

### Overview

### HPE FlexFabric 5820 Switch Series

#### Models

HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch	JC106B
HPE FlexFabric 5820X 24XG SFP+ Switch	JC102B
HPE FlexFabric 5820AF 24XG Switch	JG219B

#### Key features

- For enterprise edge, or distribution/data center
- Up to 24-ports of 10GbE per unit/194 per stack
- Flex chassis—modular resiliency
- Cut-through switching for very low latency
- Hot-swappable I/O, power supplies, and fans

#### Product overview

The HPE FlexFabric 5820 Switch Series supports advanced features that deliver a unique combination of unmatched 10 Gigabit Ethernet; high-availability architecture; full Layer 2/3 dual-stack IPv4/IPv6; and line-rate, low-latency performance on all ports. Extensible embedded application capabilities enable these switches to integrate services into the network, consolidating devices and appliances to simplify deployment and reduce power consumption and rack space. Extremely versatile, the switches can be used in high-performance, high-density building or department cores as part of a consolidated network; for data center top-of-rack server access; or as high-performance Layer 3, 10GbE aggregation switches in campus and data center networks.

#### Features and benefits

##### Quality of Service (QoS)

- **Powerful QoS feature**  
creates traffic classes based on access control lists (ACLs), IEEE 802.1p precedence, IP, and DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror, or remark; supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted random early discard (WRED), weighted deficit round robin (WDRR), and SP+WDRR
- **Integrated network services**  
with support for open application architecture (OAA) modules, extends and integrates application capability into the network
- **Ring Resiliency Protection Protocol (RRPP)**  
provides fast recovery for ring Ethernet-based topology; helps ensure consistent application performance for applications such as VoIP

##### Management

- **Remote configuration and management**  
enables configuration and management through a secure Web browser or a CLI located on a remote device
- **IEEE 802.1ab LLDP discovery**  
advertises and receives management information from adjacent devices on a network
- **USB support**
  - **File copy**

## Overview

allows users to copy switch files to and from a USB flash drive

- **DHCP options**  
provides server (RFC 2131), client, snooping, and relay options
- **SNMPv1, v2c, and v3**  
facilitate centralized discovery, monitoring, and secure management of networking devices
- **sFlow**  
provides scalable ASIC-based network monitoring and accounting; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- **Network Time Protocol (NTP)**  
synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time

## Connectivity

- **High-density port connectivity**  
194 10GbE ports with a 40 Gbps resilient backplane
- **Auto-MDIX**  
provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **Jumbo frames**  
on Gigabit Ethernet and 10-Gigabit Ethernet ports, jumbo frames allow high-performance remote backup and disaster-recovery services
- **IPv6 native support**
  - **IPv6 host**  
enables switches to be managed and deployed at the IPv6 network's edge
  - **Dual stack (IPv4/IPv6)**  
transitions from IPv4 to IPv6, supporting connectivity for both protocols
  - **MLD snooping**  
forwards IPv6 multicast traffic to the appropriate interface
  - **IPv6 ACL/QoS**  
supports ACL and QoS for IPv6 network traffic, preventing traffic flooding
  - **IPv6 routing**  
supports IPv6 static routes and IPv6 versions of RIP, OSPF, IS-IS, and Border Gateway Protocol (BGP) routing protocols

## Performance

- **Hardware-based wire-speed access control lists (ACLs)**  
helps provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation
- **Unique versatile architecture**  
supports the best of both fixed-port and modular configurations
- **Cut-through switching**  
delivers wire-speed, line-rate performance on all ports, as well as cut-through switching for low latency

## Resiliency and high availability

- **Data center-optimized design**  
The HPE FlexFabric 5820AF 24XG Switch (JG219B) supports front-to-back/back-to-front airflow for hot/cold aisles, rear rack mounts, and redundant hot-swappable AC or DC power and fans.

## Manageability

## Overview

- **Full-featured console**  
provides complete control of the switch with a familiar CLI
- **Web interface**  
allows configuration of the switch from any Web browser on the network
- **RMON and sFlow**  
provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Multiple configuration files**  
allow multiple configuration files to be stored to a flash image
- **Troubleshooting**
  - **Ingress and egress port monitoring**  
enable network problem solving
  - **Traceroute and ping**  
enable testing of network connectivity
  - **Virtual cable tests**  
provide visibility to cable problems

## Layer 2 switching

- **32K MAC addresses**  
provide access to many Layer 2 devices
- **4,094 port-based VLANs**  
provide security between workgroups
- **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
- **Gigabit Ethernet port aggregation**  
allows grouping of ports to increase overall data throughput to a remote device
- **10 GbE port aggregation**  
allows grouping of ports to increase overall data throughput to a remote device
- **Spanning Tree/MSTP, RSTP, and STP Root Guard**  
prevent network loops
- **sFlow**  
allows traffic sampling
- **GVRP VLAN Registration Protocol**  
allows automatic learning and dynamic assignment of VLANs

## Layer 3 services

- **Address Resolution Protocol (ARP)**  
determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **Dynamic Host Configuration Protocol (DHCP)**  
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets

## Layer 3 routing

- **Layer 3 IPv4 routing**  
provides routing of IPv4 at media speed; supports static routes, RIP and RIPv2, OSPF, IS-IS, and BGP
- **Routing Information Protocol (RIP) and RIPng support**  
provides complete support of RIP for both IPv4 and IPv6

## Overview

- **OSPF and OSPFv3 support**  
provides complete support of OSPF for both IPv4 and IPv6
- **IS-IS and IS-ISv6 support**  
provides complete support of IS-IS for both IPv4 and IPv6
- **Layer 3 IPv6 routing**  
provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, IS-ISv6, and BGP4+
- **Bidirectional Forwarding Detection (BFD)**  
enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Virtual Router Redundancy Protocol (VRRP) and VRRP Extended**  
allow quick failover of router ports
- **Policy-based routing**  
makes routing decisions based on policies set by the network administrator
- **IGMPv1, v2, and v3**  
allow individual hosts to be registered on a particular VLAN
- **PIM-SSM, PIM-DM, and PIM-SM (for IPv4 and IPv6)**  
support IP Multicast address management and inhibition of DoS attacks
- **Equal-Cost Multipath (ECMP)**  
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

## Security

- **Defense-in-depth security**  
provides integrated and distributed security enforcement that can be managed from a central location, such as the HPE Intelligent Management Center (IMC)
- **Advanced processor queuing mechanism**  
helps prevent denial-of-service (DoS) attacks, while DHCP snooping helps ensure that devices can only receive an IP address from a legitimate DHCP server on the network
- **RADIUS/HWTACACS**  
eases switch management security administration by using a password authentication server
- **Secure Shell (SSHv2)**  
encrypts all transmitted data for secure, remote CLI access over IP networks
- **IEEE 802.1X-based dynamic delivery of QoS, ACLs, and VLANs**  
allows complete control over user network access
- **Guest VLAN**  
provides a browser-based environment to authenticated clients that is similar to IEEE 802.1X
- **Port isolation**  
secures and adds privacy, and prevents malicious attackers from obtaining user information
- **Port security**  
allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **MAC-based authentication**  
allows or denies access to the switch based on a client MAC address
- **IP Source Guard**  
helps prevent IP spoofing attacks
- **HTTPS management**  
provides secure Web management
- **Unicast Reverse Path Forwarding (URPF)**  
limits malicious traffic on a network
- **Multi-Customer Edge (MCE)-Multicast Virtual Routing and Forwarding (MVRF)**  
provide MPLS Edge router support
- **Public Key Infrastructure (PKI)**

## Overview

is used to control access

## Convergence

- **Voice VLAN**  
automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance
- **LLDP-MED**  
is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **Internet Group Management Protocol (IGMP)**  
utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- **Protocol Independent Multicast (PIM)**  
defines modes of Internet multicasting to allow one-to-many and many-to-many transmission of information; supports PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Multicast(SSM)

