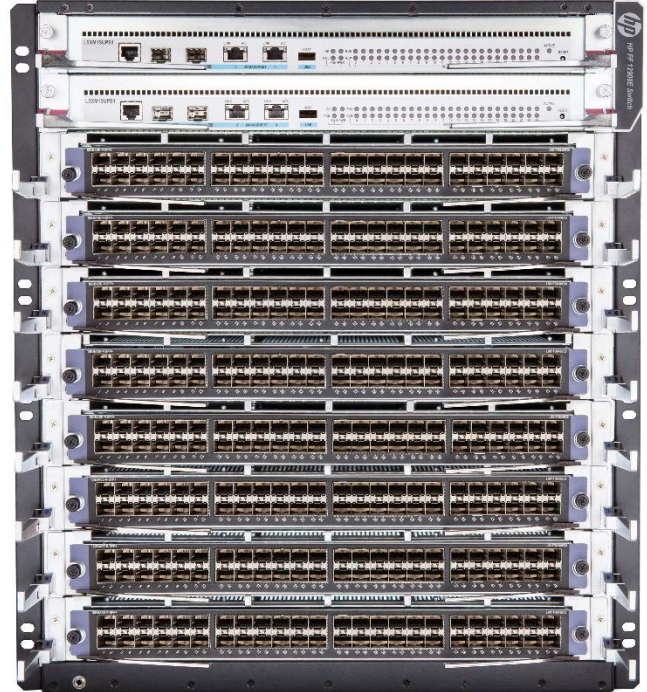
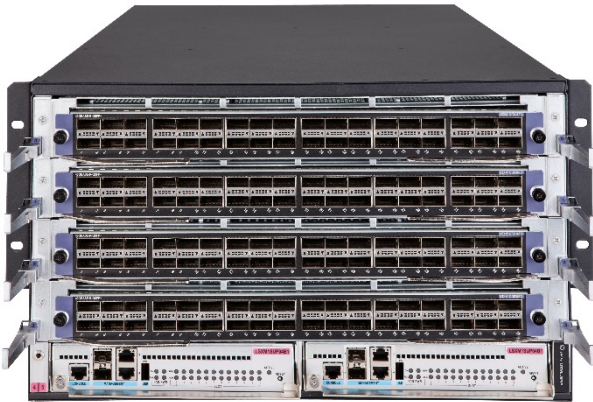


Overview

HPE FlexFabric 12900E Switch Series



Models

HPE FlexFabric 12916E Switch Chassis	JH103A
HPE FlexFabric 12908E Switch Chassis	JH255A
HPE FlexFabric 12904E Switch Chassis	JH262A
HPE FlexFabric 12902E Switch Chassis	JH345A
HPE FlexFabric 12901E Switch Chassis	JH951A

Key features

- Nonblocking, lossless Clos architecture
- VxLAN, IRF, and TRILL support for virtualized and cloud deployments
- High GbE, 10GbE, 40GbE, and 100GbE density across 46 Tb/s switch fabric
- Enhanced modularity with control and data plane separation
- SDN-enabled with OpenFlow1.3 support

Overview

Product overview

The HPE FlexFabric 12900E Switch Series is a next-generation modular data center core switch designed to support virtualized data centers and the evolving needs of private and public cloud deployments.

The FlexFabric 12900E switch delivers unprecedented levels of performance, buffering, scale, and availability with high-density GbE, 10GbE, 40GbE and 100GbE. The HPE FlexFabric 12900 Switch Series includes 16-, 10-, 8-, 4-, 2-, and 1-slot chassis.

Software-defined networking (SDN) enabled with OpenFlow 1.3, the switch supports full Layer 2 and 3 features, including advanced features such as Virtual Extensible LAN (VxLAN), TRansparent Interconnection of Lots of Links (TRILL) and Intelligent Resilient Fabric (IRF), which provide the ability to build large, resilient switching fabrics. The HPE FlexFabric 12900 Switch Series also supports fully redundant and hot-swappable components to complement its other enterprise-class capabilities.

Standard Features

Features and benefits

Product architecture

- **Modern scalable system architecture**
provides nonblocking, lossless Clos architecture with VOQs and large buffers with the flexibility and scalability for future growth
 - **Distributed architecture with separation of data and control planes**
delivers enhanced fault tolerance and facilitates continuous operation and zero service disruption during planned or unplanned control-plane events
 - **Advanced Comware modular operating system**
brings native high-stability, independent process monitoring, and restart through the modular design and multiple processes of Hewlett Packard Enterprise (HPE) Comware v7 software; supports enhanced serviceability functions
 - **In-Service Software Upgrade (ISSU)**
provides an IRF-based upgrade for seamless maintenance with minimal disruption
 - **Multitenant Device Context (MDC)**
virtualizes a physical switch into multiple logical devices, with each logical switch having its own processes, configuration, and administration
-

Performance

- **High-performance fully distributed architecture**
delivers up to 184 Tbps (bi-directional) switching capacity and 92.16 Bpps throughput with non-blocking wire speed performance
 - **High-density 1, 10, 40 and 100GbE interface connectivity**
offers up to 16 interface module slots to scale up to 768 1/10GbE, 576 40GbE, 128 100GbE ports or a combination
 - **Low latency and consistent performance**
Under 5 microsecond latency (64-byte packets) and consistent performance for broad range of applications typical of a data center including mixed traffic loads of real-time, multicast, and storage traffic
 - **Distributed scalable fabric architecture**
offers up to six fabric modules to deliver more than 2 Tb per slot bandwidth
-

Data center optimized

- **Virtual Extensible LAN (VxLAN)**
provides wire-rate support for seamless Layer 2 connectivity across Layer 3 networks enabling virtual machine mobility and cloud deployments
 - **Scalable Layer 2 fabrics**
builds flexible, resilient, and scalable Layer 2 fabrics with TRILL and Hewlett Packard Enterprise IRF
 - **Hewlett Packard Enterprise Ethernet Virtual Interconnect (EVI)**
is an Hewlett Packard Enterprise Virtual Application Network innovation that provides a Layer 2 extension across the data center to simplify the interconnectivity of geographically disperse data centers
 - **Edge Virtual Bridging (EVB) with Virtual Ethernet Port Aggregator (VEPA)**
provides connectivity into the virtualization-ready data center environment
 - **Data Center Bridging (DCB) protocols**
provides support for IEEE 802.1Qaz Data Center Bridging Exchange (DCBX), Enhanced Transmission Selection (ETS), and IEEE 802.1Qbb Priority Flow Control (PFC) for converged fabrics
 - **Fibre Channel over Ethernet (FCoE) features**
deliver support for FCoE, including expansion, fabric, trunk VF and N ports, and aggregation of E-port and N-port virtualization
 - **Front-to-back airflow chassis available**
accommodates deployment in data centers utilizing hot-cold aisles
-

Standard Features

Resiliency and high availability

- **Intelligent Resilient Fabric (IRF)**
creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **Redundant/load-sharing fabrics, management, fan assemblies, and power supplies**
increase total performance and power availability while providing hitless, stateful failover
- **Hot-swappable modules**
allows replacement of modules without any impact on other modules
- **Graceful restart**
allows routers to indicate to others their capability to maintain a routing table during a temporary shutdown, which significantly reduces convergence times upon recovery; supports OSPF, BGP, and IS-IS
- **Virtual Router Redundancy Protocol (VRRP)**
allows groups of two routers to back each other up dynamically to create highly available routed environments
- **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
- **Hitless patch upgrades**
allows patches and new service features to be installed without restarting the equipment, increasing network uptime and facilitating maintenance
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP)**
supports up to 1024 trunk groups and up to 16 members per trunk; supports static or dynamic groups and a user-selectable hashing algorithm
- **Passive design system**
delivers increased system reliability as the backplane has no active components
- **Ultrafast protocol convergence (subsecond) with standard-based failure detection—Bidirectional Forwarding Detection (BFD)**
enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF

Layer 2 switching

- **VLAN**
supports up to 4,094 port-based or IEEE 802.1Q-based VLANs
- **Bridge Protocol Data Unit (BPDU) tunneling**
transmits Spanning Tree Protocol BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs
- **Port mirroring**
duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports four mirroring groups, with an unlimited number of ports per group
- **Multiple VLAN Registration Protocol (MVRP)**
helps to maintain VLAN configuration dynamically based on current network configurations
- **Port mirroring**
duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports four mirroring groups, with an unlimited number of ports per group
- **Port isolation**
increases security by isolating ports within a VLAN while still allowing them to communicate with other VLANs
- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping**
controls and manages the flooding of multicast packets in a Layer 2 network
- **Spanning Tree Protocol (STP)**
supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- **IEEE 802.1ad QinQ and selective QinQ**
increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network

Standard Features

Layer 3 routing

- **Open shortest path first (OSPF)**
delivers faster convergence; uses this link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- **Intermediate system to intermediate system (IS-IS)**
uses a path vector Interior Gateway Protocol (IGP), which is defined by the ISO organization for IS-IS routing and extended by IETF RFC 1195 to operate in both TCP/IP and the OSI reference model (Integrated IS-IS)
- **Border Gateway Protocol 4 (BGP-4)**
delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large network
- **Multiprotocol Label Switching (MPLS)**
uses BGP to advertise routes across Label Switched Paths (LSPs), but uses simple labels to forward packets from any Layer 2 or Layer 3 protocol, which reduces complexity and increases performance; supports graceful restart for reduced failure impact; supports LSP tunneling and multilevel stacks
- **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
- **Equal-Cost Multipath (ECMP)**
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **Policy-based routing**
makes routing decisions based on policies set by the network administrator
- **Static IPv4 routing**
provides simple manually configured IPv4 routing
- **Routing Information Protocol (RIP)**
uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection
- **IP performance optimization**
provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities
- **Unicast Reverse Path Forwarding (uRPF)**
limits erroneous or malicious traffic in accordance with RFC 3074
- **Static IPv6 routing**
provides simple manually configured IPv6 routing
- **Routing Information Protocol next generation (RIPng)**
extends RIPv2 to support IPv6 addressing
- **OSPFv3**
provides OSPF support for IPv6
- **IS-IS for IPv6**
extends IS-IS to support IPv6 addressing
- **BGP+**
extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN**
allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility
- **Multiprotocol Label Switching (MPLS) Layer 2 VPN**
establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS Label Distribution Protocol (LDP); requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies

