Overview

HPE StoreFabric SN2700M Switch

With an increasing need to access data faster and accommodate growing workloads, rising levels of east-west traffic, and new storage arrays based on flash storage technologies, a high bandwidth, low-latency network becomes paramount. The HPE StoreFabric SN2700M Switches offer a 100GbE-based network platform capable of delivering unbelievable networking speed and agility to keep pace with the most intense workloads small- to large-scale enterprises can produce. With port speeds spanning from 1Gb/s to 100 Gb/s and a switching capacity of 6.4Tb/s from 32 ports at 100GbE, the switch enable non-blocking throughput at wire-speed transfers-across all packet sizes. All this enables the SN2700M to deliver a landmark 9.52 Bpps processing capacity and an uncompromising 300ns cut-through latency in a compact 1RU form factor. The M-series are perfect for Top-Of-Rack (TOR) deployments and optimized for virtualized environments, hyperconverged infrastructure, and storage deployments.

HPE StoreFabric M-Series Ethernet switches give you the right network bandwidth with consistent performance for high-performance and storage workloads. Delivering the highest feature set at the right price allows you to get the most out of your Ethernet infrastructure to best support a variety of use cases, including media and entertainment; streaming video, financial services industry, virtualized data centers, and next generation storage, including software-defined storage and NVMe flash. With HPE M-series switches, you can:

- **Optimize Storage**— Modernize your network to eliminate limitations and bottlenecks that can be caused by the addition of flash storage.
- **Enjoy efficient network performance**—Avoid packet loss, provide predictable performance with line-rate packet delivery across all ports and all packet sizes.
- **Realize breakthrough economics**—Make better use of your data center resources with the highest port density per rack unit and the industry's lowest power consumption.
- **Accelerate business innovation**—Support 1/10/40Gbps for existing workloads and deliver 25/50/100Gbps Ethernet to respond quickly to business needs and stay on the leading edge of technology.

The StoreFabric M-Series SN2700 switch provides a high density 100GbE switching solution in single Rack Unit (RU) for the growing demands of today's storage, database, and data center environments. The SN2700 carries a unique design to accommodate the highest rack performance. Available in 16 or 32 ports, the SN2700 carries a switching capacity of 6.4Tb/s with 9.52Bpps processing capacity.


SN2700M is available in following models:

- HPE StoreFabric SN2700M 100GbE 32QSFP28
  - Power-to-Connector and Connector-to-Power Airflow
  - TAA SKU option
  - ONIE SKU option
- HPE StoreFabric SN2700M 100GbE 16QSFP28

SN2700M offers cost-effective options with entry at 16-ports and a pay as you grow with a software license. Offering more flexibility to customers to add capacity when needed.
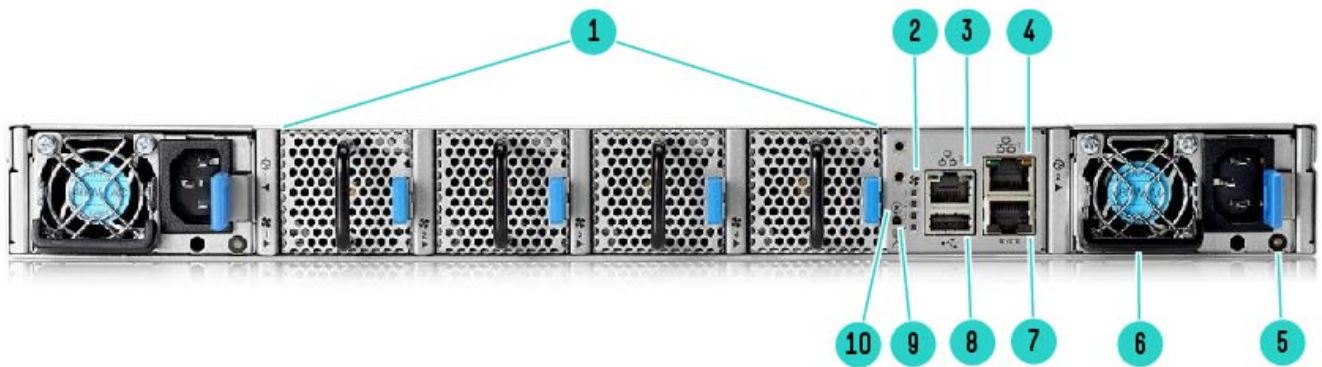
HPE SN2700M 100GbE 16p Upgrade E-LTU.

