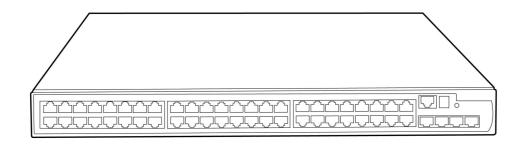
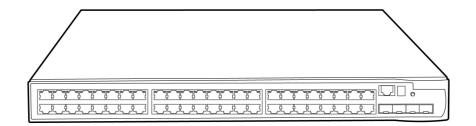
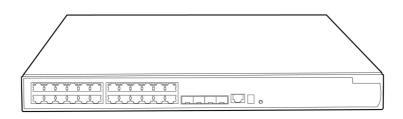
### **Overview**



#### HP 5120-48G EI Switch with 2 Interface Slots



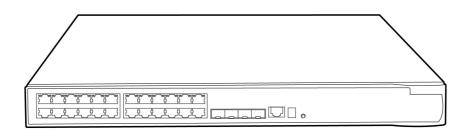
HP 5120-48G El Switch



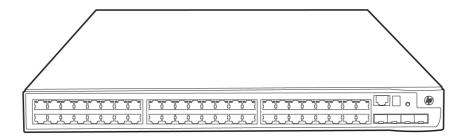
#### HP 5120-24G EI Switch with 2 Interface Slots



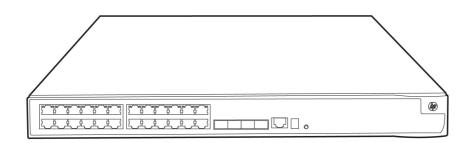
### **Overview**



HP 5120-24G El Switch



HP 5120-48G-PoE+ EI Switch with 2 Interface Slots



### HP 5120-24G-PoE+ EI Switch with 2 Interface Slots

### Models

HP 5120-48G EI Switch with 2 Interface Slots HP 5120-48G EI Switch HP 5120-24G EI Switch with 2 Interface Slots HP 5120-24G EI Switch



JE069A

JE067A

**JE068A** 

JE066A

### Overview

HP 5120-48G-PoE+ El Switch with 2 Interface Slots	JG237A
HP 5120-24G-PoE+ El 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 is comprised of Gigabit Ethernet switches that support static Layer 3 routing, diversified services, and IPv6 forwarding, as well as provide up to four 10-Gigabit Ethernet (10GbE) 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 10GbE 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

allows assignment of descriptive names to ports

- Remote configuration and management enables configuration and management through a secure Web browser or a CLI located on a remote device
- Manager and operator privilege levels provides 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
- Multiple configuration files



### Overview

stores easily 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)

advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications

• sFlow (RFC 3176)

provides scalable ASIC-based wirespeed 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 ingross / ogross ACL - solostod traffic from a switch port of

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 a cable between two switches and shuts down the ports on both ends if the cable is broken, which 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 enables 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

provides back pressure using standard IEEE 802.3x, reducing congestion in heavy traffic situations

- Jumbo packet support supports up to 9216-byte frame size to improve the 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 10GbE ports

deliver, through the use of optional modules, additional 10GbE connections, which are available for uplinks or high-bandwidth server connections; flexibly support copper, 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 locatio
- Ethernet operations, administration and maintenance (OAM) detects data link layer problems that occurred in the "last mile" using the IEEE 802.3ah OAM standard; monitors the status of the link between two devices
- High-bandwidth CX4 local stacking achieves 12 Gb/s per connection when using local CX4 stacking, allowing for up to 96 Gb/s total stacking bandwidth (full duplex)



### Overview

in a resilient stacking configuration

#### Performance

- Nonblocking architecture up to 192 Gb/s nonblocking switching fabric provides wirespeed switching with up to 143 million pps throughput
- Hardware-based wirespeed access control lists (ACLs) help provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation

#### **Resiliency and high availability**

- Separate data and control paths separates control 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 L2 switch and L3 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; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation

#### Layer 2 switching

- 16K MAC address table provides access to many Layer 2 devices
- VLAN support and tagging supports 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
- **10GbE 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 controls and manages the flooding of multicast packets in a Layer 2 network
- Per-VLAN Spanning Tree Plus (PVST+)
   allows each VLAN to build a separate spanning tree to improve link bandwidth usage in network environments with multiple
   VLANs

#### Layer 3 services



### Overview

• 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 (UDP) helper function allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- 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 erver

• 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 risking network security or providing unauthorized access to sensitive data

• Automatic VLAN assignment

automatically assigns users to the appropriate VLAN based on their identities

• Secure management access

delivers secure encryption of 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

provides a browser-based environment to authenticated clients that is similar to IEEE 802.1X

• 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 BPDU attacks



### **Overview**

- STP root guard
  - protects the root bridge from malicious attacks 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)
- facilitates easy mapping using network management applications with LLDP automated device discovery protocol
- 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
- supports 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) 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

improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs

 Green initiative support provides support for RoHS and WEEE regulations

### Warranty and support

Lifetime Warranty 2.0

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

limited 24x7 telephone support (or Erretine warranty 2.0) support isavailable from HP for the entire warranty period; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary



### **Overview**

#### • Software releases

to find software for your product, refer to <a href="http://www.hp.com/networking/support">www.hp.com/networking/support</a>; for details on the software releases available with your product purchase, refer to <a href="http://www.hp.com/networking/warrantysummary">www.hp.com/networking/support</a>; for details on the software releases available with your product purchase, refer to <a href="http://www.hp.com/networking/warrantysummary">www.hp.com/networking/support</a>; for details on the software releases available with your product purchase, refer to <a href="http://www.hp.com/networking/warrantysummary">www.hp.com/networking/warrantysummary</a>

the warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765 zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft<sup>®</sup> Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at www.hp.com/networking/warranty.