## Monitor and diagnostics

- **Port mirroring**  
enables traffic on a port to be simultaneously sent to a network analyzer for monitoring
- **OAM (802.3ah)**  
operations, administration and maintenance (OAM) management capability detects data link layer problems that occurred in the "last mile"; monitors the status of the link between the two devices
- **CFD (802.1ag)**  
connectivity fault detection (CFD) provides a Layer 2 link OAM (operations, administration, and maintenance) mechanism used for link connectivity detection and fault locatin

## Additional information

- **Intelligent Resilient Fabric (IRF)**
  - Creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 router
  - Does not require switches to be co-located and allows them to be part of a disaster-recovery system
  - Allows servers or switches to be attached using standard LACP for automatic load balancing and high availability
  - Simplifies network operation by eliminating the complexity of Spanning Tree Protocol, ECMP, or VRRP
- **OAA modules**  
support wireless network management and high-performance security applications; leverage network infrastructure investment
- **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
- **High scalability with IRF**  
Hewlett Packard Enterprise (HPE) Intelligent Resilient Fabric (IRF) technology simplifies the architecture of server access networks; up to nine HPE 5820/5820AF stackable switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter, two-tier FlexFabric networks using IRF, which reduces cost and complexity

## Warranty and support

- **1-year warranty**  
see <http://www.hpe.com/networking/warrantysummary> for warranty and support information included with your product purchase.
- **Software releases**  
to find software for your product, refer to <http://www.hpe.com/networking/support> ; for details on the software

## Overview

releases available with your product purchase, refer to <http://www.hpe.com/networking/warrantysummary>

## 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

HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 2 module slots
- 14 fixed 1000/10000 SFP+ ports
- min=0 \ max=14 SFP+ Transceivers
- 1 Power Supply Required
- 2U - Height

JC106B  
See  
Configuration

**NOTE:1**

HPE FlexFabric 5820X 24XG SFP+ Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 1U - Height

JC102B  
See  
Configuration

**NOTE:1**

HPE FlexFabric 5820AF 24XG Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

JG219B  
See  
Configuration

**NOTE:1**

### Configuration Rules:

**Note 1** The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch) (Use #0D1 or #B01 if switch is CTO):

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP LC SX Transceiver	JD118B

## Configuration

HPE X120 1G SFP LC LX Transceiver  
HPE X120 1G SFP RJ45 T Transceiver

JD119B  
JD089B

## Box Level Integration CTO Models

### CTO Solution SKU

HPE FlexFabric 58xx Configure-to-order Switch Solution

- SSP trigger SKU

JG478A

### CTO Base SKU

HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 2 module slots
- 14 fixed 1000/10000 SFP+ ports
- min=0 \ max=14 SFP+ Transceivers
- 1 Power Supply Required
- 2U - Height

JC106B  
See  
Configuration  
**NOTE:1,4**

HPE FlexFabric 5820X 24XG SFP+ Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports
- min=0 \ max=24 SFP+ Transceivers
- 1 Power Supply Required
- 1U - Height

JC102B  
See  
Configuration  
**NOTE:1,4**

HPE FlexFabric 5820AF 24XG Switch

- 4 RJ-45 autosensing 10/100/1000 ports
- 24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)
- 1 Power Supply Required
- 2 Fan Trays Required
- 1U - Height

JG219B  
See  
Configuration  
**NOTE:1,4**

### Configuration Rules:

**Note 1** The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch): (Use #0D1 if switch is CTO)

HPE X130 10G SFP+ LC SR Transceiver  
HPE X130 10G SFP+ LC LRM Transceiver  
HPE X130 10G SFP+ LC LR Transceiver  
HPE X130 10G SFP+ LC ER 40km Transceiver  
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable  
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable  
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable

JD092B  
JD093B  
JD094B  
JG234A  
JD095C  
JD096C  
JD097C



## Configuration

HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X120 1G SFP RJ45 T Transceiver	JD089B

**Note 4** If the Switch Chassis is to be Box Level Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis and integrated to the JG478A - HPE 58xx CTO Enablement. (Max 1 switch per SSP)

## Rack Level Integration CTO Models

### Standard Switch Chassis

HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch	JC106B
<ul style="list-style-type: none"> <li>4 RJ-45 autosensing 10/100/1000 ports</li> <li>2 module slots</li> <li>14 fixed 1000/10000 SFP+ ports</li> <li>min=0 \ max=14 SFP+ Transceivers</li> <li>1 Power Supply Required</li> <li>2U - Height</li> </ul>	See Configuration <b>NOTE:1, 11</b>

HPE FlexFabric 5820X 24XG SFP+ Switch	JC102B
<ul style="list-style-type: none"> <li>4 RJ-45 autosensing 10/100/1000 ports</li> <li>24 fixed 1000/10000 SFP+ ports</li> <li>min=0 \ max=24 SFP+ Transceivers</li> <li>1 Power Supply Required</li> <li>1U - Height</li> </ul>	See Configuration <b>NOTE:1, 11</b>

HPE FlexFabric 5820AF 24XG Switch	JG219B
<ul style="list-style-type: none"> <li>4 RJ-45 autosensing 10/100/1000 ports</li> <li>24 fixed 1000/10000 SFP+ ports (min=0 \ max=24 SFP+ Transceivers)</li> <li>1 Power Supply Required</li> <li>2 Fan Trays Required</li> <li>1U - Height</li> </ul>	See Configuration <b>NOTE:1, 11</b>

### Configuration Rules:

**Note 1** The following Transceivers install into this Switch (Max = 14 or 24 depending on Switch):

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C

## Configuration

HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X120 1G SFP RJ45 T Transceiver	JD089B

**Note 11** If HPE CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the HPE Rack.

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

## Modules

### Ethernet Modules

(JC106x and JG259x Switch Only ) System (std 0 // max 2) User Selection (min 0 // max 2) per chassis

HPE 5800 4-port 10GbE SFP+ Module	JC091A
<ul style="list-style-type: none"> <li>min=0 \ max=4 SFP + Transceivers</li> </ul>	See Configuration
	<b>NOTE:1</b>

HPE 5800 2-port 10GbE SFP+ Module	JC092B
<ul style="list-style-type: none"> <li>min=0 \ max=2 SFP + Transceivers</li> </ul>	See Configuration
	<b>NOTE:1</b>

### Configuration Rules:

**Note 1** The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C

### Access Control Modules

(JC106x and JG259x Switch Only ) System (std 0 // max 1) User Selection (min 0 // max 1) per chassis

HP 5820 VPN Firewall Module	JD255A
-----------------------------	--------

## Configuration

- No Transceivers

See  
Configuration  
**NOTE:1**

### Configuration Rules:

#### Note 1 This Module only installs into the following switches:

- HPE 5820X-14XG-SFP+ Switch w 2 Intf Slts
- HPE 5820X-14XG-SFP+ TAA Switch w 2 Slots

JC106x  
JG259x

## Transceivers

### SFP+ Transceivers

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X240 10G SFP+ SFP+ 0.65m DAC Cable	JD095C
HP X240 10G SFP+ SFP+ 1.2m DAC Cable	JD096C
HP X240 10G SFP+ SFP+ 3m DAC Cable	JD097C
HP X240 10G SFP+ SFP+ 5m DAC Cable	JG081C

### SFP Transceivers

HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP RJ45 T Transceiver	JD089B

## Internal Power Supplies

System (std 0 // max 2) User Selection (min 1 // max 2) per switch enclosure

HPE 5800 300W DC Power Supply	JC090A See Configuration <b>NOTE:1, 2</b>
-------------------------------	--

HPE 5800 300W AC Power Supply	JC087A See Configuration <b>NOTE:1, 2, 3</b>
<ul style="list-style-type: none"> <li>includes 1 x c13, 300w</li> </ul>	

PDU Cable NA/MEX/TW/JP	JC087A#B2B
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	

