## Overview

### HPE FlexFabric 5700 Switch Series

The HPE Flex Fabric 5700 Switch Series is a family of high-performance, high-density, ultra-low-latency, top-of-rack (ToR) switches that is part of the Hewlett Packard Enterprise (HPE) FlexNetwork architecture's HPE FlexFabric solution.

Ideally suited for deployment at the server access layer of large enterprise data centers, the HPE 5700 Switch Series is positioned to provide a cost-effective solution that is still powerful enough to handle the increase in virtualized applications and server-to-server traffic, customers now require ToR switch innovations that will meet their needs for higher-performance server connectivity, convergence of Ethernet and storage traffic, the capability to handle virtual environments, and ultra-low-latency all in a single device.



**HPE FlexFabric 5700 Switch Series**

## Models

| Description | SKU |
|---|---|
| HPE FlexFabric 5700 40XG 2QSFP+ Switch | JG896A |
| HPE FlexFabric 5700 48G 4XG 2QSFP+ Switch | JG894A |

## Key Features

- Cut-through with low latency and wire speed
- HPE Intelligent Resilient Fabric (IRF) for virtualization and two-tier architectures
- High 1 GbE/10GbE ToR port density with 40 GbE uplinks
- Layer 2 and Light Layer 3 features with Static Routing and RIP
- Convergence-ready with DCB, FCoE, and TRILL

## Standard Features

### Features And Benefits

**Quality of Service (QoS)**

- **Powerful Qos Features**
  - **Flexible Classification**
    Flow classification based on source MAC, destination MAC, Source IP (IPv4/IPv6), destination IP, port, protocol and VLAN.
  - **Feature Queue Scheduling**
    Provides support for Strict Priority (SP), Weighted Deficit Round Robin (WDRR), Weighted Fair Queuing (WFQ), SP+WDRR, SP+WFQ. Supports Explicit Congestion Notification (ECN), and Weighted Random Early Detection (WRED)

### Data Center Optimized

- **Flexible High Port Density**
  The HPE 5700 Switch Series enables scaling of the server edge with 1 GbE and 10GbE ToR deployments to new heights with high-density 32 and 48-port solutions delivered in a 1RU design; the high server port density is backed by 40 GbE QSFP+ uplinks to deliver the availability of needed bandwidth for demanding applications; each 40 GbE QSFP+ port can also be configured as four 10GbE ports by using a 40-GbE-to-10GbE splitter cable
- **High-Performance Switching**
  Cut-through and nonblocking architecture delivers low latency (~1.5 microsecond for 10GbE) for very demanding enterprise applications; the switch delivers high-performance switching capacity and wire-speed packet forwarding
- **Higher Scalability**
  Hewlett Packard Enterprise (HPE) Intelligent Resilient Framework (IRF) technology simplifies the architecture of server access networks; up to nine HPE 5700 switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter two-tier networks using IRF, which reduces cost and complexity. In addition, support for IRF as a fabric will enable the 5700 Series to scale up to 30 switches as one virtualized device.
- **Advanced Modular Operating System**
  Comware v7 software's modular design and multiple processes bring native high stability, independent process monitoring, and restart; the OS also allows individual software modules to be upgraded for higher availability and supports enhanced serviceability functions like hitless software upgrades with single-chassis ISSU
- **TRILL and EVB/VEPA**
  Transparent Interconnection of Lots of Links (TRILL) is supported to increase the scale of enterprise data centers; Edge Virtual Bridging with Virtual Ethernet Port Aggregator (EVB/VEPA) provides connectivity into the virtual environment for a data center-ready environment
- **Reversible Airflow**
  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 dual fan trays enhance reliability and availability
- **Lower OPEX And Greener Data Center**
  Provide reversible airflow and advanced chassis power management
- **Data Center Bridging (DCB) Protocols**
  Provides support for IEEE 802.1Qbb Priority Flow Control (PFC) and Data Center Bridging Exchange (DCBX) for converged applications
- **FCoE Support**
  Provides support for Fibre Channel over Ethernet (FCoE) including FCF, Transit and NPV.
- **Jumbo Frames**
  With frame sizes of up to 10,000 bytes on Gigabit Ethernet and 10-Gigabit ports, allows high-performance remote backup and disaster-recovery services to be enabled

### Software-Defined Networking

- **OpenFlow**
  Supports OpenFlow 1.0 and 1.3 specifications to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) path