## Configuration

### **Build To Order:**

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

### **Standard Switch Chassis**

HP 5120-24G EI Switch 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 0 port expansion module slots Power supply included 1U - Height	JE066A See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE066A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE066A#B2C
HP 5120-24G EI Switch with 2 Slots 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included 1U - Height	JE068A See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE068A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE068A#B2C
HP 5120-24G-PoE+ EI Switch w/2 Intf Slts 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included 1U - Height	JG236A See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP <ul> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	JG236A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JG236A#B2C



## Configuration

#### HP 5120-48G El Switch **JE067A** 48 RJ-45 autosensing 10/100/1000 ports See Configuration 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP Note:1,3 min=0 \ max=4 SFP Transceivers 0 port expansion module slots • Power supply included • 1U - Height PDU Cable NA/MEX/TW/JP JE067A#B2B C15 PDU Jumper Cord (NA/MEX/TW/JP) PDU Cable ROW JE067A#B2C C15 PDU Jumper Cord (ROW) HP 5120-48G EI Switch with 2 Slots JE069A • 48 RJ-45 autosensing 10/100/1000 ports See Configuration 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP Note:1, 3 min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included • 1U - Height PDU Cable NA/MEX/TW/JP JE069A#B2B C15 PDU Jumper Cord (NA/MEX/TW/JP) PDU Cable ROW JE069A#B2C C15 PDU Jumper Cord (ROW) HP 5120-48G-PoE+ EI Switch w/2 Intf Slts JG237A 48 RJ-45 autosensing 10/100/1000 ports See Configuration 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP Note:1, 3 • min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included • 1U - Height PDU Cable NA/MEX/TW/JP JG237A#B2B C15 PDU Jumper Cord (NA/MEX/TW/JP) PDU Cable ROW JG237A#B2C C15 PDU Jumper Cord (ROW) **Configuration Rules:** The following Transceivers install into this Switch Note 1 HP X120 1G SFP LC SX Transceiver **JD118B**



### **HP 5120 EI Switch Series**

## Configuration

	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
Note 3	Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) or #B2I (See Localization Menu)	E.
Remark	Drop down under power supply should offer the following options and results:	
	Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and	
	Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)	
	Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Baul such STO)	
	Box Level CTO) High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)	

## **Box Level Integration CTO Models**

### **CTO Solution Sku**

<ul> <li>HP 51xx CTO Switch Solution</li> <li>SSP trigger sku</li> </ul>	JG706A
CTO Switch Chassis	
HP 5120-24G EI Switch - CTO 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 0 port expansion module slots 1 - Power Supply Included 1U - Height	JE066A See Configuration Note:1, 3, 5,7
<ul> <li>PDU Cable NA/MEX/TW/JP</li> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	JE066A#B2B
• C15 PDU Jumper Cord (ROW)	JE066A#B2C
HP 5120-24G EI Switch with 2 Slots - CTO	JE068A



Configuration	
<ul> <li>24 RJ-45 autosensing 10/100/1000 ports</li> <li>4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP</li> <li>min=0 \ max=4 SFP Transceivers</li> <li>2 - port expansion module slots</li> <li>1 - Power Supply Included</li> <li>1U - Height</li> </ul>	See Configuration Note:1, 3, 5,7
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE068A#B2B
PDU Cable ROW <ul> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE068A#B2C
HP 5120-24G-PoE+ EI Switch w/2 Intf Slts - CTO 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 - port expansion module slots 1 - Power Supply Included 1U - Height	JG236A See Configuration Note:1, 3, 5,7
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JG236A#B2B
PDU Cable ROW <ul> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JG236A#B2C
HP 5120-48G EI Switch - CTO • 48 RJ-45 autosensing 10/100/1000 ports • 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP • min=0 \ max=4 SFP Transceivers • 0 - port expansion module slots • 1 - Power Supply Included • 1U - Height	JE067A See Configuration Note:1, 3, 4, 5,7
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE067A#B2B
PDU Cable ROW <ul> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE067A#B2C
HP 5120-48G EI Switch with 2 Slots - CTO • 48 RJ-45 autosensing 10/100/1000 ports • 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP • min=0 \ max=4 SFP Transceivers • 2 - port expansion module slots • 1 - Power Supply Included	JE069A See Configuration Note:1, 3, 5,7