## Configuration

PDU Cable ROW	JC087A#B2C
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	
HPE 58x0AF 650W AC Power Supply	JC680A
<ul style="list-style-type: none"> <li>includes 1 x c13, 650w</li> </ul>	See Configuration <b>NOTE:1, 3, 5</b>
PDU Cable NA/MEX/TW/JP	JC680A#B2B
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	
PDU Cable ROW	JC680A#B2C
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	
HP 58x0AF 650W DC Power Supply	JC681A
	See Configuration <b>NOTE:1, 5</b>
HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply	JG900A
<ul style="list-style-type: none"> <li>includes 1 x c13, 300w</li> </ul>	See Configuration <b>NOTE:1, 3, 5</b>
PDU Cable NA/MEX/TW/JP	JG900A#B2B
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (NA/MEX/TW/JP)</li> </ul>	
PDU Cable ROW	JG900A#B2C
<ul style="list-style-type: none"> <li>C15 PDU Jumper Cord (ROW)</li> </ul>	
High Volt Switch/Router to Wall Power Cord	JG900A#B2E
<ul style="list-style-type: none"> <li>NEMA L6-20P Cord (NA/MEX/JP/TW)</li> </ul>	
HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W DC Power Supply	JG901A
	See Configuration <b>NOTE:1, 5, 6</b>
HPE FlexFabric Switch 650W 48V Hot Plug NEBS-compliant DC Power Supply	JH336A
	See Configuration <b>NOTE:1, 5</b>

### Configuration Rules:

**Note 1** If 2 power supplies are selected they must be the same SKU number.

**Note 2** Supported only on the JC102B, JC106B, JG243B and JG259B Switches

**Note 3** Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) . (See

## Configuration

Localization Menu)

REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers.

Note 5 Supported only on the JG219B Switch

Note 6 Watson Only - Add "(NEBS)" after the description on the PS table.

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)

NOTE\* Switch JG219B should default selection of Power Supply as JC680A but allow selection of JG900A, JG901A, and JC681A.

## Switch Options

### Fan Trays

(JG219B only) System (std 0 // max 2) User Selection (min 2 // max 2) per switch

HP 58x0AF Bck(pwr)-Frt(ports) Fan Tray

JC682A  
See  
Configuration  
**NOTE:1**

HP 58x0AF Frt(ports)-Bck(pwr) Fan Tray

JC683A  
See  
Configuration  
**NOTE:1**

Configuration Rules:

Note 1 Fan Trays cannot be mixed in the same switch enclosure

Remarks: Watson Blue Text:

If there is any empty space below the switch in a rack when using Back to Front Fan Trays, JC682A, the rack will receive an Air Plenum kit that takes up 1U of additional space in the rack. The Air Plenum kit is not required on fully configured racks. This only applies for CTO Rack Level Integration. The Air Plenum Kit is a non-saleable SKU, and is brought in automatically for CTO Factory Rack Level Integration.

### Opacity Shield Kit

## Configuration

System (std 0 // max 1) User Selection (min 0 // max 1)

HP 5800-24XG-SFP+ Opcty Shld Kit

- Supported on JG243B

JG564A  
See  
Configuration  
**NOTE:1**

Configuration Rules:

**Note 1** If selected with a CTO Switch Solution, Quantity 1 of JG585A#B01 must also be ordered.

### Tamper Evidence Labels

System (std 0 // max 1) User Selection (min 0 // max 1)

HP 12mm x 60mm Tmpr-Evidence (30) Lbl

- Supported on JG243B

JG585A  
See  
Configuration  
**NOTE:1**

**Configuration Rules:**

**Note 1** If selected with a CTO Switch Solution, Quantity 1 of JG564A#B01 must also be ordered.

### External Redundant Power Supplies

HPE RPS1600 Redundant Power System

- Height = 1U
- includes 1 x c13, 1600w and Power Supply port

JG136A  
See  
Configuration  
**NOTE:2, 3, 5**

HPE RPS1600 1600W AC Power Supply

- Installs into JG136A only

JG137A  
See  
Configuration  
**NOTE:1, 3**

**Configuration Rules:**

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

**Note 2** Localization required.

**Note 3** Each switch will only support 1 JG136A and 1 JG137A Power supply systems.

**Note 5** This power supply only supported on switches JC102B and JC106B.

### Options for the HPE RPS1600 Redundant Power System

HPE X290 1000 A JD5 2m RPS Cable

JD187A

## Configuration

HPE X290 1000 B JD5 2m RPS Cable

See  
Configuration  
**NOTE:3**

JD189A  
See  
Configuration  
**NOTE:4**

### Remarks:

These cables are used to connect the External Power System to Switch.

### Configuration Rules:

Note 3 HPE RPS1600 Redundant Power System (JG136A).

Note 4 HPE RPS1600 Redundant Power System (JG136A)

## Technical Specifications

### HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch (JC106B)

<b>Ports</b>	14 SFP+ 10-GbE ports; Duplex: full only 2 extended module slots 1 open module slot 4 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 1 RJ-45 serial console port Supports a maximum of 14 SFP+ ports plus 8 8/4/2 Gbps Fibre Channel SFP+ ports, with optional module										
<b>Additional ports and slots</b>	1 RJ-45 serial console port										
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)										
<b>Fan tray</b>	includes: 1 x JC096A 1 fan tray slot Base product includes fan tray										
<b>Physical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Dimensions</b></td> <td>17.32(w) x 18.39(d) x 3.39(h) in (43.99 x 46.7 x 8.61 cm) (2U height)</td> </tr> <tr> <td style="vertical-align: top;"><b>Weight</b></td> <td>33.29 lb (15.1 kg)</td> </tr> </table>	<b>Dimensions</b>	17.32(w) x 18.39(d) x 3.39(h) in (43.99 x 46.7 x 8.61 cm) (2U height)	<b>Weight</b>	33.29 lb (15.1 kg)						
<b>Dimensions</b>	17.32(w) x 18.39(d) x 3.39(h) in (43.99 x 46.7 x 8.61 cm) (2U height)										
<b>Weight</b>	33.29 lb (15.1 kg)										
<b>Memory and processor</b>	2048 MB SDRAM; Packet buffer size: 2 MB, 512 MB flash										
<b>Performance</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Latency</b></td> <td>2.02 <math>\mu</math>s (Cut Through) 2.02 <math>\mu</math>s, (Store and Forward) (64-byte packets)</td> </tr> <tr> <td style="vertical-align: top;"><b>Throughput</b></td> <td>up to 363 Mpps (64-byte packets)</td> </tr> <tr> <td style="vertical-align: top;"><b>Routing/Switching capacity</b></td> <td>488 Gbps</td> </tr> <tr> <td style="vertical-align: top;"><b>Routing table size</b></td> <td>12000 entries (IPv4)</td> </tr> <tr> <td style="vertical-align: top;"><b>MAC address table size</b></td> <td>32000 entries</td> </tr> </table>	<b>Latency</b>	2.02 $\mu$ s (Cut Through) 2.02 $\mu$ s, (Store and Forward) (64-byte packets)	<b>Throughput</b>	up to 363 Mpps (64-byte packets)	<b>Routing/Switching capacity</b>	488 Gbps	<b>Routing table size</b>	12000 entries (IPv4)	<b>MAC address table size</b>	32000 entries
<b>Latency</b>	2.02 $\mu$ s (Cut Through) 2.02 $\mu$ s, (Store and Forward) (64-byte packets)										
<b>Throughput</b>	up to 363 Mpps (64-byte packets)										
<b>Routing/Switching capacity</b>	488 Gbps										
<b>Routing table size</b>	12000 entries (IPv4)										
<b>MAC address table size</b>	32000 entries										
<b>Environment</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Operating temperature</b></td> <td>32°F to 113°F (0°C to 45°C)</td> </tr> <tr> <td style="vertical-align: top;"><b>Operating relative humidity</b></td> <td>10% to 90%, noncondensing</td> </tr> <tr> <td style="vertical-align: top;"><b>Acoustic</b></td> <td>Low-speed fan: 44.3 dB, High-speed fan: 54.1 dB</td> </tr> </table>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)	<b>Operating relative humidity</b>	10% to 90%, noncondensing	<b>Acoustic</b>	Low-speed fan: 44.3 dB, High-speed fan: 54.1 dB				
<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)										
<b>Operating relative humidity</b>	10% to 90%, noncondensing										
<b>Acoustic</b>	Low-speed fan: 44.3 dB, High-speed fan: 54.1 dB										
<b>Electrical characteristics</b>	<table border="0"> <tr> <td style="vertical-align: top;"><b>Maximum heat dissipation</b></td> <td>836 BTU/hr (881.98 kJ/hr)</td> </tr> <tr> <td style="vertical-align: top;"><b>Voltage</b></td> <td>100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)</td> </tr> <tr> <td style="vertical-align: top;"><b>Maximum power rating</b></td> <td>300 W</td> </tr> <tr> <td style="vertical-align: top;"><b>Notes</b></td> <td>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.</td> </tr> </table>	<b>Maximum heat dissipation</b>	836 BTU/hr (881.98 kJ/hr)	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)	<b>Maximum power rating</b>	300 W	<b>Notes</b>	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.		
<b>Maximum heat dissipation</b>	836 BTU/hr (881.98 kJ/hr)										
<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)										
<b>Maximum power rating</b>	300 W										
<b>Notes</b>	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.										
<b>Safety</b>	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										



