1m DAC Cable</td>
<td>J9281B #B01</td>
</tr>
<tr>
<td>HP X242 10G SFP+ SFP+ 3m DAC Cable</td>
<td>J9283B #B01</td>
</tr>
<tr>
<td>HP X242 10G SFP+ SFP+ 7m DAC Cable</td>
<td>J9285B #B01</td>
</tr>
<tr>
<td>HP X242 10G SFP+ 10m DAC Cable</td>
<td>J9286B</td>
</tr>
<tr>
<td>HP X242 10G SFP+ 15m DAC Cable</td>
<td>J9287B</td>
</tr>
<tr>
<td>HP X244 10G XFP SFP+ 1m DAC Cable</td>
<td>J9300A #B01</td>
</tr>
<tr>
<td>HP X244 10G XFP SFP+ 3m DAC Cable</td>
<td>J9301A #B01</td>
</tr>
<tr>
<td>HP X244 10G XFP SFP+ 5m DAC Cable</td>
<td>J9302A #B01</td>
</tr>
</tbody>
</table>

### X2 Transceivers

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP X131 10G X2 SC ER Transceiver</td>
<td>J8438A</td>
</tr>
<tr>
<td>HP X131 10G X2 SC LR Transceiver</td>
<td>J8437A</td>
</tr>
<tr>
<td>HP X131 10G X2 SC LRM Transceiver</td>
<td>J9144A</td>
</tr>
<tr>
<td>HP X131 10G X2 SC SR Transceiver</td>
<td>J8436A</td>
</tr>
</tbody>
</table>

### Cables

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP .5m Multi-mode OM3 LC/LC FC Cable</td>
<td>AJ833A</td>
</tr>
<tr>
<td>HP 1m Multi-mode OM3 LC/LC FC Cable</td>
<td>AJ834A</td>
</tr>
<tr>
<td>HP 2m Multimode OM3 LC/LC FC Cable</td>
<td>AJ835A</td>
</tr>
<tr>
<td>HP 5m Multimode OM3 LC/LC FC Cable</td>
<td>AJ836A</td>
</tr>
<tr>
<td>HP 15m Multimode OM3 LC/LC FC Cable</td>
<td>AJ837A</td>
</tr>
<tr>
<td>HP 30m Multimode OM3 LC/LC FC Cable</td>
<td>AJ838A</td>
</tr>
<tr>
<td>HP 50m Multimode OM3 LC/LC FC Cable</td>
<td>AJ839A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 1m Cbl</td>
<td>QK732A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 2m Cbl</td>
<td>QK733A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 5m Cbl</td>
<td>QK734A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 15m Cbl</td>
<td>QK735A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 30m Cbl</td>
<td>QK736A</td>
</tr>
<tr>
<td>HP Premier Flex LC/LC OM4 2f 50m Cbl</td>
<td>QK737A</td>
</tr>
</tbody>
</table>

### Switch Enclosure Options

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 8200 zl Switch Premium License</td>
<td>J9474A</td>
</tr>
</tbody>
</table>

### License

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 8212 zl Fan Tray</td>
<td>J9094A</td>
</tr>
<tr>
<td>HP 8206 zl Switch Fan Tray</td>
<td>J9476A</td>
</tr>
</tbody>
</table>

### Survivable Branch Communication Upgrades

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sangoma 2-port T1/E1/J1 Telephony Card</td>
<td>J9488A</td>
</tr>
<tr>
<td>Sangoma 4-port T1/E1/J1 Telephony Card</td>
<td>J9489A</td>
</tr>
<tr>
<td>Sangoma 4-port FXO Telephony Card</td>
<td>J9516A</td>
</tr>
<tr>
<td>Sangoma 4-port FXS Telephony Card</td>
<td>J9482A</td>
</tr>
<tr>
<td>Sangoma 2-port FXO / 2-port FXS Telephony Card</td>
<td>J9518A</td>
</tr>
<tr>
<td>Sangoma 1-port T1/E1/J1 Telephony Card</td>
<td>J9487A</td>
</tr>
</tbody>
</table>

### US Federal Government certifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP zl Chassis FIPS 10K Rack Mounting Kit</td>
<td>J9708A</td>
</tr>
<tr>
<td>HP 16mm x 32mm Tmpr-Evidence (20) Labels</td>
<td>J9740A</td>
</tr>
</tbody>
</table>

---

**Note:** Please see Configuration Details.
QuickSpecs

HP 8200 zl Switch Series

Configuration

HP 16mm x 32mm Tmpr-Evidence (120) Label

HP 8206 zl FIPS Opacity Shield Kit

HP 8212 zl FIPS Opacity Shield Kit

HP 8206 zl High Performance Fan Tray

HP 8212 zl High Performance Fan Tray

Note 1  Do not display in Watson.
HP 8200 zl Switch Series

Technical Specifications

<table>
<thead>
<tr>
<th>HP 8206 zl Switch with Premium Software (J9640A)</th>
<th>Included accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 HP 8200 zl Management Module (J9092A)</td>
</tr>
<tr>
<td></td>
<td>2 HP 8200 zl Fabric Module (J9093A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 8200 zl System Support Module (J9095A)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O ports and slots</th>
<th>6 open module slots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supports a maximum of 144 autosensing 10/100/1000 ports or 48 10-GbE ports or 144 mini-GBICs, or a combination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supplies</th>
<th>2 power supply slots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 minimum power supply required (ordered separately)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>17.42(w) x 17.49(d) x 10.35(h) in (44.25 x 44.42 x 26.29 cm) (6U height)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>48.1 lb (21.82 kg)</td>
</tr>
</tbody>
</table>

Memory and processor

<table>
<thead>
<tr>
<th>Gigabit Module</th>
<th>ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>10G Module</td>
<td>ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM</td>
</tr>
<tr>
<td>Management Module</td>
<td>Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM</td>
</tr>
</tbody>
</table>

Mounting and enclosure

| 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>
<thead>
<tr>
<th>1000 Mb Latency</th>
<th>&lt; 3.7 µs (FIFO 64-byte packets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Gbps Latency</td>
<td>&lt; 2.1 µs (FIFO 64-byte packets)</td>
</tr>
<tr>
<td>Throughput</td>
<td>up to 369.6 Mpps</td>
</tr>
<tr>
<td>Routing/Switching capacity</td>
<td>496.8 Gbps</td>
</tr>
<tr>
<td>Switch fabric speed</td>
<td>561.6 Gbps</td>
</tr>
<tr>
<td>Routing table size</td>
<td>10000 entries (IPv4)</td>
</tr>
<tr>
<td>MAC address table size</td>
<td>64000 entries</td>
</tr>
</tbody>
</table>

Environment

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>32°F to 113°F (0°C to 45°C)</th>
</tr>
</thead>
<tbody>
<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% @ 149°F (65°C), noncondensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>up to 10,000 ft (3 km)</td>
</tr>
<tr>
<td>Acoustic</td>
<td>Power: 60.0 dB, Pressure: 41.3 dB; ISO 7779, ISO 9296</td>
</tr>
</tbody>
</table>

Electrical characteristics

Achieved Miercom Certified Green Award

<table>
<thead>
<tr>
<th>Frequency</th>
<th>50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Chassis ships without power supplies. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.</td>
</tr>
</tbody>
</table>

| Maximum heat | 2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); |

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QuickSpecs

HP 8200 zl Switch Series

Technical Specifications

dissipation 3700 BTU/hr (3903 kJ/hr) (max. PoE)
AC 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 | IEC 61000-4-8: 1 A/m, 50 or 60 Hz |
| magnetic field | |
| 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

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.

<table>
<thead>
<tr>
<th>HP 8212 zl Switch with Premium Software (J9641A)</th>
<th>Included accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HP 8200 zl Management Module (J9092A)</td>
<td></td>
</tr>
<tr>
<td>2 HP 8200 zl Fabric Module (J9093A)</td>
<td></td>
</tr>
<tr>
<td>1 HP 8200 zl System Support Module (J9095A)</td>
<td></td>
</tr>
<tr>
<td>1 HP 8200 zl Switch Premium License (J9474A)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O ports and slots</th>
<th>12 open module slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports a maximum of 288 autosensing 10/100/1000 ports or 96 10-GbE ports or 288 mini-GBICs, or a combination</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supplies</th>
<th>4 power supply slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 minimum power supplies required (ordered separately)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions 17.5(w) x 18.7(d) x 15.6(h) in (44.45 x 47.5 x 39.62 cm) (9U height)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight 50.44 lb (22.88 kg)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory and processor</th>
<th>Gigabit Module ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>10G Module ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM</td>
<td></td>
</tr>
<tr>
<td>Management Module Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR</td>
<td></td>
</tr>
</tbody>
</table>
### Technical Specifications

**Mounting and enclosure**
- 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 µs (FIFO 64-byte packets)
- **10 Gbps Latency**: < 2.1 µs (FIFO 64-byte packets)
- **Throughput**: up to 739 Mpps
- **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)
- **AC 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 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
## HP 8200 zl Switch Series

### 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
- Refer to the HP website at: [www.hp.com/networking/services](http://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)

<table>
<thead>
<tr>
<th>Included accessories</th>
<th>1 HP 8200 zl Management Module (J9092A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 HP 8200 zl Fabric Module (J9093A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 8200 zl System Support Module (J9095A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 1500W PoE+ zl Power Supply (J9306A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 24-port Gig-T PoE+ v2 zl Module (J9534A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)</td>
</tr>
<tr>
<td></td>
<td>1 HP 8200 zl Switch Premium License (J9474A)</td>
</tr>
</tbody>
</table>

#### 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
- **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
- **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 and enclosure
- **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 µs (FIFO 64-byte packets)
- **10 Gbps Latency**: < 2.1 µs (FIFO 64-byte packets)
- **Throughput**: up to 369.6 Mpps
- **Routing/Switching capacity**: 496.8 Gbps
- **Switch fabric speed**: 561.6 Gbps
### QuickSpecs