Overview
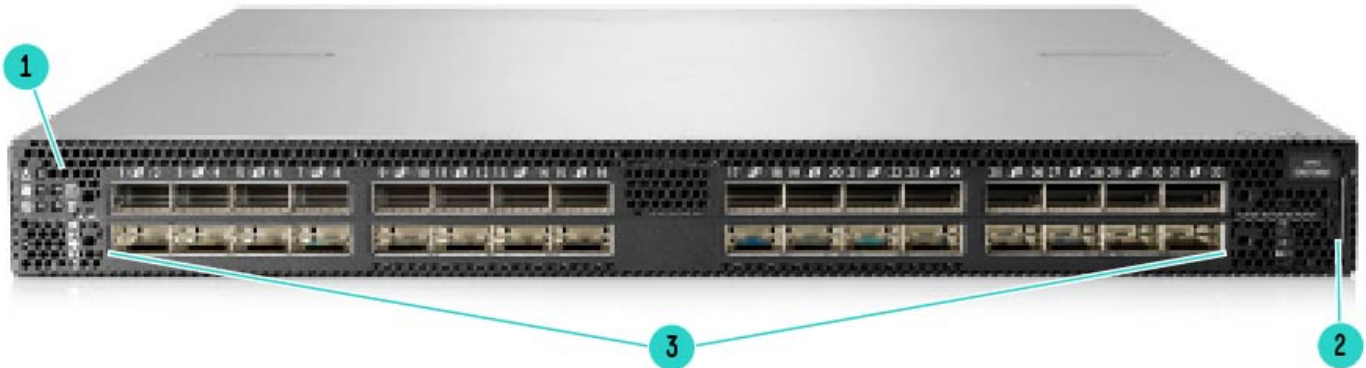
HPE StoreFabric M-Series SN2700M- Front View

1.   Status LEDs   3.   QSFP Ports (1-32)
2.   Inventory Information Pull-out tab

StoreFabric M-Series SN2700M – Rear View

1.	Fans FRUs (4 Units)	6.	Power Supply FRU
2.	Fans Status LEDs	7.	Console Port
3.	MGMT Port	8.	USB Port
4.	MGMT Port	9.	System Health LED
5.	Power Supply FRU	10.	Resset button

Overview

Key Features and Benefits

- HPE StoreFabric M-Series SN2700M offers cost-effective options with entry at 16-ports 100GbE and a pay-as-you-grow software license. It offers more flexibility to add capacity when needed for diverse deployment and tighter budgets.
- SN2700M switches are ideal for modern server and storage networks, supporting up to 64 ports with breakout cables of 10 or 25, 32 ports of 50, or 16 ports of 40 or 100GbE delivering predictable performance and zero packet loss at line-rate across each port and packet size.
- SN2700M can be deployed to support 1GbE and 10GbE ports and is designed to be able to evolve over time to support 25, 40, 50, and 100GbE speeds. This helps future-proof your network architecture and allows for implementing significant speed upgrades to the architecture over time.
- SN2700M provides ultra-low latency of under 300ns port-to-port. This is advantageous for flash storage which moved the latency bottleneck from storage media to the network, as well as for the bursty nature of today's software-defined and cloud-driven data center traffic.
- It provides high port density in a single rack unit, allowing for higher capacity and efficiency, simplifying scale-out environments and saving on total cost of ownership. Unique breakout cables fan out individual switch ports to multiple device ports.
- Provides wire-rate performance with zero packet loss across all frame sizes, avoiding any negative impact on applications that could occur with frame loss as unexpected packet loss is unacceptable in modern data centers, especially within a storage network.
- Capable of forwarding 100% capacity wire rate performance with zero packet loss across all ports concurrently at 100GbE speeds while transferring data across both Layer 2 and Layer 3 networks.
- Designed to use less electric power than competing switches, with less than 6 watts per port, providing one of the industry's lowest power draws, producing less heat than competing products, and allowing reduced OPEX cost.
- Provides enough internal bandwidth to carry all ports at 100 GB/s bandwidths concurrently. This allows the switches to avoid head-of-line blocking which can reduce a switches overall performance and throughput.

