



# HPE FLEXFABRIC 5710 SWITCH SERIES



## 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 2-tier networks
- High 1/10GbE wire speed ports with 40GbE and 100GbE uplinks
- Layer 2 and Layer 3 features with static routing, RIP, OSPF, and BGP
- 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 HPE FlexFabric 5710.

## 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 Border Gateway Protocol (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 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 1 RU form factor. These switches can be set up as stand-alone Layer 2 and Layer 3 switches. The high server port density of HPE FlexFabric 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.

- High-performance switching

Cut-through and nonblocking architecture delivers low latency (1.5 to 2.5  $\mu$ s for 10GbE) for very demanding enterprise applications. HPE FlexFabric 5710 switches also deliver high-performance switching capacity and wire speed packet forwarding. Local switching capacity and wire speed packet forwarding for demanding data center environments.

- Higher scalability

HPE IRF technology simplifies the architecture of server access networks; up to 10 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 2-tier networks, which reduces cost and complexity.

- Advanced modular network 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 AC or DC power supplies and multiple fan trays enhance reliability and availability.

- Data Center Bridging (DCB) protocols

It provides support for IEEE 802.1Qbb Priority Flow Control (PFC), 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**

- Fully featured 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
- 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
  - Provides hitless IRF-based software upgrades and hitless patching of the modular operating system
- Auto-configuration
  - Provides automatic configuration via Dynamic Host Configuration Protocol (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
- 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 wire speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes



- 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

- Local/Remote port 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 10 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)

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, and 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 1024 groups and 32 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
- 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**

- 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
- DHCP
  - Simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- 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
- 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, OSPF, and BGP

- 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), and IRF

- Layer 3 IPv6 routing

Provides routing of IPv6 at media speed; supports static routing, RIPng, OSPFv3, and BGP

**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**

- 1-year warranty

See [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary) for warranty and support information included with your product purchase

- Software releases

To find software for your product, see [hpe.com/networking/support](http://hpe.com/networking/support); for details on the software releases available with your product purchase, see [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary)





# HPE FLEXFABRIC 5710 SWITCH SERIES

## Specifications



**HPE 5710 48SFP+ 6QS+/2QS28 Switch (JL585A)**



**HPE 5710 48XGT 6QS+/2QS28 Switch (JL586A)**

	HPE 5710 48SFP+ 6QS+/2QS28 Switch (JL585A)	HPE 5710 48XGT 6QS+/2QS28 Switch (JL586A)
<b>I/O ports and slots</b>	40 x 1/10 GB SFP+ ports 8 x 10 GB SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports	40 x 1/10GBASE-T ports 8 x 10GBASE-T ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports
<b>Additional ports and slots</b>	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port
<b>Power supplies</b>	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.	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.
<b>Fan tray</b>	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.	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires five same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable.
<b>Physical characteristics</b>		
Dimensions (H x W x D)	44 mm x 440 mm x 400 mm (1.73 in. x 17.32 in. x 15.75 in.) (1U height)	44 mm x 440 mm x 460 mm (1.73 in. x 17.32 in. x 18.11 in.) (1U height)
Weight	8.65 kg (19.07 lb); shipping weight 8.61 kg (18.95 lb)	10.25 kg (22.60 lb); shipping weight 10.27 kg (22.60 lb)
<b>Memory and processor</b>	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
<b>Performance</b>		
10 Gbps latency	< 1.5 μs (64-byte packets)	< 2.5 μs (64-byte packets)
Throughput	1071 Mpps	1071 Mpps
Routing/switching capacity	1440 Gbps	1440 Gbps
Routing table size	16K entries (IPv4), 8K entries (IPv6)	16K entries (IPv4), 8K entries (IPv6)
MAC address table size	208K entries	208K entries
ARP table size	68K (1K static)	68K (1K static)



## HPE FLEXFABRIC 5710 SWITCH SERIES (CONTINUED)

### Specifications (continued)

	HPE 5710 48SFP+ 6QS+/2QS28 Switch (JL585A)	HPE 5710 48XGT 6QS+/2QS28 Switch (JL586A)
<b>Reliability</b>		
MTBF (years)	135.90	114.43
<b>Environment</b>		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Acoustic	Low-speed fan: 52.5 dB; high-speed fan: 68.7 dB	Low-speed fan: 52.4 dB; high-speed fan: 68.6 dB
<b>Electrical characteristics</b>		
Frequency	50 Hz/60 Hz	50 Hz/60 Hz
Maximum heat dissipation	607 BTU/hr	900 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	100 VAC–240 VAC; Max. input voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 450W
Idle power	74W/108W	108W
	<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.	<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.
<b>Safety</b>	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1
<b>Emissions</b>	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	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
<b>Immunity</b>	ETSI EN 300 386; EN 55024; KN35; CISPR 24	ETSI EN 300 386; EN 55024; KN35; CISPR 24
<b>Environmental</b>	RoHS compliant	RoHS compliant
<b>Management</b>	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
<b>Notes</b>	The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 4 fan kits depending on the model, as the device does not come with one.	The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 5 fan kits depending on the model, as the device does not come with one.
<b>Services</b>	See the HPE website at <a href="http://hpe.com/networking/services">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, contact your local HPE sales office.	See the HPE website at <a href="http://hpe.com/networking/services">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, contact your local HPE sales office.