• 1U - Height



## Configuration

**HP 5120 EI Switch Series** 

PDU Cable NA/ME • C15 PDU Ju	X/TW/JP umper Cord (NA/MEX/TW/JP)	JE069A#B2B
PDU Cable ROW • C15 PDU Ju	umper Cord (ROW)	JE069A#B2C
<ul> <li>48 RJ-45 a</li> <li>4 dual-per</li> <li>min=0 \ ma</li> <li>2 - port ex</li> </ul>	E+ EI Switch w/2 Intf Slts - CTO utosensing 10/100/1000 ports sonality ports; PoE auto-sensing 10/100/1000Base-T or SFP ax=4 SFP Transceivers pansion module slots Supply Included t	JG237A See Configuration Note:1, 3, 5,7
PDU Cable NA/ME • C15 PDU Ju	X/TW/JP umper Cord (NA/MEX/TW/JP)	JG237A#B2B
PDU Cable ROW • C15 PDU Ju	umper Cord (ROW)	JG237A#B2C
Configuration Rul	les:	
Note 1	The following Transceivers install into this Switch: (Use #0D1 if switch is CTO) HP X120 1G SFP LC SX Transceiver HP X120 1G SFP LC LX Transceiver HP X120 1G SFP RJ45 T Transceiver HP X120 1G SFP LC BX 10-U Transceiver HP X120 1G SFP LC BX 10-D Transceiver HP X125 1G SFP LC LH40 1310nm Transceiver HP X120 1G SFP LC LH40 1550nm Transceiver HP X125 1G SFP LC LH40 Transceiver	JD118B JD119B JD089B JD098B JD099B JD061A JD062A JD063B
Note 3	Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) or #B2E (See Localization Menu)	Ξ.
Note 5	Note 5 If this Switch is selected, Then a Minimum of 1 factory integrated accessory must be ordered and integrated to CTO chassis. See Menu below, option must have a #0D1 to be integrated to the CTO Chassis.	

Note 7If the Switch Chassis is to be Box Level Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis<br/>and integrated to the JG706A - HP 51xx CTO Enablement. (Min 1/Max 1 Switch per SSP)



### Configuration

Remarks: Drop down under power supply should offer the following options and results: Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO) Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO) High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)

### **Rack Level Integration CTO Models**

#### **Switch Chassis**

HP 5120-24G EI Switch 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 0 port expansion module slots Power supply included 1U - Height	JE066A See Configuration Note:1, 3, 10
PDU Cable NA/MEX/TW/JP	JE066A#B2B
C15 PDU Jumper Cord (NA/MEX/TW/JP)	
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE066A#B2C
HP 5120-24G EI Switch with 2 Slots 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included 1U - Height	JE068A See Configuration Note:1, 3, 10
<ul> <li>PDU Cable NA/MEX/TW/JP</li> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	JE068A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE068A#B2C
HP 5120-24G-PoE+ EI Switch w/2 Intf Slts 24 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included	JG236A See Configuration Note:1, 3, 10

• 1U - Height

Configuration	
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JG236A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JG236A#B2C
HP 5120-48G El Switch • 48 RJ-45 autosensing 10/100/1000 ports • 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP • min=0 \ max=4 SFP Transceivers • 0 port expansion module slots • Power supply included • 1U - Height	JE067A See Configuration Note:1, 3, 10
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE067A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE067A#B2C
HP 5120-48G EI Switch with 2 Slots 48 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included 1U - Height	JE069A See Configuration Note:1, 3, 10
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JE069A#B2B
PDU Cable ROW <ul> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JE069A#B2C
HP 5120-48G-PoE+ EI Switch w/2 Intf Slts 48 RJ-45 autosensing 10/100/1000 ports 4 dual-personality ports; PoE auto-sensing 10/100/1000Base-T or SFP min=0 \ max=4 SFP Transceivers 2 port expansion module slots Power supply included 1U - Height	JG237A See Configuration Note:1, 3, 10
PDU Cable NA/MEX/TW/JP • C15 PDU Jumper Cord (NA/MEX/TW/JP)	JG237A#B2B
<ul> <li>PDU Cable ROW</li> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	JG237A#B2C



### Configuration

#### **Configuration Rules:**

Note 1	The following Transceivers install into this Switch:	
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
Note 3	Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) . (See Localization REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power C option on the Switches/Routers.	

Note 10 If HP CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the Rack.

Remarks:Drop down under power supply should offer the following options and results:<br/>Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW.<br/>(Watson Default B2B or B2C for Rack Level CTO)<br/>Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

### **Switch Enclosure Options**

#### **External/Redundant Power Supplies**

HP RPS 800 Redundant Power Supply <ul> <li>Height = 1U</li> <li>includes 1 x c13, 800w</li> </ul>	JD183A See Configuration Note:2, 3
<ul> <li>HP RPS1600 Redundant Power System</li> <li>Height = 1U</li> <li>includes 1 x c13, 1600w and Power Supply port</li> </ul>	JG136A See Configuration Note:2, 3
<ul> <li>HP RPS1600 1600W AC Power Supply</li> <li>Installs into JG136A only</li> </ul>	JG137A See Configuration Note:1

#### **Configuration Rules:**

Note 1 If this power supply is selected, The JG136A - HP A-RPS1600 Redundant Power System must be on order or onsite.



