

Overview

HPE FlexFabric 5710 Switch Series



HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch (JL585A)



HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch (JL586A)



HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch (JL587A)

Overview

Models

HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch	JL585A
HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch	JL586A
HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch	JL587A

Key features

- High-performance, low-latency data center top-of-rack (ToR) switch aimed at expanding port connectivity while adding local switching capacity
- HPE Intelligent Resilient Fabric (IRF) for virtualization and two-tier networks
- High 1/10GbE wirespeed ports with 40GbE and 100GbE uplinks
- Layer 2 and Layer 3 features with static routing and RIP
- Support converged applications with data center bridging (DCB) features such as priority-based flow control (PFC) IEEE 802.1Qbb, quantized congestion notification (QCN) IEEE 802.1Qau, enhanced transmission selection (ETS) IEEE 802.1Qaz, and data center bridging capability exchange (DCBx) IEEE 802.1Qaz, and FCoE

Product overview

HPE FlexFabric 5710 Switch Series is a family of high-performance, low-latency access switches aimed at providing superior edge device connectivity in modern spine leaf data centers.

HPE FlexFabric 5710 Switch Series is ideally suited for deployment at the server access layer of large and medium-sized enterprise data centers. It delivers lower TCO while enhancing networking performance to support demanding virtualized applications and server-to-server traffic. Resilience and ease of management come hand-in-hand with the FlexFabric 5710. While IRF reduces management complexities, it also delivers agility with < 50 ms convergence time.

Features and benefits

Quality of Service (QoS)

- **Powerful QoS features**
 - **Flexible classification**
Flow classification is based on DSCP field, MAC address, IP protocol type, source address, destination address, or port number of an application.
 - **Feature queue scheduling**
Flexible queuing and scheduling algorithms are configured on a per-port or per-queue basis, including strict priority (SP), weighted round robin (WRR), SP+WRR, weighted fair queuing (WFQ), and SP+WFQ.
 - **QPPB**
QoS Policy Propagation via BGP, often abbreviated to QPPB, is a mechanism that allows propagation of QoS policy and classification by the sending party based on access lists, community lists, and autonomous system paths in the Border Gateway Protocol (BGP) thus helping to classify based on destination instead of source address.

Data center optimized

- **Versatile server connectivity**
HPE FlexFabric 5710 Switch Series enables scaling of the server edge with 1GbE and 10GbE ToR deployments with high-density 24- and 48-port solutions delivered in a 1RU form factor. These switches can be set up as stand-alone Layer 2 and Layer 3 switches. The high server port density of the 5710 Switch is backed by 40GbE QSFP+ or 100GbE QSFP28 uplinks to deliver the availability of needed bandwidth for demanding applications. Each 40GbE QSFP+ port can also be configured as four 10GbE ports by using a 40GbE-to-10GbE splitter cable.

Overview

- **High-performance switching**
Cut-through and nonblocking architecture delivers low latency (~1.5 μ s for 10GbE) for very demanding enterprise applications. HPE FlexFabric 5710 switches also deliver high-performance switching capacity and wirespeed packet forwarding for demanding data center environments. Local switching capacity and packet forwarding enable the switch to participate in the network and enhance networking capacity available for servers.
- **Higher scalability**
HPE IRF technology simplifies the architecture of server access networks; up to HPE FlexFabric 5710 physical switches can be combined into one virtual switch configuration and are managed using a single IP address. HPE IRF enables this switch to deliver the unmatched scalability of virtualized switches and flatter two-tier networks, which reduces cost and complexity.
- **Advanced modular operating system**
Comware v7 network operating system's modular design and multiple processes bring native high stability, independent process monitoring, and a restart. The OS also allows individual software modules to be upgraded for higher availability and supports enhanced serviceability functions like hitless software upgrades with In Service Software Upgrade (ISSU)
- **Reversible airflow**
It is enhanced for data center hot-cold aisle deployment with reversible airflow-for either front-to-back or back-to-front airflow.
- **Redundant fans and power supplies**
1+1 internal redundant and hot-pluggable power supplies and multiple fan trays enhance reliability and availability.
- **Data Center Bridging (DCB) protocols**
Provides support for priority-based flow control (PFC) IEEE 802.1Qbb, quantized congestion notification (QCN) IEEE 802.1Qau, enhanced transmission selection (ETS) IEEE 802.1Qaz, and data center bridging capability exchange (DCBx) IEEE 802.1Qaz for converged applications.
- **FCoE support**
Provides support for Fibre Channel over Ethernet (FCoE) including Fibre Channel Forwarder (FCF), transit, and N-port virtualization (NPV)
- **Jumbo frames**
Frame sizes of up to 10,000 bytes allow high-performance remote backup and disaster-recovery services to be enabled.