Models

HPE M-Series SN2700M Ethernet Switch Models

HPE StoreFabric SN2700M 100GbE 32QSFP28 Switch	Q2F21A
HPE StoreFabric SN2700M 100GbE 32QSFP28 Power to Connector Airflow TAA Compliant	R0P71A
HPE StoreFabric SN2700M 100GbE 32QSFP28 Connector to Power Airflow TAA Compliant	R0P72A
HPE StoreFabric SN2700M 100GbE 32QSFP28 ONIE Connector to Power Airflow	R0P79A
HPE StoreFabric SN2700M 100GbE 32QSFP28 ONIE Power to Connector Airflow	R0P80A
HPE StoreFabric SN2700M 100GbE 16QSFP28 Switch	Q6M26A
HPE StoreFabric SN2700M 100GbE 16-port Upgrade E-LTU	Q6J39AAE

Standard Features

HPE M-Series SN2700M Ethernet Switch Models
- 16- or 32, 100GbE ports scales up to 64 10GbE & 25GbE connections with breakout cables.
- Extremely Flexible. Support for 1, 10, 25, 40, 50 and 100GbE speeds in a 1U enclosure.
- Ultra-low latency with true cut through performance, Zero packet loss performance with DCBX, PFC, ECN support

User Interfaces: Command Line & Web Interface
Industry-standard command line interface (CLI). The CLI is accessed through SSH or Telnet sessions, or directly via the console serial port on the power side panel.
The CLI can be in one of several modes, and each mode makes available a certain group (or level) of commands for execution.

Web interface - web GUI that accept input and provide output by generating webpages which can be viewed by the user using a web browser

The inventory in the switch system can be accessed through a SNMP MIB browser. These devices are indexed (entPhysicalIndex) using three levels: Module layer, Device layer & Sensor layer

System Management

Management Interface
Management interfaces are used in order to provide access to switch management user interfaces (e.g. CLI, WebUI). HPE StoreFabric Switch Management supports out-of-band (OOB) dedicated interfaces (e.g. mgmt0, mgmt1) and in-band dedicated interfaces. In addition, HPE StoreFabric M-series Switches feature a serial port that provides access to the CLI.

NTP, Clock & Time Zones
Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks. NTP is intended to synchronize all participating computers to within a few milliseconds of Coordinated Universal Time (UTC) and is designed to mitigate the effects of variable network latency.

PTP
IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems (standard number 1588) defines the means to achieve time synchronization in the orders of sub microseconds.

Software Management

Configuration Management
Saving, Loading & restore to factory defaults of the Configuration File

Logging
Logging of system events in several severity levels.

Debugging
Enables debug traces for Ethernet modules.

Link Diagnostic Per Port
Enables an insight into the physical layer components - see information such as a cable status (plugged/unplugged) or if Auto-Negotiation has failed, etc

Signal Degradation Monitoring
A system can monitor the bit error rate (BER) in order to ensure a quality of the link.

Standard Features

Telemetry

Sampling (histograms) – a network administrator can enable a sampling of the port buffer occupancy, record occupancy changes over time, and provide information for different levels of buffer occupancy, and amount of time the buffer has been occupied during the observation period.

Thresholds – thresholds may be enabled per port to record the network time when port buffer occupancy crosses the defined threshold and when buffer occupancy drops below it.

User Management and Security
- Different user account types with different privileges
- RADIUS, TACACS+ & LDAP support
- System Secure Mode - configures the switch system to run secure algorithms in compliance with FIPS 140-2 requirements

Cryptographic (X.509, IPSec) and Encryption
- Configuring, generating and modifying x.509 certificates used in the system.

802.1x Protocol

Authenticate hosts (or supplicants) and to allow connection only to a list of allowed hosts pre-configured on an authentication server

Network Management Interfaces
SNMP, JSON & XML

Puppet Agent

built-in agent for the open-source "Puppet" configuration change management system

Linux Dockers run your own applications on a Linux docker's image embedded in the switch SW

Software Components, Standard, Base Models

Ethernet Switching
Interface Isolation

Group interfaces in sets where traffic from each port is isolated from other interfaces in the group.

Link Aggregation Group (LAG)

Several same speed links are combined into a single logical entity with the accumulated bandwidth of the originating ports

MLAG

Extending the implementation of the LAG to more than a single device provides yet another level of redundancy that extends from the link level to the node level.

VLANs

L2 segment of the network which defines a broadcast domain and is identified by a tag added to all Ethernet frames running within the domain

Voice VLAN

Provide QoS to voice and data traffic in a scenario where a terminal is connected to an IP phone which is in turn connected to the port on the switch

QinQ

Segregate the traffic of different customers in their infrastructure, while still giving the customer a full range of VLANs for their internal use by adding a second 802.1Q VLAN tag to an already tagged frame

Standard Features

Spanning Tree
Rapid Spanning Tree Protocol (RSTP) provides for rapid recovery of connectivity following the failure of a bridge/bridge port or a LAN
Following are supported: BPDU Filter, BPDU Guard, Loop Guard, Root Guard, MSTP & RPVST

OpenFlow - Support for OpenFlow 1.3
OpenFlow is a network protocol that facilitates direct communication between network systems via Ethernet. Software Defined Networks (SDN) allows a centralist management of network equipment. OpenFlow allows the SDN controller to manage SDN equipment. The OpenFlow protocol allows communication between the OpenFlow controller and OpenFlow agent.