### Configuration

- Note 2 Localization required. (See Localization Menu for list.)
- Note 3 Only 1 JD183A or JG136A can be connected per switch.

### External/Redundant Power Cables

HP X290 1000 A JD5 2m RPS Cable	JD187A
HP X290 500/800 1m RPS Cable	JD190A

#### Enter the following menu selections as integrated to the CTO Model X above if order is factory built.

## Modules

### (Switch JE066x and JE067x ) No Modules supported

(All other Switches ) System (std 0 // max 2) User Selection (min 0 // max 2)

HP 5500 2-port 10GbE XFP Module	JD359B
<ul> <li>min=0 \ max=2 XFP Transceivers</li> </ul>	See Configuration
	Note:2, 5
HP 5500 2-port 10GbE Local Connect Mod	JD360B
<ul> <li>min=0 \ max=2 CX4 Cables</li> </ul>	See Configuration
	Note:4, 5
HP 5500 1-port 10GbE XFP Module	JD361B
<ul> <li>min=0 \ max=1 XFP Transceivers</li> </ul>	See Configuration
	Note:2, 5
HP 5500/5120 2-port 10GbE SFP+ Module	JD368B
<ul> <li>min=0 \ max=2 SFP+ Transceivers</li> </ul>	See Configuration
	Note:1, 5
HP 5500/4800 2-port GbE SFP Module	JD367A
<ul> <li>min=0 \ max=2 SFP Transceivers</li> </ul>	See Configuration
	Note:3, 5
HP 5500/5120 2p 10GBASE-T Module	JG535A
No Transceivers	See Configuration
	Note:5

#### **Configuration Rules:**

The following Transceivers install into this Module: (Use #0D1 if switch is CTO)		
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A	
HP X130 10G SFP+ LC SR Transceiver	JD092B	
HP X130 10G SFP+ LC LRM Transceiver	JD093B	
HP X130 10G SFP+ LC LR Transceiver	JD094B	
	HP X130 10G SFP+ LC ER 40km Transceiver HP X130 10G SFP+ LC SR Transceiver HP X130 10G SFP+ LC LRM Transceiver	



Configurati	on	
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
Note 2	The following Transceivers install into this Module: (Use #0D1 if switch is CTO)	
	HP X135 10G XFP LC ER Transceiver	JD121A
	HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B
	HP X130 10G XFP LC SR Transceiver	JD117B
Note 3	The following Transceivers install into this Module: (Use #0D1 if switch is CTO)	
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
Note 4	The following Cables install into this Module: (Use #B01 if switch is CTO)	
	HP X230 Local Connect 50cm CX4 Cable	JD363B
	HP X230 Local Connect 100cm CX4 Cable	JD364B
	HP X230 CX4 to CX4 3m Cable	JD365A
	Note: Two JD365A - HP X230 CX4 to CX4 3m Cable should be added by default if Module is	selected.
Note 5	This Module should be ordered as #0D1 if the Switch is Box Level CTO, and #B01 when Fact Racked (Rack Level Integration CTO).	tory

## Transceivers

### SFP Transceivers

HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X120 1G SFP RJ45 T Transceiver	JD089B
HP X120 1G SFP LC BX 10-U Transceiver	JD098B



Configuration	
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X125 1G SFP LC LH70 Transceiver	JD063B
SFP+ Transceivers	
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LRM Transceiver	JD093B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
XFP Transceivers	
HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B
HP X130 LC SR XFP Transceiver	JD117B
HP X135 10G XFP LC ER Transceiver	JD121A
Cables	
Local Connect Cables	
HP X230 Local Connect 50cm CX4 Cable	JD363B
HP X230 Local Connect 100cm CX4 Cable	JD364B
HP X230 CX4 to CX4 3m Cable	JD365A



## Configuration

HP X230 Local Connect 50cm CX4 Cable	JD363B
HP X230 Local Connect 100cm CX4 Cable	JD364B
HP X230 CX4 to CX4 3m Cable	JD365A
Multi-Mode Cables	
HP .5m Multi-mode OM3 LC/LC FC Cable	AJ833A
HP 1m Multi-mode OM3 LC/LC FC Cable	AJ834A
HP 2 m Multimode OM3 LC/LC FC Cable	AJ835A
HP 5 m Multimode OM3 LC/LC FC Cable	AJ836A
HP 15 m Multimode OM3 LC/LC FC Cable	AJ837A
HP 30 m Multimode OM3 LC/LC FC Cable	AJ838A
HP 50 m Multimode OM3 LC/LC FC Cable	AJ839A
HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
HP Premier Flex LC/LC 0M4 2f 2m Cbl	QK733A
HP Premier Flex LC/LC 0M4 2f 5m Cbl	QK734A
HP Premier Flex LC/LC 0M4 2f 15m Cbl	QK735A
HP Premier Flex LC/LC 0M4 2f 30m Cbl	QK736A
HP Premier Flex LC/LC 0M4 2f 50m Cbl	QK737A