## Standard Features

### Manageability
- **Full-Featured Console**
  Provides complete control of the switch with a familiar CLI
- **Troubleshooting**
  - **Ingress and Egress Port Monitoring**
    Enable network problem solving
  - **Traceroute And Ping**
    Enable testing of network connectivity
- **Multiple Configuration Files**
  Allow multiple configuration files to be stored to a flash image
- **sFlow (RFC 3176)**
  Provides wire-speed traffic accounting and monitoring
- **SNMP v1, v2c and v3**
  Facilitate centralized discovery, monitoring, and secure 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
- **Remote Configuration And Management**
  Is available through a secure command-line interface (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 SNMP v1/v2/v3, and is fully supported in HPE Intelligent Management Center (IMC)
- **ISSU And Hot Patching**
  Provides hitless software upgrades with single-unit In Services Software Upgrade (ISSU) and hitless patching of the modular operating system
- **Autoconfiguration**
  Provides automatic configuration via DHCP autoconfiguration, NETCONF and Python Scripting
- **Network Time Protocol (NTP) and Secure Network Time Protocol (SNTP)**
  Synchronize timekeeping among distributed time servers and clients; keep consistent timekeeping among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time. Precision Time Protocol (PTP) RFC 1855 Compliant

### Resiliency And High Availability
- **HPE Intelligent Resilient Fabric (IRF) Technology**
  Enables an HPE FlexFabric to deliver resilient, scalable, and secured data center networks for physical and virtualized environments; groups up to nine HPE 5700 switches in an IRF configuration, allowing them to be configured and managed as a single switch with a single IP address; simplifies ToR deployment 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**
  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

## Standard Features

### Layer 2 Switching

- **Address Resolution Protocol (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 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 4,094 VLANs based on port. VLAN Mapping, Q-in-Q and Selective Q-in-Q
- **IGMP Support**
  Provides support for IGMP Snooping v1/v2/v3, PIM Snooping, 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

### 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, VRRP, MPLS, and IRF
- **Layer 3 IPv6 Routing**
  Provides routing of IPv6 at media speed; supports static routing and RIPng

### Additional information

- **Green IT and Power**
  Improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs
- **Low Maximum Power Consumption**
  Is rated to have one of the lowest power usages in the industry by Miercom independent tests

## Standard Features

### Management

- **USB Support**
  - **File Copy**
    Allows users to copy switch files to and from a USB flash drive
- **Multiple Configuration Files**
  Stores easily to the flash image
- **Snmpv1, V2c, and V3**
  Facilitate centralized discovery, monitoring, and secure management of networking devices
- **Network Time Protocol (Ntp)**
  Synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- **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
- **Port Mirroring**
  Enables traffic on a port to be simultaneously sent to a network analyzer for monitoring
- **Remote Configuration And Management**
  Is available through a command-line interface (CLI)
- **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
- **Command Authorization**
  Leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Dual Flash Images**
  Provides independent primary and secondary operating system files for backup while upgrading
- **Command-line interface (CLI)**
  Provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **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
- **Management Interface Control**
  Provides management access through a modem port and terminal interface, as well as in-band and out-of-band Ethernet ports; provides access through terminal interface, Telnet, or secure shell (SSH)
- **Industry-Standard CLI With A Hierarchical Structure**
  Reduces training time and expenses, and increases productivity in multivendor installations
- **Management Security**
  Restricts access to critical configuration commands; offers multiple privilege levels with password protection; ACLs provide Telnet and SNMP access; local and remote syslog capabilities allow logging of all access
- **Information Center**
  Provides a central repository for system and network information; aggregates all 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
- **Network Management**
  HPE Intelligent Management Center (IMC) centrally configures, updates, monitors, and troubleshoots
- **Remote Intelligent Mirroring**
  Mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network

## Standard Features

### Security
- **Access Control Lists (ACLs)**
  Provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **RADIUS/TACACS+**
  Eases switch management security administration by using a password authentication server
- **Secure Shell**
  Encrypts all transmitted data for secure remote CLI access over IP networks
- **IEEE 802.1X and RADIUS Network Logins**
  Controls port-based access for authentication and accountability
- **Port Security**
  Allows access only to specified MAC addresses, which can be learned or specified by the administrator

### 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 **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 Information

