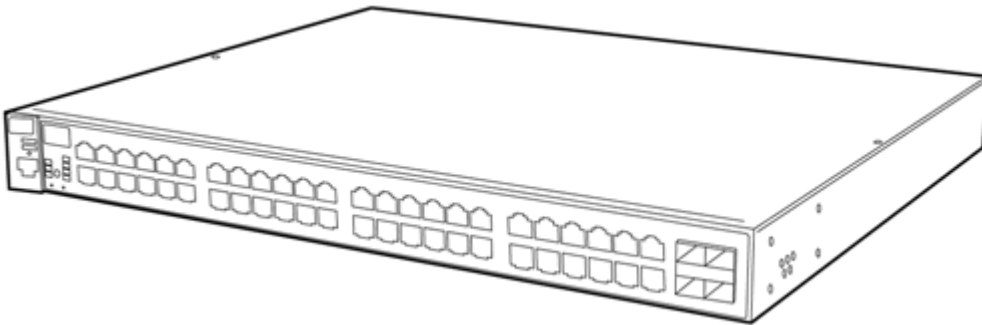


Overview



HP 2910-24G al Switch



HP 2910-48G al Switch



HP 2910-48G-PoE+ al Switch

Models

HP 2910-24G al Switch	J9145A
HP 2910-48G al Switch	J9147A
HP 2910-24G-PoE+ al Switch	J9146A
HP 2910-48G-PoE+ al Switch	J9148A

Key Features

- High-performance Gigabit Ethernet access switch
- Four optional 10 GbE (CX4 and/or SFP+) ports
- IEEE 802.3af/802.3at functionality (PoE/PoE+)
- Layer 2 and Layer 3 plus static IP and RIP routing
- Lifetime warranty, sFlow, ACLs, and rate limiting

Overview

Product overview

The HP 2910 al Switch Series consists of four switches: the HP 2910-24G al and 2910-24G-PoE+ al Switches with 24 10/100/1000 ports, and the HP 2910-48G al and 2910-48G-PoE+ al Switches with 48 10/100/1000 ports. Each switch has four dual-personality ports for 10/100/1000 or mini-GBIC connectivity. In addition, the 2910 al Switch Series supports up to four optional 10 Gigabit Ethernet (CX4 and/or SFP+) ports, thereby offering the most flexible and easy-to-deploy uplinks in its class. Together with static and RIP IPv4 routing, robust security and management, enterprise-class features, free lifetime warranty, and free software updates, the 2910 series is a cost-effective, scalable solution for customers who are building high-performance networks. These switches can be deployed at enterprise edge and remote branch offices, converged networks, and data center top of rack.

Features and Benefits

Quality of Service (QoS)

- **Traffic prioritization** (IEEE 802.1p): allows real-time traffic classification into eight priority levels mapped to eight queues
- **Layer 4 prioritization**: enables prioritization based on TCP/UDP port numbers
- **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
- **Rate Limiting**: per-port ingress enforced maximums

Connectivity

- **10 Gbps Ethernet connectivity**: up to four optional and flexible 10-Gigabit ports (CX4 and/or SFP+), with optional interconnect kit for short-distance connectivity
- **IPv6**:
 - **IPv6 host**: allows the switches to be managed and deployed at the edge of IPv6 networks
 - **Dual stack (IPv4/IPv6)**: provides transition mechanism from IPv4 to IPv6; supports connectivity for both protocols
 - **MLD snooping**: forwards IPv6 multicast traffic to the appropriate interface; prevents IPv6 multicast traffic from flooding the network
- **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
- **Pre-standard PoE support**: detects and provides power to pre-standard PoE devices; see list of supported devices in the product FAQ at: www.hp.com/networking/support
- **Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **Dual-personality functionality**: includes four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit-SX, -LX, -LH, 100-FX, 100-BX, and 1000-BX
- **Single IP Address Management**: single IP address management for a virtual stack of up to 16 switches

Performance

- **High-performance architecture**: 128 Gbps switching fabric with up to 95 Mpps (24-port switches) and 176 Gbps switching fabric with up to 131 Mpps (48-port switches)
- **Selectable queue configurations**: allow you to increase performance by selecting the number of queues and associated memory buffering that best meet the requirements of your network applications

Resiliency and high availability

- **IEEE 802.1s Multiple Spanning Tree**: provides high link availability in multiple VLAN environments by allowing multiple spanning trees; provides legacy support for IEEE 802.1d and IEEE 802.1w
- **IEEE 802.3ad Link Aggregation Protocol (LACP) and HP port trunking**: support up to 24 trunks, each with up to 8 links (ports) per trunk



Overview

- **Optional redundant power supply:** supplies backup power in case of power failure (**NOTE: HP E620 Redundant/External Power Supply provides only RPS functionality**)

Manageability

- **RMON, XRMON, and sFlow:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Uni-Directional Link Detection (UDLD):** monitors a link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices
- **Command authorization:** leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail
- **Dual flash images:** provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files:** allow multiple configuration files to be stored to a flash image
- **Friendly port names:** allow assignment of descriptive names to ports
- **Find-Fix-Inform:** finds and fixes common network problems automatically, then informs administrator
- **Software updates:** free downloads from the Web
- **Troubleshooting:** ingress and egress port monitoring enable network problem solving

Layer 2 switching

- **VLAN support and tagging:** supports IEEE 802.1Q (4,094 VLAN IDs) and 256 VLANs simultaneously
- **GARP VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support:** supports up to 9220-byte frame size to improve the performance of large data transfers
- **IEEE 802.1v protocol VLANs:** isolate select non-IPv4 protocols automatically into their own VLANs

Layer 3 routing

- **Static IP routing:** provides manually configured routing; includes ECMP capability
- **Routing Information Protocol (RIP):** provides RIPv1 and RIPv2 routing