Management and manageability

- **Fullfeatured console**
Provides a safe, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **Remote configuration and management**
Is available through a secure CLI over Telnet and SSH; Role-Based Access Control (RBAC) provides multiple levels of access; configuration rollback and multiple configurations on the flash provide ease of operation; remote visibility is provided with sFlow® and Simple Network Management Protocol (SNMP) v1/v2/v3, and is fully supported in HPE Intelligent Management Center (IMC)
- **Management security**
Restricts access to critical configuration commands; offers multiple privilege levels with password protection; access control lists (ACLs) provide Telnet and SNMP access; local and remote syslog capabilities allow logging of access
- **Command authorization**
Leverages Remote Authentication Dial-In User Service (RADIUS) to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Troubleshooting**
 - **Ingress and egress port monitoring**
Enable network problem solving
 - **Traceroute and ping**
Enable testing of network connectivity
- **File copy**
Allows users to copy switch files to and from a USB flash drive
- **Support for multiple configuration files**
- **Dual flash images**
Provides independent primary and secondary operating system files for backup while upgrading

Overview

- **sFlow (RFC 3176)**
Provides wirespeed traffic accounting and monitoring
- **SNMPv1, v2c, and v3**
Facilitate centralized discovery, monitoring, and safer management of networking devices
- **Out-of-band interface**
Isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane
- **ISSU and hot patching**
Provide hitless IRF-based software upgrades and hitless patching of the modular operating system
- **Auto-configuration**
Provides automatic configuration via DHCP auto-configuration, NETCONF, and Python scripting
- **IPv6 over IPv4, 6to4, and ISATAP Tunnel**
- **RSPAN and ERSPAN**
- **Ethernet OAM (802.3ah) and Connectivity Fault Detection (CFD) (802.1ag)**
- **Symmetric load balancing for link aggregation and ECMP**
- **Layer 2 protocol tunneling (L2PT) support for virtual private networks (VPNs)**
- **Buffer monitoring**
- **Collaboration with VMware® controller and Nuage controller**
- **OVSDB QoS and OVSDB ACL**
- **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
- **Logging**
Provides local and remote logging of events via SNMP (v2c and v3) and syslog; provides log throttling and log filtering to reduce the number of log events generated
- **Information center**
Provides a central repository for system and network information; aggregates logs, traps, and debugging information generated by the system and maintains them in order of severity; outputs the network information to multiple channels based on user-defined rules
- **Remote intelligent mirroring**
Mirrors selected traffic to destination on same device or mirrors destination on different devices
- **Puppet/Chef/YANG support**
- **Network management**
HPE IMC centrally configures, updates, monitors, and troubleshoots

Resiliency and high availability

- **HPE IRF technology**
Enables an HPE FlexFabric to deliver resilient, scalable, and secured data center network for physical and virtualized environment; groups up to HPE FlexFabric 5710 Switch Series in an HPE IRF configuration, allowing them to be configured and managed as a single virtual switch with a single IP address; simplifies ToR and spine/leaf deployments and management, reducing data center deployment and operating expenses
- **IEEE 802.1w Rapid Convergence Spanning Tree Protocol**
Increases network uptime through faster recovery from failed links
- **IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)**
Provides high link availability in multiple VLAN environments by allowing Multiple Spanning Trees
- **Hitless patch upgrades**
Allows patches and new service features to be installed without restarting the equipment, increasing network uptime and facilitating maintenance
- **Device Link Detection Protocol (DLDP)**

Overview

- **Monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks**
- **Smart Link and RRPP and load balancing among Smart Link multiple instances and RRPP multiple instances**
- **DRNI**
Provides a resilient interconnect using multiple links among one or more nodes in a network
- **ERPS**
Provides fast protection and recovery switching for Ethernet traffic

Security

HPE FlexFabric 5710 Switch Series fully meets customer requirements in security design and provides a complete network security solution. It provides the following network security features:

- **ACLs**
Provides IP Layer 3 filtering based on source, destination IP address, or subnet, and source, destination TCP, or UDP port number
- **RADIUS/TACACS+**
Eases switch management security administration by using a password authentication server
- **Secure shell (SSH)**
Encrypts transmitted data for safe remote CLI access over IP networks
- **IEEE 802.1X and RADIUS network logins**
Controls port-based access for authentication and accountability
- **Terminal and user access control**
- **Hierarchical user management and password protection**
- **IP source guard**
- **Blackhole MAC address entries**
- **MAC learning limit**
- **MAC address and port number binding**
- **SSH 2.0**
- **Port isolation**
- **IEEE 802.1X-compliant user access authentication**
- **Port security: Allows access only to specified MAC addresses, which can be learned or specified by the administrator**
- **Local and RADIUS authentications**
- **Ethernet frame and upper-layer packet filtering and validity authentication:**
 - ACL
 - Packet filtering based on packet header fields from Layer 2 through Layer 4, including source MAC, destination MAC, source IP (IPv4/IPv6), destination IP (IPv4/IPv6), port number, and protocol type
 - SNMPv3 encryption and authentication
- **Address Resolution Protocol (ARP) attack protection features such as ARP attack detection**
- **RA guard, ND snooping and detection**