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

## Standard Switch Enclosures

| Rule# | Description | SKU |
|---|---|---|
| 1, 2, 4,11 | HPE FlexFabric 5700 48G 4XG 2QSFP+ Switch | JG894A |
| | • 48 RJ45 10/100/1000Base-T Copper ports | |
| | • 4 - 1/10GbE SFP+ ports (min=0 \ max=4 SFP+ Transceivers) | |
| | • 2 - 40GbE QSFP ports (min=0 \ max=2 QSFP Transceivers) | |
| | • 1 Power Supply Required | |
| | • 1U - Height | |
| 1, 2, 4, 6, 11 | HPE FlexFabric 5700 40XG 2QSFP+ Switch | JG896A |
| | • 40 - 1/10GbE SFP+ ports (min=0 \ max=40 SFP+  Transceivers) | |
| | • 2 - 40GbE QSFP ports (min=0 \ max=2 QSFP Transceivers) | |
| | • 1 Power Supply Required | |
| | • 1U - Height | |

### Configuration Rules

| Rule# | Description | SKU |
|---|---|---|
| 1 | The following Transceivers install into this Switch's SFP+ Ports: | |
| | HPE X120 1G SFP LC BX 10-U Transceiver | JD098B |
| | HPE X120 1G SFP LC BX 10-D Transceiver | JD099B |
| | HPE X120 1G SFP LC SX Transceiver | JD118B |
| | HPE X120 1G SFP LC LX Transceiver | JD119B |
| | HPE X120 1G SFP RJ45 T Transceiver | JD089B |
| | HPE X130 10G SFP+ LC SR Transceiver | JD092B |
| | HPE X130 10G SFP+ LC LR Transceiver | JD094B |
| | HPE X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable | JD096C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable | JD097C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable | JG081C |
| | HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable | JC784C |
| 2 | The following Transceivers install into this switch's QSFP+ Ports: | |
| | HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver | JG661A |
| | HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver | JL251A |
| | HPE X140 40G QSFP+ MPO SR4 Transceiver | JG325B |
| | HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver | JL286A |
| | HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver | JG709A |
| | 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 |
| 4 | The following 40G Transceivers install into this switch: | |
| | 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 |
| 11 | If HPE CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the HPE Rack. | |

## Configuration Information

**Notes:**    – The following 1G XCVR's are only supported on PHY switch ports: JD061A - HPE X125 1G SFP LC LH40 1310nm XCVR
– The following 10G XCVR is only supported on the PHY switch ports for the HP FF 5700-32XGT-8XG-2QSFP+ Switch (JG898A).
– JG234A - HPE X130 10G SFP+ LC ER 40km Transceiver

**Notes:**    – OCA Only Model Selection Form -
– HPE Offering > DataCenter Networking > FlexFabric Switches - Access:
– 5700 Switch Series

## Rack Level Integration CTO Models

### Standard Switch Chassis

| Rule# | Description | SKU |
|---|---|---|
| 1, 2, 4, 11 | HPE FlexFabric 5700 48G 4XG 2QSFP+ Switch | JG894A |
| | • 48 RJ45 10/100/1000Base-T Copper ports | |
| | • 4 - 1/10GbE SFP+ ports (min=0 \ max=4 SFP+ Transceivers) | |
| | • 2 - 40GbE QSFP ports (min=0 \ max=2 QSFP Transceivers) | |
| | • 1 Power Supply Required | |
| | • 1U - Height | |
| 1, 2, 4, 6, 11 | HPE FlexFabric 5700 40XG 2QSFP+ Switch | JG896A |
| | • 40 - 1/10GbE SFP+ ports (min=0 \ max=40 SFP+  Transceivers) | |
| | • 2 - 40GbE QSFP ports (min=0 \ max=2 QSFP Transceivers) | |
| | • 1 Power Supply Required | |
| | • 1U - Height | |

### Configuration Rules

| Rule# | Description | SKU |
|---|---|---|
| 1 | The following 40G Transceivers install into this switch: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable | |
| | HPE X120 1G SFP LC BX 10-U Transceiver | JD098B |
| | HPE X120 1G SFP LC BX 10-D Transceiver | JD099B |
| | HPE X120 1G SFP LC SX Transceiver | JD118B |
| | HPE X120 1G SFP LC LX Transceiver | JD119B |
| | HPE X120 1G SFP RJ45 T Transceiver | JD089B |
| | HPE X130 10G SFP+ LC SR Transceiver | JD092B |
| | HPE X130 10G SFP+ LC LR Transceiver | JD094B |
| | HPE X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable | JD096C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable | JD097C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable | JG081C |
| | HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable | JC784C |

| Rule# | Description | SKU |
|---|---|---|
| 2 | The following Transceivers install into this switch's QSFP+ Ports:  (Use #0D1 or #B01 if switch is CTO) | |
| | HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver | JG661A |
| | HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver | JL251A |
| | HPE X140 40G QSFP+ MPO SR4 Transceiver | JG325B |
| | HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver | JL286A |
| | HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver | JG709A |
| | HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable | JG326A |
| | HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable | JG327A |