## HPE FLEXFABRIC 5710 SWITCH SERIES (CONTINUED)

### Specifications (continued)



**HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)**

**HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)**

<b>I/O ports and slots</b>	24 x 1/10 GB SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports	24 x 1/10GBASE-T ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports
<b>Additional ports and slots</b>	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port
<b>Power supplies</b>	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.	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.
<b>Fan tray</b>	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.	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.
<b>Physical characteristics</b>		
Dimensions (H x W x D)	44 mm x 440 mm x 400 mm (1.73 in. x 17.32 in. x 15.75 in.) (1U height)	44 mm x 440 mm x 460 mm (1.73 in. x 17.32 in. x 18.11 in.) (1U height)
Weight	8.55 kg (18.85 lb); shipping weight 8.61 kg (18.95 lb)	9.90 kg (21.83 lb); shipping weight 9.96 kg (21.96 lb)
<b>Memory and processor</b>	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
<b>Performance</b>		
10 Gbps latency	< 1.5 μs (64-byte packets)	< 2.5 μs (64-byte packets)
Throughput	714 Mpps	714 Mpps
Routing/switching capacity	960 Gbps	960 Gbps
Routing table size	16K entries (IPv4), 8K entries (IPv6)	16K entries (IPv4), 8K entries (IPv6)
MAC address table size	208K entries	208K entries
ARP table size	68K (1K static)	68K (1K static)



## HPE FLEXFABRIC 5710 SWITCH SERIES (CONTINUED)

### Specifications (continued)

	HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)	HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)
<b>Reliability</b>		
MTBF (years)	145.41	43.12
<b>Environment</b>		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Acoustic	Low-speed fan: 52.5 dB; high-speed fan: 68.7 dB	Low-speed fan: 52.7 dB; high-speed fan: 67.0 dB
<b>Electrical characteristics</b>		
Frequency	50 Hz/60 Hz	50 Hz/60 Hz
Maximum heat dissipation	457 BTU/hr	624 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	100 VAC–240 VAC; Max. input voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 450W
Idle power	74W/108W	77W
	<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.	<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.
<b>Safety</b>	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1
<b>Emissions</b>	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; TCNVN 7189; Anatel Resolution 442; ETSI EN 300 386	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; TCNVN 7189; Anatel Resolution 442; ETSI EN 300 386
<b>Immunity</b>	ETSI EN 300 386; EN 55024; KN35; CISPR 24	ETSI EN 300 386; EN 55024; KN35; CISPR 24
<b>Environmental</b>	RoHS compliant	RoHS compliant



## HPE FLEXFABRIC 5710 SWITCH SERIES (CONTINUED)

### Specifications (continued)

	HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)	HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)
<b>Management</b>	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
<b>Notes</b>	The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 4 fan kits depending on the model, as the device does not come with one.	The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 4 fan kits depending on the model, as the device does not come with one.
<b>Services</b>	See the HPE website at <a href="http://hpe.com/networking/services">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, contact your local HPE sales office.	See the HPE website at <a href="http://hpe.com/networking/services">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, contact your local HPE sales office.

### Standards and protocols

(applies to all products in series)

<b>BGP</b>	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 BGP-4	RFC 4360 BGP Extended Communities Attribute RFC 4456 BGP Route Reflection: An alternative to Full Mesh Internal BGP (IBGP)
<b>Device management</b>	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+



**Standards and protocols (continued)**

(applies to all products in series)

<b>General protocols</b>	<p>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 802.1Qau 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                  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</p>	<p>RFC 1213 Management Information Base for Network Management of TCP/IP-based Internet                  RFC 1253 (OSPFv2)                  RFC 1531 DHCP                  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 RIP v2                  RFC 2581 TCP Congestion Control                  RFC 2644 Directed Broadcast Control                  RFC 2767 Dual Stacks IPv4 &amp; 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</p>	<p>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                  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</p>
<b>IPv6</b>	<p>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</p>	<p>RFC 2563 ICMPv6                  RFC 2711 IPv6 Router Alert Option                  RFC 2740 OSPFv3 for IPv6                  RFC 2767 Dual Stacks IPv4 &amp; IPv6                  RFC 3315 DHCPv6 (client and relay)                  RFC 3484 Default Address Selection for IPv6                  RFC 3810 MLDv2 for IPv6</p>	<p>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</p>
<b>MIBs</b>	<p>RFC 1213 MIB II                  RFC 1907 SNMPv2 MIB                  RFC 2571 SNMP Framework MIB                  RFC 2572 SNMP-MPD MIB</p>	<p>RFC 2573 SNMP-Notification MIB                  RFC 2573 SNMP-Target MIB                  RFC 2574 SNMP USM MIB                  RFC 2737 Entity MIB (Version 2)</p>	<p>RFC 3414 SNMP-User based-SM MIB                  RFC 3415 SNMP-View based-ACM MIB                  LLDP-EXT-DOT1-MIB                  LLDP-EXT-DOT3-MIB                  LLDP-MIB</p>