Security

- **Multiple user authentication methods:**
 - **IEEE 802.1X:** is an industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
 - **Web-based authentication:** similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
 - **MAC-based authentication:** client is authenticated with the RADIUS server based on the client's MAC address
- **Authentication flexibility:**
 - **Multiple IEEE 802.1X users per port:** provides authentication of up to eight IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
 - **Concurrent IEEE 802.1X and Web or MAC authentication schemes per port:** switch port will accept any of IEEE 802.1X and either Web or MAC authentications
- **Access control lists (ACLs):** provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **Identity-driven ACL:** enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Port monitoring for network threats:** provides sampled port traffic using sFlow technology to the HP Network Immunity Manager (NIM) application for Network Behavior Anomaly Detection (NBAD) analysis to detect and mitigate threats at the port where the threat originated
- **Source-port filtering:** allows only specified ports to communicate with each other



Overview

- **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 FTP**: allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- **Secure Sockets Layer (SSL)**: encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **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
- **Switch management logon security**: can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **STP BPDU port protection**: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **USB Secure Autorun** (requires HP PCM+): deploys, diagnoses, and updates a switch using a USB flash drive; works with a secure credential to prevent tampering
- **STP Root Guard**: protects the root bridge from malicious attack or configuration mistakes
- **Custom banner**: displays security policy when users log in to the switch
- **Per-port broadcast throttling**: selectively configures broadcast control on heavy traffic port uplinks

Convergence

- **IP multicast snooping and data-driven IGMP**: automatically prevent 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
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**: is an automated device discovery protocol that provides easy mapping of network management applications
- **PoE and PoE+ allocations**: support multiple methods (automatic, IEEE 802.3at dynamic, LLDP-MED fine-grain, IEEE 802.3af device class, or user specified) to allocate and manage PoE/PoE+ power for more efficient energy savings

Monitor and diagnostics

- **Port mirroring**: enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

Warranty and support

- **Lifetime warranty**: for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)*
- **Electronic and telephone support**: limited electronic and telephone support is available from HP; refer to: www.hp.com/networking/warranty for details on the support provided and the period during which support is available
- **Software releases**: refer to: www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

* Hardware warranty replacement for as long as you own the product, with next business day advance replacement (available in most countries) with a five-year hardware warranty replacement for the disk drive included with HP AllianceONE Services zl Module, HP Threat Management Services zl Module, HP PCM+ Agent with AllianceONE Services zl Module, and HP E-MSM765 zl Mobility Controller. For details, refer to the HP Software License, Warranty, and Support booklet at: www.hp.com/networking/warranty.



Technical Specifications

HP 2910-24G al Switch (J9145A)

Ports	20 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	
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)	
	1 RJ-45 serial console port	
	Supports a maximum of 4 10-GbE ports, with optional module	
Physical characteristics	Dimensions	14.4(d) x 17.4(w) x 1.73(h) in. (36.58 x 44.2 x 4.4 cm) (1U height)
	Weight	10.92 lb. (4.95 kg)
Memory and processor	Processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash, 1 GB compact flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	1000 Mb Latency	< 2.9 μ s (FIFO 64-byte packets)
	10 Gbps Latency	< 1.3 μ s (FIFO 64-byte packets)
	Throughput	up to 95 million pps (64-byte packets)
	Switching capacity	128 Gbps
	Routing table size	2000 entries
	MAC address table size	16000 entries
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 53.5 dB, Pressure: 39.4 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Description	The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz
	Maximum heat dissipation	279 BTU/hr (295 kJ/hr)
	Voltage	100-127/200-240 VAC
	Current	1.7/0.9 A
	Idle power	49 W
	Maximum power rating	82 W
	Frequency	50/60 Hz



Technical Specifications

	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI 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, 1 kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m
	Voltage dips and interruptions	IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods
	Harmonics	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Management	HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management (serial RS-232C)	
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.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (U2855E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U2856E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304E) 3-year, 24x7 SW phone support, software updates (UE262E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR868E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR869E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR870E) 4-year, 24x7 SW phone support, software updates (UR871E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR872E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR873E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR874E) 5-year, 24x7 SW phone support, software updates (UR875E) 3 Yr 6 hr Call-to-Repair Onsite (UW356E) 4 Yr 6 hr Call-to-Repair Onsite (UW357E) 5 Yr 6 hr Call-to-Repair Onsite (UW358E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR893E) 1-year, 24x7 software phone support, software updates (HR892E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS610E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS611E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS612E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS613E)	



Technical Specifications

- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS614E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS615E)
- 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS616E)
- 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS617E)

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 2910-48G al Switch (J9147A)

Ports	44 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	
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)	
	1 RJ-45 serial console port	
	Supports a maximum of 4 10-GbE ports, with optional module	
Physical characteristics	Dimensions	14.4(d) x 17.42(w) x 1.73(h) in. (36.58 x 44.25 x 4.4 cm) (1U height)
	Weight	11.2 lb. (5.08 kg)
Memory and processor	Processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash, 1 GB compact flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	1000 Mb Latency	< 2.9 μ s (FIFO 64-byte packets)
	10 Gbps Latency	< 1.3 μ s (FIFO 64-byte packets)
	Throughput	up to 131 million pps
	Switching capacity	176 Gbps
	Routing table size	2000 entries
	MAC address table size	16000 entries
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 53.5 dB, Pressure: 39.4 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Achieved Miercom Certified Green Award	

* Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.



Technical Specifications

Description	The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz
Maximum heat dissipation	356 BTU/hr (376 kJ/hr)
Voltage	100-127/200-240 VAC
Current	2.1/1.1 A
Idle power	64 W
Maximum power rating	105 W
Frequency	50/60 Hz
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.