## **Technical Specifications**

#### HP 5120-48G EI Switch with 2 Interface Slots (JE069A)

		v
Ports	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEE 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; a	uto-sensing 10/100/1000Base-T or SFP
	2 port expansion module s	lots
	1 RJ-45 serial console port	
	Supports a maximum of 48	3 autosensing 10/100/1000 ports
Physical characteristics	Dimensions	17.32(w) x 11.81(d) x 1.72(h) in (44 x 30 x 4.36 cm) (1U height)
	Weight	11.02 lb. (5 kg)
Memory and processor	128 MB SDRAM, 16 MB flas	h; 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 (IPv4)
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
	Acoustic	ISO 7779
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		afety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J;



## **Technical Specifications**

Physical characteristics		32(w) x 11.81(d) x 1.72(h) in (44 x 30 x 4.37 cm) (1U height) )2 lb. (5 kg)		
Physical charactoristics				
	1 RJ-45 serial console port Supports a maximum of 48 autosensing 10/100/1000 ports			
		ensing 10/100/1000Base-T or SFP		
FUILS	802.3ab Type 1000BASE-T); Me 1000BASE-T: full only	dia Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full;		
HP 5120-48G EI Switch (JE Ports		000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEE		
		<i>n</i> .hp.com/networking/services for details on the service-level descriptions is about services and response times in your area, please contact your loca		
	(HS688E)	pport, software updates + Next Business Day Hardware Exchange		
	4-year, 24x7 software phone su	pport, software updates + 4 hour Hardware Exchange (HS687E)		
		pport, software updates + 4 hour hardware exchange (HS683E) pport, software updates + Next Business Day Hardware Exchange		
	(HS682E)	pport, software updates + Next Business Day Hardware Exchange		
	-	pport, software updates (HR587E)		
	1-year, 6 hour Call-To-Repair On			
	4 Yr 6 hr Call-to-Repair Onsite (l 5 Yr 6 hr Call-to-Repair Onsite (l			
	3 Yr 6 hr Call-to-Repair Onsite (l			
	5-year, 24x7 SW phone support	•		
	5-year, 4-hour onsite, 24x7 cov	erage for hardware, 24x7 software phone (UV866E)		
	5-year, 4-hour onsite, 24x7 cov	-		
	5-year, 4-hour onsite, 13x5 cov			
	4-year, 4-hour onsite, 24x7 cov 4-year, 24x7 SW phone support	erage for hardware, 24x7 software phone (UV865E)		
	4-year, 4-hour onsite, 24x7 cov			
	4-year, 4-hour onsite, 13x5 cov			
	(HR586E)			
		nsite, 24x7 coverage for hardware (HR585E) nsite, 24x7 coverage for hardware, 24x7 software phone support		
		nsite, 13x5 coverage for hardware (HR584E)		
	3-year, 24x7 SW phone support	•		
		erage for hardware, 24x7 SW phone support and SW updates (UV864E)		
Jervices	3-year, 4-hour onsite, 24x7 cov	-		
Services	3-year, 4-hour onsite, 13x5 cov			
Management		C Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A enter; command-line interface; Web browser; SNMP Manager		
	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-		
		CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000		



## **Technical Specifications**

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 (IPv4)	
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	
	Acoustic	ISO 7779	
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 Managem	ent Center; command-line interface; Web browser; SNMP Manager	
Services	<ul> <li>3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)</li> <li>3-year, 24x7 SW phone support, software updates (UV867E)</li> <li>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E)</li> <li>4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)</li> </ul>		



### **Technical Specifications**

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 El Switch with 2 Interface Slots (JE068A)

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 s	lots	
	1 RJ-45 serial console port		
Physical characteristics	Dimensions	17.32(w) x 11.81(d) x 1.72(h) in (44 x 30 x 4.37 cm) (1U height)	
	Weight	9.92 lb. (4.5 kg)	
Memory and processor	128 MB SDRAM, 16 MB flas	sh; 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	
	<b>Routing/Switching</b>	144 Gbps	
	capacity		
	Routing table size	32 entries (IPv4)	
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)	



### HP 5120 El Switch Series

## **Technical Specifications**

	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	ISO 7779
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		afety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC Io. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J;
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	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager 3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E) 1-year, 24x7 SW phone support, software updates (UV867E) 1-year, post-warranty, 4-hour onsite, 24x7 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, 13x5 coverage for hardware (UV862E) 4-year, 4-hour onsite, 24x7 coverage for hardware (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, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV860E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E) 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 (UW965E) 1-year, 6 hour Call-to-Repair Onsite (UW965E) 1-year, 6 hour Call-to-Repair Onsite (UW965E) 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	



### **Technical Specifications**

(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 El 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	17.32(w) x 11.81(d) x 1.72(h) in (44 x 30 x 4.36 cm) (1U height)
	Weight	9.92 lb. (4.5 kg)
Memory and processor	128 MB SDRAM, 16 MB flas	h; 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 (IPv4)
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
	Acoustic	ISO 7779
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.



