Overview

Models

HP 5120-48G-PoE EI Switch with 2 slots	JE071A
HP 5120-48G EI Switch with 2 Interface Slots	JE069A
HP 5120-48G EI Switch	JE067A
HP 5120-24G-PoE EI Switch with 2 slots	JE070A
HP 5120-24G EI Switch with 2 Interface Slots	JE068A
HP 5120-24G EI Switch	JE066A
HP 5120-48G-PoE+ EI Switch with 2 Interface Slots	JG237A
HP 5120-24G-PoE+ EI Switch with 2 Interface Slots	JG236A

Key features

- High scalability for investment protection
- Support for multiple services
- Comprehensive security control policies
- Diversified Quality of Service (QoS) policies
- Excellent manageability

Product overview

The HP 5120 EI Switch Series are Gigabit Ethernet switches that support static Layer 3 routing, diversified services, and IPv6 forwarding, as well as provide up to four 10-Gigabit Ethernet (10 GbE) extended interfaces. Unique Intelligent Resilient Framework (IRF) technology creates a virtual fabric by managing several switches as one logical device, which increases network resilience, performance, and availability while reducing operational complexity. These switches provide Gigabit Ethernet access and can be used at the edge of a network or to connect server clusters in data centers. High scalability provides investment protection with two expansion slots, each of which can support two-port 10 GbE expansion modules. High availability, simplified management, and comprehensive security control policies are among the key features that distinguish this series.

Features and benefits

Quality of Service (QoS)

- **Broadcast control**: allows limitation of broadcast traffic rate to cut down on unwanted network broadcast traffic
- **Advanced classifier-based QoS**: classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a port, VLAN, or whole switch
- **Powerful QoS feature**: supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), and SP+WRR
- **Traffic policing**: supports Committed Access Rate (CAR) and line rate

Management

- **Friendly port names**: allow assignment of descriptive names to ports
- **Remote configuration and management**: is available through a secure Web browser or a command-line interface (CLI)
- **Manager and operator privilege levels**: enable read-only (operator) and read-write (manager) access on CLI and Web browser management interfaces
- **Command authorization**: leverages HWTACACS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail
- **Secure Web GUI**: provides a secure, easy-to-use graphical interface for configuring the module via HTTPS

Overview

- Multiple configuration files: can be stored to the flash image
- Complete session logging: provides detailed information for problem identification and resolution
- SNMPv1, v2c, and v3: facilitate centralized discovery, monitoring, and secure management of networking devices
- Remote monitoring (RMON): uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP): automated device discovery protocol provides easy mapping by network management applications
- sFlow (RFC 3176): provides scalable ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- Management VLAN: segments traffic to and from management interfaces, including CLI/telnet, a Web browser interface, and SNMP
- Remote Intelligent Mirroring: mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network
- Device Link Detection Protocol (DLDP): monitors cable between two switches and shuts down the ports on both ends if the cable is broken, this prevents network problems such as loops
- IPv6 management: provides future-proof networking because the switch is capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, syslogv6, FTPv6, SNMPv6, DHCPv6, and RADIUS for IPv6
- Troubleshooting: ingress and egress port monitoring enable network problem solving; virtual cable tests provide visibility into cable problems

Connectivity

- Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- Flow control: using standard IEEE 802.3x, it provides back pressure to reduce congestion in heavy traffic situations
- Jumbo packet support: supports up to 9216-byte frame size to improve performance of large data transfers
- High-density connectivity: provides up to 48 fixed 10/100/1000BASE-T ports in a Layer 2/Layer 3 switch
- Optional 10 Gigabit Ethernet ports: allow the addition of 10 Gigabit Ethernet connections for uplinks or high-bandwidth server connections; flexibly supports XFP, SFP+, or CX4 local connections
- IEEE 802.3at Power over Ethernet (PoE+) support: simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location
- Ethernet OAM: provides a Layer 2 link performance and fault detection monitoring tool, which reduces failover and network convergence times
- High-bandwidth CX4 local stacking: when locally stacked using CX4 local stacking, achieves 12 Gbps per connection, allowing for up to 96 Gbps total stacking bandwidth (full duplex) in a resilient stacking configuration