Safety	EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60950
Emissions	FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI 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, 1 kV signal, 0.5 kV DC
	Conducted IEC 61000-4-6; 3 V
	Power frequency magnetic field IEC 61000-4-8; 1 A/m
	Voltage dips and interruptions IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods
	Harmonics IEC 61000-3-2
	Flicker IEC 61000-3-3
Management	HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management (serial RS-232C)
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.
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (H4496E) 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319E) 3-year, 24x7 SW phone support, software updates (UE264E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR884E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR885E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR886E) 4-year, 24x7 SW phone support, software updates (UR887E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR888E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR889E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR890E) 5-year, 24x7 SW phone support, software updates (UR891E) 3 Yr 6 hr Call-to-Repair Onsite (UW365E)



Technical Specifications

- 4 Yr 6 hr Call-to-Repair Onsite (UW366E)
- 5 Yr 6 hr Call-to-Repair Onsite (UW367E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR898E)
- 1-year, 24x7 software phone support, software updates (HR897E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR896E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS618E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS619E)
- 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS620E)
- 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS621E)
- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS622E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS623E)
- 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS624E)
- 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS625E)

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 2910-24G-PoE+ al Switch (J9146A)

Ports	20 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	
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)	
	1 RJ-45 serial console port	
	Supports a maximum of 4 10-GbE ports, with optional module	
Physical characteristics	Dimensions	14.4(d) x 17.4(w) x 1.73(h) in. (36.58 x 44.2 x 4.39 cm) (1U height)
	Weight	12.34 lb. (5.6 kg)
Memory and processor	Processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash, 1 GB compact flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	1000 Mb Latency	< 2.9 μ s (FIFO)
	10 Gbps Latency	< 1.3 μ s (FIFO)
	Throughput	up to 95 million pps
	Switching capacity	128 Gbps
	Routing table size	2000 entries
	MAC address table size	16000 entries
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing



Technical Specifications

	Non-operating/ Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 51.5 dB, Pressure: 38.1 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Description	The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz
	Maximum heat dissipation	447 BTU/hr (472 kJ/hr), max. using PoE+
	Voltage	100-127/200-240 VAC
	Current	6.1/3.1 A
	Idle power	65 W
	Maximum power rating	490 W
	PoE power	382 W
	Frequency	50/60 Hz
	Notes	<p>Idle power is the actual power consumption of the device with no ports connected.</p> <p>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.</p> <p>PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of a External Power Supply (EPS).</p>
Safety		EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60950
Emissions		FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI 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, 1 kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m
	Voltage dips and interruptions	IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods
	Harmonics	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Management		HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management (serial RS-232C)
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.
Services		<p>3-year, 4-hour onsite, 13x5 coverage for hardware (U2855E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (U2856E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304E)</p> <p>3-year, 24x7 SW phone support, software updates (UE262E)</p>



Technical Specifications

Installation with minimum configuration, system-based pricing (U4826E)
Installation with HP-provided configuration, system-based pricing (U4830E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UR868E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UR869E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR870E)
4-year, 24x7 SW phone support, software updates (UR871E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UR872E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UR873E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR874E)
5-year, 24x7 SW phone support, software updates (UR875E)
3 Yr 6 hr Call-to-Repair Onsite (UW356E)
4 Yr 6 hr Call-to-Repair Onsite (UW357E)
5 Yr 6 hr Call-to-Repair Onsite (UW358E)
-year, 6 hour Call-To-Repair Onsite for hardware (HR893E)
1-year, 24x7 software phone support, software updates (HR892E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS610E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS611E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS612E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS613E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS614E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS615E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS616E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS617E)

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 2910-48G-PoE+ al Switch (J9148A)

Ports	44 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	
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)	
	1 RJ-45 serial console port	
	Supports a maximum of 4 10-GbE ports, with optional module	
Physical characteristics	Dimensions	14.4(d) x 17.42(w) x 1.73(h) in. (36.58 x 44.25 x 4.39 cm) (1U height)
	Weight	12.96 lb. (5.88 kg)
Memory and processor	Processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash, 1 GB compact flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	1000 Mb Latency	< 2.9 μ s (FIFO)



Technical Specifications

	10 Gbps Latency	< 1.3 μ s (FIFO)
	Throughput	up to 131 million pps
	Switching capacity	176 Gbps
	Routing table size	2000 entries
	MAC address table size	16000 entries
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 51.5 dB, Pressure: 38.1 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Description	The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz
	Maximum heat dissipation	667 BTU/hr (704 kJ/hr), max. using PoE+
	Voltage	100-127/200-240 VAC
	Current	6.4/3.2 A
	Idle power	89 W
	Maximum power rating	556 W
	PoE power	382 W
	Frequency	50/60 Hz
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of a External Power Supply (EPS).
	Safety	EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60950
Emissions	FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI 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, 1 kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m
	Voltage dips and interruptions	IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods



Technical Specifications

Harmonics IEC 61000-3-2

Flicker IEC 61000-3-3

Management HP PCM+; HP PCM; command-line interface; Web browser; out-of-band management (serial RS-232C)

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.

Services

- 3-year, 4-hour onsite, 13x5 coverage for hardware (H4496E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319E)
- 3-year, 24x7 SW phone support, software updates (UE264E)
- Installation with minimum configuration, system-based pricing (U4826E)
- Installation with HP-provided configuration, system-based pricing (U4830E)
- 4-year, 4-hour onsite, 13x5 coverage for hardware (UR884E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware (UR885E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR886E)
- 4-year, 24x7 SW phone support, software updates (UR887E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (UR888E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (UR889E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR890E)
- 5-year, 24x7 SW phone support, software updates (UR891E)
- 3 Yr 6 hr Call-to-Repair Onsite (UW365E)
- 4 Yr 6 hr Call-to-Repair Onsite (UW366E)
- 5 Yr 6 hr Call-to-Repair Onsite (UW367E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR898E)
- 1-year, 24x7 software phone support, software updates (HR897E)
- 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR896E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS618E)
- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS619E)
- 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS620E)
- 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS621E)
- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS622E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS623E)
- 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS624E)
- 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS625E)

Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Standards and protocols
(applies to all products in series)

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

General protocols
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees

MIBs
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 1724 RIPv2 MIB
RFC 2021 RMONv2 MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB



Technical Specifications

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 802.3x 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 2030 Simple Network Time Protocol (SNTP) v4
RFC 2131 DHCP
RFC 2453 RIPv2
RFC 3046 DHCP Relay Agent Information Option

IP multicast

RFC 3376 IGMPv3 (host joins only)

IPv6

RFC 1981 IPv6 Path MTU Discovery
RFC 2460 IPv6 Specification
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2925 Remote Operations MIB (Ping only)
RFC 3019 MLDv1 MIB
RFC 3315 DHCPv6 (client only)
RFC 3513 IPv6 Addressing Architecture
RFC 3596 DNS Extension for IPv6
RFC 3810 MLDv2 (host joins only)
RFC 4022 MIB for TCP
RFC 4113 MIB for UDP
RFC 4251 SSHv6 Architecture
RFC 4252 SSHv6 Authentication
RFC 4253 SSHv6 Transport Layer
RFC 4254 SSHv6 Connection
RFC 4293 MIB for IP
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 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2863 The Interfaces Group MIB
RFC 2925 Ping MIB