Standard Features

- **Virtual Private LAN Service (VPLS)**
establishes point-to-multipoint Layer 2 VPNs across a provider network
 - **IPv6 tunneling**
provides an important element for the transition from IPv4 to IPv6; allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels, and IPv6 on VPN to Provider Edge (6VPE) router tunnel
-

Quality of Service (QoS)

- **IEEE 802.1p prioritization**
delivers data to devices based on the priority and type of traffic
 - **Flexible classification**
creates traffic classes based on access control lists (ACLs), IEEE 802.1p precedence, IP, and DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror, remark, and logging
 - **Bandwidth shaping**
 - **Port-based rate limiting**
provides per-port ingress-/egress-enforced increased bandwidth
 - **Classifier-based rate limiting**
uses an access control list (ACL) to enforce increased bandwidth for ingress traffic on each port
 - **Reduced bandwidth**
provides per-port, per-queue egress-based reduced bandwidth
 - **Broad QoS feature set**
provides support for Strict Priority Queuing (SP), Weighted Fair Queuing (WFQ), Weighted Deficit Round Robin(WDRR), SP+WDRR together, configurable buffers, Explicit Congestion Notification (ECN), and Weighted Random Early Detection (WRED)
 - **Traffic policing**
supports Committed Access Rate (CAR) and line rate
-

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
 - **User Datagram Protocol (UDP) helper**
redirects UDP broadcasts to specific IP subnets to prevent server spoofing
 - **Dynamic Host Configuration Protocol (DHCP)**
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
-

Management

- **Management interface control**
enables or disables each of the following interfaces depending on security preferences: console port, Telnet port, or reset button
- **Industry-standard CLI with a hierarchical structure**
reduces training time and expenses, and increases productivity in multivendor installations
- **SNMPv1, v2, and v3**
provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption
- **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

Standard Features

- **Remote monitoring (RMON)**
uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **Debug and sampler utility**
supports ping and traceroute for both IPv4 and IPv6
- **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
- **Network Quality Analyzer (NQA)**
analyzes network performance and service quality by sending test packets, and provides network performance and service quality parameters such as jitter, TCP, or FTP connection delays and file transfer rates; allows a network manager to determine overall network performance and to diagnose and locate network congestion points or failures
- **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
- **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

Connectivity

- **Jumbo frames**
allows high-performance backups and disaster-recovery systems with frame sizes of up to 10,000 bytes
- **Loopback**
supports internal loopback testing for maintenance purposes and an increase in availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility
- **Ethernet operations, administration and maintenance (OAM)**
detects data link layer problems that occurred in the "last mile" using the IEEE 802.3ah OAM standard; monitors the status of the link between two devices
- **Monitor link**
collects statistics on performance and errors on physical links, increasing system availability
- **Packet storm protection**
protects against unknown broadcast, unknown multicast, or unicast storms with user-defined thresholds
- **Flow control**
provides back pressure using standard IEEE 802.3x, reducing congestion in heavy traffic situations

Security

- **Access control list (ACL)**
supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header; rules can be set to operate on specific dates or times
- **Remote Authentication Dial-In User Service (RADIUS)**
eases switch security access administration by using a password authentication server
- **Terminal Access Controller Access-Control System (TACACS+)**
delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security
- **Secure shell (SSHv2)**
uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers
- **DHCP snooping**
helps ensure that DHCP clients receive IP addresses from authorized DHCP servers and maintain a list of DHCP entries for trusted ports; prevents reception of fake IP addresses and reduces ARP attacks, improving security
- **IP Source Guard**
filters packets on a per-port basis, which prevents illegal packets from being forwarded

Standard Features

- **ARP attack protection**
protects against attacks that use a large number of ARP requests, using a host-specific, user-selectable threshold
- **Port security**
allows access only to specified MAC addresses, which can be learned or specified by the administrator

Multicast support

- **Internet Group Management Protocol (IGMP)**
utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
 - **Protocol Independent Multicast (PIM)**
defines modes of Internet IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information; PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Mode (SSM) are supported
-

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>
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Configuration Information

Ordering 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.

Rule #:	Description	SKU
	HPE FlexFabric 12901E Switch Chassis	JH951A
	<ul style="list-style-type: none"> • Integrated MPU • 1 - Integrated Fabric Module(No separate Fabric Module required) • 1 - I/O module slots • Must select Min 1 Power Supply • Must select Min 2 Fan Trays • 2U Height Rack 	
	HPE FlexFabric 12902E Switch Chassis	JH345A
	<ul style="list-style-type: none"> • 2 - MPUx (Management Ports) • 2 - I/O module slots • 2 - Integrated Fabric modules(No separate Fabric Module required) • Must select min 1 Management Module • Must select min 2 Power Supplies • Must select Min 2 Fan Trays • 3U Height Rack 	
	HPE FlexFabric 12904E Switch Chassis	JH262A
	<ul style="list-style-type: none"> • 2 - MPUx (Management Ports) • 4 - I/O module slots • 6 - Fabric module slots • Must select min 1 Management Module • Must select min 2 Power Supplies • Must select Min 1 Fabric Module • Must select Min 2 Fan Trays • 6U Height Rack 	
	HPE FlexFabric 12908E Switch Chassis	JH255A
	<ul style="list-style-type: none"> • 2 - MPUx (Management Ports) • 8 - I/O module slots • 6 - Fabric module slots • Must select min 1 Management Module • Must select min 2 Power Supplies • Must select Min 1 Fabric Module • Must select Min 2 Fan Trays • 12U Height Rack 	
	HPE FlexFabric 12916E Switch Chassis	JH103A
	<ul style="list-style-type: none"> • 2 - MPUx (Management Ports) • 16 - I/O module slots • 6 - Fabric module slots • Must select min 1 Management Module • Must select min 2 Power Supplies • Must select Min 1 Fabric Module • Must select Min 2 Fan Trays • 21U Height Rack 	

Configuration Information

NOTE: OCA Only Model Selection Form -
HPE Offering > DataCenter Networking > FlexFabric Switches - Core:12900 Switch Series

Modules

Management Modules

NOTE: No supported Transceivers

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

Rule #:	Description	SKU
5	HPE FlexFabric 12902E Main Processing Unit	JH346A
4	HPE FlexFabric 12904E v2 Main Processing Unit	JH668A
3	HPE FlexFabric 12900E v2 Main Processing Unit	JH669A

Configuration Rules:

Rule #:	Description	SKU
3	The following Switches support this Module: HPE FlexFabric 12908E Switch Chassis HPE FlexFabric 12916E Switch Chassis	JH255A JH103A
4	The following Switches support this Module: HPE FlexFabric 12904E Switch Chassis	JH262A
5	The following Switches support this Module: HPE FlexFabric 12902E Switch Chassis	JH345A

Fabric Modules

System (std 0 // max 6) User Selection (min 4 // max 6) per Switch

System (std 0 // max 6) User Selection (min 1 // max 6) per switch enclosure

	HPE FlexFabric 12904E Switch Chassis	JH262A
	HPE FlexFabric 12908E Switch Chassis	JH255A
	HPE FlexFabric 12916E Switch Chassis	JH103A
	System (std 2 // max 2) User Selection (min 0 // max 0) per switch enclosure	
	HPE FlexFabric 12902E Switch Chassis	JH345A

Rule #:	Description	SKU
1,4	HPE FlexFabric 12904E 2.5Tbps Type F Fabric Module	JH264A
1,4,7,9	HPE FlexFabric 12904E 7.2Tbps Type H Fabric Module	JH364A
1,5,7,10	HPE FlexFabric 12908E 14.4Tbps Type H Fabric Module	JH362A
1,5	HPE FlexFabric 12908E 5.0Tbps Type F Fabric Module	JH257A
1,6	HPE FlexFabric 12916E 10.0Tbps Type F Fabric Module	JH252A
1,6,7,11	HPE FlexFabric 12916E 21.6Tbps Type H Fabric Module	JH361A
1,6,7,11	HPE FlexFabric 12916E 43.2Tbps Type H Fabric Module	JH435A

Configuration Information

Configuration Rules:

1	If more than 1 Fabric Module is selected, they must be of the same Type.	
3	This Fabric Module is only supported on switch	
4	This Fabric Module is only supported on switch HPE FlexFabric 12904E Switch Chassis	JH262A
5	This Fabric Module is only supported on switch HPE FlexFabric 12908E Switch Chassis	JH255A
6	This Fabric Module is only supported on switch HPE FlexFabric 12916E Switch Chassis	JH103A
7	Only H Series I/O Modules are supported	
8	Only EA/EB/EC Series I/O Modules are supported	
9	If a 12904E Switch Chassis is configured with a Type H Fabric Module, then qty 2 of the following High Speed Fan Tray must be selected: HPE FlexFabric 12904E High Speed Fan Tray Assembly	JH448A
10	If a 12908E Switch Chassis is configured with a Type H Fabric Module, then qty 2 of the following High Speed Fan Tray must be selected: HPE FlexFabric 12908E Spare High Speed Fan Tray Assembly	JH424A
11	If a 12916E Switch Chassis is configured with a Type H Fabric Module, then qty 2 of the following High Speed Fan Tray must be selected: HPE FlexFabric 12916E Spare High Speed Fan Tray Assembly	JH423A

Accessory

Rule #:	Description	SKU
1,2	HPE FlexFabric 12900E LPU Adapter	JH107A

Configuration Rules:

Rule #:	Description	SKU
1	This Adapter is REQUIRED if any FX/FE I/O module is added to the below switches: (1 per module) HPE FlexFabric 12904E Switch Chassis HPE FlexFabric 12908E Switch Chassis HPE FlexFabric 12916E Switch Chassis	JH262A JH255A JH103A
2	This Adapter is not compatible with the following switch: HPE FlexFabric 12902E Switch Chassis	JH345A