Performance

- Nonblocking architecture: up to 192 Gbps nonblocking switching fabric provides wire-speed switching with up to 143 million pps throughput
- Hardware-based wire-speed access control lists (ACLs): feature-rich ACL implementation (TCAM based) helps ensure high levels of security and ease of administration without impacting network performance

Resiliency and high availability

- Separate data and control paths: keeps control separated from services and keeps service processing isolated; increases security and performance
- External redundant power supply: provides high reliability
- Smart link: allows 50 ms failover between links
- Spanning Tree/MSTP, RSTP: provides redundant links while preventing network loops
- Rapid Ring Protection Protocol (RRPP): connects multiple switches in a high-performance ring using standard Ethernet

technology; traffic can be rerouted around the ring in less than 50 ms, reducing the impact on traffic and applications

- Intelligent Resilient Framework (IRF): creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 router; switches do not have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; simplifies network operation by eliminating the complexity of Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP

Layer 2 switching

- 16K MAC address table: provides access to many Layer 2 devices
- VLAN support and tagging: support IEEE 802.1Q with 4,094 simultaneous VLAN IDs
- GARP VLAN Registration Protocol: allows automatic learning and dynamic assignment of VLANs
- IEEE 802.1ad QinQ and Selective QinQ: increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- 10 GbE port aggregation: allows grouping of ports to increase overall data throughput to a remote device
- Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping: effectively control and manage the flooding of multicast packets in a Layer 2 network

Layer 3 services

- Address Resolution Protocol (ARP): determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- Dynamic Host Configuration Protocol (DHCP): simplifies the management of large IP networks; supports client; DHCP Relay enables DHCP operation across subnets
- Loopback interface address: defines an address that can always be reachable, improving diagnostic capability
- User Datagram Protocol helper function: allows User Datagram Protocol (UDP) broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- Route maps: provide more control during route redistribution; allow filtering and altering of route metrics

Layer 3 routing

- Static IP routing: provides manually configured routing for both IPv4 and IPv6 networks

Security

- Access control lists (ACLs): provides IP Layer 2 to Layer 4 traffic filtering; supports global ACL, VLAN ACL, port ACL, and IPv6 ACL
- IEEE 802.1X: industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
- MAC-based authentication: client is authenticated with the RADIUS server based on the client's MAC address
- Identity-driven security and access control:
  - Per-user ACLs: permits or denies user access to specific network resources based on user identity and time of day, allowing multiple types of users on the same network to access specific network services without risk to network security or unauthorized access to sensitive data
  - Automatic VLAN assignment: automatically assigns users to the appropriate VLAN based on their identities
- Secure management access: securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- Secure FTP: allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- Guest VLAN: similar to IEEE 802.1X, it provides a browser-based environment to authenticated clients
- Endpoint Admission Defense (EAD): provides security policies to users accessing a network
- Port security: allows access only to specified MAC addresses, which can be learned or specified by the administrator
- Port isolation: secures and adds privacy, and prevents malicious attackers from obtaining user information
- STP BPDU port protection: blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged

Overview

BPDU attacks

- **STP Root Guard**: protects the root bridge from malicious attack or configuration mistakes
- **DHCP protection**: blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **IP source guard**: helps prevent IP spoofing attacks
- **Dynamic ARP protection**: blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **RADIUS/HWTACACS**: eases switch management security administration by using a password authentication server

Convergence

- **IEEE 802.1AB Link Layer Discovery Protocol** (LLDP): is an automated device discovery protocol that provides easy mapping of network management applications
- **LLDP-MED**: is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **LLDP-CDP compatibility**: receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation
- **IEEE 802.3af Power over Ethernet**: provides up to 15.4 W per port to PoE-powered devices such as IP phones, wireless access points, and video cameras
- **PoE allocations**: support multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings
- **Voice VLAN**: automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance
- **IP multicast snooping** (data-driven IGMP): automatically prevents flooding of IP multicast traffic

Device support

- **Cisco prestandard PoE support**: detects and provides power to Cisco's prestandard PoE devices such as wireless LAN access points and IP phones

Additional information

- **Green IT and power**: use the latest advances in silicon development, shut off unused ports, and use variable-speed fans to improve energy efficiency
- **Green initiative support**: provides support for RoHS and WEEE regulations

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.