**HP 8200 zl Switch Series**

**Technical Specifications**

<table>
<thead>
<tr>
<th>Environment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routing table size</strong></td>
<td>10000 entries (IPv4)</td>
</tr>
<tr>
<td><strong>MAC address table size</strong></td>
<td>64000 entries</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>32°F to 113°F (0°C to 45°C)</td>
</tr>
<tr>
<td><strong>Operating relative humidity</strong></td>
<td>15% to 95% @ 131°F (55°C), noncondensing</td>
</tr>
<tr>
<td><strong>Nonoperating/Storage temperature</strong></td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
</tr>
<tr>
<td><strong>Nonoperating/Storage relative humidity</strong></td>
<td>15% to 95% @ 149°F (65°C), noncondensing</td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
<td>up to 10,000 ft (3 km)</td>
</tr>
<tr>
<td><strong>Acoustic</strong></td>
<td>Power: 60.0 dB, Pressure: 41.3 dB; ISO 7779, ISO 9296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical characteristics</th>
<th>Achieved Miercom Certified Green Award</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>50/60 Hz</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Chassis ships without power supplies. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.</td>
</tr>
<tr>
<td><strong>Maximum heat dissipation</strong></td>
<td>2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. PoE)</td>
</tr>
<tr>
<td><strong>AC voltage</strong></td>
<td>100-127/200-240 VAC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety</th>
<th>CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825</th>
</tr>
</thead>
</table>

| Emissions                        | FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 Class A |

<table>
<thead>
<tr>
<th>Immunity</th>
<th>EN EN 55024, CISPR 24</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESD</strong></td>
<td>IEC 61000-4-2; 4 kV CD, 8 kV AD</td>
</tr>
<tr>
<td><strong>Radiated</strong></td>
<td>IEC 61000-4-3; 3 V/m</td>
</tr>
<tr>
<td><strong>EFT/Burst</strong></td>
<td>IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)</td>
</tr>
<tr>
<td><strong>Surge</strong></td>
<td>IEC 61000-4-5; 1 kV/2 kV AC</td>
</tr>
<tr>
<td><strong>Conducted</strong></td>
<td>IEC 61000-4-6; 3 V</td>
</tr>
<tr>
<td><strong>Power frequency magnetic field</strong></td>
<td>IEC 61000-4-8; 1 A/m, 50 or 60 Hz</td>
</tr>
<tr>
<td><strong>Voltage dips and interruptions</strong></td>
<td>IEC 61000-4-11; &gt;95% reduction, 0.5 period; 30% reduction, 25 periods</td>
</tr>
<tr>
<td><strong>Harmonics</strong></td>
<td>EN 61000-3-2, IEC 61000-3-2</td>
</tr>
<tr>
<td><strong>Flicker</strong></td>
<td>EN 61000-3-3, IEC 61000-3-3</td>
</tr>
</tbody>
</table>

| 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                          | 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. |

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**HP**

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# QuickSpecs

## HP 8200 zl Switch Series

### Technical Specifications

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<th>Included accessories</th>
<th>1 HP 8200 zl Management Module (J9092A)</th>
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<td>2 HP 8200 zl Fabric Module (J9093A)</td>
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</tr>
<tr>
<td></td>
<td>3 HP 24-port Gig-T PoE+ v2 zl Module (J9534A)</td>
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<tr>
<td></td>
<td>1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O ports and slots</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 SFP+ 10-GbE ports; Duplex: full only</td>
</tr>
<tr>
<td></td>
<td>8 open module slots</td>
</tr>
<tr>
<td></td>
<td>Supports a maximum of 288 autosensing 10/100/1000 ports or 96 10-GbE ports or 288 mini-GBICs, or a combination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supplies</th>
<th>4 power supply slots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 minimum power supplies required includes: 2 x J9306A (HP 1500W PoE+ zl Power Supply)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions</th>
<th>17.5(w) x 18.7(d) x 15.6(h) in (44.45 x 47.5 x 39.62 cm) (9U height)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Weight</td>
<td>102.76 lb (46.61 kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory and processor</th>
<th>Gigabit Module</th>
<th>ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM</th>
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<tbody>
<tr>
<td></td>
<td>10G Module</td>
<td>ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM</td>
</tr>
<tr>
<td></td>
<td>Management Module</td>
<td>Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM</td>
</tr>
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</table>

| Mounting and enclosure   | 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). |

<table>
<thead>
<tr>
<th>Performance</th>
<th>1000 Mb Latency</th>
<th>&lt; 3.7 µs (FIFO 64-byte packets)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 Gbps Latency</td>
<td>&lt; 2.1 µs (FIFO 64-byte packets)</td>
</tr>
<tr>
<td></td>
<td>Throughput</td>
<td>up to 739 Mpps</td>
</tr>
<tr>
<td></td>
<td>Routing/Switching capacity</td>
<td>993.6 Gbps</td>
</tr>
<tr>
<td></td>
<td>Switch fabric speed</td>
<td>1.1 Tbps</td>
</tr>
<tr>
<td></td>
<td>Routing table size</td>
<td>10000 entries (IPv4)</td>
</tr>
<tr>
<td></td>
<td>MAC address table size</td>
<td>64000 entries</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment</th>
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<tr>
<td></td>
<td>Operating relative humidity</td>
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<td></td>
<td>Nonoperating/Storage temperature</td>
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<td></td>
<td>Nonoperating/Storage relative humidity</td>
<td>15% to 95% @ 149°F (65°C), noncondensing</td>
</tr>
<tr>
<td></td>
<td>Altitude</td>
<td>up to 10,000 ft (3 km)</td>
</tr>
</tbody>
</table>
## Technical Specifications

### 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)
- **AC 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
- **Flicker**
  - EN 61000–3–2, IEC 61000–3–2
  - 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)**

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- Interface/Service modules, power supplies, and redundant management module must be ordered separately.
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### Services
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### Standards and protocols
- **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)
  - RFC 4724 Graceful Restart Mechanism for BGP
  - RFC 5492 Capabilities Advertisement with BGP-4
- **Denial of service protection**
  - CPU DoS Protection
QuickSpecs

Technical Specifications

Device management
- RFC 1591 DNS (client)
- HTML and telnet management

General protocols
- IEEE 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 1918 Address Allocation for Private Internet
- 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
- RFC 5798 VRRP (exclude Accept Mode and sub-second timer)
- 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
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping
**MIBs**

- 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 MIB
  (MLDv2 only)
- RFC 5722 Handling of Overlapping IPv6 Fragments
- RFC 1155 Structure & ID of Mgmt Info for TCP/IP Internets
- 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 2578 Structure of Management Information Version 2 (SMIv2)
- RFC 2613 SMON MIB
- RFC 2618 RADIUS Client MIB
- RFC 2620 RADIUS Accounting MIB
- 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)
QuickSpecs

Technical Specifications

**Network management**
- RFC 2787 VRRP MIB
- RFC 2863 The Interfaces Group MIB
- RFC 2925 Ping MIB
- RFC 2932 IP (Multicast Routing MIB)
- RFC 2933 IGMP MIB
- RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)
- 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
- RFC 5424 Syslog Protocol
- 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

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<td>HP 8-port 10GbE SFP+ v2 zl Module</td>
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<td>HP 24-port Mini-GBIC zl Module</td>
<td>J8706A</td>
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<td>HP 24-port 10/100/1000 PoE+ zl Module</td>
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<td>HP Advanced Services v2 zl Module with SSD</td>
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<td>HP X131 10G X2 SC LRM Transceiver</td>
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<td>HP X112 100M SFP LC BX-D Transceiver</td>
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</tr>
<tr>
<td>HP X112 100M SFP LC BX-U Transceiver</td>
<td>J9100B</td>
</tr>
<tr>
<td>HP X132 10G SFP+ LC SR Transceiver</td>
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<tr>
<td>HP X132 10G SFP+ LC LR Transceiver</td>
<td>J9151A</td>
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<tr>
<td>HP X132 10G SFP+ LC LRM Transceiver</td>
<td>J9152A</td>
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<td>J4860C</td>
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<td>HP X121 1G SFP LC SX Transceiver</td>
<td>J4858C</td>
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<tr>
<td>HP X121 1G SFP LC LX Transceiver</td>
<td>J4859C</td>
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<td>HP X122 1G SFP LC BX-D Transceiver</td>
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<td>HP X122 1G SFP LC BX-U Transceiver</td>
<td>J9143B</td>
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**Cables**

- HP X132 10G SFP+ LC ER Transceiver: J9153A
- HP X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable: J9281B
- HP X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable: J9283B
- HP X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable: J9285B
- HP X244 10G XFP to SFP+ 1m Direct Attach Copper Cable: J9300A
- HP X244 10G XFP to SFP+ 3m Direct Attach Copper Cable: J9301A
- HP X244 10G XFP to SFP+ 5m Direct Attach Copper 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

**Power Supply**

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

**License**

- HP 8200 zl Switch Premium License: J9474A

**WLAN**

- HP MSM775 zl Premium Controller Module: J9840A
- HP 8206 zl Switch with Premium Software (J9640A)
- HP 20-port Gig-T / 4-port SFP v2 zl Mod: J9549A
- HP 8206 zl Switch Fan Tray: J9476A

**HP 8212 zl Switch with Premium Software (J9641A)**

- 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)