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3176 sFlow
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3
XRMON

QoS/CoS

RFC 2474 DiffServ Precedence, including 8 queues/port
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)



Accessories

HP 2910 al Switch Series Modules

accessories

HP 2-port 10GbE CX4 al Module	J9149A
HP 2-port 10GbE SFP+ al Module	J9008A
HP 10-GbE al Switch Interconnect Kit	J9165A

Transceivers

HP X111 100M SFP LC FX Transceiver	J9054B
HP X112 100M SFP LC BX-D Transceiver	J9099B
HP X112 100M SFP LC BX-U Transceiver	J9100B
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B

Cables

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 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
NEW HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable	BK837A
NEW HP 1 m PremierFlex OM3+ LC/LC Optical Cable	BK838A
NEW HP 2 m PremierFlex OM3+ LC/LC Optical Cable	BK839A
NEW HP 5 m PremierFlex OM3+ LC/LC Optical Cable	BK840A
NEW HP 15 m PremierFlex OM3+ LC/LC Optical Cable	BK841A
NEW HP 30 m PremierFlex OM3+ LC/LC Optical Cable	BK842A
NEW HP 50 m PremierFlex OM3+ LC/LC Optical Cable	BK843A
HP BLc SFP+ 0.5m 10GbE Copper Cable	487649-B21
HP BLc SFP+ 1m 10GbE Copper Cable	487652-B21
HP BLc SFP+ 3m 10GbE Copper Cable	487655-B21
HP BLc SFP+ 5m 10GbE Copper Cable	537963-B21
HP BLc SFP+ 7m 10GbE Copper Cable	487658-B21

EPS/RPS



Accessories

HP 620 Redundant/External Power Supply	J8696A
HP 630 Redundant and/or External Power Supply	J9443A
Mounting Kit	
HP X410 1U Universal 4-post Rack Mounting Kit	J9583A
Software	
HP Identity Driven Manager 3.0 software--500-user license	J9438A
HP Identity Driven Manager 3.0 software--additional 1,000-user license	J9440A
HP Identity Driven Manager 3.0 software--unlimited-user license	J9439A
NEW HP PCM+ IDM v4 S/W Mod w/500-user Lic	J9752A
NEW HP PCM+ IDM v4 S/W Mod w/Unltd-user Lic	J9753A
NEW HP PCM+ IDM v4 add 1000-user Lic	J9754A



Accessory Product Details

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

HP 2-port 10GbE CX4 al Module (J9149A)	Ports	2 CX4 10-GbE ports (IEEE 802.3ak Type 10GBASE-CX4); Duplex: full only		
	Physical characteristics	Dimensions	4.11(d) x 4.18(w) x 1.4(h) in. (10.44 x 10.62 x 3.56 cm)	
		Weight	0.35 lb. (0.16 kg)	
		Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Environment	Operating relative humidity	15% to 95% @ 104°F (40°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	
	Cabling	Maximum distance: <ul style="list-style-type: none">• 15 m using CX4 cable• 300 m using optical media converters and multimode fiber cable		
	Notes	Use CX4 10-GbE cable (0.5 m-15 m) or HP ProCurve 10-GbE CX4 Media Converter (J8439A). No CX4 cables are included with this module.		
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		

HP 2-port 10GbE SFP+ al Module (J9008A)	Ports	2 open 10-GbE SFP+ transceiver slots		
	Physical characteristics	Dimensions	4.0(d) x 4.18(w) x 1.4(h) in. (10.16 x 10.62 x 3.56 cm)	
		Weight	0.35 lb. (0.16 kg)	
		Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Environment	Operating relative humidity	15% to 95% @ 104°F (40°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	
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		



Accessory Product Details

HP 10GbE al Switch Interconnect Kit (J9165A)	Physical characteristics	Dimensions	4.11(d) x 4.18(w) x 1.4(h) in. (10.44 x 10.62 x 3.56 cm)
		Weight	0.31 lb. (0.14 kg)
	Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
		Operating relative humidity	15% to 95% @ 104°F (40°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
	Notes	ProCurve Switch bl 10-GbE Interconnect Kit includes two 1-port 10-GbE CX4 compatible Interconnect modules for short-distance connectivity using the 0.5 m CX4 cable provided.	
	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 X111 100M SFP LC FX Transceiver (J9054C)	Ports	1 LC 100BASE-FX port (IEEE 802.3u Type 100BASE-FX); Duplex: half or full	
	Physical characteristics	Dimensions	2.7(d) x 0.54(w) x 0.48(h) in. (6.86 x 1.38 x 1.22 cm)
		Weight	0.06 lb. (0.03 kg)
	Environment	Operating temperature	32°F to 158°F (0°C to 70°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 185°F (-40°C to 85°C)
		Nonoperating/Storage relative humidity	5% to 85%
		Altitude	up to 10,000 ft. (3 km)
	Cabling	Cable type: 62.5/125 μ m or 50/125 μ m (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 km (full duplex) or 412 m (half duplex)	
	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 J9054B 100-FX SFP-LC Transceiver" on the "ProCurve Mini-GBICs and SFPs" Manuals Web page.	
	Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	



Accessory Product Details

HP X112 100M SFP LC BX-D Transceiver (J9099B)	Ports	1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-D); Duplex: full only
A small form-factor pluggable (SFP) 100-Megabit BX (bi-directional) "downstream" transceiver that provides 100 Mbps full-duplex connectivity up to 10 km on one strand of singlemode fiber. The J9099B connects to the J9100B "upstream" transceiver, or to any IEEE-standard 100BASE-BX10-U ("upstream") device.	Physical characteristics	Dimensions 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)
	Environment	Weight 0.04 lb. (0.03 kg) 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)
	Cabling	Type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: <ul style="list-style-type: none">● 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 HP BX Transceivers" on the "HP Mini-GBICs and SFPs" Manuals Web page. The J9099B connects to the J9100B "upstream" transceiver, or to any IEEE-standard 100BASE-BX10-U ("upstream") device. (A 100-BX-D transceiver can only connect to a 100-BX-U product. You cannot connect two 100-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.