HP 5120-48G-PoE EI Switch with 2 slots (JE071A)

Ports	48 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; PoE autosensing 10/100/1000BASE-T or SFP	
	2 port expansion module slots	
	1 RJ-45 serial console port	
	Supports a maximum of 48 autosensing 10/100/1000 ports	
Physical characteristics	**Dimensions**	16.54(d) x 17.32(w) x 17.17(h) in. (42 x 44 x 43.6 cm) (1U height)
	Weight	16.53 lb. (7.5 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 4 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	**1000 Mb Latency**	< 3.2 µs
	10 Gbps Latency	< 2.6 µs
	Throughput	142.9 million pps
	Routing/Switching capacity	192 Gbps
	Routing table size	32 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 90%, noncondensing
Electrical characteristics	**Maximum heat dissipation**	614 BTU/hr (647.77 kJ/hr)
	Voltage	100-240 VAC
	DC Voltage	-52 to -55 VDC
	Idle power	78 W
	Maximum power rating	920 W
	PoE power	740 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 an external power supply (EPS). With AC input, the maximum power consumption is 550 W (370 W for PoE).

Technical Specifications

Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E) 4-year, 24x7 SW phone support, software updates (UV868E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E) 5-year, 24x7 SW phone support, software updates (UV869E) 3 Yr 6 hr Call-to-Repair Onsite (UW963E) 4 Yr 6 hr Call-to-Repair Onsite (UW964E) 5 Yr 6 hr Call-to-Repair Onsite (UW965E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E) 1-year, 24x7 software phone support, software updates (HR587E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS686E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E) 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 5120-48G EI Switch with 2 Interface Slots (JE069A)

Ports	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 2 port expansion module slots

Technical Specifications

	1 RJ-45 serial console port	
	Supports a maximum of 48 autosensing 10/100/1000 ports	
Physical characteristics	Dimensions	11.81(d) x 17.32(w) x 1.72(h) in. (30 x 44 x 4.36 cm) (1U height)
	Weight	11.02 lb. (5 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 4 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	10 Gbps Latency	< 2.6 μs
	Throughput	142.9 million pps
	Routing/Switching capacity	192 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	495 BTU/hr (522.23 kJ/hr)
	Voltage	100-240 VAC
	Idle power	55 W
	Maximum power rating	145 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	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E)	

1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)
4-year, 24x7 SW phone support, software updates (UV868E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E)
5-year, 24x7 SW phone support, software updates (UV869E)
3 Yr 6 hr Call-to-Repair Onsite (UW963E)
4 Yr 6 hr Call-to-Repair Onsite (UW964E)
5 Yr 6 hr Call-to-Repair Onsite (UW965E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E)
1-year, 24x7 software phone support, software updates (HR587E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS686E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E)

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 5120-48G EI Switch (JE067A)

Ports	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP	
	1 RJ-45 serial console port	
	Supports a maximum of 48 autosensing 10/100/1000 ports	
Physical characteristics	Dimensions	11.81(d) x 17.32(w) x 17.17(h) in. (30 x 44 x 43.6 cm) (1U height)
	Weight	11.02 lb. (5 kg)
Memory and processor	128 MB SRAM, 16 MB flash; packet buffer size: 4 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	Throughput	71.4 million pps
	Routing/Switching capacity	96 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing

	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	375 BTU/hr (395.63 kJ/hr)
	Voltage	100-240 VAC
	Idle power	54 W
	Maximum power rating	110 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	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E) 4-year, 24x7 SW phone support, software updates (UV868E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E) 5-year, 24x7 SW phone support, software updates (UV869E) 3 Yr 6 hr Call-to-Repair Onsite (UW963E) 4 Yr 6 hr Call-to-Repair Onsite (UW964E) 5 Yr 6 hr Call-to-Repair Onsite (UW965E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E) 1-year, 24x7 software phone support, software updates (HR587E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange	

(HS686E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E)

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 5120-24G-PoE EI Switch with 2 slots (JE070A)