**Standards and protocols (continued)**

(applies to all products in series)

<b>Network management</b>	RFC 2580 Conformance Statements for SMIv2	RFC 3164 BSD Syslog Protocol	
<b>OSPF</b>	RFC 1587 OSPF NSSA RFC 2328 OSPFv2 RFC 3101 OSPF NSSA	RFC 3137 OSPF Stub Router Advertisement RFC 3623 Graceful OSPF Restart	RFC 4811 OSPF Out-of-Band LSDB Resynchronization RFC 4812 OSPF Restart Signaling RFC 4813 OSPF Link-Local Signaling
<b>QoS/CoS</b>	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
<b>Security</b>	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 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 48V Front-to-Back DC Power Supply (JL688A)
- HPE FlexFabric 5710 450W Front-to-Back AC Power Supply (JL592A)
- HPE FlexFabric 5710 450W Back-to-Front AC Power Supply (JL593A)

**Note:** 450W AC PSUs are compatible with JL585A 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.

- 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 48V Front-to-Back DC Power Supply (JL688A)
- 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 48V Front-to-Back DC Power Supply (JL688A)
- HPE FlexFabric 5710 450W Front-to-Back AC Power Supply (JL592A)
- HPE FlexFabric 5710 450W Back-to-Front AC Power Supply (JL593A)



**Note:** 450W AC PSUs are compatible with JL587A 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.

HPE FlexFabric X721 Front-to-Back Fan Tray (JL594A)

HPE FlexFabric X722 Back-to-Front Fan Tray (JL595A)

#### **HPE FlexFabric 5710 24XGT 6QSFP+ or 2QSFP28 Switch (JL689A)**

HPE FlexFabric 5710 450W Front-to-Back AC Power Supply (JL592A)

HPE FlexFabric 5710 450W Back-to-Front AC Power Supply (JL593A)

HPE FlexFabric 5710 450W 48V Front-to-Back DC Power Supply (JL688A)

HPE FlexFabric X721 Front-to-Back Fan Tray (JL594A)

HPE FlexFabric X722 Back-to-Front Fan Tray (JL595A)

### **Optics**

#### **Management ports**

HPE X125 1G SFP LC LH70 Transceiver (JD063B)

HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A)

HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A)

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 X120 1G SFP LC LH100 Transceiver (JD103A)

#### **Gigabit SFP transceiver modules**

HPE X125 1G SFP LC LH70 Transceiver (JD063B)

HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A)

HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A)

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 X120 1G SFP LC LH100 Transceiver (JD103A)

#### **10-Gigabit SFP+ modules and cables**

HPE X130 10G SFP+ LC SR Transceiver (JD092B)

HPE X130 10G SFP+ LC LR Transceiver (JD094B)

HPE X130 10G SFP+ LC BiDi 10-U Transceiver (JL737A)

HPE X130 10G SFP+ LC BiDi 10-D Transceiver (JL738A)

HPE X240 10G SFP+ SFP+ 0.65m Direct Attach Copper Cable (JD095C)

HPE X240 10G SFP+ SFP+ 1.2m Direct Attach Copper Cable (JD096C)

HPE X240 10G SFP+ SFP+ 3m Direct Attach Copper Cable (JD097C)

HPE X240 10G SFP+ 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)





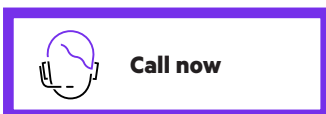
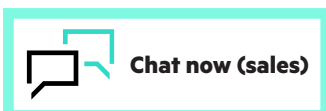
#### 40-Gigabit QSFP+ modules and cables

HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver (JG661A)  
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver (JG709A)  
HPE X140 40G QSFP+ MPO SR4 Transceiver (JG325B)  
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver (JL251A)  
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver (JL286A)  
HPE X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable (JG326A)  
HPE X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable (JG327A)  
HPE X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable (JG328A)  
HPE X240 QSFP+ 4x10G SFP+ 1m Direct Attach Copper Cable (JG329A)  
HPE X240 QSFP+ 4x10G SFP+ 3m Direct Attach Copper Cable (JG330A)  
HPE X240 QSFP+ 4x10G SFP+ 5m Direct Attach Copper 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)  
HPE QSFP/SFP+ Adaptor kit (655874-B21)

#### 100-Gigabit QSFP28 modules and cables

HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver (JL274A)  
HPE X150 100G QSFP28 LC LR4 10km SM Transceiver (JL275A)  
HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver (JH419A)  
HPE X150 100G QSFP28 BiDi 100m MM (JQ344A)  
HPE X150 100G QSFP28 eSR4 300m MM (JH672A)  
HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver (JH420A)  
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)

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