## Configuration Information

| | | |
|---|---|---|
| | 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 |
| 4 | The following 40G Transceivers install into this switch: (Use #0D1 or #B01 quoted to switch if switch is CTO) - if applicable | |
| | 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 |
| 11 | If HPE CTO Switch Chassis is selected for Rack Level Integration, Then the Switch needs to integrate (with #0D1) to the HPE Rack. | |

| | | |
|---|---|---|
| **Notes:** | – The following 1G XCVR's are only supported on PHY switch ports: | |
| | – JD061A - HPE X125 1G SFP LC LH40 1310nm XCVR | |
| | – The following 10G XCVR is only supported on the PHY switch ports for the HP FF 5700-32XGT-8XG-2QSFP+ Switch (JG898A). | |
| | – JG234A - HPE X130 10G SFP+ LC ER 40km Transceiver. | |
| | HPE X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| **Notes:** | Clic UNB - If an option is ordered with #0D1/#B01, then the switch must have #0D1 option. | |

### Transceivers

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

| Rule# | Description | SKU |
|---|---|---|
| | **SFP Transceivers** | |
| | HPE X120 1G SFP LC BX 10-U Transceiver | JD098B |
| | HPE X120 1G SFP LC BX 10-D Transceiver | JD099B |
| | HPE X120 1G SFP LC SX Transceiver | JD118B |
| | HPE X120 1G SFP LC LX Transceiver | JD119B |
| | HPE X120 1G SFP RJ45 T Transceiver | JD089B |
| | **SFP+ Transceivers** | |
| | HPE X130 10G SFP+ LC SR Transceiver | JD092B |
| | HPE X130 10G SFP+ LC LR Transceiver | JD094B |
| | HPE X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable | JD095C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable | JD096C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable | JD097C |
| | HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable | JG081C |
| | HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable | JC784C |
| | **QSFP+ Transceivers** | |
| | HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver | JG661A |
| | HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver | JL251A |
| | HPE X140 40G QSFP+ MPO SR4 Transceiver | JG325B |
| | HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver | JL286A |
| | HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver | JG709A |
| | 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 |

## Configuration Information

| | | |
|---|---|---|
| | 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 |

**Internal Power Supplies**

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

| | | |
|---|---|---|
| 1, 2, 3 | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply | JG900A |
| | • includes 1 x c13, 300w | |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply PDU Cable NA/JP/TW | JG900A#B2B |
| | • C15 PDU Jumper Cord (NA/MEX/TW/JP) | |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply PDU Cable ROW | JG900A#B2C |
| | • C15 PDU Jumper Cord (ROW) | |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply 220V N.A. - en local | JG900A#B2E |
| | • NEMA L6-20P Cord (NA/MEX/JP/TW) | |
| | HPE A58x0AF 300W AC Power Supply | JG900A#AC3 |
| | • No Localized Power Cord Selected | |
| 1, 3, 5 | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W DC Power Supply | JG901A |
| 1, 2, 4 | HPE 58x0AF 650W AC Power Supply | JC680A |
| | • includes 1 x c13, 300w | |
| | HPE 58x0AF 650W AC Power Supply PDU Cable NA/JP/TW | JC680A#B2B |
| | C15 PDU Jumper Cord (NA/MEX/TW/JP) | |
| | HPE 58x0AF 650W AC Power Supply PDU Cable ROW | JC680A#B2C |
| | C15 PDU Jumper Cord (ROW) | |
| | HPE A58x0AF 650W AC Power Supply | JC680A#AC3 |
| | • No Localized Power Cord Selected | |
| 1, 4 | HPE FlexFabric Switch 650W 48V Hot Plug NEBS-compliant DC Power Supply | JH336A |

**Configuration Rules**

| Rule# | Description | SKU |
|---|---|---|
| 1 | If 2 power supplies are selected they must be the same SKU number. | |
| 2 | Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) or #B2E. (See Localization Menu) | |
| | When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers. | |
| 3 | This power supply is only supported on JG894A and JG896A. | |
| 4 | This power supply is only supported on JG894A and JG898A. | |
| 5 | Watson Only - Add "(NEBS)" after the description on the PS table. | |

**Notes:**
- 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)
- Switches JG894A and JG896A should default selection of Power Supply as JG900A, but allow selection of JG901A, and JC680A if applicable.