Configuration Information

I/O Modules

12904E (std 0 // max 4) User Selection (min 1 // max 4) per switch enclosure
 12908E (std 0 // max 8) User Selection (min 1 // max 8) per switch enclosure
 12916E (std 0 // max 16) User Selection (min 1 // max 16) per switch enclosure

Rule #:	Description	SKU
	HPE FlexFabric 12902E Switch Chassis (std 0 // max 2) User Selection (min 1 // max 2) per switch enclosure	JH345A
	HPE FlexFabric 12901E Switch Chassis (std 0 // max 1) User Selection (min 0 // max 1) per switch enclosure	JH951A
6	HPE FlexFabric 12900 48-port 10/100/1000BASE-T FX Module NOTE: No supported Transceivers	JH242A
6,11	HPE FlexFabric 12900 48-port 1/10GBASE-T FX Module NOTE: No supported Transceivers	JH007A
1,6	HPE FlexFabric 12900 48-port GbE SFP FX Module NOTE: Min 0 // Max 48 SFP Transceivers	JH241A
1,2,6,11,13	HPE FlexFabric 12900 48-port 1/10GbE SFP+ FE Module NOTE: Min 0 // Max 48 SFP+ Transceivers	JH249A
3,6,11	HPE FlexFabric 12900 36-port 40GbE QSFP+ FX Module NOTE: Min 0 // Max 36 QSFP+ Transceivers	JH045A
3,6,11,14,16,19	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module NOTE: Min 0 // Max 36 QSFP+/QSFP28 Transceivers	JH357A
3,10,11,16	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module NOTE: Min 0 // Max 48 QSFP+ Transceivers	JH359A
1, 2, 10, 11, 13, 14, 15, 16, 19	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module <ul style="list-style-type: none"> Min 0 // Max 2 QSFP+/QSFP28 Transceivers Min 0 // Max 48 SFP/SFP+ Transceivers 	JH360A
3, 10, 11, 14, 16, 19	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module <ul style="list-style-type: none"> Min 0 // Max 18 QSFP28 100G Transceivers Min 0 // Max 18 QSFP+ 40G Transceivers 	JH422A

Configuration Information

Rule #:	Description	SKU
3, 10, 11, 14, 16	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module <ul style="list-style-type: none"> Min 0 // Max 18 QSFP28 100G Transceivers Min 0 // Max 18 QSFP+ 40G Transceivers 	JH425A
1, 10, 11, 13, 15, 16, 17, 22	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module <ul style="list-style-type: none"> Min 0 // Max 1 59XX Module Min 0 // Max 24 SFP+ 10G Transceivers Min 0 // Max 2 QSFP+ 40G Transceivers 	JH953A
10, 11,16,22	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module NOTE: Min 0 // Max 48 SFP+ 10G Transceivers	JQ061A
3, 6, 11	HPE FlexFabric 12900 24-port 40GbE QSFP+ FE Module NOTE: Min 0 // Max 24 QSFP+ Transceivers	JH250A
1, 2, 6, 11, 13	HPE FlexFabric 12900 48-port 1/10GbE SFP+ FX Module NOTE: Min 0 // Max 48 SFP+ Transceivers	JG888B
3, 6, 11	HPE FlexFabric 12900 24-port 40GbE QSFP+ FX Module NOTE: Min 0 // Max 24 QSFP+ Transceivers	JG889B
3, 6, 11	HPE FlexFabric 12900 12-port 40GbE QSFP+ FX Module NOTE: Min 0 // Max 12 QSFP+ Transceivers	JH005A
1, 10, 11, 13, 14, 16, 18, 22	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module <ul style="list-style-type: none"> Min 0 // Max 1 59XX Module Min 0 // Max 24 SFP/SFP+ Transceivers Min 0 // Max 4 QSFP28 Transceivers 	JH954A
6, 11	HPE FlexFabric 12900 8-port 100GbE CXP FX Module NOTE: Min 0 // Max 8 CXP Transceivers	JH006A
6, 11, 12	HPE FlexFabric 12900 8-port 100GbE CFP2 FX Module NOTE: Min 0 // Max 8 CFP2 Transceivers	JH288A

Configuration Rules

Rule #:	Description	SKU
1	The following Transceivers install into this Module: HPE X120 1G SFP LC LH100 Transceiver HPE X120 1G SFP RJ45 T Transceiver HPE X120 1G SFP LC SX Transceiver HPE X120 1G SFP LC LX Transceiver HPE X120 1G SFP LC BX 10-U Transceiver HPE X120 1G SFP LC BX 10-D Transceiver	JD103A JD089B JD118B JD119B JD098B JD099B

Configuration Information

Rule #:	Description	SKU
2	The following Transceivers install into this Module:	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X130 10G SFP+ LC LR Transceiver	JD094B
	HPE X130 10G SFP+ LC SR Data Center Transceiver	JL437A
	HPE X130 10G SFP+ LC LR Data Center Transceiver	JL439A
	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
	HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
	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
3	The following 40G Transceivers install into this Module:	
	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+ MPO MM 850nm CSR4 300m Transceiver	JG709A
	HPE X140 40G QSFP+ LC ER4 40km SM Transceiver	JL306A
	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 X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
	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
6	FC/FX Modules If (JH006A, JG888B, JG889B, JH005A, JH007A, JH121A, JH117A, JH249A, JH045A, JH250A, JH118A, JH119A, JH120A, or JH288A) are selected, Then cannot be used in conjunction with EA, EB or EC Modules JG855A, JG856A, JH242A, JG624A, JH241A, JG626A, JG625A, JG857A, or JG858A.)	
8	TAA Modules are available in the US, India, South Korea, Vietnam and Taiwan only.	
9	TAA & Non TAA versions of the same module type can be mixed.	
10	HB Type Modules are only compatible with Type H Fabric Modules and vice versa:	
	HPE FlexFabric 12904E 7.2Tbps Type H Fabric Module	JH364A
	HPE FlexFabric 12908E 14.4Tbps Type H Fabric Module	JH362A
	HPE FlexFabric 12916E 21.6Tbps Type H Fabric Module	JH361A
	HPE FlexFabric 12916E 43.2Tbps Type H Fabric Module	JH435A
11	The following switches only support these modules: (FX, FE line cards modules)	
	HPE FlexFabric 12904E Switch Chassis	JH262A
	HPE FlexFabric 12908E Switch Chassis	JH255A
	HPE FlexFabric 12916E Switch Chassis	JH103A
12	The following Transceivers install into this Module:	
	HPE X150 100G CFP2 LC LR4 10km SM Transceiver	JH289A

Configuration Information

Rule #:	Description	SKU
13	The following LC Transceiver install into this module: HPE X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
14	The following QSFP28 Transceivers install into this switch: HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver HPE X150 100G QSFP28 LC LR4 10km SM Transceiver HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JL274A JL275A JH420A JL271A JL272A JL276A JL277A JL278A JL273A JH673A
15	The following 40G Transceivers install into this Module: HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver HPE X140 40G QSFP+ MPO SR4 Transceiver HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver HPE X140 40G QSFP+ LC ER4 40km SM Transceiver HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JG661A JL251A JG325B JG709A JL306A JG326A JG327A JG328A JL286A JL287A JL288A JL289A
16	The following switch only supports this module: HPE FlexFabric 12902E Switch Chassis HPE FlexFabric 12901E Switch Chassis	JH345A JH951A
17	This module can have the following 5930/5940 I/O Module installed into it: HPE 5930 24-port SFP+ and 2-port QSFP+ Module HPE 5930 24-port SFP+ and 2-port QSFP+ with MACsec Module HPE 5930 24-port 10GBASE-T and 2-port QSFP+ with MACsec Module HPE 5930 8-port QSFP+ Module HPE 5930 24-port Converged Port and 2-port QSFP+ Module	JH180A JH181A JH182A JH183A JH184A
18	This module can have the following 5950 I/O Module installed into it: HPE 5950 8-port QSFP28 Module HPE 5950 16-port QSFP+ Module HPE FlexFabric 5950 24-port SFP28 and 2-port QSFP28 Module HPE FlexFabric 5950 8-port QSFP28 MACsec Module	JH406A JH405A JH450A JH957A
19	The following QSFP28 Transceivers install into this switch: HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver	JH419A
21	The following Transceivers install into this Module: HPE X120 1G SFP LC BX 10-U Transceiver HPE X120 1G SFP LC BX 10-D Transceiver	JD098B JD099B

Configuration Information

Rule #:	Description	SKU
22	The following Transceivers install into this Module:	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X130 10G SFP+ LC LR Transceiver	JD094B
	HPE X130 10G SFP+ LC SR Data Center Transceiver	JL437A
	HPE X130 10G SFP+ LC LR Data Center Transceiver	JL439A
	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
	HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A

NOTE: OCA BLUE TEXT: The 12900 switch software image for FX/FC LPUs does not support EA, EB & EC LPUs and vice versa.