Layer 2 switching

- **ARP**
Supports static, dynamic, and reverse ARP and ARP proxy
- **Flow Control**
IEEE 802.3x Flow Control provides intelligent congestion management via PAUSE frames
- **Ethernet link aggregation**
Provides IEEE 802.3ad Link Aggregation of up to 128 groups of 16 ports; support for Link Aggregation Control Protocol (LACP), LACP Local Forwarding First, and LACP Short-time provides a fast, resilient environment that is ideal for the data center

Overview

- **Spanning Tree Protocol (STP)**
STP (IEEE 802.1D), Rapid STP (RSTP, IEEE 802.1w), and Multiple STP (MSTP) (IEEE 802.1s)
- **VLAN support**
Provides support for 4094 VLANs based on port: VLAN mapping, Q-in-Q, and Selective Q-in-Q
- **Internet Group Management Protocol (IGMP) support**
Provides support for IGMP snooping v1/v2/v3, Protocol Independent Multicast (PIM) snooping, Multicast Listener Discovery (MLD) snooping v1/v2, and IPv6 PIM snooping
- **DHCP support at Layer 2**
Provides full DHCP snooping support for DHCP Snooping Option 82, DHCP Relay Option 82, DHCP Snooping Trust, and DHCP Snooping Item Backup

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
- **Operations, administration and maintenance (OAM) support**
provides support for Connectivity Fault Management (IEEE 802.1AG) and Ethernet in the First Mile (IEEE 802.3AH); provides additional monitoring that can be used for fast fault detection and recovery
- **Virtual Extensible LAN (VXLAN)**
VXLAN L2 and L3 gateway support for up to 2K tunnels

Layer 3 routing

- **Equal-Cost Multipath (ECMP)**
Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **Layer 3 IPv4 routing**
Provides routing of IPv4 at media speed; supports static routes, RIP, and RIPv2
- **Static IPv6 routing**
Provides simple manually configured IPv6 routing
- **Dual IP stack**
Maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design
- **Bidirectional Forwarding Detection (BFD)**
Enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, Virtual Router Redundancy Protocol (VRRP), MPLS, and IRF
- **Layer 3 IPv6 routing**
Provides routing of IPv6 at media speed; supports static routing and RIPng

Convergence

- **LLDP-MED (Media Endpoint Discovery)**
defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

Warranty and support

Overview

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

Configuration

BTO Models

Standard Switch Chassis

HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch

- 48 - 1/10GbE SFP/SFP+ ports (min=0 \ max=48 SFP/SFP+ Transceivers)
- 6QS+/2QS28 ports, configurable as follows:
 - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers)
 - OR
 - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers)
 - OR
 - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers)
- 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver)
- 1 Power Supply Required
- Must select min 4 Fan Tray
- 1U - Height

JL585A

See
Configuration
NOTE: 1, 2, 3,
4

HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch

- 48 RJ45 1/10GBase-T Copper ports
- 6QS+/2QS28 ports, configurable as follows:
 - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers)
 - OR
 - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers)
 - OR
 - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers)
- 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver)
- 1 Power Supply Required
- Must select min 5 Fan Tray
- 1U - Height

JL586A

See Configuration
NOTE:1, 3, 4

HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch

- 24 - 1/10GbE SFP/SFP+ ports (min=0 \ max=24 SFP/SFP+ Transceivers)
- 6QS+/2QS28 ports, configurable as follows:
 - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers)
 - OR
 - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers)
 - OR
 - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers)
- 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver)
- 1 Power Supply Required
- Must select min 4 Fan Tray
- 1U - Height

JL587A

See Configuration
NOTE: 1, 2, 3, 4

Configuration

Note 1 The following Transceivers install into this Switch's SFP Management Port:

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X110 100M SFP LC LH40 Transceiver	JD090A

Note 2 The following Transceivers install into this Switch's SFP+ Ports:

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 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 X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
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 X2A0 10G SFP+ to SFP+ 7m Active Optical Cable	JL290A
HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable	JL291A
HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JL292A

Note 3 The following Transceivers install into this switch's QSFP+ Ports:

HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
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
HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A
HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A