VXLAN
VXLAN (Virtual Extensible Local Area Network) addresses the requirements of the L2 and L3 data center network infrastructure in the presence of virtual networks in a multi-tenant environment. It runs over the existing networking infrastructure and provides a means to "stretch" a L2 broadcast domain over a layer 3 network.

IGMP Snooping
Snooping and updating tables based on the IGMP protocol used by hosts and adjacent routers on IP networks to establish multicast group memberships

Link Layer Discovery Protocol (LLDP)
A vendor-neutral Link Layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on a IEEE 802 LAN

Quality of Service (QoS)
QoS Classification, QoS ReWrite, Queuing and Scheduling, RED & ECN are supported
Access Control List
An Access Control List (ACL) is a list of permissions attached to an object, to filter or match switches packets. When the pattern is matched at the hardware lookup engine, a specified action (e.g. permit/deny) is applied

Port Mirroring
Port mirroring enables data plane monitoring functionality which allows the user to send an entire traffic stream for testing.

sFlow
sFlow (ver. 5) is a procedure used for statistical monitoring of traffic in networks. MLNX-OS supports an sFlow sampling mechanism (agent), which includes collecting traffic samples and data from counters. The sFlow datagrams are then sent to a central collector

RDMA over Converged Ethernet (RoCE)
Remote Direct Memory Access (RDMA) is the remote memory management capability that allows server to server data movement directly between application memory without any CPU involvement.

Priority Flow Control
Provides an enhancement to the existing pause mechanism in Ethernet. The current Ethernet pause option stops all traffic on a link. PFC creates up to eight separate virtual links on the physical link and allows any of these links to be paused and restarted independently, enabling the network to create a no-drop class of service for an individual virtual links.

Shared Buffers
All successfully received packets by a switch are stored on internal memory from the time they are received until the time they are transmitted. The packet buffer is fully shared between all physical ports and is hence called a shared buffer. Buffer configuration is applied in order to provide lossless services and to ensure fairness between the ports and priorities.

Standard Features

Storm Control
Storm Control is a feature which can be enabled on L2 Ethernet ports and port-channels to monitor inbound traffic to prevent disruptions caused by a broadcast, multicast, or unicast traffic storm on the physical interfaces

Store-and-Forward
Store-and-Forward is used to describe a functionality where a switch receives a complete packet, stores it, and only then forwards it. Since the switch makes forwarding decisions based on the destination address which is at the header of the packet, the switch can make the forwarding decision before receiving the complete packet. This process is called cut-through, as the switch forwards part of the packet before receiving the complete packet. Cut-through and store-and-forward modes are configurable as a switch global or per port option.

IP Routing

IP Interfaces
The following 3 types of IP interfaces are supported:
- VLAN interface
- Loopback interface
- Router port interface

IPv6
IP version 6 (IPv6) is a routing protocol which succeeds IPv4. With the expansion of the Internet and data bases IPv6 addresses consist of 128 bits whose purpose is to allow networks to include a significantly higher number of nodes by increasing the pool of available unique IP addresses. IPv6 packets alleviate overhead and allow for future customizability.

OSPF
Open Shortest Path First (OSPF) is a link-state routing protocol for IP networks. It uses a link state routing algorithm and falls into the group of interior routing protocols, operating within a single autonomous system (AS).

BGP
Border Gateway Protocol (BGP) is an exterior gateway protocol which is designed to transfer routing information between routers. It maintains and propagates a table of routes which designates network reachability among autonomous systems (ASs).

BFD Infrastructure
Many protocols uses slow Hello mechanisms and failure is detection usually seconds after the problem occurs. The BFD goal is to provide low overhead short duration detection of failures between adjacent nodes and single mechanism that can be used for liveness detection over any media.

Policy Rules

Route Map
Route maps define conditions for redistributing routes between routing protocols. A route map clause is identified by a name, filter type (permit or deny) and a sequence number. Clauses with the same name are components of a single route map; the sequence number determines the order in which the clauses are compared to a route.

IP Prefix-List
Prefix-list is a list of entries, each of which can match one or more IP prefixes. A prefix-list is usually used to match a specific IP prefix, mostly in relation to IP route destinations

Standard Features

Multicast (IGMP and PIM)
Protocol independent multicast (PIM) is a collection of protocols that deal with efficient delivery of IP multicast (MC) data. Those protocols are published in the series of RFCs and define different ways and aspects of multicast data distribution. PIM protocol family includes PIM dense mode (PIM-DM), PIM sparse mode (PIM-SM, which is not supported on Mellanox platforms), Bidirectional PIM (PIM-BIDIR) and Bootstrap router (BSR) protocol.
PIM builds and maintains multicast routing tables based on the unicast routing information provided by unicast routing tables that can be maintained statically or dynamically by IP routing protocols like OSPF and BGP.