59XX Modules

Rule #:	Description	SKU
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module (std 0 // max 1) User Selection (min 0 // max 1)	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
1, 3, 4, 5, 14	HPE 5930 24-port SFP+ and 2-port QSFP+ Module <ul style="list-style-type: none"> Can install into JH953A 24 10G SFP+ ports (min=0 \ max=24) 2 40G QSFP+ ports (min=0 \ max=2) 	JH180A
1, 3, 4, 5, 14	HPE 5930 24-port SFP+ and 2-port QSFP+ with MACsec Module <ul style="list-style-type: none"> Can install into JH953A 24 10G SFP+ ports (min=0 \ max=24) 2 40G QSFP+ ports (min=0 \ max=2) 	JH181A
3, 5	HPE 5930 24-port 10GBASE-T and 2-port QSFP+ with MACsec Module <ul style="list-style-type: none"> Can install into JH953A 24 1/10GBase-T ports 2 40G QSFP+ ports (min=0 \ max=2) 	JH182A
3, 5	HPE 5930 8-port QSFP+ Module <ul style="list-style-type: none"> Can install into JH953A 8 40G QSFP+ ports (min=0 \ max=8) 	JH183A
1, 3, 5, 14	HPE 5930 24-port Converged Port and 2-port QSFP+ Module <ul style="list-style-type: none"> Can install into JH953A 24 Converged SFP+/FC ports (min=0 \ max=24) 2 40G QSFP+ ports (min=0 \ max=2) 	JH184A
3	HPE 5950 16-port QSFP+ Module <ul style="list-style-type: none"> Can install into JH954A 16 40G QSFP+ ports (min=0 \ max=16) 	JH405A
2, 5, 8, 13	HPE 5950 8-port QSFP28 Module <ul style="list-style-type: none"> Can install into JH954A 8 40G/100G QSFP+/QSFP28 ports (min=0 \ max=8) 	JH406A

Configuration Information

Rule #:	Description	SKU
2, 5, 8, 9, 13	HPE FlexFabric 5950 24-port SFP28 and 2-port QSFP28 Module <ul style="list-style-type: none"> Can instal into JH954A 24 10G/25G SFP+/SFP28 ports (min=0 \ max=24) 2 40G/100G QSFP+/QSFP28 ports (min=0 \ max=2) 	JH450A
2, 5, 8	HPE FlexFabric 5950 8-port QSFP28 MACsec Module <ul style="list-style-type: none"> Can install into JH954A 8 40G/100G QSFP+/QSFP28 ports (min=0 \ max=8) 	JH957A

Configuration Rules

Rule #:	Description	SKU
1	The following SFP+ Transceivers install into this Module's SFP+ Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable HPE X130 10G SFP+ LC SR Transceiver HPE X130 10G SFP+ LC LR Transceiver HPE X130 10G SFP+ LC SR Data Center Transceiver HPE X130 10G SFP+ LC LR Data Center Transceiver HPE X130 10G SFP+ LC LH 80km Transceiver HPE X130 10G SFP+ LC ER 40km Transceiver HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable HPE X2A0 10G SFP+ to SFP+ 7m Active Optical Cable HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JD092B JD094B JL437A JL439A JG915A JG234A JD095C JD096C JD097C JG081C JC784C JL290A JL291A JL292A
2	The following 40G Transceivers install into this Module's QSFP+ Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver HPE X140 40G QSFP+ MPO SR4 Transceiver HPE X140 40G QSFP+ LC ER4 40km SM Transceiver HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG661A JL251A JG325B JL306A JG709A JL286A JG326A JG327A JG328A JG329A JG330A JG331A

Configuration Information

Rule #:	Description	SKU
3	The following 40G Transceivers install into this Module's QSFP+ Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable	
	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+ LC ER4 40km SM Transceiver	JL306A
	HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
	HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
	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
4	The following 10G Transceivers install into this Module's SFP+ Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable	
	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
5	The following 40G Transceivers install into this Module's QSFP+ Ports: (Use #0D1 or #B01 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
8	The following QSFP28 Transceivers install into this Module's QSFP28 Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable	
	HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
	HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
	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
	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
9	The following SFP28 Transceivers install into this Module's SFP28 Ports: (Use #0D1 or #B01 if switch is CTO) - if applicable	
	HPE X190 25G SFP28 LC SR 100m MM Transceiver	JL293A
	HPE X240 25G SFP28 to SFP28 1m Direct Attach Copper Cable	JL294A
	HPE X240 25G SFP28 to SFP28 3m Direct Attach Copper Cable	JL295A
13	The following QSFP28 Transceivers install into this switch:	
	HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver	JH419A
14	The following SFP+ Transceivers install into this switch:	
	HPE X130 10G SFP+ LC LH80 tunable Transceiver	JL250A

NOTE: OCA BLUE TEXT: These Modules can be installed into the JH953A or JH954A I/O Modules only.

Configuration Information

Transceivers

SFP Transceivers

Rule #:	Description	SKU
	HPE X120 1G SFP RJ45 T Transceiver	JD089B
	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 LH100 Transceiver	JD103A
	HPE X120 1G SFP LC SX Transceiver	JD118B
	HPE X120 1G SFP LC LX Transceiver	JD119B

NOTE:1G RJ45 transceiver JD089B will be supported on 12900 48p 1/10G FX/FE modules (JG888B, JH117A, JH249A) with the following limitations:

- No Support for 100Mbps
- Up/down time resulting from any link flap can be as high as 2 secs

SFP+ Transceivers

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC SR Data Center Transceiver	JL437A
HPE X130 10G SFP+ LC LR Data Center Transceiver	JL439A
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
HPE X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
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
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

SFP28 Transceivers

HPE X190 25G SFP28 LC SR 100m MM Transceiver	JL293A
HPE X240 25G SFP28 to SFP28 1m Direct Attach Copper Cable	JL294A
HPE X240 25G SFP28 to SFP28 3m Direct Attach Copper Cable	JL295A

Configuration Information

Rule #:	Description	SKU
	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+ MPO MM 850nm CSR4 300m Transceiver	JG709A
	HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
	HPE X140 40G QSFP+ LC ER4 40km SM Transceiver	JL306A
	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 LC LR4 10km SM Transceiver	JL275A
	HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
	HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
	HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver	JH419A
	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
	CFP2 Transceivers	
	HPE X150 100G CFP2 LC LR4 10km SM Transceiver	JH289A

Cables

Rule #:	Description	SKU
	MPO Cables	
	HPE Multi Fiber Push On to 4 x Lucent Connector 5m Cable	K2Q46A
	HPE Multi Fiber Push On to 4 x Lucent Connector 15m Cable	K2Q47A

Configuration Information

Internal Power Supplies

12901E (std 0 // max 2) User Selection (min 1 // max 2) per switch enclosure
 12902E (std 0 // max 4) User Selection (min 2 // max 4) per switch enclosure
 12910 (std 0 // max 8) User Selection (min 2 // max 8) per switch enclosure
 12916 (std 0 // max 12) User Selection (min 2 // max 12) per switch enclosure
 12904E (std 0 // max 4) User Selection (min 2 // max 4) per switch enclosure
 12908E (std 0 // max 8) User Selection (min 2 // max 8) per switch enclosure
 12916E (std 0 // max 16) User Selection (min 2 // max 16) per switch enclosure

Rule #:	Description	SKU
4, 5	HPE FlexFabric 12900E 2400W DC Power Supply Unit	JH269A
6, 7	HPE FlexFabric 12902E 1800W DC Power Supply Unit	JH671A
2, 4	HPE FlexFabric 12900E 2400W AC Power Supply Unit	JH108A
	HPE FlexFabric 12900E 2400W AC Power Supply Unit PDU Cable NA/JP/TW NOTE: C19 PDU Jumper Cord (NA/MEX/TW/JP)	JH108A#B2B
	HPE FlexFabric 12900E 2400W AC Power Supply Unit PDU Cable ROW NOTE: C19 PDU Jumper Cord (ROW)	JH108A#B2C
	HPE FlexFabric 12900E 2400W AC Power Supply Unit 220V N.A. - english localized NOTE: NEMA L6-20P Cord (NA/MEX/JP/TW)	JH108A#B2E
	HPE FF 12900E 2400W AC PSU NOTE: No Power Cord Selected	JH108A#AC3
2, 4	HPE FlexFabric 12900E 3000W AC Power Supply Unit	JH348A
	HPE FlexFabric 12900E 3000W AC Power Supply Unit PDU NA, JP or TW NOTE: C19 PDU Jumper Cord (NA/MEX/TW/JP)	JH348A#B2B
	HPE FlexFabric 12900E 3000W AC Power Supply Unit PDU ROW NOTE: C19 PDU Jumper Cord (ROW)	JH348A#B2C
	HPE FlexFabric 12900E 3000W AC Power Supply Unit United States 220 volt NOTE: NEMA L6-20P Cord (NA/MEX/JP/TW)	JH348A#B2E
	HPE FlexFabric 12900E 3000W AC Power Supply Unit NOTE: No Power Cord Selected	JH348A#AC3
2, 6	HPE FlexFabric 7900 1800w AC Power Supply Unit	JG840A
	HPE FlexFabric 7900 1800w AC Power Supply Unit PDU Cable NA/JP/TW NOTE: C19 PDU Jumper Cord (NA/MEX/TW/JP)	JG840A#B2B
	HPE FlexFabric 7900 1800w AC Power Supply Unit PDU Cable ROW NOTE: C19 PDU Jumper Cord (ROW)	JG840A#B2C
	HPE FlexFabric 7900 1800w AC Power Supply Unit 220V N.A. - english localized NOTE: NEMA L6-20P Cord (NA/MEX/JP/TW)	JG840A#B2E
	HPE FF 7900 1800w AC PSU NOTE: No Power Cord Selected	JG840A#AC3

Configuration Information

Configuration Rules:

2	Localization (Wall Power Cord) required on orders without #B2B or #B2C (PDU Power Cord). (See Localization Menu)	
4	This Power is only supported on these switches:	
	HPE FlexFabric 12904E Switch Chassis	JH262A
	HPE FlexFabric 12908E Switch Chassis	JH255A
	HPE FlexFabric 12916E Switch Chassis	JH103A
	HPE FlexFabric 12901E Switch Chassis	JH951A
5	One of these cables is required when ordering this power supply:	
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A
6	This Power Supply is supported on this switches:	
	HPE FlexFabric 12902E Switch Chassis	JH345A
7	One of these cables is required when ordering this power supply:	
	HPE FlexFabric 12902E 48V 15m DC Power Supply Unit Cable	JQ058A

NOTE:
Localization is not required on the internal JF429A HPE 12500 2000W AC Power Supply AC power supplies. Localization is covered on the chassis.