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<th>Ports</th>
<th>8 RJ-45 10-GbE ports; Duplex: full only</th>
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<tr>
<td><strong>Physical characteristics</strong></td>
<td><strong>Dimensions</strong></td>
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<td><strong>Weight</strong></td>
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<td><strong>Full configuration weight</strong></td>
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<td><strong>Environment</strong></td>
<td><strong>Operating temperature</strong></td>
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<td><strong>Nonoperating/Storage temperature</strong></td>
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<tr>
<td></td>
<td><strong>Nonoperating/Storage relative humidity</strong></td>
</tr>
<tr>
<td><strong>Fiber type</strong></td>
<td>Single Mode</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Max Distance up to 100m with qualified 10Gbase-T Cat7 (Shielded), Cat6a (Shielded/Unshielded) and Cat6 (Shielded, tested to 350Mhz TIA/EIA TSB-155A) cables. Max Distance up to 55m with Cat6 (unshielded, tested to 350Mhz TIA/EIA TSB-155A)</td>
</tr>
<tr>
<td>Services</td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
</tbody>
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### HP 8-port 10 GbE SFP+ v2 zl Module (J9538A)

<table>
<thead>
<tr>
<th>Ports</th>
<th>8 open 10-GbE SFP+ transceiver slots</th>
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<tbody>
<tr>
<td><strong>Physical characteristics</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Weight</strong></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td><strong>Operating temperature</strong></td>
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<td></td>
<td><strong>Operating relative humidity</strong></td>
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<td></td>
<td><strong>Nonoperating/Storage temperature</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Nonoperating/Storage relative humidity</strong></td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>When using mini-GBICs with this product, mini-GBICs with revision &quot;B&quot; or later (product number ends with the letter &quot;B&quot; 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 32°F to 104°F (0°C to 40°C).</td>
</tr>
<tr>
<td>Services</td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
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### HP 4-Port 10 GbE CX4 zl Module (J8708A)

<table>
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<tr>
<th>Ports</th>
<th>4 CX4 10-GbE ports (IEEE 802.3ak Type 10GBASE-CX4); Duplex: full only</th>
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<tbody>
<tr>
<td><strong>Physical characteristics</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Weight</strong></td>
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### QuickSpecs

**HP 8200 zl Switch Series**

#### Accessory Product Details

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<th>Operating temperature</th>
<th>32°F to 131°F (0°C to 55°C)</th>
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<tr>
<td>Cabling</td>
<td>Maximum distance:</td>
<td>• 15 m using CX4 cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 300 m using optical media converters and multimode fiber cable</td>
</tr>
<tr>
<td>Notes</td>
<td>Use CX4 10-GbE cable (0.5 m-15 m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No CX4 cables are included with this module.</td>
<td></td>
</tr>
</tbody>
</table>

#### HP 4-Port 10 GbE X2 zl Module (J8707A)

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<tr>
<th>Ports</th>
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<tbody>
<tr>
<td>Physical characteristics</td>
<td>Dimensions</td>
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<tr>
<td></td>
<td>Weight</td>
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#### HP 4-Port 10 GbE SFP+ zl Module (J9309A)

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<th>Ports</th>
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<tr>
<td>Physical characteristics</td>
<td>Dimensions</td>
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<tr>
<td></td>
<td>Weight</td>
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#### HP 20-port Gig-T PoE+/2-Port 10-GbE SFP+ v2 zl Module (J9536A)

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions</th>
<th>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</th>
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</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Operating temperature</td>
<td>32°F to 131°F (0°C to 55°C)</td>
</tr>
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</table>

#### Services

Refer to the HP website at [www.hp.com/networking/services](http://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.

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).

Nonoperating/Storage temperature

-40°F to 158°F (-40°C to 70°C)

When installed in a zl chassis, the J9309A module limits the operating temperature range of the chassis to 32°F to 113°F (0°C to 45°C).

Nonoperating/Storage relative humidity

15% to 95% @ 158°F (70°C), noncondensing

When installed in a zl chassis, the J9536A module limits the operating temperature range of the chassis to 32°F to 113°F (0°C to 45°C).

Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
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 (SE or better recommended), 100 Ω 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 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 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
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 (SE or better recommended), 100 Ω 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 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 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
QuickSpecs
HP 8200 zl Switch Series

Accessory Product Details

HP 8200 zl Switch Series

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 Ω 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 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 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

| 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 Ω 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 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
## HP 24-port SFP v2 zl Module (J9537A)

### Ports
- 24 open mini-GBIC (SFP) 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**: 2.01 lb. (0.91 kg)

### 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 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).

### Services
- Refer to the HP website at [www.hp.com/networking/services](http://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
- **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 Ω 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 32°F to 104°F (0°C to 40°C).

### Services
- Refer to the HP website at [www.hp.com/networking/services](http://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 PoE+ v2 zl Module (J9534A)

### Ports
- 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
## QuickSpecs

**HP 8200 zl Switch Series**

### Accessory Product Details

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions</th>
<th>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td></td>
<td>2.0 lb. (0.98 kg)</td>
</tr>
</tbody>
</table>

### 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 Ω 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](http://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 Ω 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](http://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.

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#### 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 Type 1000BASE-T); 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
Accessory Product Details

### HP 24-Port 10/100 PoE+ zl Module (J9478A)

| 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](http://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 10/100/1000 PoE+ zl Module (J9307A)

| 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**: 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HP 20-Port 10/100/1000 PoE+ 4-Port Mini-GBIC zl Module (J9308A)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Ports</strong></td>
<td>4 open mini-GBIC (SFP) slots</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td>Dimensions: 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></td>
<td>Weight: 2.1 lb. (0.95 kg)</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>Operating temperature: 32°F to 131°F (0°C to 55°C)</td>
</tr>
<tr>
<td></td>
<td>Operating relative humidity: 15% to 95% @ 131°F (55°C), noncondensing</td>
</tr>
<tr>
<td></td>
<td>Nonoperating/Storage temperature: -40°F to 158°F (-40°C to 70°C)</td>
</tr>
<tr>
<td></td>
<td>Nonoperating/Storage relative humidity: 15% to 95% @ 158°F (70°C), noncondensing</td>
</tr>
<tr>
<td><strong>Cabling</strong></td>
<td>Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;</td>
</tr>
</tbody>
</table>

**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 32°F to 104°F (0°C to 40°C).

**Services**

Refer to the HP website at [www.hp.com/networking/services](http://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](http://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) |
### Accessory Product Details

<table>
<thead>
<tr>
<th><strong>Environment</strong></th>
<th><strong>Weight</strong></th>
<th><strong>Nonoperating/Storage temperature</strong></th>
<th><strong>Nonoperating/Storage relative humidity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.20 lb. (0.54 kg)</td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
<td>15% to 95%, noncondensing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Services</strong></th>
<th><strong>Details</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
</tbody>
</table>

### HP 8200 zl Fabric Module (J9093A)

<table>
<thead>
<tr>
<th><strong>Physical characteristics</strong></th>
<th><strong>Dimensions</strong></th>
<th><strong>Weight</strong></th>
<th><strong>Nonoperating/Storage temperature</strong></th>
<th><strong>Nonoperating/Storage relative humidity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.3(d) x 8.13(w) x 1.75(h) in. (26.16 x 20.65 x 4.45 cm)</td>
<td>1.65 lb. (0.75 kg)</td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
<td>15% to 95%, noncondensing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Services</strong></th>
<th><strong>Details</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th><strong>Ports</strong></th>
<th><strong>1 USB 2.0</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Physical characteristics</strong></th>
<th><strong>Dimensions</strong></th>
<th><strong>Weight</strong></th>
<th><strong>Operating temperature</strong></th>
<th><strong>Operating relative humidity</strong></th>
<th><strong>Nonoperating/Storage temperature</strong></th>
<th><strong>Nonoperating/Storage relative humidity</strong></th>
<th><strong>Altitude</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.75(d) x 8.13(w) x 3.5(h) in. (24.77 x 20.65 x 8.89 cm)</td>
<td>4.5 lb. (2.04 kg)</td>
<td>32°F to 122°F (0°C to 50°C); Important: See note for 50°C temperature spec rules</td>
<td>15% to 90% @ 104°F (40°C), noncondensing</td>
<td>14°F to 149°F (-10°C to 65°C)</td>
<td>15% to 90% @ 149°F (65°C), noncondensing</td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
</tbody>
</table>

**Notes**

HP E5400 zl chassis operating temperature specifications when the services module is installed: 45°C when any services module is installed in the right side of the chassis, 50°C when all services modules are installed in the left side of the chassis.  
Up to four services modules can be installed in an HP E5412 zl/E8212 zl Switch chassis simultaneously. Up to two services modules can be installed in an HP E5406 zl/E8206 zl Switch chassis simultaneously.  
When the services module is installed, the maximum relative humidity for the switch drops from 95% to 90%.  

| **Services** | **3-year, 4-hour onsite, 13x5 coverage for hardware (UY932E)**  
|--------------|---------------------------------------------------------------|
|              | 3-year, 4-hour onsite, 24x7 coverage for hardware (UY933E)  
|              | 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY934E)  
|              | 3-year, 24x7 SW phone support, software updates (UY935E)  
|              | 3 Yr 6 hr Call-to-Repair Onsite (UY936E)  
|              | Refer to the HP website at [www.hp.com/networking/services](http://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 |
**HP Services zl Module for Avaya Aura Session Border Controller powered by Acme Packet** (J9486A)

**Physical characteristics**
- **Dimensions**: 9.75(d) x 8.13(w) x 3.5(h) in. (24.77 x 20.65 x 8.89 cm)
- **Weight**: 4.5 lb. (2.04 kg)

**Environment**
- **Operating temperature**: 32°F to 122°F (0°C to 50°C); Important: See note for 50°C temperature specs rules
- **Operating relative humidity**: 15% to 90% @ 104°F (40°C), noncondensing
- **Nonoperating/Storage temperature**: 14°F to 149°F (-10°C to 65°C)
- **Nonoperating/Storage relative humidity**: 15% to 90% @ 149°F (65°C), noncondensing
- **Altitude**: up to 10,000 ft. (3 km)

**Notes**
- HP E5400zl chassis operating temperature specifications when the services module is installed: 45°C when any services module is installed in the right side of the chassis, 50°C when all services modules are installed in the left side of the chassis.
- Up to four services modules can be installed in an HP E5412zl/E8212zl Switch chassis simultaneously.
- Up to two services modules can be installed in an HP E5406zl/E8206zl Switch chassis simultaneously.
- When the services module is installed, the maximum relative humidity for the switch drops from 95% to 90%.
- The SBC software and licenses are procured from Avaya or Avaya authorized resellers.
- This product does not support Avaya Aura SBC HA functionality.