Ports	24 RJ-45 autosensing 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3af PoE); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SPF	
	2 port expansion module slots	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	16.54(d) x 17.32(w) x 17.17(h) in. (42 x 44 x 43.6 cm) (1U height)
	Weight	15.43 lb. (7 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 2 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	10 Gbps Latency	< 2.6 μs
	Throughput	107.2 million pps
	Routing/Switching capacity	144 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	425 BTU/hr (448.38 kJ/hr)
	Voltage	100-240 VAC
	DC Voltage	-52 to -55 VDC
	Idle power	55 W
	Maximum power rating	495 W
	PoE power	370 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 an External Power Supply (EPS).
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E) 4-year, 24x7 SW phone support, software updates (UV868E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E) 5-year, 24x7 SW phone support, software updates (UV869E) 3 Yr 6 hr Call-to-Repair Onsite (UW963E) 4 Yr 6 hr Call-to-Repair Onsite (UW964E) 5 Yr 6 hr Call-to-Repair Onsite (UW965E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E) 1-year, 24x7 software phone support, software updates (HR587E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS686E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E) 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 5120-24G EI Switch with 2 Interface Slots (JE068A)

Technical Specifications

Ports	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP	
	2 port expansion module slots	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	11.81(d) x 17.32(w) x 17.17(h) in. (30 x 44 x 43.6 cm) (1U height)
	Weight	9.92 lb. (4.5 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 2 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	10 Gbps Latency	< 2.6 μs
	Throughput	107.2 million pps
	Routing/Switching capacity	144 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	362 BTU/hr (381.91 kJ/hr)
	Voltage	100-240 VAC
	Idle power	36 W
	Maximum power rating	106 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	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)	

3-year, 24x7 SW phone support, software updates (UV867E)
1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)
4-year, 24x7 SW phone support, software updates (UV868E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E)
5-year, 24x7 SW phone support, software updates (UV869E)
3 Yr 6 hr Call-to-Repair Onsite (UW963E)
4 Yr 6 hr Call-to-Repair Onsite (UW964E)
5 Yr 6 hr Call-to-Repair Onsite (UW965E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E)
1-year, 24x7 software phone support, software updates (HR587E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS686E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E)

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 5120-24G EI Switch (JE066A)

Ports	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP	
	1 RJ-45 serial console port	
Physical characteristics	Dimensions	11.81(d) x 17.32(w) x 1.72(h) in. (30 x 44 x 4.36 cm) (1U height)
	Weight	9.92 lb. (4.5 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 2 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	Throughput	35.7 million pps
	Routing/Switching capacity	48 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)

	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	212 BTU/hr (223.66 kJ/hr)
	Voltage	100-240 VAC
	Idle power	35 W
	Maximum power rating	62 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	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR670E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E) 4-year, 24x7 SW phone support, software updates (UV868E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E) 5-year, 24x7 SW phone support, software updates (UV869E) 3 Yr 6 hr Call-to-Repair Onsite (UW963E) 4 Yr 6 hr Call-to-Repair Onsite (UW964E) 5 Yr 6 hr Call-to-Repair Onsite (UW965E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR588E)	

1-year, 24x7 software phone support, software updates (HR587E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS683E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS686E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS687E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS688E)

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 5120-48G-PoE+ EI Switch with 2 Interface Slots (JG237A)

Ports	48 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP	
	2 port expansion module slots	
	1 RJ-45 serial console port	
	Supports a maximum of 48 autosensing 10/100/1000 ports	
Physical characteristics	Dimensions	16.54(d) x 17.32(w) x 17.17(h) in. (42 x 44 x 43.6 cm) (1U height)
	Weight	16.53 lb. (7.5 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 4 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 µs
	10 Gbps Latency	< 2.6 µs
	Throughput	142.9 million pps
	Routing/Switching capacity	192 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	10% to 90%, noncondensing
Electrical characteristics	Maximum heat dissipation	614 BTU/hr (647.77 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	-52 to -55 VDC
	Idle power	78 W
	Maximum power rating	920 W
	PoE power	740 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 an External Power Supply (EPS). With AC input, the Max power consumption is 550 W (370 W for PoE).
Safety		UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
Emissions		FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management		IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
Services		3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 24x7 SW phone support, software updates (UV867E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E) 4-year, 24x7 SW phone support, software updates (UV868E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E) 5-year, 24x7 SW phone support, software updates (UV869E) 3 Yr 6 hr Call-to-Repair Onsite (UW963E) 4 Yr 6 hr Call-to-Repair Onsite (UW964E) 5 Yr 6 hr Call-to-Repair Onsite (UW965E) 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 5120-24G-PoE+ EI Switch with 2 Interface Slots (JG236A)