Accessory Product Details

<p>HP X112 100M SFP LC BX-U Transceiver (J9100B)</p> <p>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.</p>	<p>Ports</p> <p>1 LC 100BASE-BX10 port (IEEE 802.3ah Type 100BASE-BX10-U); Duplex: full only</p> <p>Physical characteristics</p> <p>Dimensions 2.7(d) x 0.55(w) x 0.48(h) in. (6.86 x 1.39 x 1.22 cm)</p> <p>Weight 0.07 lb. (.03 kg)</p> <p>Environment</p> <p>Operating temperature 32°F to 158°F (0°C to 70°C)</p> <p>Operating relative humidity 0% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 185°F (-40°C to 85°C)</p> <p>Cabling</p> <p>Type:</p> <p>Single-mode fiber optic, complying with ITU-T G.652;</p> <p>Maximum distance:</p> <ul style="list-style-type: none"> ● 0.5-10,000 m (single-mode fiber) <p>Notes</p> <p>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.</p> <p>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.)</p> <p>Transmit wavelength: 1310 nm. Receive wavelength: 1550 nm. Power consumption is 1.1 watts maximum.</p> <p>Services</p> <p>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.</p>
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<p>HP X132 10G SFP+ LC SR Transceiver (J9150A)</p> <p>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.</p>	<p>Ports</p> <p>1 LC 10-GbE port (IEEE 802.3ae Type 10Gbase-SR); Duplex: full only</p> <p>Connectivity</p> <p>Connector type LC</p> <p>Wavelength 850 nm</p> <p>Physical characteristics</p> <p>Dimensions 2.19(d) x 0.54(w) x 0.47(h) in. (5.57 x 1.38 x 1.19 cm)</p> <p>Weight 0.04 lb. (0.02 kg)</p> <p>Transceiver form factor SFP+</p> <p>Environment</p> <p>Operating temperature 32°F to 158°F (0°C to 70°C)</p> <p>Operating relative humidity 0% to 85%, noncondensing</p> <p>Nonoperating/Storage temperature -40°F to 185°F (-40°C to 85°C)</p> <p>Altitude up to 10,000 ft. (3 km)</p>
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Accessory Product Details

Electrical characteristics	Power consumption typical	0.6 W
	Power consumption maximum	0.8 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; Maximum distance: <ul style="list-style-type: none"> • 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 	
	Cable length	2-300m
	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 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 LR Transceiver (J9151A)

A 10-Gigabit transceiver in SFP+ form-factor that supports the 10-Gigabit LR standard, providing 10-Gigabit connectivity up to 10 km on single-mode fiber.

Ports	1 LC 10-GbE port (IEEE 802.3ae Type 10Gbase-LR); 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	0.9 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; Maximum distance:	



Accessory Product Details

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

Cable length 2m to 10km
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 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 LRM Transceiver (J9152A)

A 10-Gigabit transceiver in SFP+ form-factor that supports the 10-Gigabit LRM standard, for 10-Gigabit connectivity up to 220 m on legacy multimode fiber.

Ports 1 LC 10-GbE port (IEEE 802.3aq Type 10Gbase-LRM); 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** 0.7 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

Cable length 0.5m to 220m
Fiber type Multi Mode



Accessory Product Details

Notes	For OM3 cable (50 μ m 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.
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 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	Cable type: <ul style="list-style-type: none">• Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1; Maximum distance: <ul style="list-style-type: none">• 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.



Accessory Product Details

HP X121 1G SFP LC SX Transceiver (J4858C)	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) Transceiver form factor: SFP
A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550 m on multimode fiber.	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	Type: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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
	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.
<hr/>		
HP X121 1G SFP LC LX Transceiver (J4859C)	Ports	1 LC 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX); Duplex: full only
	Physical characteristics	Dimensions: 2.24(d) x 0.54(w) x 0.486(h) in. (5.69 x 1.37 x 1.23 cm) Weight: 0.04 lb. (0.02 kg)
HP X121 1G SFP LC LX Transceiver: An SFP format gigabit transceiver with LC connectors using LX technology.	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 212°F (-40°C to 100°C) Altitude: up to 10,000 ft. (3 km)
	Cabling	Type: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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)



Accessory Product Details

Notes	<ul style="list-style-type: none">• 2-10,000 m (single-mode fiber) 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 X122 1G SFP LC BX-D Transceiver (J9142B)

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 J9143B "upstream" transceiver, or to any IEEE-standard 1000BASE-BX10-U ("upstream") device.

Ports	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); 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 32°F to 158°F (0°C to 70°C)
	Operating relative humidity 0% to 95%, non-condensing
	Non-operating/Storage temperature -40°F to 185°F -40°C to 85°C
Cabling	Type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: <ul style="list-style-type: none">• 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.



Accessory Product Details

<p>HP X122 1G SFP LC BX-U Transceiver (J9143B)</p> <p>A small form-factor pluggable (SFP) Gigabit-BX (bi-directional) "upstream" transceiver that provides a full-duplex Gigabit solution up to 10 km on one strand of single-mode fiber. The J9143B connects to the J9142B "downstream" transceiver, or to any IEEE-standard 1000BASE-BX10-D ("downstream") device.</p>	<p>Ports</p> <p>1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only</p>
<p>Physical characteristics</p>	<p>Dimensions</p> <p>2.19(d) x 0.54(w) x 0.46(h) in. (5.57 x 1.37 x 1.18 cm)</p>
<p>Environment</p>	<p>Weight</p> <p>0.04 lb. (0.02 kg)</p> <p>Operating temperature</p> <p>32°F to 158°F (0°C to 70°C)</p> <p>Operating relative humidity</p> <p>0% to 95%, non-condensing</p> <p>Non-operating/Storage temperature</p> <p>-40°F to 185°F -40°C to 85°C)</p>
<p>Cabling</p>	<p>Type:</p> <p>Single-mode fiber optic, complying with ITU-T G.652;</p> <p>Maximum distance:</p> <ul style="list-style-type: none"> • 0.5-10,000 m (single-mode fiber)
<p>Notes</p>	<p>Transmit wavelength: 1310 nm. Receive wavelength: 1490 nm. 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.) Power consumption is 1 watt maximum.</p>
<p>Services</p>	<p>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.</p>