Drop down under chassis should offer the following options and results:

- Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)
- Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)
- High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)

Switch Enclosure Options

Mounting Kit

Rule #:	Description	SKU
1	HPE FlexFabric 12900E Chassis Universal Rack Mount Kit	JQ059A
2	HPE FlexFabric 7910 Bottom Support Rails	JH042A

Configuration Rules

Rule #:	Description	SKU
1	If one of the following 4, 8 or 16 Slot Chassis are selected, then Default Qty 1:	
	HPE FlexFabric 12904E Switch Chassis	JH262A
	HPE FlexFabric 12908E Switch Chassis	JH255A
	HPE FlexFabric 12916E Switch Chassis	JH103A
2	If one of the following 1 or 2 Slot Chassis are selected, then Default Qty 1:	
	HPE FlexFabric 12901E Switch Chassis	JH951A
	HPE FlexFabric 12902E Switch Chassis	JH345A

Fans

12904E, 12908E, 12916E (std 0 // max 2) User Selection (min 2 // max 2) per switch enclosure
 12902E (std 0 // max 2) User Selection (min 2 // max 2) per switch enclosure
 12901E (std 0 // max 3) User Selection (min 2 // max 3) per switch enclosure

Configuration Information

Rule #:	Description	SKU
	Spare only; Included in Chassis - Supported on JG619A, JH113A	
	HPE FlexFabric 12902E High Speed Fan Tray Assembly	JH447A
	Supported on JH345A	
	HPE FlexFabric 12916E Spare High Speed Fan Tray Assembly	JH423A
	Supported on JH103A	
	HPE FlexFabric 12908E Spare High Speed Fan Tray Assembly	JH424A
	Supported on JH255A	
	HPE FlexFabric 12904E High Speed Fan Tray Assembly	JH448A
	Supported on JH262A	
	HPE FlexFabric 12901E Fan Tray Assembly	JH952A
	Supported on JH951A	
	Power Supply Cables	
	(std 0 // max 1) User Selection (min 1 // max 1) per DC Power Supply	
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A
	HPE FlexFabric 12902E 48V 15m DC Power Supply Unit Cable	JQ058A

Technical Specifications

HPE FlexFabric 12916E Switch Chassis (JH103A)

I/O ports and slots	16 I/O module slots Supports a maximum of 768 10GbE ports or 768 1/10GBASE-T ports or 768 1/10GbE ports or 768 Gigabit Ethernet ports or 768 autosensing 10/100/1000 ports or 768 40GbE ports or 576 100GbE ports, or a combination														
Additional ports and slots	2 MPU (for management modules) slots 6 switch fabric slots														
Power supplies	16 power supply slots 1 minimum power supply required (ordered separately)														
Fan tray	2 fan tray slots Fan trays are not included.														
Physical characteristics	<table border="0"> <tr> <td style="vertical-align: top;">Dimensions</td> <td>17.32(w) x 33.74(d) x 36.65(h) in (43.99 x 85.7 x 93.1 cm) (21U height)</td> </tr> <tr> <td style="vertical-align: top;">Weight</td> <td>189.82 lb (86.1 kg)</td> </tr> </table>	Dimensions	17.32(w) x 33.74(d) x 36.65(h) in (43.99 x 85.7 x 93.1 cm) (21U height)	Weight	189.82 lb (86.1 kg)										
Dimensions	17.32(w) x 33.74(d) x 36.65(h) in (43.99 x 85.7 x 93.1 cm) (21U height)														
Weight	189.82 lb (86.1 kg)														
Memory and processor	Management module Quad Core MIPS64 @ 1.2 GHz, 1 GB flash, 8 GB DDR2 SDRAM														
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only														
Performance	<table border="0"> <tr> <td style="vertical-align: top;">Throughput</td> <td>up to 92.1 Bpps (64-byte packets)</td> </tr> <tr> <td style="vertical-align: top;">Switching capacity</td> <td>184 Tbps</td> </tr> </table>	Throughput	up to 92.1 Bpps (64-byte packets)	Switching capacity	184 Tbps										
Throughput	up to 92.1 Bpps (64-byte packets)														
Switching capacity	184 Tbps														
Reliability	Availability 99.999%														
Environment	<table border="0"> <tr> <td style="vertical-align: top;">Operating temperature</td> <td>32°F to 104°F (0°C to 40°C)</td> </tr> <tr> <td style="vertical-align: top;">Operating relative humidity</td> <td>5% to 95%, noncondensing</td> </tr> <tr> <td style="vertical-align: top;">Nonoperating/Storage temperature</td> <td>-40°F to 158°F (-40°C to 70°C)</td> </tr> <tr> <td style="vertical-align: top;">Nonoperating/Storage relative humidity</td> <td>5% to 95%, noncondensing</td> </tr> <tr> <td style="vertical-align: top;">Altitude</td> <td>up to 13,123 ft (4 km)</td> </tr> <tr> <td style="vertical-align: top;">Acoustic</td> <td>Low-speed fan: 67.8 dB, High-speed fan: 91.2 dB; ISO 7779</td> </tr> <tr> <td style="vertical-align: top;">Airflow direction</td> <td>Front-to-back</td> </tr> </table>	Operating temperature	32°F to 104°F (0°C to 40°C)	Operating relative humidity	5% to 95%, noncondensing	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	Nonoperating/Storage relative humidity	5% to 95%, noncondensing	Altitude	up to 13,123 ft (4 km)	Acoustic	Low-speed fan: 67.8 dB, High-speed fan: 91.2 dB; ISO 7779	Airflow direction	Front-to-back
Operating temperature	32°F to 104°F (0°C to 40°C)														
Operating relative humidity	5% to 95%, noncondensing														
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)														
Nonoperating/Storage relative humidity	5% to 95%, noncondensing														
Altitude	up to 13,123 ft (4 km)														
Acoustic	Low-speed fan: 67.8 dB, High-speed fan: 91.2 dB; ISO 7779														
Airflow direction	Front-to-back														
Electrical characteristics	<table border="0"> <tr> <td style="vertical-align: top;">Frequency</td> <td>50/60 Hz</td> </tr> <tr> <td style="vertical-align: top;">Voltage</td> <td>100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)</td> </tr> <tr> <td style="vertical-align: top;">Current</td> <td>16 A</td> </tr> <tr> <td style="vertical-align: top;">Power output</td> <td>2400 W</td> </tr> <tr> <td style="vertical-align: top;">Frequency</td> <td>50/60 Hz</td> </tr> </table> <p>NOTE: Based on a common power supply of 2,400 W (AC)</p>	Frequency	50/60 Hz	Voltage	100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)	Current	16 A	Power output	2400 W	Frequency	50/60 Hz				
Frequency	50/60 Hz														
Voltage	100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)														
Current	16 A														
Power output	2400 W														
Frequency	50/60 Hz														
Safety	UL 60950-1 CAN/CSA 22.2 No. 60950-1 IEC 60950-1 EN 60950-1 FDA 21 CFR Subchapter J AS/NZS 60950-1 RoHS Compliance EN 50581														

Technical Specifications

Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR 22 Class A; FCC (CFR 47, Part 15) Class A; ETSI EN 300 386
Immunity	Generic EN 55024
Management	IMC - Intelligent Management Center; Command-line interface; Out-of-band management (serial RS-232c); SNMP manager; Telnet; Terminal interface (serial RS-232c); Modem interface; IEEE 802.3 Ethernet mib; Ethernet interface mib
Services	Refer to the Hewlett Packard Enterprise website at: https://h10145.www1.hpe.com/support/SupportLookUp.aspx 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 12908E Switch Chassis (JH255A)

I/O ports and slots	8 I/O module slots Supports a maximum of 384 10GbE ports or 384 1/10GBASE-T ports or 384 1/10GbE ports or 384 Gigabit Ethernet ports or 384 autosensing 10/100/1000 ports or 288 40GbE ports or 64 100GbE ports, or a combination
Additional ports and slots	2 MPU (for management modules) slots 6 switch fabric slots
Power supplies	8 power supply slots 1 minimum power supply required (ordered separately)
Fan tray	2 fan tray slots Fan trays are not included.
Physical characteristics	Dimensions 17.32(w) x 33.74(d) x 20.91(h) in (43.99 x 85.7 x 53.1 cm) (12U height) Weight 103.62 lb (47 kg)
Memory and processor	Management module Quad Core MIPS64 @ 1.2 GHz, 1 GB flash, 8 GB DDR3 SDRAM
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only
Performance	Throughput up to 28.8 Bpps (64-byte packets) Switching capacity 57.6 Tbps
Reliability	Availability 99.999%
Environment	Operating temperature 32°F to 104°F (0°C to 40°C) Operating relative humidity 5% to 95%, noncondensing Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C) Nonoperating/Storage relative humidity 5% to 95%, noncondensing Altitude up to 13,123 ft (4 km) Acoustic Low-speed fan: 62.1 dB, High-speed fan: 87.6 dB; ISO 7779 Airflow direction Front-to-back

Technical Specifications

Electrical characteristics	Frequency	50/60 Hz
	Voltage	100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16 A
	Power output	2400 W
	NOTE: Based on a common power supply of 2,400 W (AC)	
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J; AS/NZS 60950-1; RoHS Compliance EN 50581	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR 22 Class A; FCC (CFR 47, Part 15) Class A; ETSI EN 300 386	
Immunity	Generic	EN 55024
Management	IMC - Intelligent Management Center; Command-line interface; Out-of-band management (serial RS-232c); SNMP manager; Telnet; Terminal interface (serial RS-232c); Modem interface; IEEE 802.3 Ethernet mib; Ethernet interface mib	
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 12904E Switch Chassis (JH262A)

I/O ports and slots	4 I/O module slots Supports a maximum of 192 10GbE ports or 192 1/10GBASE-T ports or 192 1/10GbE ports or 192 Gigabit Ethernet ports or 192 autosensing 10/100/1000 ports or 144 40GbE ports or 32 100GbE ports, or a combination	
Additional ports and slots	2 MPU (for management modules) slots 6 switch fabric slots	
Power supplies	4 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	2 fan tray slots Fan trays are not included.	
Physical characteristics	Dimensions	17.32(w) x 33.74(d) x 10.39(h) in (43.99 x 85.7 x 26.39 cm) (6U height)
	Weight	79.37 lb (36 kg)
Memory and processor	Management module	Quad Core MIPS64 @ 1.2 GHz, 1 GB flash, 8 GB DDR3 SDRAM
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Performance	Throughput	up to 14.4 Bpps (64-byte packets)
	Switching capacity	28.8 Tbps
Reliability	Availability	99.999%