Ports	24 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SPF 2 port expansion module slots 1 RJ-45 serial console port

Technical Specifications

Physical characteristics	Dimensions	16.54(d) x 17.32(w) x 17.17(h) in. (42 x 44 x 43.6 cm) (1U height)
	Weight	15.43 lb. (7 kg)
Memory and processor	128 MB SDRAM, 16 MB flash; packet buffer size: 2 MB	
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	
Performance	1000 Mb Latency	< 3.2 μs
	10 Gbps Latency	< 2.6 μs
	Throughput	107.2 million pps
	Routing/Switching capacity	144 Gbps
	Routing table size	32 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Maximum heat dissipation	425 BTU/hr (448.38 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	-52 to -55 VDC
	Idle power	55 W
	Maximum power rating	495 W
	PoE power	370 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 an External Power Supply (EPS).
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)	

3-year, 24x7 SW phone support, software updates (UV867E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)
4-year, 24x7 SW phone support, software updates (UV868E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E)
5-year, 24x7 SW phone support, software updates (UV869E)
3 Yr 6 hr Call-to-Repair Onsite (UW963E)
4 Yr 6 hr Call-to-Repair Onsite (UW964E)
5 Yr 6 hr Call-to-Repair Onsite (UW965E)

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 1157 SNMPv1/v2c
RFC 1305 NTPv3
RFC 2573 (SNMPv3 Applications)
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
RFC 3416 (SNMP Protocol Operations v2)
HTML and telnet management
Multiple Configuration Files
SNMP v3 and RMON RFC support
SSHv1/SSHv2 Secure Shell
TACACS/TACACS+
Web UI

General protocols
IEEE 802.1ad Q-in-Q
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3 Type 10BASE-T
IEEE 802.3ab 1000BASE-T
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3af Power over Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
RFC 3576 Ext to RADIUS (CoA only)
RFC 4213 Basic IPv6 Transition Mechanisms
RFC 4675 RADIUS VLAN & Priority
802.1r - GARP Proprietary Attribute Registration Protocol (GPRP)

IPv6
RFC 2461 IPv6 Neighbor Discovery
RFC 2463 ICMPv6
RFC 3162 RADIUS and IPv6
RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses
RFC 3315 DHCPv6 (client and relay)

MIBs
RFC 1212 Concise MIB Definitions
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 1757 Remote Network Monitoring MIB
RFC 2096 IP Forwarding Table MIB
RFC 2233 Interface MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2574 SNMP USM MIB
RFC 2618 RADIUS Authentication Client MIB
RFC 2620 RADIUS Accounting Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2819 RMON MIB

RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
RFC 1305 NTPv3
RFC 1350 TFTP Protocol (revision 2)
RFC 1519 CIDR
RFC 1812 IPv4 Routing
RFC 1866 Hypertext Markup Language - 2.0
RFC 2131 DHCP
RFC 2236 IGMP Snooping
RFC 2616 HTTP Compatibility v1.1
RFC 2665 Definitions of Managed Objects for the Ethernet-like Interface Types
RFC 2668 Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs)
RFC 2865 Remote Authentication Dial In User Service (RADIUS)
RFC 2866 RADIUS Accounting
RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
RFC 2863 The Interfaces Group MIB
RFC 2925 Ping MIB
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3418 MIB for SNMPv3
RFC 3621 Power Ethernet 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)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security
IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2865 RADIUS (client only)
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv2 Secure Shell