## Technical Specifications

<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; 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	
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC 61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC 61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC 61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2; IEC 61000-3-2
<b>Flicker</b>	EN 61000-3-3; IEC 61000-3-3	
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP	
<b>Notes</b>	The customer must order a power supply, as the device does not come with a PSU. At least one JC087A or JC090A is required.	
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.	

### HPE FlexFabric 5820X 24XG SFP+ Switch (JC102B)

<b>Ports</b>	24 SFP+ 10-GbE ports; Duplex: full only	
	4 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)	
	Supports a maximum of 24 SFP+ ports plus 4 autosensing 10/100/1000 ports	
<b>Additional ports and slots</b>	1 RJ-45 serial console port	
<b>Power supplies</b>	2 power-supply slots	
	1 minimum power-supplies required (ordered separately)	
<b>Fan tray</b>	includes: 1 x JC098A	
	1 fan tray slot	
	Base product includes fan tray	
<b>Physical characteristics</b>	<b>Dimensions</b>	17.32(w) x 16.81(d) x 1.73(h) in (44.0 x 42.7 x 4.4 cm) (1U height)
	<b>Weight</b>	18.74 lb (8.5 kg)
<b>Memory and processor</b>	2048 MB SDRAM; Packet buffer size: 2 MB, 512 MB flash	
<b>Performance</b>	<b>Latency</b>	2.02 $\mu$ s (Cut Through) 2.02 $\mu$ s, (Store and Forward) (64-byte packets)
	<b>Throughput</b>	up to 363 Mpps (64-byte packets)
	<b>Routing/Switching capacity</b>	488 Gbps
	<b>Routing table size</b>	12000 entries (IPv4)

## Technical Specifications

	<b>MAC address table size</b>	32000 entries
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)
	<b>Operating relative humidity</b>	10% to 90%, noncondensing
	<b>Acoustic</b>	Low-speed fan: 48.4 dB, High-speed fan: 59.7 dB
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	631 BTU/hr (665.71 kJ/hr)
	<b>Voltage</b>	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	<b>Maximum power rating</b>	300 W
	<b>Notes</b>	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.
<b>Safety</b>		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
<b>Emissions</b>		VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; 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
<b>Immunity</b>	<b>Generic</b>	ETSI EN 300 386 V1.3.3
	<b>EN</b>	EN 55024:1998+ A1:2001 + A2:2003
	<b>ESD</b>	EN 61000-4-2; IEC 61000-4-2
	<b>Radiated</b>	EN 61000-4-3; IEC 61000-4-3
	<b>EFT/Burst</b>	EN 61000-4-4; IEC 61000-4-4
	<b>Surge</b>	EN 61000-4-5; IEC 61000-4-5
	<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
	<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
	<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
	<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3	
<b>Management</b>		IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP
<b>Notes</b>		The customer must order a power supply, as the device does not come with a PSU. At least one JC087A or JC090A is required.
<b>Services</b>		Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.

### HPE FlexFabric 5820AF 24XG Switch (JG219B)

<b>Ports</b>	24 fixed 1000/10000 SFP+ ports 2 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
--------------	---

## Technical Specifications

<b>Additional ports and slots</b>	1 RJ-45 serial console port 1 RJ-45 out-of-band management port 1 USB 2.0
<b>Power supplies</b>	2 power-supply slots 1 minimum power-supplies required (ordered separately)
<b>Fan tray</b>	2 fan tray slots  The customer must order fan trays, as fan trays are not included with the switch. This system requires two same-direction airflow fan trays to function properly. The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.
<b>Physical characteristics</b>	<b>Dimensions</b> 25.98(w) x 17.32(d) x 1.72(h) in (65.99 x 43.99 x 4.37 cm) (1U height) <b>Weight</b> 22.05 lb (10 kg), Fully loaded
<b>Memory and processor</b>	2048 MB flash; Packet buffer size: 2 MB, 512 MB SDRAM
<b>Performance</b>	<b>Latency</b> 3 μs(64-byte packets) <b>Throughput</b> up to 360 Mpps <b>Routing/Switching capacity</b> 484 Gbps <b>Routing table size</b> 12000 entries (IPv4) <b>MAC address table size</b> 32000 entries
<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 10% to 90%, noncondensing <b>Acoustic</b> Low-speed fan: 60.1 dB, High-speed fan: 69.9 dB
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b> 607 BTU/hr (640.39 kJ/hr) <b>Voltage</b> 100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen) <b>Maximum power rating</b> 650 W <b>Notes</b> 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.
<b>Safety</b>	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
<b>Emissions</b>	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; 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
<b>Immunity</b>	<b>Generic</b> ETSI EN 300 386 V1.3.3 <b>EN</b> EN 55024:1998+ A1:2001 + A2:2003 <b>ESD</b> EN 61000-4-2; IEC 61000-4-2 <b>Radiated</b> EN 61000-4-3; IEC 61000-4-3 <b>EFT/Burst</b> EN 61000-4-4; IEC 61000-4-4 <b>Surge</b> EN 61000-4-5; IEC 61000-4-5

## Technical Specifications

<b>Conducted</b>	EN 61000-4-6; IEC 61000-4-6
<b>Power frequency magnetic field</b>	IEC 61000-4-8; EN 61000-4-8
<b>Voltage dips and interruptions</b>	EN 61000-4-11; IEC 61000-4-11
<b>Harmonics</b>	EN 61000-3-2, IEC 61000-3-2
<b>Flicker</b>	EN 61000-3-3, IEC 61000-3-3

### Management

IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP

### Notes

The customer must order power supply, as the device does not come with a PSU. At least one JC680A or JC681A is required

### Services

Refer to the Hewlett Packard Enterprise website at: <http://www.hpe.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 Hewlett Packard Enterprise sales office.

### Standards and protocols

(applies to all products in series)