Note 4 The following 100G Transceivers install into this switch's QSFP+/QSFP28 Ports:

HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable	JL271A
HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable	JL272A
HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable	JL273A
HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable	JL276A

Configuration

HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable	JL277A
HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable	JL278A

Remarks

OCA Only Model Selection Form -
[HPE Offering > DataCenter Networking > FlexFabric Switches - Access: HPE Flexfabric 5710 Switch Series](#)

Rack Level Integration CTO Models

Standard Switch Chassis

<p>HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch</p> <ul style="list-style-type: none"> • 48 - 1/10GbE SFP/SFP+ ports (min=0 \ max=48 SFP/SFP+ Transceivers) • 6 QS+/2QS28 ports, configurable as follows: <ul style="list-style-type: none"> - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers) OR - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers) OR - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers) • 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver) • 1 Power Supply Required • Must select min 4 Fan Tray • 1U - Height 	<p>JL585A See Configuration NOTE: 1, 2, 3, 4, 5</p>
<p>HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch</p> <ul style="list-style-type: none"> • 48 RJ45 1/10GBase-T Copper ports • 6 QS+/2QS28 ports, configurable as follows: <ul style="list-style-type: none"> - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers) OR - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers) OR - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers) • 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver) • 1 Power Supply Required • Must select min 5 Fan Tray • 1U - Height 	<p>JL586A See Configuration NOTE: 1, 3, 4, 5</p>
<p>HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch</p> <ul style="list-style-type: none"> • 24 - 1/10GbE SFP/SFP+ ports (min=0 \ max=24 SFP/SFP+ Transceivers) • 6QS+/2QS28 ports, configurable as follows: <ul style="list-style-type: none"> - 6 - 40GbE QSFP+ ports (min=0 \ max=6 QSFP+ Transceivers) OR - A maximum of 2 - 100GbE QSFP28 ports (min=0 \ max=2 QSFP28 Transceivers) OR - A maximum of 3 - 40GbE QSFP+ ports and 1 - 100GbE QSFP28 port (max=3 QSFP+ & max=1 QSFP28 Transceivers) • 1 - 100M SFP management Port (min=0 \ max=1 SFP Transceiver) • 1 Power Supply Required 	<p>JL587A See Configuration NOTE: 1, 2, 3, 4, 5</p>

Configuration

- Must select min 4 Fan Tray
- 1U - Height1U - Height

Configuration Rules

Note 1 The following Transceivers install into this Switch's SFP Management Port: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X110 100M SFP LC LH40 Transceiver	JD090A

Note 2 The following Transceivers install into this Switch's SFP+ Ports: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable

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 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 X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
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 X2A0 10G SFP+ to SFP+ 7m Active Optical Cable	JL290A
HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable	JL291A
HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JL292A

Note 3 The following Transceivers install into this switch's QSFP+ Ports: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable

HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
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
HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A
HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A

Note 4 The following 100G Transceivers install into this switch's QSFP+/QSFP28 Ports: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable

Configuration

HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable	JL271A
HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable	JL272A
HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable	JL273A
HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable	JL276A
HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable	JL277A
HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable	JL278A

Note 4 If HPE CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #OD1) to the HPE Rack.

Remarks

Click UNB - If an option is ordered with #OD1/#B01, then the switch must have #OD1 option.

Transceivers

SFP Transceivers

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X110 100M SFP LC LH40 Transceiver	JD090A
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 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

SFP+ Transceivers

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
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 X2A0 10G SFP+ to SFP+ 7m Active Optical Cable	JL290A
HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable	JL291A
HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JL292A

QSFP+ Transceivers

HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A

Configuration

HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
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
HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A
HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A

QSFP28 Transceivers

HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable	JL271A
HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable	JL272A
HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable	JL273A
HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable	JL276A
HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable	JL277A
HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable	JL278A

Internal Power Supplies

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

HPE FlexFabric 5710 250W Front-to-Back AC Power Supply	JL589A
<ul style="list-style-type: none"> includes 1 x c13, 250w 	See Configuration NOTE: 1, 2, 3
PDU Cable NA/MEX/TW/JP	JL589A#B2B
<ul style="list-style-type: none"> C15 PDU Jumper Cord (NA/MEX/TW/JP) 	
PDU Cable ROW	JL589A#B2C
<ul style="list-style-type: none"> C15 PDU Jumper Cord (ROW) 	
High Volt Switch/Router to Wall Power Cord	JL589A#B2E
<ul style="list-style-type: none"> NEMA L6-20P Cord (NA/MEX/JP/TW) 	
No Power Cord	JL589A#AC3
<ul style="list-style-type: none"> No Localized Power Cord Selected 	
HPE FlexFabric 5710 250W Back-to-Front AC Power Supply	JL590A
<ul style="list-style-type: none"> includes 1 x c13, 250w 	See Configuration NOTE: 1, 2, 3