<p>HP X242 SFP+ Direct Attach Cable (J9281B)</p>	<p>Connectivity</p> <p>Length</p> <p>3.28 ft. (1 m)</p>
<p>Physical characteristics</p>	<p>Weight</p> <p>0.24 lb. (0.11 kg) the cable with an SFP+ transceiver at each end of the cable</p>
<p>Environment</p>	<p>Operating temperature</p> <p>32°F to 158°F (0°C to 70°C)</p> <p>Operating relative humidity</p> <p>5% to 95%, noncondensing</p> <p>Nonoperating/Storage temperature</p> <p>14°F to 185°F (-10°C to 85°C)</p> <p>Nonoperating/Storage relative humidity</p> <p>5% to 95%, noncondensing</p> <p>Altitude</p> <p>up to 10,000 ft. (3 km)</p>
<p>Electrical characteristics</p>	<p>Notes</p> <p>0.04 watts maximum per transceiver end</p>
<p>Notes</p>	<p>Electrical Properties</p> <ul style="list-style-type: none"> • Cable Characteristic Impedance: 100 ohms • Crosstalk between pairs: 2% max • Time delay: 1.31 nsec/ft



Accessory Product Details

Services	Physical Properties	<ul style="list-style-type: none">• Cable Diameter: 0.180"• Minimum Cable Bend Radius: 1.0"
		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 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
	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
	Electrical characteristics	Altitude	up to 10,000 ft. (3 km)
		Notes	0.04 watts maximum per transceiver end
	Notes	Electrical Properties	<ul style="list-style-type: none">• Cable Characteristic Impedance: 100 ohms• Crosstalk between pairs: 2% max• Time delay: 1.31 nsec/ft
		Services	Physical Properties
	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		



Accessory Product Details

HP X242 SFP+ SFP+ 7 m Connectivity Direct Attach Cable (J9285B)	Physical characteristics	Length	22.97 ft. (7 m)	
		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	
	Notes	Electrical Properties	<ul style="list-style-type: none"> • Cable Characteristic Impedance: 100 ohms • Crosstalk between pairs: 2% max • Time delay: 1.31 nsec/ft 	
		Physical Properties	<ul style="list-style-type: none"> • Cable Diameter: 0.180" • Minimum Cable Bend Radius: 1.0" 	
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 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)	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	Maximum distance: 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. <ul style="list-style-type: none"> • 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: Bandwidth: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • 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. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen



Accessory Product Details

	<ul style="list-style-type: none">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 1 m Multimode OM3 Cabling LC/LC Optical Cable (AJ834A)

	<p>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</p> <p>Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m</p>
Notes	<p>Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 μm fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.</p> <ul style="list-style-type: none">● Dimensions: Core diameter: 50 \pm 3.0μm Cladding diameter: 125 \pm 2.0μm Coating diameter: 245 \pm 10μm● 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 50/125μm 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

HP 2 m Multimode OM3 Cabling
LC/LC Optical Cable
(AJ835A)

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;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

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

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- 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 50/125 μm 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

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

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;

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 μm fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- 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 50/125 μm 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

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;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

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

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- 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 50/125 μm 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

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;

Maximum distance:

10Gbps Transfer Rate (Ethernet): 300m

Notes

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

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- 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 50/125 μm 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

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-492AAAC 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 μm fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: $50 \pm 3.0\mu\text{m}$ Cladding diameter: $125 \pm 2.0\mu\text{m}$ Coating diameter: $245 \pm 10\mu\text{m}$
- 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 50/125 μm 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

HP 0.5 m PremierFlex
OM3+ LC/LC Optical
Cable (BK837A)

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 \pm 3um; Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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 @ 1310 nm @ 23°C as tested in accordance with EIA 455-46

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 1 m PremierFlex
OM3+ LC/LC Optical
Cable (BK838A)

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 \pm 3um, Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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.



Accessory Product Details

HP 2 m PremierFlex
OM3+ LC/LC Optical
Cable (BK839A)

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 \pm 3um, Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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 5 m PremierFlex
OM3+ LC/LC Optical
Cable (BK840A)

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 \pm 3um, Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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.



Accessory Product Details

HP 15 m PremierFlex OM3+ LC/LC Optical Cable (BK841A) **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 \pm 3um, Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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 30 m PremierFlex OM3+ LC/LC Optical Cable (BK842A) **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 \pm 3um, Cladding diameter: 125um \pm 2um; Coating diameter: 245 \pm 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.



Accessory Product Details

HP BLc SFP+ 1m 10GbE Copper Cable (487652-B21)	Connectivity	Length	3.28 ft. (1 m)
	Physical characteristics	Weight	.24 lb. (0.11 kg) the cable with an SFP+ transceiver at each end of the cable
		Environment	Operating temperature
	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
	Notes	Electrical Properties	<ul style="list-style-type: none">• Cable Characteristic Impedance: 100 ohms• Crosstalk between pairs: 2% max• Time delay: 1.31 nsec/ft
		Physical Properties	<ul style="list-style-type: none">• Cable Diameter: 0.180"• Minimum Cable Bend Radius: 1.0"
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 BLc SFP+ 3m 10GbE Copper Cable (487655-B21)	Connectivity	Length	9.84 ft. (3 m)
	Physical characteristics	Weight	0.49 lb. (0.22 kg) the cable with an SFP+ transceiver at each end of the cable
		Environment	Operating temperature
	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
	Notes	Electrical Properties	<ul style="list-style-type: none">• Cable Characteristic Impedance: 100 ohms• Crosstalk between pairs: 2% max• Time delay: 1.31 nsec/ft
		Physical Properties	<ul style="list-style-type: none">• Cable Diameter: 0.180"• Minimum Cable Bend Radius: 1.0"