## Configuration Information

**Switch Options**

**Fan Trays**

| Rule# | Description | SKU |
|---|---|---|
| | System (std 0 // max 2) User Selection (min 2 // max 2) per switch | |
| 1, 2 | HPE 58x0AF Back (Power Side) to Front (Port Side) Airflow Fan Tray | JC682A |
| 1, 2 | HPE 58x0AF Front (Port Side) to Back (Power Side) Airflow Fan Tray | JC683A |
| 1, 3 | HPE X711 Front (Port Side) to Back (Power Side) Airflow High Volume Fan Tray | JG552A |
| 1, 3 | HPE X712 Back (Power Side) to Front (Port Side) Airflow High Volume Fan Tray | JG553A |

**Configuration Rules**

| | |
|---|---|
| 1 | Fan Trays cannot be mixed in the same switch enclosure |
| 2: | This Fan Tray is only supported on JG894A and JG896A. |
| 3 | This Fan Tray is only supported on JG898A. |
| **Notes:** | Configurator Informational Text: |
| | If there is any empty space below the switch in a rack when using Back to Front Fan Trays, JG553A, the rack will receive an Air Plenum kit that takes up 1U of additional space in the rack. The Air Plenum kit is not required on fully configured racks. This only applies for CTO Rack Level Integration. The Air Plenum Kit is a non-saleable SKU, and is brought in automatically for CTO Factory Rack Level Integration. |

# Related Options

**HPE FlexFabric 5700 Switch Series accessories**

**Transceivers**

| Remarks | Description | SKU |
|---|---|---|
| | HPE X120 1G SFP LC BX 10-U Transceiver | JD098B |
| | HPE X120 1G SFP LC BX 10-D Transceiver | JD099B |
| | HPE X120 1G SFP LC LX Transceiver | JD119B |
| | HPE X120 1G SFP RJ45 T Transceiver | JD089B |
| | HPE X120 1G SFP LC SX Transceiver | JD118B |
| | 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 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 FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable | JC784C |
| | HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver | JG661A |
| | 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 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 X140 40G QSFP+ LC LR4L 2km SM Transceiver | JL286A |
| | **HPE FlexFabric 5700 40XG 2QSFP+ Switch (JG896A)** | |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply | JG900A |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W DC Power Supply | JG901A |
| | HPE 58x0AF Back (Power Side) to Front (Port Side) Airflow Fan Tray | JC682A |
| | HPE 58x0AF Front (Port Side) to Back (Power Side) Airflow Fan Tray | JC683A |
| | **HPE FlexFabric 5700 48G 4XG 2QSFP+ Switch (JG894A)** | |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W AC Power Supply | JG900A |
| | HPE A58x0AF Back (Power Side) to Front (Port Side) Airflow 300W DC Power Supply | JG901A |
| | HPE 58x0AF 650W AC Power Supply | JC680A |
| | HPE FlexFabric Switch 650W 48V Hot Plug NEBS-compliant DC Power Supply | JH336A |
| | HPE 58x0AF Back (Power Side) to Front (Port Side) Airflow Fan Tray | JC682A |
| | HPE 58x0AF Front (Port Side) to Back (Power Side) Airflow Fan Tray | JC683A |

# Related Options

**HPE FlexFabric 5700 32XGT 8XG 2QSFP+ Switch (JG898A)**

| Description | SKU |
|---|---|
| HPE X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| HPE 58x0AF 650W AC Power Supply | JC680A |
| HPE FlexFabric Switch 650W 48V Hot Plug NEBS-compliant DC Power Supply | JH336A |
| HPE X711 Front (Port Side) to Back (Power Side) Airflow High Volume Fan Tray | JG552A |
| HPE X712 Back (Power Side) to Front (Port Side) Airflow High Volume Fan Tray | JG553A |

## Technical Specifications

| HPE FlexFabric 5700 40XG 2QSFP+ Switch (JG896A) | | |
|---|---|---|
| **I/O ports and slots** | 40 fixed 1000/10000 SFP+ ports | |
| | 2 QSFP+ | |
| **Additional ports and slots** | 1 RJ-45 serial console port | |
| | 1 RJ-45 out-of-band management port | |
| | 1 USB 2.0 | |
| **Power supplies** | 2 power supply slots 1 minimum power supply required (ordered separately) | |
| **Fan tray** | 2 fan tray slots The customer must order fan trays, as fan trays are not included with the switch. This system requires two same-direction airflow fan trays to function properly. The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty. | |
| **Physical characteristics** | **Dimensions** | 17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height) |
| | **Weight** | 22.05 lb (10 kg) shipping weight |
| **Memory and processor** | 512 MB flash; Packet buffer size: 9 MB, 2 GB SDRAM | |
| **Performance** | **10 Gbps Latency** | < 1.5 µs (64-byte packets) |
| | **Throughput** | up to 714.2 Mpps |
| | **Routing/Switching capacity** | 960 Gbps |
| | **Routing table size** | 128 entries (IPv4), 128 entries (IPv6)) |
| | **MAC address table size** | 64000 entries |
| **Environment** | **Operating temperature** | 32°F to 113°F (0°C to 45°C) |
| | **Operating relative humidity** | 10% to 90%, noncondensing |
| | **Acoustic** | Low-speed fan: 65.7 dB, High-speed fan: 70.6 dB |
| **Electrical characteristics** | **Frequency** | 50/60 Hz |
| | **Voltage** | 100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen) |
| | **Maximum power rating** | 162 W |
| | **Idle power** | 90 W |
| | **Notes** | Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. |