Configuration

PDU Cable NA/MEX/TW/JP	JL590A#B2B
<ul style="list-style-type: none"> C15 PDU Jumper Cord (NA/MEX/TW/JP) 	
PDU Cable ROW	JL590A#B2C
<ul style="list-style-type: none"> C15 PDU Jumper Cord (ROW) 	
High Volt Switch to Wall Power Cord	JL590A#B2E
<ul style="list-style-type: none"> NEMA L6-20P Cord (NA/MEX/JP/TW) 	
No Power Cord	JL590A#AC3
<ul style="list-style-type: none"> No Localized Power Cord Selected 	
HPE FlexFabric 5710 450W Front-to-Back AC Power Supply	JL592A
<ul style="list-style-type: none"> includes 1 x c13, 450w 	See Configuration NOTE: 1, 2, 4
PDU Cable NA/MEX/TW/JP	JL592A#B2B
<ul style="list-style-type: none"> C15 PDU Jumper Cord (NA/MEX/TW/JP) 	
PDU Cable ROW	JL592A#B2C
<ul style="list-style-type: none"> C15 PDU Jumper Cord (ROW) 	
High Volt Switch to Wall Power Cord	JL592A#B2E
<ul style="list-style-type: none"> NEMA L6-20P Cord (NA/MEX/JP/TW) 	
No Power Cord	JL592A#AC3
<ul style="list-style-type: none"> No Localized Power Cord Selected 	
HPE FlexFabric 5710 450W Back-to-Front AC Power Supply	JL593A
<ul style="list-style-type: none"> includes 1 x c13, 450w 	See Configuration NOTE: 1, 2, 4
PDU Cable NA/MEX/TW/JP	JL593A#B2B
<ul style="list-style-type: none"> C15 PDU Jumper Cord (NA/MEX/TW/JP) 	
PDU Cable ROW	JL593A#B2C
<ul style="list-style-type: none"> C15 PDU Jumper Cord (ROW) 	
High Volt Switch to Wall Power Cord	JL593A#B2E
<ul style="list-style-type: none"> NEMA L6-20P Cord (NA/MEX/JP/TW) 	
No Power Cord	JL593A#AC3
<ul style="list-style-type: none"> No Localized Power Cord Selected 	

Configuration Rules:

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

Configuration

Note 2 Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord, #B2E and #AC3. (See 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 3 This power supply is only supported on JL585A and JL587A.

Note 4 This power supply is only supported on JL585A, JL586A and JL587A.

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. (Configurators Default B2B or B2C for Rack Level CTO)

Switch/Router/Power Supply to Wall Power Cord - Localized Option (Configurators 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)

No Power Cord Selected - #AC3 Option

OCA Blue **NOTE:**

The 450 Watt PSUs are supported in the SFP+ Switches but are not required.

Switch Options

Fan Trays

For JL585A and JL587A System (std 0 // max 4) User Selection (min 4 // max 4) per switch

For JL586A System (std 0 // max 5) User Selection (min 5 // max 5) per switch

HPE FlexFabric X721 Front-to-Back Fan Tray

JL594A
See Configuration
NOTE: 1, 2

HPE FlexFabric X722 Back-to-Front Fan Tray

JL595A
See Configuration
NOTE: 1, 2

Configuration Rules

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

Note 2 This Fan Tray is only supported on JL585A, JL586A, JL587A.

Technical Specifications

HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch (JL585A)

I/O ports and slots	48 1/10G SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE port	
Additional ports and slots	Management ports 1 10M/100M/1000M BASE-T copper port 1 SFP port Console ports 1 mini USB console port 1 serial console port	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately). Power supplies are hot swappable. For 1:1 redundancy this system requires two same-type power supplies to function properly.	
Fan tray	4 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires four same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable	
Physical characteristics	Dimensions	44 mm x 440 mm x 400 mm (1.73 in. x 17.32 in. x 15.75 in.) (1U height)
	Weight	10 kg (22.05 lb)
Memory and processor	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB	
Performance	10 Gbps Latency	(64-byte packets)
	Throughput	1071 Mpps
	Routing/Switching capacity	1440 Gbps
	Routing table size	16K entries (IPv4), 8K entries (IPv6)
	MAC address table size	208K entries
	ARP table Size	68K (1K static)
Reliability	MTBF (years)	135.90
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 90%, noncondensing
	Acoustic	Low-speed fan: 52.5 dB; high-speed fan: 68.7 dB
Electrical characteristics	Frequency	50/60 Hz
	Maximum heat dissipation	607 BTU/hr
	AC voltage	100 VAC–240 VAC; Max. voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 250W / 450W depending on PSU selected Idle power: 74W / 108W Max. output power: 250W
	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; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1	

Technical Specifications

Emissions	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300-386
Immunity	ETSI EN 300 386; EN 55024; KN35; CISPR 24
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
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.

HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch (JL586A)

I/O ports and slots	48 1/10G SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE port
Additional ports and slots	<p>Management ports</p> <p>1 10M/100M/1000MBASE-T copper port 1 SFP port</p> <p>Console ports</p> <p>1 mini USB console port 1 serial console port</p>
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately). Power supplies are hot swappable. For 1:1 redundancy this system requires two same-type power supplies to function properly.
Fan tray	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires four same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable
Physical characteristics	<p>Dimensions 44 mm x 440 mm x 460 mm (1.73 in. x 17.32 in. x 18.11 in.) (1U height)</p> <p>Weight 10 kg (22.05 lb)</p>
Memory and processor	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
Performance	<p>10 Gbps Latency (64-byte packets)</p> <p>Throughput 1071 Mpps</p> <p>Routing/Switching capacity 1440 Gbps</p> <p>Routing table size 16K entries (IPv4), 8K entries (IPv6)</p> <p>MAC address table size 208K entries</p> <p>ARP table Size 68K (1K static)</p>
Reliability	MTBF (years) 114.43
Environment	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 10% to 90%, noncondensing</p> <p>Acoustic Low-speed fan: 52.4 dB; high-speed fan: 68.6 dB</p>
Electrical characteristics	<p>Frequency 50/60 Hz</p> <p>Maximum heat dissipation 900 BTU/hr</p> <p>AC voltage 100–240 VAC; Max. voltage: 264 VAC @ 50Hz/60 Hz Max. output power: 450W Idle power: 108W</p> <p>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</p>

Technical Specifications

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; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1
Emissions	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300-386
Immunity	ETSI EN 300 386; EN 55024; KN35; CISPR 24
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
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.

HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch (JL587A)

I/O ports and slots	24 x 1/10G SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE port
Additional ports and slots	<p>Management ports</p> <p>1 10M/100M/1000MBASE-T copper port 1 SFP port</p> <p>Console ports</p> <p>1 mini USB console port 1 serial console port</p>
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately). Power supplies are hot swappable. For 1:1 redundancy this system requires two same-type power supplies to function properly.
Fan tray	4 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires four same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable
Physical characteristics	<p>Dimensions 44 mm x 440 mm x 400 mm (1.73 in. x 17.32 in. x 15.75 in.) (1U height)</p> <p>Weight 10 kg (22.05 lb)</p>
Memory and processor	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
Performance	<p>10 Gbps Latency (64-byte packets)</p> <p>Throughput 714 Mpps</p> <p>Routing/Switching capacity 960 Gbps</p> <p>Routing table size 16K entries (IPv4), 8K entries (IPv6)</p> <p>MAC address table size 208K entries</p> <p>ARP table Size 68K (1K static)</p>
Reliability	MTBF (years) 145.41
Environment	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 10% to 90%, noncondensing</p> <p>Acoustic Low-speed fan: 52.4 dB; high-speed fan: 68.7 dB</p>
Electrical characteristics	<p>Frequency 50/60 Hz</p> <p>Maximum heat dissipation 457 BTU/hr</p> <p>AC voltage 100 VAC–240 VAC; Max. voltage: 264 VAC @ 50 Hz/60 Hz</p>

Technical Specifications

Max. output power: 250W / 450W depending on PSU selected
Idle power: 74W / 108W

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; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1
Emissions	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300-386
Immunity	ETSI EN 300 386; EN 55024; KN35; CISPR 24
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
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 BGP

(applies to all products in series)

RFC 1163 BGP
RFC 1771 BGPv4
RFC 1997 BGP Communities Attribute
RFC 2918 Route Refresh Capability
RFC 3392 Capabilities Advertisement with BGP-4
RFC 4271 A Border Gateway Protocol 4 (BGP-4)
RFC 4360 BGP Extended Communities Attribute
RFC 4456 BGP Route Reflection: An alternative to Full Mesh Internal BGP (IBGP)

Device management

RFC 1157 SNMPv1/v2c
RFC 1305 NTPv3
RFC 1591 DNS (client)
RFC 1902 (SNMPv2)
RFC 1908 (SNMPv1/2 coexistence)
RFC 2573 (SNMPv3 applications)
RFC 2576 (coexistence between SNMPv1, v2, v3)
RFC 2819 RMON
Multiple configuration files Multiple software images SSHv1/SSHv2 TACACS/TACACS+