VRRP
The Virtual Router Redundancy Protocol (VRRP) is a computer networking protocol that provides for automatic assignment of available IP routers to participating hosts. This increases the availability and reliability of routing paths via automatic default gateway selections on an IP subnetwork.

MAGP
Multi-active gateway protocol (MAGP) is aimed to solve the default gateway problem when a host is connected to a set of switch routers (SRs) via MLAG.
The network functionality in that case requires that each SR is an active default gateway router to the host, thus reducing hops between the SRs and directly forwarding IP traffic to the L3 cloud regardless which SR traffic comes through.

DHCP Relay
Since Dynamic Host Configuration Protocol must work correctly even before DHCP clients have been configured, the DHCP server and DHCP client need to be connected to the same network.
In larger networks, this is not always practical because each network link contains one or more DHCP relay agents. These DHCP-R agents receive messages from DHCP clients and forward them to DHCP servers thus extending the reach of the DHCP beyond the local network.

Service and Support

Warranty

(3-3-3) Hardware Warranty; 3-year parts; 3-year on-site (standard business hours, next business day   response) and 3-year labor.

NOTE: The hardware warranty covers firmware. For extended hardware support and installation information, please see the "Services and Support" Section.

Service and Support

Achieve maximum return from your IT investment

Get the expertise you need at every step of your IT journey with **HPE Pointnext services and support.** We help you lower your risks and costs using proven best practices, automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. With **Advisory Services**, we focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake Flex Capacity combines the simplicity, agility, and economics of public cloud with the security and performance benefits of on-premises IT. You determine your own "Right Mix" of Hybrid IT and workload placement without having to use.

With its agile pay-per-use service, HPE GreenLake Flex Capacity can help your IT organization:

- Avoid IT expenses stemming from overprovisioning
- Improve time to market by maintaining a safe buffer of capacity, ready for use when you need it
- Keep capacity ahead of demand with regular monitoring—and a simple change order to replenish
- Pay for only the capacity used, not the capacity deployed
- Reduce IT risk with tailored support

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time, increase diagnostic accuracy and have a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support. Learn more about getting connected at **www.hpe.com/services/getconnected**

Free up resources with Operational Services from HPE Pointnext

Choose from the recommended services for customers purchasing from Hewlett Packard Enterprise or an authorized reseller are quoted using Hewlett Packard Enterprise order configuration tools.

HPE Datacenter Care helps customers to address the pressing needs of IT today and smoothly transform to a more agile cloud-like IT operations model. We help run and monitor your IT by offloading the day to day routine tasks, helping customers be more predictive and proactive, and saving time with one place to call with for all of their IT. Datacenter Care is available as both tailored statement of work and as a packaged service for 3, 4, and 5 year terms.

Partner with an assigned account team backed by local and global experts, access HPE enhanced call experience with priority access, use specialized support for complex, technologies, choose hardware and software support for your devices, implement proactive monitoring to stay ahead of issues , and access HPE IT best practices and IP. HPE Datacenter Care advantage options are available to add to your agreement to give you specialized expertise for performance, security, back up analysis, and much more.

Service and Support

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice.
HPE Proactive Care is available in 3, 4 and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR). This service combines both reactive support when there is a problem with an enhanced call experience and start to finish case management with proactive reporting and advice.
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

HPE Proactive Care Advanced incorporates all the deliverables of HPE Proactive Care *plus* includes personalized support from a local, assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to help increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging and parts dispatch. For business critical incidents, Proactive Care Advanced offers critical event management to help reduce mean time to resolution. HPE Service Credits are included to redeem for technical and operational services. HPE Proactive Care Advanced is offered in 3, 4, and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR).
https://www.hpe.com/h20195/v2/getdocument.aspx?docname=4AA5-3259ENW
NOTE: HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to HPE to help make the most of these services and receive all the deliverables.