Technical Specifications

Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 67.5 dB, High-speed fan: 85.3 dB; ISO 7779
Electrical characteristics	Airflow direction	Front-to-back
	Frequency	50/60 Hz
	Voltage	100 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16 A
	Power output	2400 W
	NOTE: Based on a common power supply of 2,400 W (AC)	
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J; AS/NZS 60950-1; RoHS Compliance EN 50581	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR 22 Class A; FCC (CFR 47, Part 15) Class A; ETSI EN 300 386	
Immunity	Generic	EN 55024
Management	IMC - Intelligent Management Center; Command-line interface; Out-of-band management (serial RS-232c); SNMP manager; Telnet; Terminal interface (serial RS-232c); Modem interface; IEEE 802.3 Ethernet mib; Ethernet interface mib	
Services	Refer to the Hewlett Packard Enterprise website at: https://h10145.www1.hpe.com/support/SupportLookUp.aspx 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 12902E Switch Chassis (JH345A)

I/O ports and slots	2 I/O module slots Supports a maximum of 48 1/10GBASE-T ports or 96 1/10GbE ports or 96 40GbE ports or 96 100GbE ports or a combination	
Additional ports and slots	2 MPU (for management modules) slots	
Power supplies	4 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	2 fan tray slots Fan trays are not included	
Physical characteristics	Dimensions	17.32(w) x 35.24(d) x 5.24(h) in. (44.0 x 89.5 x 13.3 cm) (3U height)
	Weight	52.91 lb (24 kg)
Memory and processor	Management module	Quad Core MIPS64 @ 1 GHz, 1 GB flash, 8 GB DDR3 SDRAM
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); horizontal surface mounting only	

Technical Specifications

Performance	Throughput	Up to 11.52 Bpps (64-byte packets)
	Switching capacity	19.2 Tbps
Reliability	Availability	99.999%
Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	Up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 73.1 dB, high-speed fan: 87.2 dB; ISO 7779
	Airflow direction	Front-to-back
Electrical characteristics	Frequency	50/60 Hz
	Voltage	100–240 VAC, rated
		-48 to -60 VDC, rated (depending on power supply chosen)
	Current	13 A
	Power output	1800 W

NOTE: Based on a common power supply of 1,800 W (AC/DC)

Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J; AS/NZS 60950-1; RoHS Compliance EN 50581
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR 22 Class A; FCC (CFR 47, Part 15) Class A; ETSI EN 300 386
Immunity	Generic EN 55024
Management	IMC—Intelligent Management Center; command-line interface; Out-of-band management (serial RS-232c); SNMP manager; Telnet; terminal interface (serial RS-232c); modem interface; IEEE 802.3 Ethernet MIB; Ethernet interface MIB
Services	Refer to the Hewlett Packard Enterprise website at: https://h10145.www1.hp.com/support/SupportLookUp.aspx 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 12901E Switch Chassis (JH951A)

I/O ports and slots	1 I/O module slots Supports a maximum of 48 100GbE, 40GbE or 10GbE ports or a combination	
Additional ports and slots	MPU (for management) modules integrated	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	3 fan tray slots Fan trays are not included	
Physical characteristics	Dimensions	17.32(w) x 33.7(d) x 3.4(h) in. (44.0 x 85.6 x 8.8 cm) (2U height)
	Weight	77.16. lb (35 kg)

Technical Specifications

Memory and processor	Management module	Quad Core MIPS64 @ 1.2GHz, 1 GB flash, 16 GB DDR3 SDRAM
Mounting and enclosure		Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); horizontal surface mounting only
Performance	Throughput	Up to 5.76 Bpps (64-byte packets)
	Switching capacity	9.6 Tbps
Reliability	Availability	99.999%
Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	Up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 64.8 dB, high-speed fan: 82.4 dB; ISO 7779
	Airflow direction	Front-to-back
Electrical characteristics	Frequency	50/60 Hz
	Voltage	100–240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16 A
	Power output	2400 W
		NOTE: Based on a common power supply of 2,400 W (AC/DC)
Safety		UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J; AS/NZS 60950-1; RoHS Compliance EN 50581
Emissions		VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR 22 Class A; FCC (CFR 47, Part 15) Class A; ETSI EN 300 386
Immunity	Generic	EN 55024
Management		IMC—Intelligent Management Center; command-line interface; Out-of-band management (serial RS-232c); SNMP manager; Telnet; terminal interface (serial RS-232c); modem interface; IEEE 802.3 Ethernet MIB; Ethernet interface MIB
Services		Refer to the Hewlett Packard Enterprise website at: https://h10145.www1.hpe.com/support/SupportLookUp.aspx 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 12910 Switch AC Chassis (JG619A)

I/O ports and slots	10 I/O module slots Supports a maximum of 480 10GbE ports or 480 1/10GBASE-T ports or 480 1/10GbE ports or 480 Gigabit Ethernet ports or 480 autosensing 10/100/1000 ports or 360 40GbE ports or 80 100GbE ports, or a combination
Additional ports and slots	2 MPU (for management modules) slots 6 switch fabric
Power supplies	8 power supply slots 1 minimum power supply required (ordered separately)

Technical Specifications

Fan tray	includes: 2 x JG631A 2 fan tray slots	
Physical characteristics	Dimensions	17.32(w) x 32.68(d) x 36.61(h) in (43.99 x 83 x 92.99 cm) (21U height)
	Weight	187.46 lb (85.03 kg)
	Full configuration weight	474.45 lb (215.21 kg)
Memory and processor	Management module	Quad Core MIPS64 @ 1.2 GHz, 1 GB flash, 8 GB DDR2 SDRAM
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Performance	Throughput	up to 36 Bpps (64-byte packets)
	Switching capacity	28.8 Tbps
Reliability	Availability	99.999%
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 60.2 dB, High-speed fan: 83.9 dB
	Airflow direction	Front-to-back
Electrical characteristics	Frequency	50/60 Hz
	Voltage	100 - 120 / 200 - 240 VAC, rated
	Current	16/60 A
	Power output	2000 W
	NOTE: Based on a common power supply of 2,000 W (AC)	
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J; AS/NZS 60950-1; RoHS Compliance EN 50581	
Emissions	VCCI Class A EN 55022 Class A CISPR 22 Class A IEC/EN 61000-3-2 IEC/EN 61000-3-3 ICES-003 Class A AS/NZS CISPR 22 Class A FCC (CFR 47, Part 15) Class A ETSI EN 300 386	
Immunity	Generic	EN 55024
Management	IMC - Intelligent Management Center; command-line interface; out-of-band management (Serial RS-232C); SNMP Manager; Telnet; terminal interface (Serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Services	Refer to the Hewlett Packard Enterprise website at: https://h10145.www1.hp.com/support/SupportLookUp.aspx 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

Standards and protocols

(applies to all products in series)

BGP

RFC 1771 BGPv4
RFC 1772 Application of the BGP
RFC 1997 BGP Communities Attribute
RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing
RFC 2385 BGP Session Protection via TCP MD5
RFC 2439 BGP Route Flap Damping
RFC 2796 BGP Route Reflection
RFC 2858 BGP-4 Multi-Protocol Extensions
RFC 2918 Route Refresh Capability
RFC 3065 Autonomous System Confederations for BGP
RFC 3392 Capabilities Advertisement with BGP-4
RFC 4271 A Border Gateway Protocol 4 (BGP-4)
RFC 4272 BGP Security Vulnerabilities Analysis
RFC 4273 Definitions of Managed Objects for BGP-4
RFC 4274 BGP-4 Protocol Analysis
RFC 4275 BGP-4 MIB Implementation Survey
RFC 4276 BGP-4 Implementation Report
RFC 4277 Experience with the BGP-4 Protocol
RFC 4360 BGP Extended Communities Attribute
RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)
RFC 5291 Outbound Route Filtering Capability for BGP-4
RFC 5292 Address-Prefix-Based Outbound Route Filter for BGP-4

Denial of service protection

Automatic filtering of well-known denial-of-service packets
CPU DoS Protection
Rate Limiting by ACLs

Device management

RFC 1157 SNMPv1/v2c
RFC 1305 NTPv3
RFC 1902 (SNMPv2)
RFC 2579 (SMIv2 Text Conventions)
RFC 2580 (SMIv2 Conformance)
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
HTTP, SSHv1, and Telnet
Multiple Configuration Files
Multiple Software Images
SSHv1/SSHv2 Secure Shell
TACACS/TACACS+
Web UI

Technical Specifications

General protocols

IEEE 802.1ad Q-in-Q
IEEE 802.1ag Service Layer OAM
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.3ab 1000BASE-T
IEEE 802.3ac (VLAN Tagging Extension)
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber – EFMF
IEEE 802.3ba 40 and 100 Gigabit Ethernet Architecture
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 894 IP over Ethernet
RFC 925 Multi-LAN Address Resolution
RFC 950 Internet Standard Subnetting Procedure
RFC 959 File Transfer Protocol (FTP)
RFC 1027 Proxy ARP
RFC 1035 Domain Implementation and Specification
RFC 1042 IP Datagrams
RFC 1058 RIPv1
RFC 1142 OSI IS-IS Intra-domain Routing Protocol
RFC 1195 OSI ISIS for IP and Dual Environments
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
RFC 1293 Inverse Address Resolution Protocol
RFC 1305 NTPv3
RFC 1350 TFTP Protocol (revision 2)
RFC 1393 Traceroute Using an IP Option
RFC 1519 CIDR
RFC 1531 Dynamic Host Configuration Protocol
RFC 1533 DHCP Options and BOOTP Vendor Extensions
RFC 1591 DNS (client only)
RFC 1624 Incremental Internet Checksum
RFC 1701 Generic Routing Encapsulation
RFC 1721 RIP-2 Analysis
RFC 1723 RIP v2
RFC 1812 IPv4 Routing
RFC 2082 RIP-2 MD5 Authentication
RFC 2091 Trigger RIP
RFC 2131 DHCP
RFC 2138 Remote Authentication Dial In User Service (RADIUS)
RFC 2236 IGMP Snooping
RFC 2338 VRRP
RFC 2453 RIPv2
RFC 2644 Directed Broadcast Control