**Safety**
UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance

**Emissions**
VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A

# Technical Specifications

| Immunity | Generic | ETSI EN 300 386 V1.3.3 |
|---|---|---|
| | EN | EN 55024:1998+ A1:2001 + A2:2003 |
| | ESD | EN 61000-4-2; IEC 61000-4-2 |
| | Radiated | EN 61000-4-3; IEC 61000-4-3 |
| | EFT/Burst | EN 61000-4-4; IEC 61000-4-4 |
| | Surge | EN 61000-4-5; IEC 61000-4-5 |
| | Conducted | EN 61000-4-6; IEC 61000-4-6 |
| | Power frequency magnetic field | IEC 61000-4-8; EN 61000-4-8 |
| | Voltage dips and interruptions | EN 61000-4-11; IEC 61000-4-11 |
| | Harmonics | EN 61000-3-2, IEC 61000-3-2 |
| | Flicker | EN 61000-3-3, IEC 61000-3-3 |

**Management**

IMC - Intelligent Management Center; command-line interface; 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 5700 48G 4XG 2QSFP+ Switch** (JG894A) | | |
|---|---|---|
| I/O ports and slots | 48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only | |
| | 4 fixed 1000/10000 SFP+ ports | |
| | 2 QSFP+ | |
| Additional ports and slots | 1 RJ-45 serial console port | |
| | 1 RJ-45 out-of-band management port | |
| | 1 USB 2.0 | |
| Power supplies | 2 power supply slots<br>1 minimum power supply required (ordered separately) | |
| Fan tray | 2 fan tray slots<br>The customer must order fan trays, as fan trays are not included with the switch. This system requires two same-direction airflow fan trays to function properly.<br>The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray for more than two minutes.<br>The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty. | |
| Physical characteristics | Dimensions | 17.32(w) x 18.11(d) x 1.72(h) in (43.99 x 46 x 4.37 cm) (1U height) |
| | Weight | 22.05 lb (10 kg) shipping weight |
| Memory and processor | 512 MB flash; Packet buffer size: 9 MB, 2 GB SDRAM | |
| Performance | 10 Gbps Latency | < 1.5 µs (64-byte packets) |
| | Throughput | up to 250 Mpps |
| | Routing/Switching capacity | 336 Gbps |
| | Routing table size | 128 entries (IPv4), 128 entries (IPv6) |
| | MAC address table size | 64000 entries |

## Technical Specifications

| Environment | Operating temperature | 32°F to 113°F (0°C to 45°C) |
|---|---|---|
| | Operating relative humidity | 10% to 90%, noncondensing |
| | Acoustic | Low-speed fan: 65.7 dB, High-speed fan: 70.6 dB |
| Electrical characteristics | Frequency | 50/60 Hz |
| | Voltage | 100 - 240 VAC, rated<br>-48 to -60 VDC, rated<br>(depending on power supply chosen) |
| | Maximum power rating | 175 W |
| | Idle power | 115 W |
| | Notes | Idle power is the actual power consumption of the device with no ports connected.<br>Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. |

**Safety**

UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance

**Emissions**

VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A

| Immunity | Generic | ETSI EN 300 386 V1.3.3 |
|---|---|---|
| | EN | EN 55024:1998+ A1:2001 + A2:2003 |
| | ESD | EN 61000-4-2; IEC 61000-4-2 |
| | Radiated | EN 61000-4-3; IEC 61000-4-3 |
| | EFT/Burst | EN 61000-4-4; IEC 61000-4-4 |
| | Surge | EN 61000-4-5; IEC 61000-4-5 |
| | Conducted | EN 61000-4-6; IEC 61000-4-6 |
| | Power frequency magnetic field | IEC 61000-4-8; EN 61000-4-8 |
| | Voltage dips and interruptions | EN 61000-4-11; IEC 61000-4-11 |
| | Harmonics | EN 61000-3-2, IEC 61000-3-2 |
| | Flicker | EN 61000-3-3, IEC 61000-3-3 |

**Management**

IMC - Intelligent Management Center; command-line interface; 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.