HP 5120 EI Switch Series accessories	Modules	
	HP 5500/A5120-EI 2-port 10-GbE XFP Module	JD359B
	HP 5500/A5120-EI 2-port 10-GbE CX4 Module	JD360B
	HP 5500/A5120-EI 1-port 10-GbE XFP Module	JD361B
	HP 5500/A5120-EI 2-port 10-GbE SFP+ Module	JD368B
	HP 5500/A5120-EI 2-Port GbE SFP Module	JD367A
	Transceivers	
	HP X124 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
	HP X130 SFP+ LC SR Transceiver	JD092B
	HP X130 SFP+ LC LRM Transceiver	JD093B
	HP X130 SFP+ LC LR Transceiver	JD094B
	HP X240 SFP+ SFP+ 0.65 m Direct Attach Cable	JD095B
	HP X240 SFP+ SFP+ 1.2 m Direct Attach Cable	JD096B
	HP X240 SFP+ SFP+ 3 m Direct Attach Cable	JD097B
	HP X130 10G XFP LC LR Transceiver	JD108B
	HP X130 10G XFP LC SR Transceiver	JD117B
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X135 10G XFP LC ER Transceiver	JD121A
	HP X110 100M SFP LC FX Dual Mode Transceiver	JD497A
	HP X110 100M SFP LC LX Dual Mode Transceiver	JD498A
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X125 1G SFP RJ45 T Transceiver	JD089B
	Cables	
	HP X230 Local Connect 100 cm CX4 Cable	JD364B
	HP X230 Local Connect CX4 300 cm Cable	JD365A
	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 X230 Local Connect 50cm CX4 Cable	JD363B
	Power Supply	

Accessories

HP RPS800 Redundant Power System	JD183A
HP RPS1600 Redundant Power System	JG136A
HP RPS1600 1600W AC Power Supply	JG137A
Power cords	
HP X290 JD5 JD5 2m RPS1600 Cable	JD187A
HP X290 H2.7 H2.7 1m RPS800 Cable with ferrite core	JD190A

Accessory Product Details

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

HP 5500 2-port 10GbE XFP Module (JD359B)	**Ports**	2 XFP 10-GbE ports; Duplex: full only
	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 5500 1-port 10GbE XFP Module (JD361B)	**Ports**	1 XFP 10-GbE port; Duplex: full only
	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 5500/4800 2-port GbE SFP Module (JD367A)	**Ports**	2 SFP 1000 Mbps ports
	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 X125 1G SFP LC LH40 1310nm Transceiver (JD061A) A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.	**Ports**	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)
	Connectivity	Connector type: LC Wavelength: 1310 nm
	Physical characteristics	Dimensions: 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight: 0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical: 0.8 W Power consumption maximum: 1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance Fiber type: Single 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.

Accessory Product Details

HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A) A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.	**Ports**		1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)
	Connectivity	Connector type	LC
		Wavelength	1550 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance	
		Fiber type	Single 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.	

HP X125 1G SFP LC LH70 Transceiver (JD063B) A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.	**Ports**		1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)
	Connectivity	Connector type	LC
		Wavelength	1550 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 70km	
		Fiber type	Single 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.	

Accessory Product Details

HP X120 1G SFP LC SX Transceiver (JD118B) A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.	**Ports**	1 LC 1000BASE-SX port	
	Connectivity	**Connector type**	LC
		Wavelength	850 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • FDDI Grade distance = 220m • OM1 = 275m • OM2 = 500m • OM3 = Not Specified by standard	
		Cable length	up to 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.	

HP X120 1G SFP LC LX Transceiver (JD119B) A small form-factor pluggable (SFP) Gigabig LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	**Ports**	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	Connectivity	**Connector type**	LC
		Wavelength	1300 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Either single mode or multimode; Maximum distance: • 550m for Multimode • 10km for Singlemode	
		Fiber type	Both
	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 X110 100M SFP LC FX Dual Mode Transceiver (JD497A) A small form-factor pluggable (SFP) 100 MB/s Dual mode transceiver that provides a full duplex 100Mb/s soolution up to 2km on a multi mode fiber.	**Ports**	1 LC 100 Mbps port	
	Connectivity	**Connector type**	LC
		Wavelength	1310 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	**Cable length**	2km
		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.	