HPE Foundation Care – (choose the response level that meets your needs)
HPE Foundation Care helps when there is a problem and is available in 3, 4, and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR).
NOTE: that Call-To-Repair Service connects you to HPE 24 hours a day, seven days a week for assistance on resolving issues - this includes our highest level commitment to repair hardware within six hours after opening your case and respond to software questions within two hours. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.
https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

Other related services from HPE Pointnext

Parts and Materials
HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

Defective Media Retention is an option available with HPE Datacenter Care, HPE Proactive Care, Proactive Care Advanced, and HPE Foundation Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

HPE Installation and Start-up Service
Provides for the hardware installation and startup of HPE branded M-series switches with ONYX OS, according to the product specifications. The HPE service delivery technician will assist you in bringing your new hardware into operation in a timely and professional manner.
https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00025816enw

Service and Support

HPE Hardware Installation
Provides for the basic hardware installation of HPE branded M-series ONIE switches to assist you in bringing your new hardware into operation in a timely and professional manner.
http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf

HPE Service Credits offers flexible services and technical skills to meet your IT demands as your business evolves. With a menu of services, you can access additional resources and specialist skills to help you maintain peak performance of your IT. HPE Service Credits help you proactively respond to your dynamic IT and business needs.

HPE Education Services provides comprehensive training designed to expand the skills of your IT staff and keep them up to speed with the latest technologies.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and support options.

HPE Support Center
The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.
Learn more **http://www.hpe.com/support/hpesc**
The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.
NOTE: *HPE Support Center Mobile App is subject to local availability

For more information
http://www.hpe.com/services
https://www.hpe.com/us/en/services/operational.html
To learn more on HPE Storage Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at **Contact HPE**
HPE Support Services are sold by HPE and Hewlett Packard Enterprise Authorized Service Partners:
- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find HPE Support Services at **https://ssc.hpe.com/portal/site/ssc/**

Family Information

	HPE StoreFabric SN2010M	HPE StoreFabric SN2100M	HPE StoreFabric SN2410bM	HPE StoreFabric SN2410M	HPE StoreFabric SN2700M
Description	Ideal ½ width ToR 1/10/25/40/50/100 GbE	Ideal ½ width ToR 10/25/40/50/100GbE	1/10GbE ToR switch with 40/50/100GbE uplinks	10/25GbE ToR switch with 40/50/100GbE uplinks	40/50/100GbE spine Aggregation ToR
Ports Speeds	18 x 1/10/25GBE + 4x40/100GbE	16x40/100GbE 32x50GbE 64x10/25GbE	48x10GbE + 8x40/100GbE	48x10/25GbE + 8x40/100GbE	32x40/100GbE 32x50GbE 64x10/25GbE
Minimum Configuration	18 + 4 Ports	8 Ports - pay as you grow with 8 additional port option	24x10 GbE + 4x100 GbE Ports – pay as you grow 24/4 additional port option	24x10/25 GbE + 4x100 GbE Ports - pay as you grow 24/4 additional port option	16 Ports - pay as you grow with 16 additional port option
Size	1U (½ 19" wide)	1U (½ 19" wide)	1U	1U	1U
Switching Capacity	1.7Tb/s	3.2Tb/s	4Tb/s	4Tb/s	6.4Tb/s
Processing Capacity	2.52Bpps	4.76Bpps	5.95Bpps	5.95Bpps	9.52Bpps
Forwarding Technology	Cut Through and Store-and-forward	Cut Through and Store-and-forward	Cut Through and Store-and-forward	Cut Through and Store-and-forward	Cut Through and Store-and-forward
Latency	300ns	300ns	300ns	300ns	300ns
Typical Power Consumption	57W	94W	165W	165W	150W
Supported Operating Systems**	ONYX	ONYX & ONIE	ONYX	ONYX & ONIE	ONYX & ONIE
System Memory	8GB	8GB	8GB	8GB	8GB
SSD Memory	16GB	16GB	32GB	32GB	32GB
Packet Buffer	16MB	16MB	16MB	16MB	16MB
100/100 Mgmt Ports	1 RJ45	1 RJ45	2 RJ45	2 RJ45	2 RJ45
Serial Ports	1 RJ45	1 RJ45	1 RJ45	1 RJ45	1 RJ45
USB Ports	1 Mini USB	1 Mini USB	1	1	1
Airflow	Power-to-Connector and Connector-to-Power airflow	Power-to-Connector and Connector-to-Power airflow	Power-to-Connector and Connector-to-Power airflow; hot swappable	Power-to-Connector and Connector-to-Power airflow; hot swappable	Power-to-Connector and Connector-to-Power airflow; hot swappable
Power Supplies	2 (1+1 redundant) not replaceable	2 (1+1 redundant) not replaceable	2 (1+1 redundant) hot-swappable	2 (1+1 redundant) hot-swappable	2 (1+1 redundant) hot-swappable