## Technical Specifications

| HPE FlexFabric 5700 32XGT 8XG 2QSFP+ Switch (JG898A) | | |
|---|---|---|
| **I/O ports and slots** | 32 RJ-45 1/10GBASE-T ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only | |
| | 8 fixed 1000/10000 SFP+ ports | |
| | 2 QSFP+ | |
| **Additional ports and slots** | 1 RJ-45 serial console port | |
| | 1 RJ-45 out-of-band management port | |
| | 1 USB 2.0 | |
| **Power supplies** | 2 power supply slots <br> 1 minimum power supply required (ordered separately) | |
| **Fan tray** | 2 fan tray slots <br> The customer must order fan trays, as fan trays are not included with the switch. This system requires two same-direction airflow fan trays to function properly. The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. <br> The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty. | |
| **Physical characteristics** | **Dimensions** | 17.32(w) x 25.98(d) x 1.72(h) in (43.99 x 66.0 x 4.37 cm) (1U height) |
| | **Weight** | 28.66 lb (13 kg) shipping weight |
| **Memory and processor** | 512 MB flash; Packet buffer size: 9 MB, 2 GB SDRAM | |
| **Performance** | **10 Gbps Latency** | < 1.5 μs (64-byte packets) |
| | **Throughput** | up to 714.2 Mpps |
| | **Routing/Switching capacity** | 960 Gbps |
| | **Routing table size** | 128 entries (IPv4), 128 entries (IPv6) |
| | **MAC address table size** | 64000 entries |
| **Environment** | **Operating temperature** | 32°F to 113°F (0°C to 45°C) |
| | **Operating relative humidity** | 10% to 90%, noncondensing |
| | **Acoustic** | Low-speed fan: 65.7 dB, High-speed fan: 70.6 dB |
| **Electrical characteristics** | **Frequency** | 50/60 Hz |
| | **Voltage** | 100 - 240 VAC, rated <br> -48 to -60 VDC, rated <br> (depending on power supply chosen) |
| | **Maximum power rating** | 350 W |
| | **Idle power** | 150 W |
| | **Notes** | Idle power is the actual power consumption of the device with no ports connected. <br> Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. |

**Safety**
UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance

**Emissions**
VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A

**Management**
IMC - Intelligent Management Center; command-line interface; out-of-band management; SNMP Manager; Telnet; FTP

# Technical Specifications

| 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. | | | |
| **Immunity** | **Generic** | ETSI EN 300 386 V1.3.3 | |
| | **EN** | EN 55024:1998+ A1:2001 + A2:2003 | |
| | **ESD** | EN 61000-4-2; IEC 61000-4-2 | |
| | **Radiated** | EN 61000-4-3; IEC 61000-4-3 | |
| | **EFT/Burst** | EN 61000-4-4; IEC 61000-4-4 | |
| | **Surge** | EN 61000-4-5; IEC 61000-4-5 | |
| | **Conducted** | EN 61000-4-6; IEC 61000-4-6 | |
| | **Power frequency magnetic field** | IEC 61000-4-8; EN 61000-4-8 | |
| | **Voltage dips and interruptions** | EN 61000-4-11; IEC 61000-4-11 | |
| | **Harmonics** | EN 61000-3-2, IEC 61000-3-2 | |
| | **Flicker** | EN 61000-3-3, IEC 61000-3-3 | |

**Standards and protocols** (applies to all products in series)

**Device management**
- RFC 1157 SNMPv1/v2c
- RFC 1305 NTPv3
- RFC 1591 DNS (client)
- RFC 1902 (SNMPv2)
- RFC 1908 (SNMP v1/2 Coexistence)
- RFC 2573 (SNMPv3 Applications)
- RFC 2576 (Coexistence between SNMP V1, V2, V3)
- Multiple Configuration Files
- Multiple Software Images
- SSHv1/SSHv2 Secure Shell
- TACACS/TACACS+