Accessory Product Details

Services Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP BLc SFP+ 5m 10GbE Copper Cable (537963-B21)	Connectivity	Length	16.40 ft. (5 m)	
	Physical characteristics	Weight	0.75 lb. (0.34 kg) 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	
	Electrical characteristics	Altitude	up to 10,000 ft. (3 km)	
		Notes	0.04 watts maximum per transceiver end	
	Notes	Electrical Properties <ul style="list-style-type: none"> • Cable Characteristic Impedance: 100 ohms • Crosstalk between pairs: 2% max • Time delay: 1.31 nsec/ft Physical Properties <ul style="list-style-type: none"> • Cable Diameter: 0.180" • Minimum Cable Bend Radius: 1.0" 		
		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 BLc SFP+ 7m 10GbE Copper Cable (487658-B21)	Connectivity	Length	22.96 ft. (7 m)	
	Physical characteristics	Weight	1.01 lb. (0.46 kg) 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	
	Electrical characteristics	Altitude	up to 10,000 ft. (3 km)	
		Notes	0.04 watts maximum per transceiver end	
	Notes	Electrical Properties <ul style="list-style-type: none"> • Cable Characteristic Impedance: 100 ohms • Crosstalk between pairs: 2% max • Time delay: 1.31 nsec/ft 		



Accessory Product Details

Services	Physical Properties	<ul style="list-style-type: none">• Cable Diameter: 0.180"• Minimum Cable Bend Radius: 1.0"
		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 620 Redundant/External Power Supply (J8696A)	Ports	2 redundant power supply ports Restrictions: 195 W available per port
		2 external power supply ports Restrictions: 398 W available per port
	Physical characteristics	Dimensions 15.4(d) x 17.4(w) x 1.73(h) in. (39.12 x 44.2 x 4.39 cm) (1U height)
		Weight 15.2 lb. (6.89 kg)
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Environment	Operating temperature 32°F to 131°F (0°C to 55°C)
		Operating relative humidity 15% to 95% @ 104°F (40°C), noncondensing
		Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity 15% to 90% @ 149°F (65°C), noncondensing
		Altitude up to 10,000 ft. (3 km)
	Acoustic	LwA per ISO 7779: 54.2 dB
	Electrical characteristics	Maximum heat dissipation 400 BTU/hr (422 kJ/hr), for the actual 620 itself. PoE-powered device heat dissipation assumed to be outside the 620.
		Voltage 100-127/200-240 VAC
		Current 16/8 A
		Maximum power rating 1440 W
		RPS power 390 W
		PoE power 796 W
		RPS 12 V
		PoE -50 V
		Frequency 50/60 Hz
	Notes	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. Above figures are for maximum RPS and PoE power being supplied to two switches



Accessory Product Details

simultaneously. 200 - 240 V power cords shipped with the 620 have a wall plug rated as close to 13 A as specific country standards allow.

Safety	CSA 22.2 No. 60950; EN 60950/IEC 60950; UL 60950																				
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A																				
Immunity	<table border="0"> <tr> <td>EN</td> <td>EN 55024, CISPR 24</td> </tr> <tr> <td>ESD</td> <td>IEC 61000-4-2</td> </tr> <tr> <td>Radiated</td> <td>IEC 61000-4-3</td> </tr> <tr> <td>EFT/Burst</td> <td>IEC 61000-4-4</td> </tr> <tr> <td>Surge</td> <td>IEC 61000-4-5</td> </tr> <tr> <td>Conducted</td> <td>IEC 61000-4-6</td> </tr> <tr> <td>Power frequency magnetic field</td> <td>IEC 61000-4-8</td> </tr> <tr> <td>Voltage dips and interruptions</td> <td>IEC 61000-4-11</td> </tr> <tr> <td>Harmonics</td> <td>EN 61000-3-2, IEC 61000-3-2</td> </tr> <tr> <td>Flicker</td> <td>EN 61000-3-3, IEC 61000-3-3</td> </tr> </table>	EN	EN 55024, CISPR 24	ESD	IEC 61000-4-2	Radiated	IEC 61000-4-3	EFT/Burst	IEC 61000-4-4	Surge	IEC 61000-4-5	Conducted	IEC 61000-4-6	Power frequency magnetic field	IEC 61000-4-8	Voltage dips and interruptions	IEC 61000-4-11	Harmonics	EN 61000-3-2, IEC 61000-3-2	Flicker	EN 61000-3-3, IEC 61000-3-3
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Voltage dips and interruptions	IEC 61000-4-11																				
Harmonics	EN 61000-3-2, IEC 61000-3-2																				
Flicker	EN 61000-3-3, IEC 61000-3-3																				
Management	Unmanaged power supply; provides information via LEDs (LEDs repeated on front and back panel) or through port interfaces of attached devices																				
Notes	<p>The 620 supports the HP Switch 2900 Series (RPS) and 3500yl Series (RPS/PoE), as well as 6200yl (RPS) switches. The HP Switch 5400zl Series is not supported.</p> <p>The 620 includes four 2 m RPS/EPS cables. These cables can be used to carry either RPS or PoE power to the switch being powered.</p>																				
Services	<table border="0"> <tr> <td>3-year, 4-hour onsite, 13x5 coverage for hardware (U9270E)</td> </tr> <tr> <td>3-year, 4-hour onsite, 24x7 coverage for hardware (U9271E)</td> </tr> <tr> <td>4-year, 4-hour onsite, 13x5 coverage for hardware (UR854E)</td> </tr> <tr> <td>4-year, 4-hour onsite, 24x7 coverage for hardware (UR855E)</td> </tr> <tr> <td>5-year, 4-hour onsite, 13x5 coverage for hardware (UR857E)</td> </tr> <tr> <td>5-year, 4-hour onsite, 24x7 coverage for hardware (UR858E)</td> </tr> <tr> <td>3 Yr 6 hr Call-to-Repair Onsite (UW371E)</td> </tr> <tr> <td>4 Yr 6 hr Call-to-Repair Onsite (UW372E)</td> </tr> <tr> <td>5 Yr 6 hr Call-to-Repair Onsite (UW373E)</td> </tr> </table> <p>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.</p>	3-year, 4-hour onsite, 13x5 coverage for hardware (U9270E)	3-year, 4-hour onsite, 24x7 coverage for hardware (U9271E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UR854E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UR855E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UR857E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UR858E)	3 Yr 6 hr Call-to-Repair Onsite (UW371E)	4 Yr 6 hr Call-to-Repair Onsite (UW372E)	5 Yr 6 hr Call-to-Repair Onsite (UW373E)											
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5 Yr 6 hr Call-to-Repair Onsite (UW373E)																					