General protocols	
IEEE 802.1ag Service Layer OAM	RFC 4443 ICMPv6
IEEE 802.1D MAC Bridges	RFC 4541 IGMP & MLD Snooping Switch
IEEE 802.1p Priority	RFC 4861 IPv6 Neighbor Discovery
IEEE 802.1Q VLANs	RFC 4862 IPv6 Stateless Address Auto-configuration
IEEE 802.1s (MSTP)	
IEEE 802.1v VLAN classification by Protocol and Port	<b>MIBs</b>
IEEE 802.1w Rapid Reconfiguration of Spanning Tree	IEEE8021-PAE-MIB
IEEE 802.3ad Link Aggregation Control Protocol (LACP)	IEEE8023-LAG-MIB
IEEE 802.3ae 10-Gigabit Ethernet	RFC 1213 MIB II
IEEE 802.3x Flow Control	RFC 1493 Bridge MIB
RFC 768 UDP	RFC 1657 BGP-4 MIB
RFC 792 ICMP	RFC 1724 RIPv2 MIB
RFC 793 TCP	RFC 1850 OSPFv2 MIB
RFC 826 ARP	RFC 2011 SNMPv2 MIB for IP
RFC 854 TELNET	RFC 2013 SNMPv2 MIB for UDP
RFC 925 Multi-LAN Address Resolution	RFC 2233 Interface MIB
RFC 951 BOOTP	RFC 2273 SNMP-NOTIFICATION-MIB
RFC 1058 RIPv1	RFC 2452 IPV6-TCP-MIB
RFC 1350 TFTP Protocol (revision 2)	RFC 2454 IPV6-UDP-MIB
RFC 1519 CIDR	RFC 2465 IPv6 MIB
RFC 1542 BOOTP Extensions	RFC 2466 ICMPv6 MIB
RFC 2131 DHCP	RFC 2571 SNMP Framework MIB
RFC 2453 RIPv2	RFC 2572 SNMP-MPD MIB
RFC 3046 DHCP Relay Agent Information Option	RFC 2573 SNMP-Notification MIB
RFC 3576 Ext to RADIUS (CoA only)	RFC 2618 RADIUS Client MIB
RFC 3768 VRRP	RFC 2620 RADIUS Accounting MIB
RFC 4675 RADIUS VLAN & Priority	RFC 2665 Ethernet-Like-MIB
RFC3323 A Privacy Mechanism for the Session Initiation Protocol (SIP)	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
802.1r - GARP Proprietary Attribute Registration Protocol (GPRP)	RFC 2688 MAU-MIB
	RFC 2787 VRRP MIB
	RFC 2819 RMON 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
	RFC 3826 AES for SNMP's USM MIB
	RFC 4133 Entity MIB (Version 3)
<b>IP multicast</b>	
RFC 2934 Protocol Independent Multicast MIB for IPv4	

## Technical Specifications

RFC 3376 IGMPv3 (host joins only)  
RFC 3618 Multicast Source Discovery Protocol (MSDP)  
RFC 3973 Draft 2 PIM Dense Mode  
RFC 4601 Draft 10 PIM Sparse Mode

### IPv6

RFC 2080 RIPng for IPv6  
RFC 2460 IPv6 Specification  
RFC 2710 Multicast Listener Discovery (MLD) for IPv6  
RFC 2740 OSPFv3 for IPv6  
RFC 2925 Remote Operations MIB (Ping only)  
RFC 3019 MLDv1 MIB  
RFC 3162 RADIUS and IPv6  
RFC 3315 DHCPv6 (client and relay)  
RFC 3315 DHCPv6 (client only)  
RFC 3810 MLDv2 (host joins only)  
RFC 4022 MIB for TCP  
RFC 4251 SSHv6 Architecture  
RFC 4252 SSHv6 Authentication  
RFC 4253 SSHv6 Transport Layer  
RFC 4254 SSHv6 Connection  
RFC 4293 MIB for IP  
RFC 4419 Key Exchange for SSH

LLDP-EXT-DOT1-MIB  
LLDP-EXT-DOT3-MIB  
LLDP-MIB

### Network management

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

### OSPF

RFC 2328 OSPFv2  
RFC 3101 OSPF NSSA

### Security

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

## Accessories

### HPE FlexFabric 5820 Switch Series accessories

#### Transceivers

HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP RJ45 T Transceiver	JD089B
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A

#### Cables

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A

#### Power Supply

HPE RPS1600 Redundant Power System	JG136A
HPE RPS1600 1600W AC Power Supply	JG137A

#### HPE FlexFabric 5820X 24XG SFP+ Switch (JC102B)

HPE 5800 300W AC Power Supply	JC087A
HPE 5800 300W DC Power Supply	JC090A
HPE 5800 1RU Spare Fan Assembly	JC098A

#### HPE FlexFabric 5820X 14XG SFP+ 2-slot/1 OAA Slot Switch (JC106B)

HPE 5800 4-port 10GbE SFP+ Module	JC091A
HPE 5800 2-port 10GbE SFP+ Module	JC092B

#### HPE 5800 300W AC Power Supply (JC087A)

HPE 5800 300W DC Power Supply	JC090A
HPE 5800 2RU Spare Fan Assembly	JC096A
HP 5820 VPN Firewall Module	JD255A

## Accessories

### HPE FlexFabric 5820AF 24XG Switch (JG219B)

HPE 58x0AF 650W AC Power Supply	JC680A
HP 58x0AF 650W DC Power Supply	JC681A
HPE 58x0AF Back (Power Side) to Front (Port Side) Airflow Fan Tray	JC682A
HPE 58x0AF Front (Port Side) to Back (Power Side) Airflow Fan Tray	JC683A

## Accessory Product Details

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

<b>HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A)</b>	<b>Ports</b>  <b>Connectivity</b>	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)  Connector type LC Wavelength 1310 nm
A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.	<b>Physical characteristics</b>  <b>Electrical characteristics</b>	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)  Power consumption typical 0.8 W Power consumption maximum 1.0 W
	<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;  Maximum distance: <ul style="list-style-type: none"> <li>• 40km distance</li> </ul>
	<b>Services</b>	Fiber type Single Mode Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.
<b>HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A)</b>	<b>Ports</b>  <b>Connectivity</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)  Connector type LC Wavelength 1550 nm
A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.	<b>Physical characteristics</b>  <b>Electrical characteristics</b>	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)  Power consumption typical 0.8 W Power consumption maximum 1.0 W
	<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;  Maximum distance: <ul style="list-style-type: none"> <li>• 40km distance</li> </ul>
	<b>Services</b>	Fiber type Single Mode Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.



## Accessory Product Details

<b>HPE X125 1G SFP LC LH70 Transceiver</b> (JD063B)	<b>Ports</b>	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)		
	<b>Connectivity</b>	<b>Connector type</b>	LC	
<p>A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.</p>	<b>Physical characteristics</b>	<b>Wavelength</b>	1550 nm	
		<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)	
		<b>Full configuration weight</b>	0.04 lb. (0.02 kg)	
	<b>Electrical characteristics</b>	<b>Power consumption typical</b>	0.8 W	
		<b>Power consumption maximum</b>	1.0 W	
	<b>Cabling</b>	Cable type: Single-mode fiber optic, complying with ITU-T G.652;		
	<b>Services</b>	Maximum distance: • 70km		
		Fiber type Single Mode		
		Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.		
	<b>HPE X120 1G SFP RJ45 T Transceiver</b> (JD089B)	<b>Ports</b>	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)	
<b>Connectivity</b>		<b>Connector type</b>	RJ-45	
<p>A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.</p>	<b>Physical characteristics</b>	<b>Dimensions</b>	2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)	
		<b>Full configuration weight</b>	0.07 lb. (0.03 kg)	
		<b>Power consumption typical</b>	0.8 W	
	<b>Electrical characteristics</b>	<b>Power consumption maximum</b>	1.0 W	
		<b>Cabling</b>	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T;	
	<b>Services</b>	Maximum distance: • 100m		
		Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.		
	<b>HPE X120 1G SFP LC SX Transceiver</b> (JD118B)	<b>Ports</b>	1 LC 1000BASE-SX port	
		<b>Connectivity</b>	<b>Connector type</b>	LC
<p>A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex</p>	<b>Physical characteristics</b>	<b>Wavelength</b>	850 nm	
		<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)	
		<b>Full configuration</b>	0.04 lb. (0.02 kg)	

## Accessory Product Details

Gigabit solution up to 550m on a Multimode fiber.

<b>Electrical characteristics</b>	<b>weight</b>	
	<b>Power consumption typical</b>	0.8 W
<b>Electrical characteristics</b>	<b>Power consumption maximum</b>	1.0 W
	<b>Cabling</b>	Maximum distance: <ul style="list-style-type: none"> <li>• FDDI Grade distance = 220m</li> <li>• OM1 = 275m</li> <li>• OM2 = 500m</li> <li>• OM3 = Not Specified by standard</li> </ul> Cable length up to 550m Fiber type Multi Mode
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.	