**Services**
- 3-year, 4-hour onsite, 13x5 coverage for hardware (UY492E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (UY493E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY494E)
- 3-year, 24x7 SW phone support, software updates (UY496E)
- 3 Yr 6 hr Call-to-Repair Onsite (UY495E)

Refer to the HP website at: [www.hp.com/networking/services](http://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.

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**HP X131 10G X2 SC ER Transceiver** (J8438A)

**HP X131 10G X2 SC ER Transceiver**: An X2 format 10-gigabit transceiver with SC connectors using ER technology.

**Ports**
- 1 SC 10-GbE port (IEEE 802.3ae Type 10GBASE-ER); Duplex: full only

**Connectivity**
- **Connector type**: SC
- **Wavelength**: 1550 nm

**Physical characteristics**
- **Dimensions**: 3.48(d) x 1.42(w) x 0.43(h) in. (8.84 x 3.61 x 1.09 cm)
- **Weight**: 0.35 lb. (0.16 kg)

**Environment**
- **Operating temperature**: 32°F to 104°F (0°C to 40°C)
- **Operating relative humidity**: 15% to 95%, noncondensing

**Electrical characteristics**
- **Power consumption typical**: 3 W
- **Power consumption maximum**: 4.5 W

**Cabling**
- **Cable type**: Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;
- **Cable length**: 2m to 30km (max 40km on engineered links)
**Fiber type** Single Mode

**Notes**
Conditioning patch cord cables are not supported.
For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended.

**Services**
Refer to the HP website at [www.hp.com/networking/services](http://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.

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**HP X131 10G X2 SC SR Transceiver** (J8436A)

**Ports**
1 SC 10-GbE port (IEEE 802.3ae Type 10GBASE-SR); Duplex: full only

**Connectivity**
Connector type: SC
Wavelength: 850 nm

**Physical characteristics**
Dimensions: 3.48(d) x 1.42(w) x 0.43(h) in. (8.84 x 3.61 x 1.09 cm)
Weight: 0.35 lb. (0.16 kg)

**Transceiver form factor** X2

**Environment**
Operating temperature: 32°F to 158°F (0°C to 70°C)
Operating relative humidity: 0% to 95%, noncondensing
Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)
Nonoperating/Storage relative humidity: 0% to 95%, noncondensing
Altitude: up to 10,000 ft. (3 km)

**Electrical characteristics**
Power consumption:
- Typical: 1.7 W
- Maximum: 2.4 W

**Cabling**
Cable type:
62.5/125 µm or 50/125 µm (core/cladding) graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively;

Maximum distance:
- 2-26m with 62.5 µm multimode cable @ 160 MHz*km
- 2-33m with 62.5 µm multimode cable @ 200 MHz*km
- 2-66m with 50 µm multimode cable @ 400 MHz*km
- 2-82m with 50 µm multimode cable @ 500 MHz*km
- 2-300m with 50 µm multimode cable @ 2000 MHz*km

**Fiber type** Multi Mode

**Notes**
For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended.

**Services**
Refer to the HP website at [www.hp.com/networking/services](http://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 X131 10G X2 CX4 Transceiver (J8440C)

Transceiver: An X2 format 10-gigabit CX4 transceiver.

### Accessory Product Details

<table>
<thead>
<tr>
<th>HP X131 10G X2 CX4 Transceiver</th>
<th>Ports</th>
<th>1 CX4 10-GbE port (IEEE 802.3ak Type 10GBASE-CX4); Duplex: full only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Connectivity</td>
<td>Connector type: CX4</td>
</tr>
<tr>
<td></td>
<td>Physical characteristics</td>
<td>Dimensions: 3.54(d) x 1.42(w) x 0.53(h) in. (8.99 x 3.61 x 1.35 cm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 0.18 lb. (0.08 kg)</td>
</tr>
<tr>
<td></td>
<td>Environment</td>
<td>Operating temperature: 32°F to 131°F (0°C to 55°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operating relative humidity: 15% to 95% @ 149°F (65°C), non-condensing</td>
</tr>
<tr>
<td></td>
<td>Cabling</td>
<td>Maximum distance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 15 m using CX4 cables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 300 m using optical media converters and multimode fiber cable</td>
</tr>
</tbody>
</table>

### Notes

Use CX4 10-GbE cable (0.5-15 m)
Includes a single 0.5 m cable.

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 X111 100M SFP LC FX Transceiver (J9054C)

Transceiver: An SFP format 100-megabit transceiver with LC connectors using FX technology.

### Accessory Product Details

<table>
<thead>
<tr>
<th>HP X111 100M SFP LC FX Transceiver</th>
<th>Ports</th>
<th>1 LC 100BASE-FX port (IEEE 802.3u Type 100BASE-FX); Duplex: half or full</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physical characteristics</td>
<td>Dimensions: 2.7(d) x 0.54(w) x 0.48(h) in. (6.86 x 1.38 x 1.22 cm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 0.06 lb. (0.03 kg)</td>
</tr>
<tr>
<td></td>
<td>Environment</td>
<td>Operating temperature: 32°F to 158°F (0°C to 70°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operating relative humidity: 5% to 95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nonoperating/Storage relative humidity: 5% to 85%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Altitude: up to 10,000 ft. (3 km)</td>
</tr>
<tr>
<td></td>
<td>Cabling</td>
<td>Type:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum distance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 2 km (full duplex) or 412 m (half duplex)</td>
</tr>
</tbody>
</table>

### Notes

Transmitter wavelength: 1310nm
Power consumption is 1.1 watt maximum.

For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9054C 100-FX SFP-LC Transceiver" on the "HP Mini-GBICs and SFPs" Manuals Web page.

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 X131 10G X2 SC LR

Transceiver: An SC format 10-gigabit LR transceiver.

### Accessory Product Details

<table>
<thead>
<tr>
<th>HP X131 10G X2 SC LR</th>
<th>Ports</th>
<th>1 SC 10-GbE port (IEEE 802.3ae Type 10GBASE-LR); Duplex: full only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Connectivity</td>
<td>Connector type: SC</td>
</tr>
</tbody>
</table>
## QuickSpecs

### HP 8200 zl Switch Series

#### Accessory Product Details

**Transceiver (J8437A)**

An X2 form-factor transceiver that supports the 10-Gigabit LR standard, providing 10-Gigabit connectivity up to 10 km on single-mode fiber.

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Wavelength</th>
<th>1310 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dimensions</td>
<td>3.48(d) x 1.42(w) x 0.43(h) in. (8.84 x 3.61 x 1.09 cm)</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>0.35 lb. (0.16 kg)</td>
</tr>
<tr>
<td>Transceiver form factor</td>
<td>X2</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>32°F to 104°F (0°C to 40°C)</td>
<td></td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>15% to 95%, noncondensing</td>
<td></td>
</tr>
<tr>
<td>Nonoperating/Storage temperature</td>
<td>-40°F to 185°F (-40°C to 85°C)</td>
<td></td>
</tr>
<tr>
<td>Altitude</td>
<td>up to 10,000 ft. (3 km)</td>
<td></td>
</tr>
</tbody>
</table>

**Environment**

| Electrical characteristics | Power consumption typical | 2 W |
|                           | Power consumption maximum | 3 W |

**Cabling**

Cable type:

- Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;
- Maximum distance:
  - 10 km

**Notes**

- Conditioning patch cord cables are not supported
- For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended

**Services**

Refer to the HP website at [www.hp.com/networking/services](http://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 X131 10G X2 SC LRM Transceiver (J9144A)

An X2 form-factor transceiver that supports the 10-Gigabit LRM standard, providing 10-Gigabit connectivity up to 220 m on legacy multimode fiber.

<table>
<thead>
<tr>
<th>Ports</th>
<th>1 SC 10-GbE port (IEEE 802.3aq Type 10GBASE-LRM); Duplex: full only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical characteristics</td>
<td>Dimensions</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
</tr>
<tr>
<td>Transceiver form factor</td>
<td>X2</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>32°F to 158°F (0°C to 70°C)</td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>0% to 95%, noncondensing</td>
</tr>
<tr>
<td>Nonoperating/Storage temperature</td>
<td>-40°F to 185°F (-40°C to 85°C)</td>
</tr>
<tr>
<td>Altitude</td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
</tbody>
</table>

**Environment**

| Electrical characteristics | Power consumption typical | 3.2 W |
|                           | Power consumption maximum | 4.2 W |

**Cabling**

Cable type:
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations);

Maximum distance:
- 0.5–220m with 62.5 µm multimode cable @ 160/500 MHz*km
- 0.5–220m with 62.5 µm multimode cable @ 200/500 MHz*km
- 0.5–100m with 50 µm multimode cable @ 400/400 MHz*km
- 0.5–220m with 50 µm multimode cable @ 500/500 MHz*km
- 0.5–220m with 50 µm multimode cable @ 1500/500 MHz*km

Cable length: .5m to 220m
Fiber type: Multi Mode

Notes
Wavelength: 1310nm
For OM3 cable (50 µm multimode @ 1500/500 MHz*km), a mode-conditioning patch cord is not required. Other multimode cables may require mode-conditioning patch cords to achieve the maximum distances listed above.

For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9144A 10-GbE X2-SC LRM Optic" on the "HP 10-GbE Transceivers" Manuals Web page.