### **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	<ul> <li>3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)</li> <li>3-year, 24x7 SW phone support, software updates (UV867E)</li> <li>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR584E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR585E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR586E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR566E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR570E)</li> <li>4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support, 4-four onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV866E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite (UW963E)</li> <li>5-year, 4-hour onsite (UW963E)</li> <li>5-year, 74x7 Software updates (UV869E)</li> <li>3 Yr 6 hr Call-to-Repair Onsite (UW965E)</li> <li>1-year, 24x7 software phone support, software updates (HR587E)</li> <li>1-year, 24x7 software phone support, software updates (HR587E)</li> <li>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS682E)</li> <li>1-year, 24x7 software phone support, software up</li></ul>
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#### 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



## **Technical Specifications**

		PoE auto-sensing 10/100/1000Base-T or SFP		
	2 port expansion module s	•		
	1 RJ-45 serial console port			
	Supports a maximum of 48 autosensing 10/100/1000 ports			
Physical characteristics	Dimensions	17.32(w) x 16.54(d) x 1.72(h) in (43.99 x 42.01 x 4.37 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 (IPv4)		
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	<ul> <li>Idle power is the actual power consumption of the device with no ports connected.</li> <li>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.</li> <li>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).</li> <li>With AC input, the Max power consumption is 550 W (370 W for PoE).</li> </ul>		
Safety		Gafety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J;		



## Technical Specifications

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	<ul> <li>3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware (UV861E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)</li> <li>3-year, 24x7 SW phone support, software updates (UV859E)</li> <li>4-year, 4-hour onsite, 13x5 coverage for hardware (UV859E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)</li> <li>4-year, 24x7 SW phone support, software updates (UV868E)</li> <li>5-year, 24x7 SW phone support, software updates (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV866E)</li> <li>5-year, 24x7 SW phone support, software updates (UV863E)</li> <li>5-year, 24x7 SW phone support, software updates (UV869E)</li> <li>3 Yr 6 hr Call-to-Repair Onsite (UW963E)</li> <li>4 Yr 6 hr Call-to-Repair Onsite (UW964E)</li> <li>5 Yr 6 hr Call-to-Repair Onsite (UW965E)</li> </ul>
	Pater to the HP website at: www.bp.com/natworking/services for details on the service-level descriptions

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			
Physical characteristics	Dimensions	17.32(w) x 16.54(d) x 1.72(h) in (43.99 x 42.01 x 4.37 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 (IPv4)		
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)		
	Operating relative humidity	10% to 90%, noncondensing		



### **Technical Specifications**

	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	<ul> <li>3-year, 4-hour onsite, 13x5 coverage for hardware (UV858E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV864E)</li> <li>3-year, 24x7 SW phone support, software updates (UV867E)</li> <li>4-year, 24x7 SW phone support, software updates (UV859E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UV862E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV865E)</li> <li>4-year, 24x7 SW phone support, software updates (UV868E)</li> <li>5-year, 4-hour onsite, 13x5 coverage for hardware (UV868E)</li> <li>5-year, 4-hour onsite, 13x5 coverage for hardware (UV868E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV868E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV860E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV863E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (UV869E)</li> <li>3 Yr 6 hr Call-to-Repair Onsite (UW963E)</li> <li>4 Yr 6 hr Call-to-Repair Onsite (UW964E)</li> <li>5 Yr 6 hr Call-to-Repair Onsite (UW965E)</li> </ul>		

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



### **Technical Specifications**

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### 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 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 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 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



## **Technical Specifications**

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)

#### Security

IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2138 RADIUS Authentication RFC 2139 RADIUS Accounting RFC 2865 RADIUS (client only) RFC 2866 RADIUS Accounting Secure Sockets Layer (SSL) SSHv2 Secure Shell



### Accessories

HP 5800 Switch Series	Modules	
accessories	HP 5500 2-port 10GbE XFP Module	JD359B
	HP 5500 2-port 10GbE Local Connect Module	JD360B
	HP 5500 1-port 10GbE XFP Module	JD361B
	HP 5500/5120 2-port 10GbE SFP+ Module	JD368B
	HP 5500/4800 2-port GbE SFP Module	JD367A
	NEW HP 5500/5120 2-port 10GBASE-T Module	JG535A
	Transceivers	
	HP X125 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 X120 1G SFP LC SX Transceiver	JD118B
	HP X130 10G SFP+ LC SR Transceiver	JD092B
	HP X130 10G SFP+ LC LRM Transceiver	JD093B
	HP X130 10G SFP+ LC LR Transceiver	JD094B
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	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 X120 1G SFP RJ45 T Transceiver	JD089B
	HP X135 10G XFP LC ER Transceiver	JD121A
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
	Cables	
	HP X230 CX4 to CX4 3m 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
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A