<b>HPE X120 1G SFP LC LX Transceiver (JD119B)</b>	<b>Ports</b>	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	<b>Connectivity</b>	<b>Connector type</b>	LC
A small form-factor pluggable (SFP) Gigabit LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	<b>Physical characteristics</b>	<b>Wavelength</b>	1300 nm
		<b>Dimensions</b>	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
<b>Electrical characteristics</b>	<b>Power consumption typical</b>	<b>Full configuration weight</b>	0.04 lb. (0.02 kg)
		<b>Power consumption maximum</b>	0.8 W
<b>Cabling</b>	<b>Power consumption maximum</b>	<b>Cable type:</b>	0.8 W
			1.0 W
<b>Services</b>	<b>Cabling</b>	Cable type: Either single mode or multimode;	
		Maximum distance: <ul style="list-style-type: none"> <li>• 550m for Multimode</li> <li>• 10km for Singlemode</li> </ul> Fiber type Both	
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.		

<b>HPE RPS1600 Redundant Power System (JG136A)</b>	<b>Ports</b>	8 redundant power supply ports Restrictions: two -56V/25A DC(PoE); six -56V/8A DC(non-PoE)	
	<b>Physical characteristics</b>	<b>Dimensions</b>	15.63(d) x 17.32(w) x 1.74(h) in. (39.7 x 44 x 4.42 cm)
		<b>Weight</b>	14.11 lb. (6.4 kg)
		<b>Full configuration</b>	16.75 lb. (7.6 kg)

## Accessory Product Details

	<b>weight</b>	
<b>Environment</b>	<b>Operating temperature</b>	14°F to 122°F (-10°C to 50°C)
	<b>Operating relative humidity</b>	5% to 95%
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%
	<b>Altitude</b>	up to 13,123 ft. (4 km)
	<b>Acoustic</b>	Pressure: 53 dB; ISO 7779, ISO 9296
<b>Electrical characteristics</b>	<b>Voltage</b>	100-120/200-240 VAC
	<b>Current</b>	30/60 A
	<b>Idle power</b>	38 W
	<b>Maximum power rating</b>	3550 W
	<b>RPS power</b>	3200 W
	<b>PoE power</b>	2800 W
	<b>RPS</b>	-55 V
	<b>PoE</b>	-55 V
	<b>Frequency</b>	50/60 Hz
	<b>Notes</b>	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.
<b>Safety</b>	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	
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.	

<b>HPE RPS1600 1600W AC Power Supply (JG137A)</b>	<b>Physical characteristics</b>	<b>Dimensions</b>	8.19(d) x 4.96(w) x 1.63(h) in. (20.8 x 12.6 x 4.15 cm)
		<b>Weight</b>	3.02 lb. (1.37 kg)
	<b>Environment</b>	<b>Operating temperature</b>	14°F to 122°F (-10°C to 50°C)
		<b>Operating relative humidity</b>	5% to 95%
	<b>Nonoperating/Storage</b>	-40°F to 158°F (-40°C to 70°C)	

## Accessory Product Details

	<b>temperature</b>	
	<b>Nonoperating/Storage</b>	5% to 95%
	<b>relative humidity</b>	
<b>Electrical characteristics</b>	<b>Voltage</b>	100-120/200-240 VAC
	<b>Current</b>	15/30 A
	<b>Maximum power rating</b>	1600 W
	<b>Frequency</b>	50/60 Hz
	<b>Notes</b>	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.
<b>Services</b>		Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.

### HP 5820 VPN Firewall Module (JD255A)

<b>Ports</b>	2 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port 1 Compact Flash port
<b>Physical characteristics</b>	<b>Dimensions</b> 9.84(d) x 9.84(w) x 14.45(h) in. (25 x 25 x 36.7 cm) <b>Weight</b> 7.72 lb. (3.5 kg)
<b>Environment</b>	<b>Operating temperature</b> 32°F to 113°F (0°C to 45°C) <b>Operating relative humidity</b> 10% to 95%, noncondensing
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP
<b>Features</b>	Performance - 6.5Gbps Firewall Throughput - 1.8M Concurrent connection - 50K New connection per second - Max 20480 security policies - 2Gbps 3DES/AES VPN Throughput - 5000 IPsec tunnel - 4K VLAN Firewall operation mode - Routing mode - Transparent mode - Hybrid mode AAA service - Local Authentication - Standard Radius - HWTACACS+ - RADIUS domain Authentication ASPF

## Accessory Product Details

- General TCP / UDP application
- FTP/SMTP/HTTP/RTSP/H323 Protocol State Detection
- SIP/MGCP/QQ/MSN Protocol State Detection
- Java/ActiveX Blocking and Detection
- Port mapping
- Support for the fragmented packets
- Virtualization
  - 256 Virtual Firewall
  - 4 default Security Zone
  - Max 256 Security Zone
- NAT
  - NAT
  - NAT Server
  - Port mapping
  - Bidirectional NAT
  - Static NAT
- Network Security
  - Add blacklist by hand or automatically
  - IP+MAC Binding
  - ARP Reverse Query
  - ARP Cheat Check
  - Management ports closed by default
- DDOS
  - DNS Query Flood
  - SYN Flood
  - Auto start TCP Proxy when Detect SYN Flood
  - ICMP Flood
  - UDP Flood
  - IP Spoofing
  - SQL injection filter
- L2TP VPN
  - LNS,LAC
  - L2TP Multi-instance
- GRE
  - GRE tunneling protocol
- IPSec
  - AH/ESP
  - ESP
  - Transport/tunnel
  - NAT traversal
  - Strategy template
- IKE
  - DH
  - Pre-share Key authentication-method
  - Support aggressive mode and main exchange mode
  - IKE DPD, PKI / CA
- Network Feature
  - 802.1q VLAN
  - 4K sub-interface
  - Static and dynamic ARP
  - Multicast, PIM
  - IGMP v1/v2/v3
- Routing
  - RIP
  - OSPF

## Accessory Product Details

- BGP
- Static Route
- policy Route
- High Availability
- Active/Active mode
- Active/Passive mode
- Session Synchronization for Firewall
- System management
- Web Management support IE/Firefox
- Command line interface (Console/Telnet/SSH)
- Classification Manager
- Unified management through iMC
- SNMPv1/v2c/v3
- Administration
- Software Upgrades
- Configuration Backup and Restore
- Logging/Monitoring
- Syslog
- Mini RMON
- NTP
- NAT/ASPF/firewall log stream(Binary log)
- IPv6 Routing & Multicast
- RIPng
- OSPFv3
- BGP4+
- Static Route
- Policy Route
- PIM-SM/DM
- IPv6 Security
- NAT-PT
- Manual tunnel
- IPV6 OVER ipv4 GRE tunnel
- 6to4 tunnel (RFC3056)
- ISATAP Tunnel
- IPv6 Packet Filter
- Radius
- NAT64

### Services

Refer to the Hewlett Packard Enterprise website at: <http://www.hpe.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 Hewlett Packard Enterprise sales office.

### Standards and protocols IPv6

- RFC 1981 IPv6 Path MTU Discovery
- RFC 2460 IPv6 Specification
- RFC 2465 Management Information Base for IP Version 6: Textual Conventions and General Group (partially support, only "IPv6 Interface Statistics table")
- RFC 3484 Default Address Selection for IPv6
- RFC 3513 IPv6 Addressing Architecture
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 4007 IPv6 Scoped Address Architecture
- RFC 4862 IPv6 Stateless Address Auto-configuration

### Security

- RFC 2405 The ESP DES-CBC Cipher Algorithm With Explicit IV
- RFC 2406 IP Encapsulating Security Payload (ESP)
- RFC 2410 The NULL Encryption Algorithm and Its Use With IPsec
- RFC 2411 IP Security Document Roadmap
- RFC 2451 The ESP CBC-Mode Cipher Algorithms
- RFC 2473 Generic Packet Tunneling in IPv6 Specification
- RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
- RFC 2661 Layer Two Tunneling Protocol "L2TP"
- RFC 2784 Generic Routing Encapsulation (GRE)
- RFC 2868 RADIUS Attributes for Tunnel Protocol Support