Family Information

	HPE StoreFabric SN2010M	**HPE StoreFabric SN2100M**	**HPE StoreFabric SN2410bM**	**HPE StoreFabric SN2410M**	**HPE StoreFabric SN2700M**
Fans	2 fans not replaceable	2 fans not replaceable	4 (N+1 redundant) hot-swappable	4 (N+1 redundant) hot-swappable	4 (N+1 redundant) hot-swappable
Power Supplies	Frequency: 50-60Hz Input range: 100-264 AC Input current 4.5-2.9A	Frequency: 50-60Hz Input range: 100-264 AC Input current 4.5-2.9A	Frequency: 50-60Hz Input range: 100-264 AC Input current 4.5-2.9A	Frequency: 50-60Hz Input range: 100-264 AC Input current 4.5-2.9A	Frequency: 50-60Hz Input range: 100–264 AC Input current 4.5-2.9A
Size	1.72" x 7.87" x 20"(43.9mm x 200mm x 508mm)	1.72" x 7.87" x 20"(43.9mm x 200mm x 508mm)	1.72" x 17.24" x 17"(43.9mm x 438mm x 436mm)	1.72" x 17.24" x 17"(43.9mm x 438mm x 436mm)	1.72" x 16.84" x 27"(43.9mm x 427.8mm x 686mm)
Weight	4.53kg (10Lb)	4.53kg (10Lb)	8.52kg (18.8Lb)	8.52kg (18.8Lb)	11.1kg (24.5Lb)
** **NOTE**: There are separate M-series SKUs for ONIE and ONYX					

Technical Specification

Step 1 - Base Configuration

Select one Model:	Part Number
HPE StoreFabric SN2700M 100GbE 32QSFP28 Switch	Q2F21A
HPE StoreFabric SN2700M 100GbE 32QSFP28 Power to Connector Airflow TAA Compliant	R0P71A
HPE StoreFabric SN2700M 100GbE 32QSFP28 Connector to Power Airflow TAA Compliant	R0P72A
HPE StoreFabric SN2700M 100GbE 32QSFP28 ONIE Connector to Power Airflow	R0P79A
HPE StoreFabric SN2700M 100GbE 32QSFP28 ONIE Power to Connector Airflow	R0P80A

Model Description	Part Number
2 x 460w Power Supply with Intake Fan 4 x Intake Fan Tray 1 x Fixed Rack Mount Kit 2 x Power cord, 1.83m, C13-C14 1 x Serial cable (DB9 to RJ45) 2 x PSU CABEL RETAINER KIT 1 x HPE Warranty and Installation instructions 1x HPE Quick Start Guide **NOTE:** Requires optical transceivers listed below.	
HPE StoreFabric SN2700M 100GbE 16QSFP28 Switch	Q6M26A
2 x 460w Power Supply with Intake Fan 4 x Intake Fan Tray 1 x Fixed Rack Mount Kit 2 x Power cord, 1.83m, C13-C14 1 x Serial cable (DB9 to RJ45) 2 x PSU CABEL RETAINER KIT 1 x HPE Warranty and Installation instructions 1x HPE Quick Start Guide	
NOTE: Requires optical transceivers listed below.	
HPE StoreFabric SN2700M 100GbE 16-port Upgrade E-LTU	Q6J39AAE
HPE StoreFabric SN2700M 100GbE 16QSFP28 Switch	Q6M26A

NOTE: Upgrade licenses (Q6J39AAE) allow pay-as-you-grow model with additional 16-active-ports with Q6M26A.
NOTE: For M-series SN2700M ONIE SKU (R0P79A, R0P80A) refer Transceivers & Cables supported by the NOS used.

Technical Specification

Step 2 – Options
Refer to HPE M-series <u>SPOCK</u> Connectivity Stream for latest qualification matrix