Power Consumption: 4W Max

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 X112 100M SFP LC BX-D Transceiver (J9099B)

Ports
1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-D); Duplex: full only

Physical characteristics
Dimensions
2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)

Weight
0.04 lb. (0.03 kg)

Environment
Operating temperature
32ºF to 158ºF (0ºC to 70ºC)

Operating relative humidity
0% to 95%, noncondensing

Nonoperating/Storage temperature
-40ºF to 185ºF (-40ºC to 85ºC)

Cabling
Type:
Single-mode fiber optic, complying with ITU-T G.652;

Maximum distance:
- 0.5–10,000 m (single-mode fiber)

Notes
Transmit wavelength: 1550 nm. Receive wavelength: 1310 nm. Power consumption is 1.1 watt maximum.
For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9144A 10-GbE X2-SC LRM Optic" on the "HP 10-GbE Transceivers" Manuals Web page.
The J9099B connects to the J9100B "upstream" transceiver, or to any IEEE-standard 100BASE-BX10-U ("upstream") device.
QuickSpecs

Accessory Product Details

**Services**

- can only connect to a 100-BX-U product. You cannot connect two 100-BX-D transceivers together.

Refer to the HP website at [www.hp.com/networking/services](http://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 X112 100M SFP LC BX-U Transceiver** (J9100B)

A small form-factor pluggable (SFP) 100-Megabit BX (bi-directional) “upstream” transceiver that provides 100 Mbps full-duplex connectivity up to 10 km on one strand of singlemode fiber. The J9100B connects to the J9099B “downstream” transceiver, or to any IEEE-standard 100BASE-BX10-D (“downstream”) device.

**Ports**

- 1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-U); Duplex: full only

**Physical characteristics**

- Dimensions: 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)
- Weight: 0.07 lb. (.03 kg)

**Environment**

- Operating temperature: 32ºF to 158ºF (0ºC to 70ºC)
- Operating relative humidity: 0% to 95%, noncondensing
- Nonoperating/Storage temperature: -40ºF to 185ºF (-40ºC to 85ºC)

**Cabling**

- Single-mode fiber optic, complying with ITU-T G.652;

**Notes**

For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9100B connects to the J9099B "downstream" transceiver, or to any IEEE-standard 100BASE-BX10-D (“downstream”) device. (A 100-BX-U transceiver can only connect to a 100-BX-D product. You cannot connect two 100-BX-U transceivers together.)


Power consumption is 1.1 watts maximum.

**Services**

Refer to the HP website at [www.hp.com/networking/services](http://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 X132 10G SFP+ LC SR Transceiver** (J9150A)

A 10-Gigabit transceiver in SFP+ form-factor that supports the 10-Gigabit SR standard, providing 10-Gigabit connectivity up to 300 m on multimode fiber.

**Ports**

- 1 LC 10-GbE port (IEEE 802.3ae Type 10Gbase-SR); Duplex: full only

**Connectivity**

- Connector type: LC
- Wavelength: 850 nm

**Physical characteristics**

- Dimensions: 2.19(d) x 0.54(w) x 0.47(h) in. (5.57 x 1.38 x 1.19 cm)
- Weight: 0.04 lb. (0.02 kg)

**Environment**

- Transceiver form factor: SFP+
- Operating temperature: 32°F to 158°F (0°C to 70°C)
- Operating relative humidity: 0% to 85%, noncondensing
- Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)
### QuickSpecs

**HP 8200 zl Switch Series**

**Accessory Product Details**

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<th>Specification</th>
<th>Value</th>
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<td><strong>Temperature</strong></td>
<td></td>
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<tr>
<td><strong>Altitude</strong></td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
<tr>
<td><strong>Electrical Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Power consumption typical</strong></td>
<td>0.6 W</td>
</tr>
<tr>
<td><strong>Power consumption maximum</strong></td>
<td>0.8 W</td>
</tr>
<tr>
<td><strong>Cabling</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cable type</strong></td>
<td>62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively;</td>
</tr>
<tr>
<td><strong>Maximum distance:</strong></td>
<td></td>
</tr>
<tr>
<td>• 2-26m with 62.5 µm multimode cable @ 160 MHz*km</td>
<td></td>
</tr>
<tr>
<td>• 2-33m with 62.5 µm multimode cable @ 200 MHz*km</td>
<td></td>
</tr>
<tr>
<td>• 2-66m with 50 µm multimode cable @ 400 MHz*km</td>
<td></td>
</tr>
<tr>
<td>• 2-82m with 50 µm multimode cable @ 500 MHz*km</td>
<td></td>
</tr>
<tr>
<td>• 2-300m with 50 µm multimode cable @ 2000 MHz*km</td>
<td></td>
</tr>
<tr>
<td><strong>Cable length</strong></td>
<td>2-300m</td>
</tr>
<tr>
<td><strong>Fiber type</strong></td>
<td>Multi Mode</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended.</td>
</tr>
</tbody>
</table>

**Services**

Refer to the HP website at: [www.hp.com/networking/services](http://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.

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### HP X132 10G SFP+ LC LR Transceiver (J9151A)

**Ports**

1 LC 10-GbE port (IEEE 802.3ae Type 10Gbase-LR); Duplex: full only

**Connectivity**

**Connector type**

LC

**Physical characteristics**

**Wavelength**

1310 nm

**Dimensions**

2.19(d) x 0.54(w) x 0.47(h) in. (5.57 x 1.38 x 1.19 cm)

**Weight**

0.04 lb. (.02 kg)

**Environment**

**Transceiver form factor**

SFP+

**Operating temperature**

32°F to 158°F (0°C to 70°C)

**Operating relative humidity**

0% to 85%, noncondensing

**Nonoperating/Storage temperature**

-40°F to 185°F (-40°C to 85°C)

**Altitude**

up to 10,000 ft. (3 km)

**Electrical characteristics**

**Power consumption typical**

0.9 W

**Power consumption maximum**

1 W

**Cabling**

**Cable type:**

Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

Maximum distance:

- 2m-10km with 9/125 µm single-mode cable

<table>
<thead>
<tr>
<th><strong>Cable length</strong></th>
<th>2m to 10km</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fiber type</strong></td>
<td>Single Mode</td>
</tr>
</tbody>
</table>

**Notes**

Conditioning patch cord cables are not supported.
For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended.

**Services**

Refer to the HP website at: [www.hp.com/networking/services](http://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.

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**HP X132 10G SFP+ LC LRM Transceiver (J9152A)**

**Ports**

1 LC 10-GbE port (IEEE 802.3aq Type 10Gbase-LRM); Duplex: full only

**Connectivity**

**Connector type**

LC

**Wavelength**

1310 nm

**Physical characteristics**

**Dimensions**

2.19(d) x 0.54(w) x 0.47(h) in. (5.57 x 1.38 x 1.19 cm)

**Weight**

0.04 lb. (.02 kg)

**Transceiver form factor**

SFP+

**Environment**

**Operating temperature**

32°F to 158°F (0°C to 70°C)

**Operating relative humidity**

0% to 85%, noncondensing

**Nonoperating/Storage temperature**

-40°F to 185°F (-40°C to 85°C)

**Altitude**

up to 10,000 ft. (3 km)

**Electrical characteristics**

**Power consumption typical**

0.7 W

**Power consumption maximum**

1 W

**Cabling**

Cable type:

62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2

Type A1b or A1a, respectively (a mode conditioning patch cord may be needed in some multimode fiber installations);

Maximum distance:

- 0.5-220m with 62.5 µm multimode cable @ 160/500 MHz*km
- 0.5-220m with 62.5 µm multimode cable @ 200/500 MHz*km
- 0.5-100m with 50 µm multimode cable @ 400/400 MHz*km
- 0.5-220m with 50 µm multimode cable @ 500/500 MHz*km
- 0.5-220m with 50 µm multimode cable @ 1500/500 MHz*km

<table>
<thead>
<tr>
<th><strong>Cable length</strong></th>
<th>0.5m to 220m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fiber type</strong></td>
<td>Multi Mode</td>
</tr>
</tbody>
</table>

**Notes**

For OM3 cable (50 µm multimode @ 1500/500 MHz*km), a mode-conditioning patch cord is not required. Other multimode cables may
require mode-conditioning patch cords to achieve the maximum distances listed above.
For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended.

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 X121 1G SFP LC LH Transceiver (J4860C)

A small form-factor pluggable (SFP) Gigabit LH transceiver that provides a full-duplex Gigabit solution up to 70 km on single-mode fiber.

Ports
1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics); Duplex: full only

Physical characteristics
Dimensions: 2.17(d) x 0.60(w) x 0.46(h) in. (5.5 x 1.53 x 1.18 cm)
Weight: 0.04 lb. (0.02 kg)

Environment
Operating temperature: -40°F to 185°F (-40°C to 85°C)
Operating relative humidity: 0% to 95% @ 77°F (25°C), noncondensing
Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C)
Altitude: up to 10,000 ft. (3 km)

Cabling
- Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;
- Maximum distance:
  - 10–70,000 m (single-mode fiber)

Notes
Power consumption is 0.8 watts typical with 1 watt maximum at 100% utilization.
For distances less than 20 km, a 10 dB attenuator must be used.
For distances between 20 km and 40 km, a 5 dB attenuator must be used.
Attenuators can be purchased from most cable vendors.

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 X121 1G SFP LC SX Transceiver (J4858C)

A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550 m on multimode fiber.

Ports
1 LC 1000BASE-SX port; Duplex: full only

Physical characteristics
Dimensions: 2.24(d) x 0.54(w) x 0.48(h) in. (5.69 x 1.37 x 1.22 cm)
Weight: 0.04 lb. (0.02 kg)

Environment
Operating temperature: 32°F to 158°F (0°C to 70°C)
Operating relative humidity: 5% to 85%, noncondensing
Nonoperating/Storage temperature: -40°F to 203°F (-40°C to 85°C)
Altitude: up to 10,000 ft. (3 km)

Electrical characteristics
Power consumption typical: 0.4 W
Power consumption maximum: 0.7 W

Cabling
- 62.5/125 μm or 50/125 μm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively;
Maximum distance:

- 2-220 m (62.5 µm core diameter, 160 MHz*km bandwidth)
- 2-275 m (62.5 µm core diameter, 200 MHz*km bandwidth)
- 2-500 m (50 µm core diameter, 400 MHz*km bandwidth)
- 2-550 m (50 µm core diameter, 500 MHz*km bandwidth)

Cable length: 2-550m

Fiber type: Multi Mode

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.