Technical Specifications

RFC 2763 Dynamic Name-to-System ID mapping support
RFC 2784 Generic Routing Encapsulation (GRE)
RFC 2865 Remote Authentication Dial In User Service (RADIUS)
RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
RFC 2973 IS-IS Mesh Groups
RFC 3022 Traditional IP Network Address Translator (Traditional NAT)
RFC 3277 IS-IS Transient Blackhole Avoidance
RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication
RFC 3719 Recommendations for Interoperable Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3784 ISIS TE support
RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
RFC 3787 Recommendations for Interoperable IP Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3847 Restart signaling for IS-IS
RFC 4251 The Secure Shell (SSH) Protocol Architecture
RFC 4486 Subcodes for BGP Cease Notification Message
RFC 4884 Extended ICMP to Support Multi-Part Messages
RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6
RFC 5130 A Policy Control Mechanism in IS-IS Using Administrative Tags

IP multicast

RFC 2236 IGMPv2
RFC 2283 Multiprotocol Extensions for BGP-4
RFC 2362 PIM Sparse Mode
RFC 3376 IGMPv3
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)
RFC 3973 PIM Dense Mode
RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
RFC 4601 PIM Sparse Mode
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4605 IGMP/MLD Proxying
RFC 4607 Source-Specific Multicast for IP
RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)

IPv6

RFC 1886 DNS Extension for IPv6
RFC 1887 IPv6 Unicast Address Allocation Architecture
RFC 1981 IPv6 Path MTU Discovery
RFC 2080 RIPng for IPv6
RFC 2081 RIPng Protocol Applicability Statement
RFC 2292 Advanced Sockets API for IPv6
RFC 2373 IPv6 Addressing Architecture
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 2462 IPv6 Stateless Address Auto-configuration
RFC 2463 ICMPv6
RFC 2464 Transmission of IPv6 over Ethernet Networks
RFC 2473 Generic Packet Tunneling in IPv6
RFC 2526 Reserved IPv6 Subnet Anycast Addresses
RFC 2529 Transmission of IPv6 Packets over IPv4

Technical Specifications

RFC 2545 Use of MP-BGP-4 for IPv6
RFC 2553 Basic Socket Interface Extensions for IPv6
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2740 OSPFv3 for IPv6
RFC 2767 Dual stacks IPv4 & IPv6
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
RFC 3307 IPv6 Multicast Address Allocation
RFC 3315 DHCPv6 (client and relay)
RFC 3484 Default Address Selection for IPv6
RFC 3513 IPv6 Addressing Architecture
RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6
RFC 3810 MLDv2 for IPv6
RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)
RFC 4861 IPv6 Neighbor Discovery
RFC 4862 IPv6 Stateless Address Auto-configuration

MIBs

RFC 1156 (TCP/IP MIB)
RFC 1157 A Simple Network Management Protocol (SNMP)
RFC 1215 A Convention for Defining Traps for use with the SNMP
RFC 1229 Interface MIB Extensions
RFC 1493 Bridge MIB
RFC 1573 SNMP MIB II
RFC 1643 Ethernet MIB
RFC 1657 BGP-4 MIB
RFC 1724 RIPv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2012 SNMPv2 MIB for TCP
RFC 2013 SNMPv2 MIB for UDP
RFC 2096 IP Forwarding Table MIB
RFC 2233 Interface MIB
RFC 2452 IPV6-TCP-MIB
RFC 2454 IPV6-UDP-MIB
RFC 2465 IPv6 MIB
RFC 2466 ICMPv6 MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2578 Structure of Management Information Version 2 (SMIv2)
RFC 2580 Conformance Statements for SMIv2
RFC 2618 RADIUS Client MIB
RFC 2620 RADIUS Accounting MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2787 VRRP MIB
RFC 2819 RMON MIB
RFC 2925 Ping MIB
RFC 2932IP (Multicast Routing MIB)
RFC 2933 IGMP MIB
RFC 2934 Protocol Independent Multicast MIB for IPv4

Technical Specifications

RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks
RFC 3418 MIB for SNMPv3
RFC 3595 Textual Conventions for IPv6 Flow Label
RFC 3621 Power Ethernet MIB
RFC 3813 MPLS LSR MIB
RFC 3814 MPLS FTN MIB
RFC 3815 MPLS LDP MIB
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)

MPLS

RFC 2205 Resource ReSerVation Protocol
RFC 2209 Resource ReSerVation Protocol (RSVP)
RFC 2702 Requirements for Traffic Engineering Over MPLS
RFC 2858 Multiprotocol Extensions for BGP-4
RFC 2961 RSVP Refresh Overhead Reduction Extensions
RFC 3031 Multiprotocol Label Switching Architecture
RFC 3032 MPLS Label Stack Encoding
RFC 3107 Carrying Label Information in BGP-4
RFC 3212 Constraint-Based LSP Setup using LDP
RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)
RFC 3487 Graceful Restart Mechanism for LDP
RFC 3564 Requirements for Support of Differentiated Service-aware MPLS Traffic Engineering
RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 4379 Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures
RFC 4447 Pseudowire Setup and Maintenance Using LDP
RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks
RFC 4664 Framework for Layer 2 Virtual Private Networks
RFC 4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks
RFC 4761 Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling
RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling
RFC 5036 LDP Specification

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1155 Structure of Management Information
RFC 1157 SNMPv1
RFC 1448 Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 2211 Controlled-Load Network
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3176 sFlow
RFC 3411 SNMP Management Frameworks
RFC 3412 SNMPv3 Message Processing
RFC 3414 SNMPv3 User-based Security Model (USM)
RFC 3415 SNMPv3 View-based Access Control Model VACM)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)

Technical Specifications

OSPF

RFC 1245 OSPF protocol analysis
RFC 1246 Experience with OSPF
RFC 1765 OSPF Database Overflow
RFC 1850 OSPFv2 Management Information Base (MIB), traps
RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)
RFC 2328 OSPFv2
RFC 2370 OSPF Opaque LSA Option
RFC 3101 OSPF NSSA
RFC 3137 OSPF Stub Router Advertisement
RFC 3623 Graceful OSPF Restart
RFC 3630 Traffic Engineering Extensions to OSPFv2
RFC 4061 Benchmarking Basic OSPF Single Router Control Plane Convergence
RFC 4062 OSPF Benchmarking Terminology and Concepts
RFC 4063 Considerations When Using Basic OSPF Convergence Benchmarks
RFC 4222 Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance
RFC 4577 OSPF as the Provider/Customer Edge Protocol for BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 4811 OSPF Out-of-Band LSDB Resynchronization
RFC 4812 OSPF Restart Signaling
RFC 4813 OSPF Link-Local Signaling
RFC 4940 IANA Considerations for OSPF

QoS/CoS

IEEE 802.1p (CoS)
RFC 1349 Type of Service in the Internet Protocol Suite
RFC 2211 Specification of the Controlled-Load Network Element Service
RFC 2212 Guaranteed Quality of Service
RFC 2474 DSCP DiffServ
RFC 2475 DiffServ Architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF)

Security

RFC 1321 The MD5 Message-Digest Algorithm
RFC 1334 PPP Authentication Protocols (PAP)
RFC 1492 TACACS+
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP) RFC 2082 RIP-2 MD5 Authentication
RFC 2104 Keyed-Hashing for Message Authentication
RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2409 The Internet Key Exchange (IKE)
RFC 2716 PPP EAP TLS Authentication Protocol
RFC 2865 RADIUS Authentication
RFC 2866 RADIUS Accounting
RFC 2868 RADIUS Attributes for Tunnel Protocol Support
RFC 2869 RADIUS Extensions
Access Control Lists (ACLs)
Port Security
SSHv1/SSHv2 Secure Shell

Technical Specifications

VPN

RFC 2403 - HMAC-MD5-96

RFC 2404 - HMAC-SHA1-96

RFC 2405 - DES-CBC Cipher algorithm

RFC 2407 - Domain of interpretation

RFC 2547 BGP/MPLS VPNs

RFC 2917 A Core MPLS IP VPN Architecture

RFC 4302 - IP Authentication Header (AH)

RFC 4303 - IP Encapsulating Security Payload (ESP)

Accessories

HPE FlexFabric 12900E Switch Series accessories

Rule #	Description	SKU
	Modules	
	HPE FlexFabric 12900 48-port 1/10GbE SFP+ FE Module	JH249A
	HPE FlexFabric 12900 24-port 40GbE QSFP+ FE Module	JH250A
	HPE FlexFabric 12900 48-port 1/10GBASE-T FX Module	JH007A
	HPE FlexFabric 12900 48-port 1/10GbE SFP+ FX Module	JG888B
	HPE FlexFabric 12900 36-port 40GbE QSFP+ FX Module	JH045A
	HPE FlexFabric 12900 24-port 40GbE QSFP+ FX Module	JG889B
	HPE FlexFabric 12900 12-port 40GbE QSFP+ FX Module	JH005A
	HPE FlexFabric 12900 8-port 100GbE CFP2 FX Module	JH288A
	HPE FlexFabric 12900 8-port 100GbE CXP FX Module	JH006A
	HPE FlexFabric 12900 48-port 10/100/1000BASE-T FX Module	JH242A
	HPE FlexFabric 12900 48-port GbE SFP FX Module	JH241A
	Mounting kit	
	HPE FlexFabric 12900E Chassis Universal Rack Mount Kit	JQ059A
	Transceivers	
	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
	HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
	HPE X120 1G SFP LC BX 10-U Transceiver	JD098B
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X130 10G SFP+ LC SR Data Center Transceiver	JL437A
	HPE X130 10G SFP+ LC LR Transceiver	JD094B
	HPE X130 10G SFP+ LC LR Data Center Transceiver	JL439A
	HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
	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
	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 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 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
	HPE X150 100G CFP2 LC LR4 10km SM Transceiver	JH289A
	HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver	JH419A
	HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A