General protocols

IEEE 802.1ad Q-in-Q
IEEE 802.1AX-2008 Link Aggregation IEEE 802.1D MAC Bridges
IEEE 802.1p Priority IEEE 802.1Q VLANs
IEEE 802.1Q VLANs
IEEE 802.1Qau Quantized Congestion Notification (QCN)
IEEE 802.1Qaz Enhanced Transmission Selection (ETS)
IEEE 802.1Qaz Data Center Bridging Capability Exchange (DCBx)
IEEE 802.1Qbb Priority-based Flow Control (PFC)
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.3ad LACP
IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3ag Ethernet OAM
IEEE 802.3ah EFM over Point to Point Fiber—EFMF

Technical Specifications

IEEE 802.3x Flow Control
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 856 TELNET
RFC 868 Time Protocol
RFC 896 Congestion Control in IP/TCP Internetworks
RFC 950 Internet Standard Subnetting Procedure
RFC 1027 Proxy ARP
RFC 1058 RIPv1
RFC 1091 Telnet Terminal-Type Option
RFC 1141 Incremental updating of the Internet checksum
RFC 1142 OSI IS-IS Intra-domain Routing Protocol
RFC 1191 Path MTU discovery
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
RFC 1253 (OSPFv2)
RFC 1531 Dynamic Host Configuration Protocol
RFC 1533 DHCP Options and BOOTP Vendor Extensions
RFC 1534 DHCP/BOOTP Interoperation
RFC 1541 DHCP
RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
RFC 1591 DNS (client only)
RFC 1624 Incremental Internet Checksum
RFC 1723 RIP v2
RFC 1812 IPv4 Routing
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 2131 DHCP
RFC 2236 IGMP Snooping
RFC 2338 VRRP
RFC 2453 RIPv2
RFC 2581 TCP Congestion Control
RFC 2644 Directed Broadcast Control
RFC 2767 Dual Stacks IPv4 & IPv6
RFC 2865 RADIUS
RFC 2868 RADIUS Attributes for Tunnel Protocol Support
RFC 2890 Key and Sequence Number Extensions to GRE
RFC 3046 DHCP Relay Agent Information Option
RFC 3411 An Architecture for Describing SNMP Management Frameworks
RFC 3412 Message Processing and Dispatching for the SNMP
RFC 3413 SNMP Applications
RFC 3416 Protocol Operations for SNMP
RFC 3417 Transport Mappings for the SNMP
RFC 3418 Management Information Base (MIB) for the SNMP
RFC 3768 VRRP
RFC 4250 The SSH Protocol Assigned Numbers
RFC 4251 The SSH Protocol Architecture
RFC 4252 The SSH Authentication Protocol
RFC 4253 The SSH Transport Layer Protocol
RFC 4254 The SSH Connection Protocol
RFC 4292 IP Forwarding Table MIB
RFC 4293 Management Information Base for the IP
RFC 4419 Diffie-Hellman Group Exchange for the SSH Transport Layer Protocol

Technical Specifications

RFC 4594 Configuration Guidelines for DiffServ Service Classes
RFC 4601 PIM-Sparse Mode (PIM-SM): Protocol Specification (Revised)
RFC 4604 using IGMPv3 and MLD Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4607 Source-Specific Multicast for IP
RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6
RFC 5340 OSPF for IPv6
RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification
RFC 2929 RADIUS Support DS for RADIUS

IPv6

RFC 2080 RIPng for IPv6
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 2462 IPv6 Stateless Address Autoconfiguration
RFC 2463 ICMPv6
RFC 2464 Transmission of IPv6 over Ethernet Networks
RFC 2473 Generic Packet Tunneling in IPv6
RFC 2545 Use of MP-BGP-4 for IPv6
RFC 2563 ICMPv6
RFC 2711 IPv6 Router Alert Option
RFC 2740 OSPFv3 for IPv6
RFC 2767 Dual stacks IPv4 & IPv6
RFC 3315 DHCPv6 (client and relay)
RFC 3484 Default Address Selection for IPv6
RFC 3810 MLDv2 for IPv6
RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
RFC 4291 IP Version 6 Addressing Architecture
RFC 4443 ICMPv6
RFC 4552 Authentication/Confidentiality for OSPFv3
RFC 4862 IPv6 Stateless Address Autoconfiguration
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

MIBs

RFC 1213 MIB II
RFC 1907 SNMPv2 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 2737 Entity MIB (Version 2)
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
LLDP-EXT-DOT1-MIB
LLDP-EXT-DOT3-MIB
LLDP-MIB