### Cabling

- Either single mode or multimode; 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively; Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;

Maximum distance:

- 2-550 m (multimode 62.5 µm core diameter, 500 MHz*km bandwidth)
- 2-550 m (multimode 50 µm core diameter, 400 MHz*km bandwidth)
- 2-550 m (multimode 50 µm core diameter, 500 MHz*km bandwidth)
- 2-10,000 m (single-mode fiber)

### Notes

A mode conditioning patch cord may be needed in some multimode fiber installations.

Wavelength: 1310nm

Power Consumption: < 500mW Typical

### 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 X121 1G SFP RJ45 T Transceiver

- **Achievement:** An SFP format gigabit transceiver with RJ45 connectors using 1000BaseT technology.

**Environment**
- **Weight:** 0.06 lb. (0.03 kg)
- **Operating temperature:** 32°F to 158°F (0°C to 70°C); with 100 LFM airflow over the SFP module
- **Operating relative humidity:** 0% to 95% @ 75°F (25°C), noncondensing
- **Nonoperating/Storage temperature:** -40°F to 185°F (-40°C to 85°C)
- **Nonoperating/Storage relative humidity:** 0% to 95% @ 77°F (25°C), noncondensing
- **Altitude:** up to 10,000 ft. (3000 km)

**Cabling**
- **Cable type:** 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;

**Maximum distance:** 100 m

**Notes**
- Power consumption is nominally 1 watt.
- For supported platforms and minimum software requirements to support this product, see the document titled “Support for the J8177C 1000Base-T Mini-GBIC” on the "HP Mini-GBICs and SFPs" Manuals Web page.
- The J8177C Gigabit copper mini-GBIC is not supported on dual-personality ports.
- The J8177C is capable of 100 Mb operation. This is supported on only the HP E8200zl, E5400zl, and HP E6200-24G-mGBIC yl Switches using software version K.12.21 or later. Use the "auto-100" port setting to enable 100 Mb operation.
- Important: The earlier J8177B does not support 100 Mb operation. When used in the Switch gl 20-Port 10/100/1000 Module (J4908A), the J8177C mini-GBIC can be installed in either the upper or lower mini-GBIC port, but will block access to the other port.

### HP X122 1G SFP LC BX-D Transceiver (J9142B)

- **Description:** A small form-factor pluggable (SFP) Gigabit-BX (bi-directional) "downstream" transceiver that provides a full-duplex Gigabit solution up to 10 km on one strand of single-mode fiber. The J9142B connects to the

**Physical characteristics**
- **Dimensions:** 2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)
- **Weight:** 0.04 lb. (0.02 kg)

**Environment**
- **Operating temperature:** 32°F to 158°F (0°C to 70°C)
- **Operating relative humidity:** 0% to 95%, non-condensing

**Cabling**
- **Type:**

### HP X122 1G SFP LC BX-D Ports

- **1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D);**
- **Duplex:** full only

**Services**
- Refer to the HP website at [www.hp.com/networking/services](http://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.
J9143B "upstream" transceiver, or to any IEEE-standard 1000BASE-BX10-U ("upstream") device.

- Single-mode fiber optic, complying with ITU-T G.652;

  Maximum distance:
  - 0.5–10,000 m (single-mode fiber)

Notes
- Transmit wavelength: 1490 nm. Receive wavelength: 1310 nm. Power consumption is 1 watt maximum.
- For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page.
- The J9142B connects to the J9143B "upstream" transceiver, or to any IEEE-standard 1000BASE-BX10-U ("upstream") device. (A 1000-BX-D transceiver can only connect to a 1000-BX-U product. You cannot connect two 1000-BX-D transceivers together.)

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 X122 1G SFP LC BX-U Transceiver (J9143B)

Ports
- 1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U);
  - Duplex: full only

Physical characteristics
- Dimensions: 2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)
- Weight: 0.04 lb. (0.02 kg)

Environment
- Operating temperature: 32ºF to 158ºF (0ºC to 70ºC)
- Operating relative humidity: 0% to 95%, non-condensing
- Non-operating/Storage temperature: –40ºF to 185ºF (–40ºC to 85ºC)

Cabling
- Type: Single-mode fiber optic, complying with ITU-T G.652;

  Maximum distance:
  - 0.5–10,000 m (single-mode fiber)

Notes
- Transmit wavelength: 1310 nm. Receive wavelength: 1490 nm. Power consumption is 1 watt maximum.
- For supported platforms and minimum software requirements to support this product, see the document titled "Support for the HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page.
- The J9143B connects to the J9142B "downstream" transceiver, or to any IEEE-standard 1000BASE-BX10-D ("downstream") device. (A 1000-BX-U transceiver can only connect to a 1000-BX-D product. You cannot connect two 1000-BX-U transceivers together.)

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.
**QuickSpecs**

### HP 8200 zl Switch Series

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#### Accessory Product Details

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<th><strong>HP X132 10G SFP+ LC ER Transceiver (J9153A)</strong></th>
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<td><strong>Ports</strong></td>
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<tr>
<td><strong>Connectivity</strong></td>
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<tr>
<td><strong>Physical characteristics</strong></td>
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<td></td>
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<td><strong>Environment</strong></td>
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<tr>
<td><strong>Electrical characteristics</strong></td>
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<tr>
<td><strong>Cabling</strong></td>
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<tr>
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<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td><strong>Services</strong></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>HP X242 SFP+ SFP+ 1 m Direct Attach Cable (J9281B)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connectivity</strong></td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td><strong>Electrical characteristics</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
</tbody>
</table>

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* HP X132 10G SFP+ LC ER Transceiver (J9153A)  
* HP X242 SFP+ SFP+ 1 m Direct Attach Cable (J9281B)  

---

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Page 58
### HP 8200 zl Switch Series

#### Accessory Product Details

- **Cable Characteristic Impedance**: 100 ohms
- **Crosstalk between pairs**: 2% max
- **Time delay**: 1.31 nsec/ft

**Physical Properties**
- **Cable Diameter**: 0.180"
- **Minimum Cable Bend Radius**: 1.0"

**Services**
Refer to the HP website at [www.hp.com/networking/services](http://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 X242 SFP+ SFP+ 3 m Direct Attach Cable (J9283B)

#### Connectivity
- **Length**: 10 ft. (3 m)

#### Physical characteristics
- **Weight**: .49 lb. (0.22 kg), Fully loaded the cable with an SFP+ transceiver at each end of the cable

#### Environment
- **Operating temperature**: 32°F to 158°F (0°C to 70°C)
- **Operating relative humidity**: 5% to 95%, noncondensing
- **Nonoperating/Storage temperature**: 14°F to 185°F (-10°C to 85°C)
- **Nonoperating/Storage relative humidity**: 5% to 95%, noncondensing
- **Altitude**: up to 10,000 ft. (3 km)

#### Electrical characteristics
- **Notes**: 0.04 watts maximum per transceiver end

---

### HP X242 SFP+ SFP+ 7 m Direct Attach Cable (J9285B)

#### Connectivity
- **Length**: 22.97 ft. (7 m)

#### Physical characteristics
- **Weight**: 1.02 lb., Fully loaded the cable with an SFP+ transceiver at each end of the cable

#### Environment
- **Operating temperature**: 32°F to 158°F (0°C to 70°C)
- **Operating relative humidity**: 5% to 95%, noncondensing
- **Nonoperating/Storage temperature**: 14°F to 185°F (-10°C to 85°C)
- **Nonoperating/Storage relative humidity**: 5% to 95%, noncondensing
- **Altitude**: up to 10,000 ft. (3 km)

#### Electrical characteristics
- **Notes**: 0.04 watts maximum per transceiver end

---
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

- Cable Characteristic Impedance: 100 ohms
- Crosstalk between pairs: 2% max
- Time delay: 1.31 nsec/ft

Physical Properties
- Cable Diameter: 0.180”
- Minimum Cable Bend Radius: 1.0”

Services
Refer to the HP website at [www.hp.com/networking/services](http://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.

<table>
<thead>
<tr>
<th>HP X244 XFP SFP+ 1 m Direct Attach Cable (J9300A)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connectivity</strong></td>
</tr>
<tr>
<td>Connectivity</td>
</tr>
<tr>
<td>Physical characteristics</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Notes
XFP end consumes 2 watts SFP+ end consumes 0.036 watts

Services
Refer to the HP website at [www.hp.com/networking/services](http://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.

<table>
<thead>
<tr>
<th>HP X244 XFP SFP+ 3 m Direct Attach Cable (J9301A)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connectivity</strong></td>
</tr>
<tr>
<td>Connectivity</td>
</tr>
<tr>
<td>Physical characteristics</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Notes
XFP end consumes 2 watts SFP+ end consumes 0.036 watts

Services
Refer to the HP website at [www.hp.com/networking/services](http://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.
## QuickSpecs

### HP 8200 zl Switch Series

### Accessory Product Details

#### HP X244 XFP SFP+ 5 m Direct Attach Cable (J9302A)

A 5m direct attach copper cable with an XFP connector attached on one end and an SFP+ connector attached on the other end. This cable provides a low price connectivity option between switches/servers/storage to interconnect XFP and SFP+ form factors.