Accessories

Rule #	Description	SKU
	Transceivers	
	HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
	HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A
	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
	HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
	HPE FlexFabric 12916E Switch Chassis (JH103A)	
	HPE FlexFabric 12900E v2 Main Processing Unit	JH669A
	HPE FlexFabric 12916E 21.6Tbps Type H Fabric Module	JH361A
	HPE FlexFabric 12916E 10.0Tbps Type F Fabric Module	JH252A
	HPE FlexFabric 12916E 43.2Tbps Type H Fabric Module	JH435A
	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module	JH357A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module	JH422A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module	JH425A
	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module	JH359A
	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module	JH360A
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module	JQ061A
	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 X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
	HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
	HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
	HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
	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
	HPE X240 QSFP28 4xSFP28 1m Direct Attach Copper Cable	JL282A
	HPE X240 QSFP28 4xSFP28 3m Direct Attach Copper Cable	JL283A
	HPE X240 QSFP28 4xSFP28 5m Direct Attach Copper Cable	JL284A
	HPE FlexFabric 12900E 3000W AC Power Supply Unit	JH348A
	HPE FlexFabric 12900E 2400W AC Power Supply Unit	JH108A
	HPE FlexFabric 12900E 2400W DC Power Supply Unit	JH269A
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A
	HPE FlexFabric 12916E Spare High Speed Fan Tray Assembly	JH423A
	HPE FlexFabric 12900E LPU Adapter	JH107A

Accessories

Rule #	Description	SKU
	HPE FlexFabric 12908E Switch Chassis (JH255A)	
	HPE FlexFabric 12900E v2 Main Processing Unit	JH669A
	HPE FlexFabric 12908E 14.4Tbps Type H Fabric Module	JH362A
	HPE FlexFabric 12908E 5.0Tbps Type F Fabric Module	JH257A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module	JH422A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module	JH425A
	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module	JH357A
	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module	JH359A
	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module	JH360A
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module	JQ061A
	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 X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
	HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
	HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A
	HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
	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
	HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable	JL273A
	HPE X240 QSFP28 4xSFP28 1m Direct Attach Copper Cable	JL282A
	HPE X240 QSFP28 4xSFP28 3m Direct Attach Copper Cable	JL283A
	HPE X240 QSFP28 4xSFP28 5m Direct Attach Copper Cable	JL284A
	HPE FlexFabric 12900E 3000W AC Power Supply Unit	JH348A
	HPE FlexFabric 12900E 2400W AC Power Supply Unit	JH108A
	HPE FlexFabric 12900E 2400W DC Power Supply Unit	JH269A
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A
	HPE FlexFabric 12908E Spare High Speed Fan Tray Assembly	JH424A
	HPE FlexFabric 12900E LPU Adapter	JH107A
	HPE FlexFabric 12904E Switch Chassis (JH262A)	
	HPE FlexFabric 12904E v2 Main Processing Unit	JH668A
	HPE FlexFabric 12904E 7.2Tbps Type H Fabric Module	JH364A
	HPE FlexFabric 12904E 2.5Tbps Type F Fabric Module	JH264A
	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module	JH357A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module	JH422A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module	JH425A
	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module	JH359A
	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module	JH360A
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module	JQ061A
	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 X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
	HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
	HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver	JH420A

Accessories

Rule #	Description	SKU
	HPE FlexFabric 12904E Switch Chassis (JH262A)	
	HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
	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
	HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable	JL273A
	HPE X240 QSFP28 4xSFP28 1m Direct Attach Copper Cable	JL282A
	HPE X240 QSFP28 4xSFP28 3m Direct Attach Copper Cable	JL283A
	HPE X240 QSFP28 4xSFP28 5m Direct Attach Copper Cable	JL284A
	HPE FlexFabric 12900E 3000W AC Power Supply Unit	JH348A
	HPE FlexFabric 12900E 2400W AC Power Supply Unit	JH108A
	HPE FlexFabric 12900E 2400W DC Power Supply Unit	JH269A
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A
	HPE FlexFabric 12904E High Speed Fan Tray Assembly	JH448A
	HPE FlexFabric 12900E LPU Adapter	JH107A
	HPE FlexFabric 12902E Switch Chassis (JH345A)	
	HPE FlexFabric 12902E Main Processing Unit	JH346A
	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module	JH357A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module	JH422A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module	JH425A
	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module	JH359A
	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module	JH360A
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module	JQ061A
	HPE FlexFabric 12902E High Speed Fan Tray Assembly	JH447A
	HPE FlexFabric 7900 1800w AC Power Supply Unit	JG840A
	HPE FlexFabric 12902E 1800W DC Power Supply Unit	JH671A
	HPE FlexFabric 12902E 48V 15m DC Power Supply Unit Cable	JQ058A
	HPE FlexFabric 12901E Switch Chassis (JH951A)	
	HPE FlexFabric 12901E Fan Tray Assembly	JH952A
	HPE FlexFabric 12900E 24p 10G/2p 40G HB 59xx Slot Module	JH953A
	HPE FlexFabric 12900E 24-port 10GbE and 4-port 100GbE HD 59xx Slot Module	JH954A
	HPE FlexFabric 12900E 48-port 10GbE SFP+ HF Module	JQ061A
	HPE FlexFabric 12900E 36-port 100GbE QSFP28 HB Module	JH357A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HB Module	JH422A
	HPE FlexFabric 12900E 18-port 100G QSFP28/18-port 40G QSFP+ HF Module	JH425A
	HPE FlexFabric 12900E 48-port 40GbE QSFP+ HB Module	JH359A
	HPE FlexFabric 12900E 48-port 1/10GbE SFP+ 2-port 100GbE QSFP28 HB Module	JH360A
	HPE FlexFabric 12900E 3000W AC Power Supply Unit	JH348A
	HPE FlexFabric 12900E 2400W AC Power Supply Unit	JH108A
	HPE FlexFabric 12900E 2400W DC Power Supply Unit	JH269A
	HPE FlexFabric 12900E 48V 3m DC Power Supply Unit Cable	JQ232A

Summary of Changes

Date	Version History	Action	Description of Change
04-Apr-2019	Version 36	Changed	Standard Features section was updated Obsolete SKUs were removed
03-Dec-2018	Version 35	Changed	Configuration section: Rules on the 59XX Modules were updated
01-Oct-2018	Version 34	Changed	Recommended and Extended markings removed from the document.
04-Sep-2018	Version 33	Changed	Configuration section: Rules on the 59XX Modules were updated
06-Aug-2018	Version 32	Changed	Configuration section updated
07-May-2018	Version 31	Changed	SKUs added: JH419A; JH435A; JH671A; JH954A; JQ058A
04-Dec-2017	Version 30	Changed	Models added: JH951A SKUs added: JH952A, JH953A, JQ059A, JQ061A, JQ232A Document name updated to HPE FlexFabric 12900E Switch Series
03-Jul-2017	Version 29	Changed	Configuration section updated
05-Jun-2017	Version 28	Changed	Model added: JH345A SKUs added: JH346A, JH348A, JH447A, JH423A, JH424A, JH448A, JH668A, JH669A, JH673A
03-Apr-2017	Version 27	Changed	SKUs added: JH422A; JH425A
06-Mar-2017	Version 26	Changed	SKUs added: JL437A; JL438A; JL439A
06-Feb-2017	Version 25	Changed	SKU added: JH420A
07-Nov-2016	Version 24	Changed	SKU added: JL306A
03-Oct-2016	Version 23	Changed	SKU added: JH361A SKUs added on Sept NPI are now supported for the 12916E model: JH103A
05-Sep-2016	Version 22	Changed	SKUs added: JH362A, JH364A, JH357A, JH359A, JH360A, JL271A, JL272A, JL274A, JL275A, JL276A, JL277A, JL278A, JL273A, JL282A, JL283A, JL284A Minor changes made on Features and benefits
01-Aug-2016	Version 21	Changed	SKUs added: JL287A, JL288A, JL289A, JL290A, JL291A, JL292A, JL250A, JL286A Adding #AC3 Option on Configuration section. Technical Specifications updated.
06-June-2016	Version 20	Changed	SKUs added: JH269A Technical Specifications and Configuration sections updated
22-Apr-2016	Version 19	Changed	SKUs descriptions updated on the document
16-Feb-2016	Version 18	Changed	SKU added: JL251A Features and benefits, Technical Specifications and Standards and protocols
17-Dec-2015	Version 17	Changed	Technical Specifications updated
01-Dec-2015	Version 16	Changed	SKUs added: JH241A, JH242A, JG882A, JG883A QuickSpecs name changed from HPE FlexFabric 12900 Switch Series to HPE FlexFabric 12900 Switch Series
12-Oct-2015	Version 15	Changed	Features and Benefits updated
02-Oct-2015	Version 14	Changed	Configuration section updated
28-Sep-2015	Version 13	Changed	Models added: JH103A, JH255A, JH262A Changes made on Overview, Technical Specifications and Accessories
01-June-2015	Version 12	Changed	SKUs Added: JG881A, JH006A SKUs removed: JG915A Overview and Technical Specifications Updated
30-Mar-2015	Version 11	Changed	Added 5 new accessories: JG888B, JG889B, JH005A, JH007A, JG915A Updated Overview, Technical Specification and Accessories section
26-May-2014	Version 10	Changed	Added 2 new accessories: JG888A and JG889A.
31-Mar-2014	Version 9	Changed	Transceivers were revised.
20-Feb-2014	Version 8	Changed	Removed several new accessories
18-Feb-2014	Version 7	Changed	Made significant changes to the Configuration section.

Summary of Changes

17-Dec-2013	Version 6	Changed	Made a minor change to the Configuration section.
14-Nov-2013	Version 5	Changed	Removed DC voltage
13-Nov-2013	Version 4	Changed	Made significant changes to the Configuration section.
14-Oct-2013	Version 3	Changed	Made minor changes to the Configuration section.
12-Jul-2013	Version 2	Changed	Made minor changes to the Configuration section.



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