HP 630 Redundant and/or External Power Supply (J9443A)

Physical characteristics	Dimensions	15(d) x 8.5(w) x 1.73(h) in. (38.1 x 21.59 x 4.39 cm) (1U height)
	Weight	7.9 lb. (3.58 kg)
Environment	Operating temperature	32°F to 131°F (0°C to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing



Accessory Product Details

	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 54.2 dB; ISO 7779, ISO 9296
Electrical characteristics	Maximum heat dissipation	535 BTU/hr (564.42 kJ/hr), for the actual 630 power supply. PoE-powered device heat dissipation assumed to be outside the 630 power supply.
	Voltage	100-127/200-240 VAC
	Current	8/4 A
	Maximum power rating	740 W
	PoE power	398 W
	RPS power	185 W
	PoE power	398 W
	Frequency	50/60 Hz
	Notes	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. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of a External Power Supply (EPS). 200-240 V power cords shipped with the 630 power supply have a wall plug rated as close to 13 A as specific country standards allow.
Notes		The HP 630 RPS/EPS supports the HP 2910al and 3500yl-PoE+ Switches. The HP Switch 5400zl Series is not supported. The 630 RPS/EPS includes two 2-m RPS/EPS cables, which can be used to carry either RPS or PoE+ power to the switch. Minimum software versions required: 2910al PoE+ switches require W.14.35 or later and 3500yl-PoE+ switches require K.14.52 or later
Services		3-year, 4-hour onsite, 13x5 coverage for hardware (U9270E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U9271E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR854E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR855E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR857E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR858E) 3 Yr 6 hr Call-to-Repair Onsite (UW371E) 4 Yr 6 hr Call-to-Repair Onsite (UW372E) 5 Yr 6 hr Call-to-Repair Onsite (UW373E)

Refer to the HP website at: www.hp.com/networking/services for details on



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.

HP X410 1U Universal 4-post Rack Mounting Kit (J9583A)

The rack mounting kit supports the 1U, full width switches in the following switch series and the power supply: V1810 Series, E2510 Series, E2520 Series, E2610 Series, E2810 Series, E2910 Series, E3500 Series, and the E620 Power Supply

This universal rack mounting kit is design to fit the following racks: HP 10K 10642, HP 10K 10842, Panduit CN, Panduit CS, Wrightline Vantage S2, APC Netshelter 600mm, and APC Netshelter 800mm. It may well fit many other brands and models too.

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 Identity Driven Manager 3.0 Software--500-User License (J9438A)

Identity Driven Manager 3.0 software and license for managing up to 500 users.

RADIUS server support

Microsoft Network Policy Server on Windows Server 2008 (32-bit)
Microsoft Internet Authentication Service (IAS) on Windows Server 2003 (32-bit)
FreeRADIUS supplied with Red Hat Enterprise Linux (4.7 and 5.2)
RADIUS on the Network Access Controller 800
FreeRADIUS supplied with SuSE Linux Enterprise Server (9.3 and 10.2)

Features

Intuitive Explorer-style interface
OpenView NNM integration
Application of policies by user identity

- Auto VLAN assignment
- Auto set quality of service by user
- Auto set bandwidth assignment by user

Rule-based access rights deployment

Dynamic rights assignment based on:

- Time
- Location
- User system

Auto-discovery of:

- RADIUS servers
- Realms
- Users

Notes

Additional specifications

- Supports environments with up to 10,000 users.
- Supports up to 10 RADIUS servers with HP Identity Driven Manager



Accessory Product Details

agents installed.

Requires the HP PCM Plus 3.0 or greater network management platform.

- Please see HP PCM Plus 3.0 for hardware and software system requirements.

Services

3-Year, 9x5 SW phone support, software updates (UQ124E)
3-year, 24x7 SW phone support, software updates (UQ125E)

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 Identity Driven
Manager 3.0 Software--
Additional 1,000-User
License (J9440A)

License to add support for managing an additional 1,000 users with the Identity Driven Manager 3.0 product.

RADIUS server support —

Features —

Notes Additional specifications

- Supports environments with up to 10,000 users.
- Supports up to 10 RADIUS servers with HP Identity Driven Manager agents installed.

Requires the HP PCM Plus 3.0 or greater network management platform.

- Please see HP PCM Plus 3.0 for hardware and software system requirements. Requires the HP Identity Driven Manager 3.0 base product (J9438A).

Multiple licenses for additional 1,000 users can be added to the base HP Identity Driven Manager product to support larger numbers of users.

Services

3-year, 24x7 SW phone support, software updates (UQ119E)
3-Year, 9x5 SW phone support, software updates (UQ118E)

Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



Accessory Product Details

HP Identity Driven Manager 3.0 Software--Unlimited-User License (J9439A)	Identity Driven Manager 3.0 software and license for managing an unlimited number of users.
RADIUS server support	Microsoft Network Policy Server on Windows Server 2008 (32-bit) Microsoft Internet Authentication Service (IAS) on Windows Server 2003 (32-bit) FreeRADIUS supplied with Red Hat Enterprise Linux (4.7 and 5.2) RADIUS on the Network Access Controller 800 FreeRADIUS supplied with SuSE Linux Enterprise Server (9.3 and 10.2)
Features	Intuitive Explorer-style interface OpenView NNM integration Application of policies by user identity <ul style="list-style-type: none">● Auto VLAN assignment● Auto set quality of service by user● Auto set bandwidth assignment by user Rule-based access rights deployment Dynamic rights assignment based on: <ul style="list-style-type: none">● Time● Location● User system Auto-discovery of: <ul style="list-style-type: none">● RADIUS servers● Realms● Users
Notes	Additional specifications <ul style="list-style-type: none">● Supports environments with up to 10,000 users.● Supports up to 10 RADIUS servers with HP Identity Driven Manager agents installed. Requires the HP PCM Plus 3.0 or greater network management platform.
Services	Please see HP PCM Plus 3.0 for hardware and software system requirements. 3-year, 24x7 SW phone support, software updates (UQ133E) 3-Year, 9x5 SW phone support, software updates (UQ132E) 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

To learn more, visit: www.hp.com/networking

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