## Accessory Product Details

RFC 1321 The MD5 Message-Digest Algorithm  
 RFC 1334 PPP Authentication Protocols (PAP)  
 RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)  
 RFC 2104 Keyed-Hashing for Message Authentication  
 RFC 2138 RADIUS Authentication  
 RFC 2618 RADIUS Authentication Client MIB  
 RFC 2620 RADIUS Accounting Client MIB  
 RFC 2716 PPP EAP TLS Authentication Protocol  
 RFC 2865 RADIUS Authentication  
 RFC 2866 RADIUS Accounting  
 RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support  
 RFC 2868 RADIUS Attributes for Tunnel Protocol Support  
 RFC 2869 RADIUS Extensions  
 draft-grant-tacacs-02 (TACACS)

### VPN

RFC 1701 Generic Routing Encapsulation (GRE)  
 RFC 1702 Generic Routing Encapsulation over IPv4 networks.  
 RFC 1828 IP Authentication using Keyed MD5  
 RFC 1829 The ESP DES-CBC Transform  
 RFC 1853 IP in IP Tunneling  
 RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention  
 RFC 2401 Security Architecture for the Internet Protocol  
 RFC 2402 IP Authentication Header  
 RFC 2403 The Use of HMAC-MD5-96 within ESP and AH  
 RFC 2404 The Use of HMAC-SHA-1-96 within ESP and AH

RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers  
 RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPsec  
 RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)

### IKEv1

RFC 2407 The Internet IP Security Domain of Interpretation for ISAKMP  
 RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP).  
 RFC 2409 The Internet Key Exchange (IKE)  
 RFC 2412 The OAKLEY Key Determination Protocol  
 RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)  
 RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers

### PKI

RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols  
 RFC 2511 Internet X.509 Certificate Request Message Format  
 RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile  
 RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile  
 draft-nourse-scep-06:  
 PKCS#1  
 PKCS#10  
 PKCS#12  
 PKCS#7

<b>HP 5820 4-port 8/4/2 Gbps FCoE SFP+ Module</b> (JC530A)	<b>Physical characteristics</b>	<b>Dimensions</b>	8.27(d) x 6.3(w) x 1.46(h) in. (21 x 16 x 3.7 cm)
		<b>Weight</b>	1.65 lb. (0.75 kg)
		<b>Full configuration weight</b>	2.76 lb. (1.25 kg)
<b>Environment</b>	<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)	
	<b>Operating relative humidity</b>	5% to 95%	
	<b>Nonoperating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)	
	<b>Nonoperating/Storage relative humidity</b>	5% to 95%	
	<b>Shock and vibration</b>	halt 30g rms	
	<b>Altitude</b>	up to 13,123 ft. (4 km)	

## Accessory Product Details

### Notes

#### FCoE Features

- FCoE Compliance: Fibre Channel on Ethernet (FC-BB-5)/ IETF RFC 3643 draft standard
- FCoE Support: FIP FCoE initialization protocol/ FIP snooping/ Auto negotiation, full-duplex FC operation/ NPIV transparent connections to FC fabrics
- Ethernet Interface Compliance/Support: 10Gbps XAUI ports x 4 (internal)/ ETS - Enhanced transmission Selection (802.1Qaz)/ PFC - Class-based Flow Control (802.1Qbb)/ DCBX (802.1Qbb)
- Electrical: Connected and Activity LED controls in Ethernet mode
- Fibre Channel Standards: Physical Interface (FC-PI-3)/ Line Services (FC LS)/ Framing & Signaling (FC-FS-2)/ Virtual Interface Architecture Mapping (FC-VI)
- Fibre Channel Standards Continued.: Fabric Element MIB Specification (RFC 2837)/ Fibre Alliance MIB Specification (Version 4.0)/ Methodologies for Interconnects (FC-MI-2)/ Device Attach (FC-DA)
- Fibre Channel Classes of Service: Class 2/ Class 3/ Class F (inter-switch frames) connectionless Fibre Channel protocol support
- NPIV support:FC-DA-2/ FC-MT/ FC-FS clause 5.2.41/ FC-LS table 141 clause 5.2.41/ 04-075v0/ 03-184v1/ 03-046
- External Customer Interfaces: Four external SFP+ Flex Ports which configure to assume either of the following identities/ 10 Gigabit Converged Enhanced Ethernet (CEE)/ 8/4/2 Gbps Fibre Channel
- External Customer Interfaces Continued: RJ-45 Ethernet management port/ Unit power and system status LEDs/ Port login and activity LEDs/Recessed reset switch
- Media Support - Fibre Channel: Hot-pluggable/ 3.3 volt 8Gb SFP+ transceivers/ Also compatible with 4-Gbps and 2-Gbps SFPs/ Shortwave/ longwave optical
- Media Support - Ethernet: Hot-pluggable, 3.3 volt 10 Gigabit SFP+ transceivers/ TwinAx copper cables
- Other Features: SMI-S 1.1 support in firmware/ SAN boot support/Advanced Security (RADIUS, SSH, SSL)
- Diagnostics: Telnet/ Web browser interface/ SNMP (status only)/ Telnet/ CLI/ Web browser interface/ API interface
- Software/ Firmware Management Interfaces: Simple Network Management Protocol (SNMP)/ Management Information Base (MIB)/ CIM Provider/ Telnet/ CLI/Web Browser Management Interface/ API Interface
- Safety: USA/ Canada/ EU/ Australia/ New Zealand/ China

### Services

Refer to the Hewlett Packard Enterprise website at:

<http://www.hpe.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 Hewlett Packard Enterprise sales office.

---

### HP 5800 Access Controller Module for 64-256 Access Points (JD441A)

<b>Ports</b>	1 RJ-45 out-of-band management port
<b>Physical characteristics</b>	
<b>Dimensions</b>	9.57(d) x 9.84(w) x 1.38(h) in. (24.3 x 25 x 3.5 cm)
<b>Weight</b>	3.64 lb. (1.65 kg)
<b>Memory and processor</b>	
<b>Processor</b>	Eight core @ 1000 MHz, 1 GB compact flash, 2 GB DDR2 SDRAM
<b>Performance</b>	
<b>Switch fabric speed</b>	8 Gbps
<b>MAC address table size</b>	8,000 entries
<b>Environment</b>	
<b>Operating temperature</b>	32°F to 113°F (0°C to 45°C)



## Accessory Product Details

	<b>Operating relative humidity</b>	5% to 95%, non-condensing
	<b>Non-operating/Storage temperature</b>	-40°F to 158°F (-40°C to 70°C)
	<b>Non-operating/Storage relative humidity</b>	5% to 95%, non-condensing
<b>Electrical characteristics</b>	<b>Maximum heat dissipation</b>	273 BTU/hr (288.02 kJ/hr)
	<b>Maximum power rating</b>	80 W
<b>Safety</b>	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1(with CB report)	
<b>Emissions</b>	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC	
<b>Immunity</b>	<b>EN</b>	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003
<b>Management</b>	IMC - Intelligent Management Center; command-line interface; Web browser; configuration menu; SNMP Manager; Telnet; HTTPS; RMON1; FTP; in-line and out-of-band; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
<b>Notes</b>	Max. number of users: 4K. Max. number of users that are supported by local authentication: 1K. Max. number of SSIDs that can be configured: 256. Max. number of users that are supported by local portal authentication: 2K. Number of ACLs: 8K.	
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at: <a href="http://www.hpe.com/networking/services">http://www.hpe.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 Hewlett Packard Enterprise sales office.	
<b>Standards and protocols</b>	<b>General protocols</b>	<b>MIBs</b>
	RFC 768 UDP	RFC 1229 Interface MIB Extensions
	RFC 791 IP	RFC 1643 Ethernet MIB
	RFC 792 ICMP	RFC 1757 Remote Network Monitoring MIB
	RFC 793 TCP	RFC 2011 SNMPv2 MIB for IP
	RFC 826 ARP	RFC 2012 SNMPv2 MIB for TCP
	RFC 854 TELNET	RFC 2013 SNMPv2 MIB for UDP
	RFC 855 Telnet Option Specification	RFC 2571 SNMP Framework MIB
	RFC 858 Telnet Suppress Go Ahead Option	RFC 2572 SNMP-MPD MIB
	RFC 894 IP over Ethernet	RFC 2613 SMON MIB
	RFC 950 Internet Standard Subnetting Procedure	RFC 2863 The Interfaces Group MIB
	RFC 959 File Transfer Protocol (FTP)	RFC 2932IP (Multicast Routing MIB)
	RFC 1122 Host Requirements	RFC 2933 IGMP MIB
	RFC 1141 Incremental updating of the Internet checksum	
	RFC 1144 Compressing TCP/IP headers for low-speed serial links	<b>Mobility</b>
	RFC 1256 ICMP Router Discovery Protocol (IRDP)	IEEE 802.11a High Speed Physical Layer in the 5 GHz Band
	RFC 1321 The MD5 Message-Digest Algorithm	IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band
	RFC 1334 PPP Authentication Protocols (PAP)	IEEE 802.11d Global Harmonization
	RFC 1350 TFTP Protocol (revision 2)	IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
	RFC 1812 IPv4 Routing	IEEE 802.11i Medium Access Control (MAC) Security Enhancements
	RFC 1944 Benchmarking Methodology for Network Interconnect Devices	IEEE 802.11n WLAN Enhancements for Higher Throughput
	RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)	