<table>
<thead>
<tr>
<th>Connectivity</th>
<th>Length</th>
<th>16.4 ft. (5 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical characteristics</td>
<td>Weight</td>
<td>.74 lb. (0.34 kg), Fully loaded cable with XFP transceiver on one end and SFP+ on the other end</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment</th>
<th>Operating temperature</th>
<th>32ºF to 158ºF (0ºC to 70ºC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operating relative humidity</td>
<td>5% to 95%, noncondensing</td>
</tr>
<tr>
<td></td>
<td>Nonoperating/Storage temperature</td>
<td>32ºF to 158ºF (0ºC to 70ºC)</td>
</tr>
<tr>
<td></td>
<td>Nonoperating/Storage relative humidity</td>
<td>5% to 95%, noncondensing</td>
</tr>
<tr>
<td></td>
<td>Altitude</td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
<th>XFP end consumes 2 watts SFP+ end consumes 0.036 watts</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Services</th>
<th>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on</th>
</tr>
</thead>
</table>

#### HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)

Cabling: 50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m

<table>
<thead>
<tr>
<th>Cable type:</th>
<th>10Gbps Transfer Rate (Ethernet): 300m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
<th>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Optical glass: Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</td>
</tr>
<tr>
<td></td>
<td>Optical glass: Bandwidth: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.</td>
</tr>
<tr>
<td></td>
<td>CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber and designed to work in both the 850 and 1300 nm wavelength windows.</td>
</tr>
<tr>
<td></td>
<td>BULK CABLE &amp; Cable Assembly Configuration:</td>
</tr>
<tr>
<td></td>
<td>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</td>
</tr>
<tr>
<td></td>
<td>Jacket Color: Aqua for OM3 multimode per TIA 598</td>
</tr>
<tr>
<td></td>
<td>Boot Color: White</td>
</tr>
<tr>
<td></td>
<td>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</td>
</tr>
<tr>
<td></td>
<td>Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23ºC as tested in accordance with EIA 455-46.</td>
</tr>
<tr>
<td></td>
<td>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Services</th>
<th>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on</th>
</tr>
</thead>
</table>
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

<table>
<thead>
<tr>
<th>HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)</th>
<th>Cabling</th>
<th>Cable type:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum distance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10Gbps Transfer Rate (Ethernet): 300m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.</td>
</tr>
</tbody>
</table>

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
  - Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
  - Jacket Color: Aqua for OM3 multimode per TIA 598
  - Boot Color: White
  - Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
  - Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
  - Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

- Services
  - Refer to the HP website at [www.hp.com/networking/services](http://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.

<table>
<thead>
<tr>
<th>HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)</th>
<th>Cabling</th>
<th>Cable type:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum distance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10Gbps Transfer Rate (Ethernet): 300m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.</td>
</tr>
</tbody>
</table>

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ±
2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
  - Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
  - Jacket Color: Aqua for OM3 multimode per TIA 598
  - Boot Color: White
  - Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
  - Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
  - Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

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 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)

Cabling

Cable type: 50/125 µm core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAC for distances of up to 300 m;

Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m

Notes

Cable Specs: This specification defines the detail requirements for a tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
  - Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
  - Jacket Color: Aqua for OM3 multimode per TIA 598
  - Boot Color: White
  - Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

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 15 m Multimode OM3 LC/LC Optical Cable (AJ837A) | Cabling | Cable type: 50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; |
| HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A) | Cabling | Cable type: 50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; |

Notes

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
  - Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
  - Jacket Color: Aqua for OM3 multimode per TIA 598
  - Boot Color: White
  - Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
  - Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
  - Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

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

**Notes**

10Gbps Transfer Rate (Ethernet): 300m  

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- **Dimensions:** Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um  
- **Optical Glass Bandwidth:** For LED sources: 1500/500 MHz-km @850/1300nm.  
- **Optical Glass:** For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.  
- **CABLE:** The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.  
- **BULK CABLE & CABLE ASSEMBLY CONFIGURATION:**  
  - **Jacket Material:** Riser Grade - Low Smoke Zero Halogen thermoplastic.  
  - **Jacket Color:** Aqua for OM3 multimode per TIA 598  
  - **Boot Color:** White  
  - **Insertion Loss:** less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.  
  - **Maximum Cable attenuation:** 3.0 dB/km @ 850 nm, 1.0 dB/Km @1310 nm @ 23°C as tested in accordance with EIA 455-46.  
  - **Weight:** Air Packed Weight: 1 LB Net Weight: 0.454Kg

---

### Services

Refer to the HP website at: [www.hp.com/networking/services](http://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 50 m Multimode OM3 LC/LC Optical Cable  
(AJ839A)

**Cabling**

**Cable type:**  
50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAC for distances of up to 300 m;

**Maximum distance:**  
10Gbps Transfer Rate (Ethernet): 300m

**Notes**

Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- **Dimensions:** Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um  
- **Optical Glass Bandwidth:** For LED sources: 1500/500 MHz-km @850/1300nm.  
- **Optical Glass:** For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.  
- **CABLE:** The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.  
- **BULK CABLE & CABLE ASSEMBLY CONFIGURATION:**
### QuickSpecs

#### HP 8200 zl Switch Series

#### Accessory Product Details

- **Jacket Material**: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- **Jacket Color**: Aqua for OM3 multimode per TIA 598
- **Boot Color**: White
- **Insertion Loss**: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- **Maximum Cable attenuation**: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- **Weight**: Air Packed Weight: 1 LB Net Weight: 0.454Kg

### Services

Refer to the HP website at: [www.hp.com/networking/services](http://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.

<table>
<thead>
<tr>
<th>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cable Specs: Graded-index, &quot;bendable&quot; fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</td>
</tr>
<tr>
<td></td>
<td>• Core Diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</td>
</tr>
<tr>
<td></td>
<td>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</td>
</tr>
<tr>
<td></td>
<td>• Jacket Color: Blue</td>
</tr>
<tr>
<td></td>
<td>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</td>
</tr>
<tr>
<td></td>
<td>• Boot Color: White</td>
</tr>
<tr>
<td></td>
<td>• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.</td>
</tr>
<tr>
<td></td>
<td>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</td>
</tr>
<tr>
<td></td>
<td>• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</td>
</tr>
</tbody>
</table>

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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.

<table>
<thead>
<tr>
<th>HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cable Specs: Graded-index, &quot;bendable&quot; fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.</td>
</tr>
<tr>
<td></td>
<td>• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</td>
</tr>
<tr>
<td></td>
<td>• Bandwidth: 3000 MHz-km @ 850nm (Laser)</td>
</tr>
<tr>
<td></td>
<td>• Jacket Color: Blue</td>
</tr>
<tr>
<td></td>
<td>• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</td>
</tr>
<tr>
<td></td>
<td>• Boot Color: White</td>
</tr>
<tr>
<td></td>
<td>• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.</td>
</tr>
<tr>
<td></td>
<td>• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</td>
</tr>
</tbody>
</table>
### HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)

**Notes**

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)

**Notes**

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 Premier Flex LC/LC

**Notes**

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+
QuickSpecs

HP 8200 zl Switch Series

Accessory Product Details

Multi-mode OM4 2 fiber 30m Cable (QK736A)

50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

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.

Notes

Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

- Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
- Bandwidth: 3000 MHz-km @ 850nm (Laser)
- Jacket Color: Blue
- Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
- Boot Color: White
- Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
- Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
- Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

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 1500 W PoE+ zl Power Supply (J9306A)

Physical characteristics

Dimensions

6.05(d) x 7.45(w) x 5.1(h) in. (15.37 x 18.92 x 12.95 cm)

Environment

Weight

7.5 lb. (3.2 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)
## HP 8200 zl Switch Series

### Accessory Product Details

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nonoperating/Storage relative humidity</strong></td>
<td>15% to 95% @ 158°F (70°C), noncondensing</td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
<tr>
<td><strong>Electrical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td><strong>AC voltage</strong></td>
<td>110-127/200-240 V AC</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>13/10 A</td>
</tr>
<tr>
<td><strong>Maximum power rating</strong></td>
<td>1768 W</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>50/60 Hz</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. The Maximum Power Rating at 120 volts is 1114 watts and at 240 volts is 1768 watts.</td>
</tr>
</tbody>
</table>

### Notes

Each J9306A supplies 600 W chassis power, 300 W of PoE/PoE+ power at 110-127 volts, and 900 W of PoE/PoE+ power at 200-240 volts. One J9306A can power the J8697A chassis. Two J9306A supplies are required to power the J8698A chassis.

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 1500 W zl Power Supply (J8713A)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>6.05(d) x 7.45(w) x 5.1(h) in. (15.37 x 18.92 x 12.95 cm)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>7.5 lb. (3.2 kg)</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>32°F to 131°F (0°C to 55°C)</td>
</tr>
<tr>
<td><strong>Operating relative humidity</strong></td>
<td>15% to 95% @ 131°F (55°C), noncondensing</td>
</tr>
<tr>
<td><strong>Nonoperating/Storage temperature</strong></td>
<td>-40°F to 158°F (-40°C to 70°C)</td>
</tr>
<tr>
<td><strong>Nonoperating/Storage relative humidity</strong></td>
<td>15% to 95% @ 158°F (70°C), noncondensing</td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
<tr>
<td><strong>Electrical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td><strong>AC voltage</strong></td>
<td>200-240 V AC</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Maximum power rating</strong></td>
<td>1800 W</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>50/60 Hz</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</td>
</tr>
</tbody>
</table>

### Notes

200–240 V only. Installation of the J8713A reduces the chassis altitude specification to 10,000 ft. (3677 m).
- J8713A supplies 600 W chassis power and 900 W PoE power.
See the Ordering Guide for more details on power supply selection for PoE power.
Units shipped to North America include a NEMA L6-20P twist lock power cord. Non-locking NEMA 6-20P optionally available - see the Ordering Guide for more details.
When used in the J8714A power shelf, the following specs apply (at full load):
  • Heat dissipation: 450 BTU/hr (475 kJ/hr) @ 220V
  • Maximum current: 5.1 A @ 220 V

Refer to the HP website at [www.hp.com/networking/services](http://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 875 W zl Power Supply (J8712A)