### HP 5120 El Switch Series

## Accessories

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
HP X230 Local Connect 50cm CX4 Cable	JD363B
Power Supply	
HP RPS 800 Redundant Power Supply	JD183A
HP RPS1600 Redundant Power System	JG136A
HP RPS1600 1600W AC Power Supply	JG137A
Power Cords	
HP X290 1000 A JD5 2m RPS Cable	JD187A
HP X290 500/800 1m RPS Cable	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	Ports	2 XFP 10-GbE ports; Duplex: full only			
Module (JD359B)	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 servic and response times in your area, please contact your local HP sales office.			
HP 5500 1-port 10GbE XFP	Ports	1 XFP 10-GbE port; Duplex: full only			
Module (JD361B)	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 service and response times in your area, please contact your local HP sales office.			
HP 5500/4800 2-port GbE	Ports	2 SFP 1000 Mbps ports			
SFP Module (JD367A)	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	Ports	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)			
1310nm Transceiver	Connectivity	Connector type	LC		
(JD061A)		Wavelength	1310 nm		
A small form-factor	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)		
pluggable SFP Gigabit LH40 transceiver that provides a		Full configuration weight	0.04 lb. (0.02 kg)		
full duplex Gigabit solution	<b>Electrical characteristics</b>	Power consumption typical 0.8 W			
up to 40km on a single- mode fiber.		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 o the service-level descriptions and product numbers. For details about servi and response times in your area, please contact your local HP sales office.			



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HP X120 1G SFP LC LH40	Ports	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)		
1550nm Transceiver	Connectivity	Connector type	LC	
(JD062A)		Wavelength	1550 nm	
A small form-factor	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)	
pluggable (SFP) Gigabit LH40 transceiver that		Full configuration weight	0.04 lb. (0.02 kg)	
provides a full-duplex	<b>Electrical characteristics</b>	Power consumption typical	0.8 W	
Gigabit solution up to 40		Power consumption	1.0 W	
km on a single mode fiber.		maximum		
-	Cabling	Cable type:		
		Single-mode fiber optic, complying with ITU-T G.652;		
		Maximum distance:		
		• 40km distance		
		Fiber type	Single Mode	
	Services	• •	www.hp.com/networking/services for details on	
		the service-level descriptio	ns 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	Ports	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)		
Transceiver (JD063B)	Connectivity	Connector type	LC	
A small form-factor		Wavelength	1550 nm	
pluggable (SFP) Gigabit	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17	
LH70 transceiver that	•		cm)	
provides a full-duplex		Full configuration weight	0.04 lb. (0.02 kg)	
Gigabit solution up to	Electrical characteristics	Power consumption	0.8 W	
70km on a single-mode fiber.		typical		
IDEI.		Power consumption	1.0 W	
		maximum		
	Cabling	Cable type:		
	-	Single-mode fiber optic, co	mplying 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	r area, please contact your local HP sales office.	





HP X120 1G SFP LC SX	Ports	1 LC 1000BASE-SX port	
Transceiver (JD118B)	Connectivity	Connector type	LC
A small form-factor		Wavelength	850 nm
pluggable (SFP) Gigabit SX transceiver that provides a	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-duplex Gigabit solution		Full configuration weight	0.04 lb. (0.02 kg)
up to 550m on a Multimode fiber.	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • FDDI Grade distance = 220 • OM1 = 275m • OM2 = 500m • OM3 = Not Specified by st	
		Cable length	up to 550m
		Fiber type	Multi Mode
	Services	the service-level descriptio	www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office.
HP X120 1G SFP LC LX	Ports	1 SFP 1000BASE-LX port (IE	EEE 802.3z Type 1000BASE-LX)
Transceiver (JD119B)	Connectivity	Connector type	LC
A small form-factor		Wavelength	1300 nm
pluggable (SFP) Gigabig LX transceiver that provides a		Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
full duplex Gigabit solution		Full configuration weight	0.04 lb. (0.02 kg)
up to 550m on MMF or 10Km on SMF	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Either single mode or multi	mode;
		Maximum distance: • 550m for Multimode • 10km for Singlemode	
		Fiber type	Both
	Services	the service-level descriptio	www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office.



HP X120 1G SFP LC BX 10- U Transceiver (JD098B)	Ports	1 LC 1000BASE-BX10 port full only	(IEEE 802.3ah Type 1000BASE-BX10-U); Duplex:
	Connectivity	Connector type	LC
A small form-factor pluggable (SFP) Gigabit LX- BX10-U transceiver that	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
provides a full duplex		Full configuration weight	0.04 lb. (0.02 kg)
Gigabit solution up to 10km on a single mode	Electrical characteristics	Power consumption typical	0.8 W
cable.		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • 10km	
		Fiber type	Single Mode
	Notes	TX 1310nm RX 1490nm	
	Services	the service-level descriptio	www.hp.com/networking/services for details on ons and product numbers. For details about services rarea, please contact your local HP sales office.
HP X120 1G SFP LC BX 10- D Transceiver (JD099B)	Ports	1 LC 1000BASE-BX10 port full only	(IEEE 802.3ah Type 1000BASE-BX10-D); Duplex:
A sussell former for story	Connectivity	Connector type	LC
A small form-factor pluggable (SFP) Gigabit LX-	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)

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	the service-level descriptio	www.hp.com/networking/services for details on ns and product numbers. For details about services area, please contact your local HP sales office.
	Electrical characteristics Cabling Notes	Full configuration weightElectrical characteristicsPower consumption typicalPower consumption maximumPower consumption maximumCablingMaximum distance: • Up to 10km Fiber typeNotesTX 1490nm RX 1310nmServicesRefer to the HP website at the service-level description