Network management

RFC 2580 Conformance Statements for SMIv2
RFC 3164 BSD Syslog Protocol

OSPF

RFC 1587 OSPF NSSA
RFC 2328 OSPFv2
RFC 3101 OSPF NSSA
RFC 3137 OSPF Stub Router Advertisement

Technical Specifications

RFC 3623 Graceful OSPF Restart
RFC 4811 OSPF Out-of-Band LSDB Resynchronization
RFC 4812 OSPF Restart Signaling
RFC 4813 OSPF Link-Local Signaling

QoS/CoS

IEEE 802.1p (CoS)
RFC 2475 DiffServ Architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 3247 Supplemental Information for the New Definition of the Expedited Forwarding Per-Hop Behavior (EF PHB)
RFC 3260 New Terminology and Clarifications for DiffServ

Security

RFC 1321 The MD5 Message-Digest Algorithm
RFC 2818 HTTP Over TLS
RFC 6192 Partial Support—Protecting the Router Control Plane
ACLs SSHv2

Accessories

HPE FlexFabric 5710 Switch Series accessories

HPE FlexFabric 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch (JL585A)

HPE FlexFabric 5710 250W Front-to-Back AC Power Supply	JL589A
HPE FlexFabric 5710 250W Back-to-Front AC Power Supply	JL590A
HPE FlexFabric 5710 450W Front-to-Back AC Power Supply	JL592A ¹
HPE FlexFabric 5710 450W Back-to-Front AC Power Supply	JL593A ¹
HPE FlexFabric X721 Front-to-Back Fan Tray	JL594A
HPE FlexFabric X722 Back-to-Front Fan Tray	JL595A

HPE FlexFabric 5710 48XGT 6QSFP+ or 2QSFP28 Switch (JL586A)

HPE FlexFabric 5710 450W Front-to-Back AC Power Supply	JL592A
HPE FlexFabric 5710 450W Back-to-Front AC Power Supply	JL593A
HPE FlexFabric X721 Front-to-Back Fan Tray	JL594A
HPE FlexFabric X722 Back-to-Front Fan Tray	JL595A

HPE FlexFabric 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch (JL587A)

HPE FlexFabric 5710 250W Front-to-Back AC Power Supply	JL589A
HPE FlexFabric 5710 250W Back-to-Front AC Power Supply	JL590A
HPE FlexFabric 5710 450W Front-to-Back AC Power Supply	JL592A ¹
HPE FlexFabric 5710 450W Back-to-Front AC Power Supply	JL593A ¹
HPE FlexFabric X721 Front-to-Back Fan Tray	JL594A
HPE FlexFabric X722 Back-to-Front Fan Tray	JL595A

¹450W AC PSUs are compatible but not required. The 250W AC PSU and 450W AC PSU cannot be installed in the same switch. For 1:1 redundancy this system requires two same-type power supplies to function properly.

Optics

Management ports

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X110 100M SFP LC LH40 Transceiver	JD090A

Gigabit SFP+ modules

Gigabit SFP+ transceiver modules

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 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

10-Gigabit SFP+ modules and cables

10-Gigabit SFP+ transceiver modules available for the SFP+ ports and SFP28 ports

Accessories

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LR Transceiver	JD094B

10-Gigabit SFP+ copper cables available for the SFP+ ports and SFP28 ports

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

10-Gigabit SFP+ fiber cables available for the SFP+ ports and SFP28 ports

HPE X2A0 10G SFP+ to SFP+ 7m Active Optical Cable	JL290A
HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable	JL291A
HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JL292A

40-Gigabit QSFP+ modules and cables

QSFP+ transceiver modules available for the QSFP+ and QSFP28 ports

HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A

QSFP+ copper cables available for the QSFP+ and QSFP28 ports

HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A

QSFP+ to 4 x SFP+ copper cables available for the QSFP+ and QSFP28 ports

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

QSFP+ fiber cables available for the QSFP+ and QSFP28 ports

HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A
HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A

100-Gigabit QSFP28 modules and cables

QSFP28 transceiver modules available for the QSFP28 ports

HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A

QSFP28 copper cables available for the QSFP28 ports

HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable	JL271A
HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable	JL272A

Accessories

HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable

JL273A

QSFP28 fiber cables available for the QSFP28 ports

HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable

JL276A

HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable

JL277A

HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable

JL278A

Summary of Changes

Date	Version History	Action	Description of Change
01-Oct-2018	Version 2	Changed	Recommended and Extended markings removed from the document.
06-Aug-2018	Version 1	Created	Document creation



Sign up for updates



© Copyright 2018 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.

sFlow is a registered trademark of InMon Corp. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other third-party trademark(s) is/are property of their respective owner(s).

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

a00045647enw - 16223 - Worldwide - V2 - 01-October-2018