**IPv6**
- RFC 2080 RIPng for IPv6
- RFC 2460 IPv6 Specification
- RFC 2461 IPv6 Neighbor Discovery
- RFC 2462 IPv6 Stateless Address Auto-configuration R
- RFC 2463 ICMPv6
- RFC 2464 Transmission of IPv6 over Ethernet Networks
- RFC 2563 ICMPv6
- RFC 2711 IPv6 Router Alert Option
- RFC 2767 Dual stacks IPv46 & IPv6
- RFC 3315 DHCPv6 (client and relay)
- RFC 4291 IP Version 6 Addressing Architecture
- RFC 4862 IPv6 Stateless Address Auto-configuration
- RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

**Network management**
- RFC 3164 BSD syslog Protocol

## Technical Specifications

**General protocols**

- IEEE 802.1ad Q-in-Q
- IEEE 802.1ag Service Layer OAM
- IEEE 802.1D MAC Bridges
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1p Priority
- IEEE 802.1Q VLANs
- IEEE 802.1s Multiple Spanning Trees
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- IEEE 802.3 Type 10BASE-T
- IEEE 802.3ab 1000BASE-T Gigabit Ethernet over twisted pair (10/100/1000 models only)
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3ae 10-Gigabit Ethernet
- IEEE 802.3ag Ethernet OAM
- IEEE 802.3ah Ethernet in First Mile 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 R
- RFC 950 Internet Standard Subnetting Procedure
- RFC 1027 Proxy ARP
- RFC 1058 RIPv
- RFC 1091 Telnet Terminal-Type Option
- RFC 1141 Incremental updating of the Internet checksum.
- RFC 1191 Path MTU discovery
- RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
- RFC 1531 Dynamic Host Configuration Protocol
- RFC 1541 DHCP
- 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 2453 RIPv2
- RFC 2581 TCP Congestion Control
- RFC 2644 Directed Broadcast Control
- RFC 2767 Dual Stacks IPv4 & IPv6
- RFC 3046 DHCP Relay Agent Information Option
- RFC 4250 The Secure Shell (SSH) Protocol Assigned Numbers
- RFC 4251 The Secure Shell (SSH) Protocol Architecture
- RFC 4252 The Secure Shell (SSH) Authentication Protocol

## Technical Specifications

- RFC 4253 The Secure Shell (SSH) Transport Layer Protocol
- RFC 4254 The Secure Shell (SSH) Connection Protocol
- RFC 4419 Diffie-Hellman Group Exchange for the Secure Shell (SSH) Transport Layer Protocol
- RFC 4594 Configuration Guidelines for DiffServ Service Classes
- RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration 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

**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 EF PHB (Expedited Forwarding

**Per-Hop Behavior)**
- RFC 3260 New Terminology and Clarifications for DiffServ

**Security**
- Access Control Lists (ACLs)
- SSHv2 Secure Shell

## Summary of Changes

| Date | Version History | Action | Description of Change |
|---|---|---|---|
| 01-Mar-2021 | Version 16 | Changed | SKU removed from Configuration Information and Related Options sections. |
| 18-Nov-2019 | Version 15 | Changed | Technical Specifications section was updated.<br>Obsolete SKUs were removed. |
| 04-Nov-2019 | Version 15 | Changed | Configuration Information and Technical Specifications sections were updated. |
| 07-May-2018 | Version 14 | Changed | Accessories and Configuration section updated |
| 16-Oct-2017 | Version 13 | Changed | Changes made on the Features and Benefits section and Configuration |
| 25-Sep-2017 | Version 12 | Changed | Configuration section updated. |
| 06-Mar-2017 | Version 11 | Changed | Configuration section updated: Add existing TXVR to All 5700 Switches |
| 01-Aug-2016 | Version 10 | Changed | SKUs added: JL287A, JL288A, JL289A, JL290A, JL291A, JL292A, JL250A, JL286A<br>Features and Benefits updated |
| 22-Apr-2016 | Version 9 | Changed | SKU descriptions updated on all the document<br>SKU added: JL251A |
| 16-Feb-2016 | Version 8 | Changed | Overview and Technical Specifications updated |
| 08-Jan-2016 | Version 7 | Changed | Warranty and support updated |
| 12-Oct-2015 | Version 6 | Changed | Added new DC power supply: JH336A<br>Overview, Technical Specifications and Configuration sections updated |
| 12-Dec-2014 | Version 5 | Removed | Deleted SKU JG325A |
| 26-Nov-2014 | Version 4 | Changed | Minor Changes made on the Configuration section<br>SKU JD093B removed from Accessories |
| 11-Sep-2014 | Version 3 | Changed | Updated Technical Specifications and Accessories<br>Added Software-defined networking |
| 22-Aug-2014 | Version 2 | Changed | Fixed error on Overview Section |
| 18-Aug-2014 | Version 1 | New | New QuickSpecs |

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