HP X110 100M SFP LC LX10 Transceiver (JD498A) A small form-factor pluggable (SFP) 100Mb/s transceiver that provides a full duplex 100Mb/s solution for up to 10km on a single mode cable.	**Ports**	1 LC 100 Mbps port	
	Connectivity	**Connector type**	LC
		Wavelength	1310 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	**Cable length**	10km
		Fiber type	Single 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.	

Accessory Product Details

HP X120 1G SFP LC BX 10-U Transceiver (JD098B) A small form-factor pluggable (SFP) Gigabit LX-BX10-U transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.	**Ports**	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only	
	Connectivity	**Connector type**	LC
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • 10km	
		Fiber type	Single Mode
	Notes	TX 1310nm RX 1490nm	
	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 X120 1G SFP LC BX 10-D Transceiver (JD099B) A small form-factor pluggable (SFP) Gigabit LX-BX10-D transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.	**Ports**	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only	
	Connectivity	**Connector type**	LC
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • Up to 10km	
		Fiber type	Single Mode
	Notes	TX 1490nm RX 1310nm	
	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 X125 1G SFP RJ45 T Transceiver (JD089B) A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.	**Ports**		1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)
	Connectivity	**Connector type**	RJ-45
	Physical characteristics	**Dimensions**	2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)
		Full configuration weight	0.07 lb. (0.03 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling		Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ù differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T; Maximum distance: • 100m
	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, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical glass: Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical glass: 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 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 LC/LC Optical Cable (AJ834A)	Cabling	Cable type: 50/125 μm (core/cladding) diameter, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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 LC/LC Optical Cable (AJ835A)	Cabling	Cable type: 50/125 μm (core/cladding) diameter, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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 LC/LC Optical Cable (AJ836A)	Cabling	Cable type: 50/125 μm core/cladding) diameter, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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, mulitimode 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 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end. • Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um • Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm. • Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links. • CABLE: The cable is duplex zipcord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows. • BULK CABLE & CABLE ASSEMBLY CONFIGURATION: • Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic. • Jacket Color: Aqua for OM3 multimode per TIA 598 • Boot Color: White • Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters. • Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46. • Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg
	Services	Refer to the HP website at www.hp.com/networking/services 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 ± 3um; Cladding diameter: 125um ± 2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade - Low Smoke Zero Halogen (LSZH) thermoplastic. • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL OFN FT4, ROHS. Cable also has a longitudal 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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
HP 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 ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 50 m PremierFlex OM3+ LC/LC Optical Cable (BK843A)	**Notes**	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP RPS1600 Redundant Power System (JG136A)	**Ports**	8 redundant power supply ports Restrictions: two -56V/25A DC(PoE); six -56V/8A DC(non-PoE)	
	Physical characteristics	**Dimensions**	15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)
		Weight	14.11 lb. (6.4 kg)
		Full configuration weight	16.75 lb. (7.6 kg)
	Environment	**Operating temperature**	14°F to 122°F (-10°C to 50°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%
		Altitude	up to 13,123 ft. (4 km)
		Acoustic	Pressure: 53 dB; ISO 7779, ISO 9296
	Electrical characteristics	**Voltage**	100-120/200-240 VAC
		Current	30/60 A
		Idle power	38 W
		Maximum power rating	3550 W
		RPS power	3200 W
		PoE power	2800 W
		RPS	-55 V
		PoE	-55 V
		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. With one RPS1600 Power Supply, the PRS1600 Redundant Power System can provide 1600W power output; With two PRS1600 Power Supplies, the output power is 3200W.
	Safety	CE Labeled; UL 60950-1; IEC 60950-1; ICES-003; FCC Part 15, Subpart B; EU RoHS Compliant; EN 60950-1/A11; C-Tick; VCCI Class A; ROHS Compliance; EN 300386	
	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 RPS1600 1600W AC Power Supply (JG137A)	Physical characteristics	Dimensions	8.19(d) x 4.96(w) x 1.63(h) in. (20.8 x 12.6 x 4.15 cm)
		Weight	3.02 lb. (1.37 kg)
	Environment	Operating temperature	14°F to 122°F (-10°C to 50°C)
		Operating relative humidity	5% to 95%
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%
	Electrical characteristics	Voltage	100-120/200-240 VAC
		Current	15/30 A
		Maximum power rating	1600 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.
	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

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