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions</th>
<th>6.05(d) x 7.45(w) x 5.1(h) in. (15.37 x 18.92 x 12.95 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>7.05 lb. (3.2 kg)</td>
<td></td>
</tr>
</tbody>
</table>

### Environment

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>32°F to 131°F (0°C to 55°C)</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>Altitude</td>
<td>up to 10,000 ft. (3 km)</td>
</tr>
</tbody>
</table>

### Electrical characteristics

<table>
<thead>
<tr>
<th>AC voltage</th>
<th>100-127/200-240 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>12/5.7 A</td>
</tr>
<tr>
<td>Maximum power rating</td>
<td>1050 W</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Notes</td>
<td>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</td>
</tr>
</tbody>
</table>

### Notes

- J8712A supplies 600 W chassis power and 273 W PoE power.
- One J8712A can power the J8697A chassis.
- Two J8712A supplies are required to power the J8698A chassis.
- Two J8712A supplies are required to power the J8715A chassis.
- See the Ordering Guide for more details on power supply selection for PoE power.
- When used in the J8714A power shelf, the following specs apply (at full load):
  • Heat dissipation: 250 BTU/hr (263 kJ/hr) @ 110 V, 210 BTU/hr (222 kJ/hr) @ 220 V
  • Maximum current: 3.2 A @ 110 V, 1.7 A @ 220 V

### Services

Refer to the HP website at [www.hp.com/networking/services](http://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 Switch

| Services | 3-Year, 9x5 SW phone support, software updates (UT481E) |
# QuickSpecs

## HP 8200 zl Switch Series

### Accessory Product Details

#### Premium License

<table>
<thead>
<tr>
<th>(J9474A)</th>
<th>3-year, 24x7 SW phone support, software updates (UT482E)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year, 24x7 SW phone support, software updates (UT458E)</td>
</tr>
<tr>
<td></td>
<td>5-year, 24x7 SW phone support, software updates (UT459E)</td>
</tr>
<tr>
<td></td>
<td>1-year, 24x7 software phone support, software updates (HS532E)</td>
</tr>
</tbody>
</table>

Refer to the HP website at [www.hp.com/networking/services](http://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 zl Switch Fan Tray (J9476A)

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions: 18.23(d) x 1.96(w) x 10.15(h) in. (46.3 x 4.98 x 25.78 cm) (6U height)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weight: 3.46 lb. (1.57 kg)</td>
</tr>
<tr>
<td>Services</td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Physical characteristics</th>
<th>Dimensions: 5(d) x 5(w) x 5(h) in. (12.7 x 12.7 x 12.7 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> 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.</td>
</tr>
</tbody>
</table>
## Summary of Changes

<table>
<thead>
<tr>
<th>Date</th>
<th>Version History</th>
<th>Action</th>
<th>Description of Change:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-Nov-2014</td>
<td>From Version 39 to 40</td>
<td>Change</td>
<td>Features and Warranty and support updated</td>
</tr>
<tr>
<td>09-Oct-2014</td>
<td>From Version 38 to 39</td>
<td>Changed</td>
<td>Accessory Product Details revised, SKU descriptions updated</td>
</tr>
<tr>
<td>17-Feb-2014</td>
<td>From Version 37 to 38</td>
<td>Changed</td>
<td>Transceivers were revised.</td>
</tr>
<tr>
<td>09-Dec-2013</td>
<td>From Version 36 to 37</td>
<td>Changed</td>
<td>Standard Switch Chassis, Box Level Integration CTO Models, Rack Level Integration CTO Models, Internal Power Supplies, Modules, and Cables were revised.</td>
</tr>
<tr>
<td>15-Oct-2013</td>
<td>From Version 35 to 36</td>
<td>Changed</td>
<td>Configuration was revised.</td>
</tr>
<tr>
<td>03-Oct-2013</td>
<td>From Version 34 to 35</td>
<td>Changed</td>
<td>Overview image callouts were realigned.</td>
</tr>
<tr>
<td>30-Sep-2013</td>
<td>From Version 33 to 34</td>
<td>Changed</td>
<td>Updated the Configuration section. Removed one EOL Accessory.</td>
</tr>
<tr>
<td>20-Sep-2013</td>
<td>From Version 32 to 33</td>
<td>Added</td>
<td>4 new images were added.</td>
</tr>
<tr>
<td>19-Aug-2013</td>
<td>From Version 31 to 32</td>
<td>Changed</td>
<td>Box Level Integration CTO Models in Configuration.</td>
</tr>
<tr>
<td>18-Jul-2013</td>
<td>From Version 30 to 31</td>
<td>Removed</td>
<td>Removed two EOL Accessories (Threat Management).</td>
</tr>
<tr>
<td>10-Jun-2013</td>
<td>From Version 29 to 30</td>
<td>Added</td>
<td>OM4 cables were added.</td>
</tr>
<tr>
<td>30-May-2013</td>
<td>From Version 28 to 29</td>
<td>Changed</td>
<td>Updated the Configuration section.</td>
</tr>
<tr>
<td>14-May-2013</td>
<td>From Version 27 to 28</td>
<td>Changed</td>
<td>Updated the Configuration section.</td>
</tr>
<tr>
<td>19-Mar-2013</td>
<td>From Version 26 to 27</td>
<td>Changed</td>
<td>Updated the new Configuration section.</td>
</tr>
<tr>
<td>27-Feb-2013</td>
<td>From Version 25 to 26</td>
<td>Changed</td>
<td>Updated the formatting of the new Configuration section.</td>
</tr>
<tr>
<td>19-Feb-2013</td>
<td>From Version 24 to 25</td>
<td>Added</td>
<td>Added the Configuration section.</td>
</tr>
<tr>
<td>24-Sep-2012</td>
<td>From Version 23 to 24</td>
<td>Changed</td>
<td>Features and Benefits was revised, as were Accessories and the model specifications.</td>
</tr>
<tr>
<td>06-Sep-2012</td>
<td>From Version 22 to 23</td>
<td>Changed</td>
<td>Updated a typographical error in the Features and Benefits section.</td>
</tr>
<tr>
<td>27-Aug-2012</td>
<td>From Version 21 to 22</td>
<td>Changed</td>
<td>Updated the specifications for the HP 8-port 10 GbE SFP+ v2 zl Module in Accessory Product Details.</td>
</tr>
<tr>
<td>25-Jun-2012</td>
<td>From Version 20 to 21</td>
<td>Changed</td>
<td>Features and Benefits was revised, as were Accessories and the model specifications.</td>
</tr>
<tr>
<td>27-Mar-2012</td>
<td>From Version 19 to 20</td>
<td>Added</td>
<td>HP X242 SFP+ to SFP+ 10m Direct Attach Copper Cable and HP X242 SFP+ to SFP+ 15m Direct Attach Copper Cable were added.</td>
</tr>
<tr>
<td>26-Sep-2011</td>
<td>From Version 18 to 19</td>
<td>Changed</td>
<td>Accessories was revised.</td>
</tr>
<tr>
<td>05-Sep-2011</td>
<td>From Version 17 to 18</td>
<td>Added</td>
<td>Accessory Product Details was added.</td>
</tr>
<tr>
<td>20-Jun-2011</td>
<td>From Version 15 to 17</td>
<td>Changed</td>
<td>Features and Benefits was revised.</td>
</tr>
</tbody>
</table>
## Summary of Changes

<table>
<thead>
<tr>
<th>Date</th>
<th>From Version</th>
<th>Action</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-Apr-2011</td>
<td>14 to 15</td>
<td>Removed</td>
<td>Removed the remaining mentions of ProCurve from the QS.</td>
</tr>
<tr>
<td>16-Nov-2010</td>
<td>13 to 14</td>
<td>Changed</td>
<td>The QuickSpec was completely revised, including adding several new models.</td>
</tr>
<tr>
<td>15-Sep-2010</td>
<td>11 to 13</td>
<td>Changed</td>
<td>The QuickSpec was completely revised, including changing the title.</td>
</tr>
<tr>
<td>02-Jun-2010</td>
<td>10 to 11</td>
<td>Changed</td>
<td>Updated the Notes section of Technical Specifications.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Updated Standards and Protocols</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Added new cables to the Accessories section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Updated the Introduction and Features and Benefits section.</td>
</tr>
<tr>
<td>03-Sep-2009</td>
<td>8 to 9</td>
<td>Changed</td>
<td>Updated the Standards and Protocols in Specifications.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Updated the Transceivers section of Accessories</td>
</tr>
<tr>
<td>01-Sep-2009</td>
<td>7 to 8</td>
<td>Added</td>
<td>All mentions of the HP ProCurve 8206zl Switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed</td>
<td>Updates were made throughout the QuickSpec. Note the title has changed.</td>
</tr>
<tr>
<td>01-Jul-2009</td>
<td>6 to 7</td>
<td>Changed</td>
<td>The Accessories section was revised as was the Notes section of Technical Specifications.</td>
</tr>
<tr>
<td>11-Jun-2009</td>
<td>5 to 6</td>
<td>Added</td>
<td>Added several new services.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed</td>
<td>The Features and Benefits and the notes in the Technical Specifications section were revised.</td>
</tr>
<tr>
<td>28-Apr-2009</td>
<td>4 to 5</td>
<td>Added</td>
<td>Added several products to the Accessories section.</td>
</tr>
<tr>
<td>19-Jan-2009</td>
<td>3 to 4</td>
<td>Changed</td>
<td>Updated Features and Benefits and Services in the Overview section and Included Accessories, Management and Standards and Protocols in the Technical Specifications section, as well completely revising the Accessories section.</td>
</tr>
<tr>
<td>18-Dec-2007</td>
<td>2 to 3</td>
<td>Added</td>
<td>The line art image was added.</td>
</tr>
<tr>
<td>30-Oct-2007</td>
<td>1 to 2</td>
<td>Changed</td>
<td>The Model part number was corrected.</td>
</tr>
</tbody>
</table>

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