HP X125 1G SFP RJ45 T	Ports Connectivity	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)	
<b>Transceiver</b> (JD089B) A small form factor pluggable (SFP) Gigabit		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)
1000Base-T transceiver		Full configuration weight	0.07 lb. (0.03 kg)
that provides a full duplex Gigabit solution up to	Electrical characteristics	Power consumption typical	0.8 W
100m on a Cat-5+ cable.		Power consumption maximum	1.0 W
	Cabling		iE or better recommended), 100 Ù differential 4- ir (UTP) or shielded twisted pair (STP) balanced, ab 1000BASE-T;
		Maximum distance: • 100m	
	Services	the service-level descriptio	www.hp.com/networking/services for details on ons and product numbers. For details about services rarea, please contact your local HP sales office.
HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)	Cabling		diameter, mulitimode fiber optic, with effective MHz/km as detailed in TIA-492AAAC for distances of
		<b>Maximum distance</b> : 10Gbps Transfer Rate (Ethe	ernet): 300m
	Notes		duplex fiber optic multimode OM3 50/125 um net assembly with LC duplex connectors on one end on other end.
		<ul> <li>Coating diameter: 24</li> <li>Optical glass: Bandw @850/1300nm.</li> <li>Optical glass: Bandw @850/1300nm. VCSI for Gigabit Ethernet</li> <li>CABLE: The cable is constructed fiber and desi wavelength windows</li> <li>BULK CABLE &amp; CABLE</li> <li>Jacket Material: Rise</li> <li>Jacket Color: Aqua for</li> <li>Boot Color: White</li> <li>Insertion Loss: less to added for lengths &gt; 3</li> </ul>	vidth: For LED sources: 1500/500 MHz-km vidth: For Laser sources: 2000/500 MHz-km EL Laser sources: 600 / 600 meters @850/1300nm compliant links. duplex zipcord graded index 50/125um multimode igned to work in both the 850 and 1300 nm s. E ASSEMBLY CONFIGURATION: r Grade - Low Smoke Zero Halogen thermoplastic. or OM3 multimode per TIA 598 han 0.5 dB @ 850 with LED source, 0.003 dB/M



Accessory Product D	Details	
		<ul> <li>nm @ 23°C as tested in accordance with EIA 455-46.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	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	<b>Cable type</b> : 50/125 $\mu m$ (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
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



Accessory Product D	etails	
HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)	Cabling	<b>Cable type</b> : 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;
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product D	etails	
HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)	Cabling	<b>Cable type</b> : 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;
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	Services	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



Accessory Product D	etails	
HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)	Cabling	<b>Cable type</b> : 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;
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	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 D	etails	
HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)	Cabling	<b>Cable type</b> : 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;
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	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 De	etails	
<b>HP 50 m Multimode OM3 LC/LC Optical Cable</b> (AJ839A)	Cabling	<b>Cable type</b> : 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;
		<b>Maximum distance</b> : 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.
		<ul> <li>Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um</li> <li>Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.</li> <li>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.</li> <li>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.</li> <li>BULK CABLE &amp; CABLE ASSEMBLY CONFIGURATION:</li> <li>Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.</li> <li>Jacket Color: Aqua for OM3 multimode per TIA 598</li> <li>Boot Color: White</li> <li>Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths &gt; 30 meters.</li> <li>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.</li> <li>Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg</li> </ul>
	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 PremierFlex OM3+ LC/LC Optical Cable	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
(BK837A)		• 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	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
(BK838A)		<ul> <li>Core Diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> </ul>
		• Bandwidth: 3000 MHz-km @ 850nm (Laser)
		• Jacket Color: Blue
		<ul> <li>Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>Boot Color: White</li> </ul>
		• 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 2 m PremierFlex OM3+ LC/LC Optical Cable	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
(BK839A)		<ul> <li>Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>Jacket Color: Blue</li> <li>Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>Boot Color: White</li> <li>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.</li> <li>Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	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	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
(BK840A)		<ul> <li>Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> </ul>
		<ul> <li>Jacket Color: Blue</li> <li>Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>Boot Color: White</li> </ul>
		• 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.
		<ul> <li>Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	Services	Refer to the HP website at <a href="www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.



HP 15 m PremierFlex OM3+ LC/LC Optical Cable	Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
(BK841A)		<ul> <li>Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um</li> <li>Bandwidth: 3000 MHz-km @ 850nm (Laser)</li> <li>Jacket Color: Blue</li> <li>Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>Boot Color: White</li> <li>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.</li> <li>Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	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)
		<ul> <li>Jacket Color: Blue</li> <li>Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic</li> <li>Boot Color: White</li> </ul>
		<ul> <li>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.</li> </ul>
		<ul> <li>Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths &gt;30m</li> <li>Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45</li> </ul>
	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 De	etails			
HP 50 m PremierFlex OM3+ LC/LC Optical Cable	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 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 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.		
(BK843A)				
	Services			
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	

Accessory Product D	etails			
		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%	
	<b>Electrical characteristics</b>	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: <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.		



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