## Accessory Product Details

RFC 2104 HMAC: Keyed-Hashing for Message Authentication  
 RFC 2246 The TLS Protocol Version 1.0  
 RFC 2284 EAP over LAN  
 RFC 2644 Directed Broadcast Control  
 RFC 2864 The Inverted Stack Table Extension to the Interfaces Group MIB  
 RFC 2866 RADIUS Accounting  
 RFC 2869 RADIUS Extensions  
 RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)  
 RFC 3619 Ethernet Automatic Protection Switching (EAPS)  
 draft-ietf-capwap-protocol-specification-00.txt:CAPW  
 AP Protocol Specification  
 draft-ohara-capwap-lwapp-03.txt:Light Weight Access Point Protocol

### IP multicast

RFC 1112 IGMP  
 RFC 2236 IGMPv2  
 RFC 2934 Protocol Independent Multicast MIB for IPv4

### IPv6

RFC 1350 TFTP  
 RFC 1881 IPv6 Address Allocation Management  
 RFC 1887 IPv6 Unicast Address Allocation Architecture  
 RFC 1981 IPv6 Path MTU Discovery  
 RFC 2292 Advanced Sockets API for IPv6  
 RFC 2373 IPv6 Addressing Architecture  
 RFC 2375 IPv6 Multicast Address Assignments  
 RFC 2460 IPv6 Specification  
 RFC 2461 IPv6 Neighbor Discovery  
 RFC 2462 IPv6 Stateless Address Auto-configuration  
 RFC 2463 ICMPv6  
 RFC 2464 Transmission of IPv6 over Ethernet Networks  
 RFC 2526 Reserved IPv6 Subnet Anycast Addresses  
 RFC 2563 ICMPv6  
 RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)  
 RFC 3484 Default Address Selection for IPv6  
 RFC 3587 IPv6 Global Unicast Address Format  
 RFC 4443 ICMPv6  
 RFC 4541 IGMP & MLD Snooping Switch  
 RFC 4861 IPv6 Neighbor Discovery  
 RFC 4862 IPv6 Stateless Address Auto-configuration  
 RFC 5095 Deprecation of Type 0 Routing Headers

### Network management

RFC 1155 Structure of Management Information  
 RFC 1905 SNMPv2 Protocol Operations  
 RFC 2573 SNMPv3 Applications  
 RFC 2574 SNMPv3 User-based Security Model (USM)  
 RFC 2575 VACM for SNMP  
 SNMPv1/v2c

### QoS/CoS

RFC 2474 DS Field in the IPv4 and IPv6 Headers  
 RFC 2475 DiffServ Architecture  
 RFC 3168 The Addition of Explicit Congestion Notification (ECN) to IP

### Security

IEEE 802.1X Port Based Network Access Control  
 RFC 3394 Advanced Encryption Standard (AES) Key Wrap Algorithm  
 RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)  
 Access Control Lists (ACLs)  
 Guest VLAN for 802.1x  
 MAC Authentication  
 Secure Sockets Layer (SSL)  
 SSHv1.5 Secure Shell  
 SSHv2 Secure Shell  
 Web Authentication  
 WPA (Wi-Fi Protected Access)/WPA2

### IKEv1

RFC 3748 - Extensible Authentication Protocol (EAP)

## Accessory Product Details

in IPv6

## Summary of Changes

Date	Version History	Action	Description of Change
19-Aug-2016	From Version 28 to 29	Changed	Minor edits made on Configuration section
27-May-2016	From Version 27 to 28	Changed	Document name changed to HPE FlexFabric 5820 Switch Series Product description updated.
January 8, 2016	From Version 26 to 27	Changed	Warranty and support updated
October 12, 2015	From Version 25 to 26	Added	Added new DC power supply: JH336A
		Changed	Updated Overview and Configuration sections
May 29, 2015	From Version 24 to 25	Changed	Removed Rule 4 from Rack Level CTO Section Only on the Configuration Section
March 20, 2015	From Version 23 to 24	Changed	A to B Product Roll on the Switch Series, Features and benefits Technical Specifications and Configuration sections were updated.
			Overview and Technical Specifications were updated
			Accessories Section updated
July 3, 2014	From Version 22 to 23	Changed	Configuration menu updated.
June 10, 2014	From Version 21 to 22	Changed	Switch Options were revised in Configuration.
March 19, 2014	From Version 20 to 21	Changed	Fan Trays were revised in Configuration.
February 17, 2014	From Version 19 to 20	Changed	Transceivers were revised.
January 16, 2014	From Version 18 to 19	Changed	Notes were revised throughout Configuration and Configuration AF Model and External Redundant Power Supplies and Options for the HPE RPS1600 Redundant Power System were added to Configuration SF Model.
November 22, 2013	From Version 17 to 18	Changed	Configuration was completely revised.
October 31, 2013	From Version 16 to 17	Changed	Configuration AF Model was completely revised.
October 9, 2013	From Version 17 to 18	Changed	Configuration was completely revised.
October 31, 2013	From Version 16 to 17	Changed	Configuration AF Model was completely revised.
October 9, 2013	From Version 15 to 16	Removed	HPE X124 1G SFP LC SX and HPE X124 1G SFP LC LX Transceivers were removed.
September 11, 2013	From Version 14 to 15	Changed	Minor edit was made in Configuration
August 19, 2013	From Version 13 to 14	Changed	Notes sections were revised in Configuration
June 21, 2013	From Version 12 to 13	Changed	HPE 5820AF-24XG Switch was revised in Configuration
June 10, 2013	From Version 11 to 12	Removed	Accessory Product Details: Removed Hp 0.5 - 50 m PremierFlex OM3+LC/LC Optical Cables.
		Added	Added Configuration and Configurations AF Model sections.
		Changed	Accessories: Updated HPE 5820 Switch Series accessories section.
August 24, 2012	From Version 9 to 11	Changed	Updated the Features and Benefits, Introduction and Accessories sections.
March 22, 2012	From Version 8 to 9	Changed	The formatting in one of the models in Specifications was updated.
November 16, 2011	From Version 7 to 8	Changed	Specifications were revised.
September 30, 2011	From Version 6 to 7	Added	Accessory Product Details was added.

**Summary of Changes**

September 26, 2011	From Version 5 to 6	Changed	Accessories was revised, a new model was added, and the verbiage in the other models, as well as the Features and Benefits section was updated.
September 20, 2011	From Version 4 to 5	Changed	Accessories was revised.
May 9, 2011	From Version 3 to 4	Changed	Accessories was revised.
April 19, 2011	From Version 2 to 3	Changed	Accessories was revised.
March 16, 2011	From Version 1 to 2	Changed	Monitor and Diagnostics was revised.

## Summary of Changes



**Sign up for updates**



**Hewlett Packard  
Enterprise**

---

© Copyright 2016 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

To learn more, visit: <http://www.hpe.com/networking>

c04111589 - 13791 - Worldwide - V29 - 19-August-2016