Model Description

Note # Transceivers

Note #	Transceivers	
	HPE M-series 100GbE QSFP28 SR4 100m Transceiver	Q2F19A
	HPE M-series 100GbE QSFP28 1310nm PSM4 500m Transceiver	Q8J73A
	HPE M-series 40GbE QSFP28 SR4 100m Transceiver	Q7F11A
	HPE M-series 100GbE QSFP28 SR4 100m Transceiver	Q2F19A
10	HPE 100Gb QSFP28 LC SWDM4 Multi-mode 100m	R0R40A
	HPE M-series 40GbE QSFP28 SR4 100m Transceiver	Q7F11A
2	HPE M-series 10GbE SFP+ SR MM 300m Transceiver	Q6M30A
3	HPE 10GBASE-T SFP+ RJ45 30m Transceiver	R0R41A
	HPE 25Gb SFP28 SR 30m Transceiver	R0R42A
2	HPE 10Gb SFP+ SR Transceiver	455883-B21
2	HPE X110 100M SFP LC LX Transceiver	JD120B
2	HPE X120 1Gb SFP LC SX Transceiver	JD118B
2	HPE X120 1Gb SFP LC LX Transceiver	JD119B
2	HPE X120 1Gb SFP RJ45 T Transceiver	JD089B
2	HPE 1000BaseT SFP RJ45 Transceiver	453154-B21
	CAT5e crossover cable RJ45 to RJ45 2.1m (7 ft) – 1GbE	C7539A
2	HPE X130 10Gb SFP+ LC SR Transceiver	JD092B
2	HPE X130 10Gb SFP+ LC LR Transceiver	JD094B
2	HPE X130 10Gb SFP+ LC SR Data Center Transceiver	JL437A
2	HPE X130 10Gb SFP+ LC LR Data Center Transceiver	JL439A
2	HPE X130 10Gb SFP+ LC ER 40km Transceiver	JG234A
2	HPE X130 10Gb SFP+ LC LH 80km Transceiver	JG915A
	HPE X140-LSWM4 QSFP+-40GBASE-CSR4 QSFP+ 40G	JG709A
	HPE X140 40Gb QSFP+ LC LR4 SM 10KM 1310nm	JG661A
	HPE BladeSystem c-Class 40Gb QSFP+ MPO SR4 100m	720187-B21
	HPE BladeSystem c-Class 40Gb QSFP+ MPO SR4 300m	747698-B21
	HPE BladeSystem c-Class 40Gb QSFP+ LC LR4	720190-B21
	HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver.	JL251A
	HPE 40Gb QSFP+ Bidirectional Transceiver	841716-B21
3	HPE X190 25Gb SFP28 LC SR 100m MM Transceiver	JL293A
	HPE 25Gb SFP28 SW 1-pack Pull Tab XCVR	Q2P64A
	HPE 25Gb SFP28 SW 1-pack extended temperature Pull Tab XCVR	Q2P64B
	HPE M-series 100GbE QSFP28 PSM4 500m XCVR	Q8J73A
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X140-LSWM4 QSFP+-QSFP+ 40Gb SR4 850nm 100m	JG325B
	HPE 25GbE SFP28 SR 100m Transceiver	845398-B21
	HPE M-series 10GbE SFP+ SR 300m XCVR	Q6M30A
	HPE M-series 40GbE QSFP28 SR4 100m XCVR	Q7F11A
	HPE M-series 100GbE QSFP28 SR4 100m Transceiver	Q2F19A
2	Mellanox QSA QSFP/SFP+ Adapter	655874-B21

Technical Specification

3	HPE QSA28 QSFP28 to SFP28 Adapter	845970-B21
	HPE X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
	HPE X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
10	HPE X150 100G QSFP28 LC SWDM4 100m MM	JH419A
9	HPE 100Gb QSFP28 Bidirectional XCVR	845972-B21
9	HPE 100GB QSFP28 BIDIRECTIONAL XCVR	855817-B21
3	HPE Aruba 25G SFP28 LC LR 10km SMF Transceiver [3]	813874-B21
3	HPE 10GBase-T SFP+ Transceiver [3]	813874-B21

Note # Direct Attach Copper Cables (DAC)

HPE BladeSystem c-Class 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	721064-B21
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 100GbE QSFP28 to 4x25GbE SFP28 1m Direct Attach Copper Cable	Q9S72A
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 BladeSystem c-Class 40G QSFP+ to QSFP+ 1m Direct	720196-B21
HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable	720199-B21
HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable	720202-B21
HPE X242 40G QSFP+ to QSFP+ 1m Direct Attach Copper Cable	JH234A
HPE X242 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable	JH235A
HPE X242 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable	JH236A
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 100GbE QSFP28 to 4x25GbE SFP28 1m Direct Attach Copper Cable	Q9S72A
HPE 100Gb QSFP28 to 4x25Gb SFP28 3m Direct Attach Copper Cable	845416-B21
HPE 100GbE QSFP28 to 4x25GbE SFP28 1m Direct Attach Copper Cable	Q9S72A
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 100G QSFP28 to QSFP28 0.5m DAC	845402-B21
HPE 100G QSFP28 to QSFP28 1m DAC	845404-B21
HPE 100Gb QSFP28 to QSFP28 3m Direct Attach Copper Cable	845406-B21

Technical Specification

Note #	Active Optical Cable (AOC)	
	HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable	Q9S71A
	HPE 40GbE QSFP+ to 4x10GbE SFP+ 5m Active Optical Cable	Q9S66A
	HPE 25GbE SFP28 to SFP28 3m Smart Active Optical Cable	Q9S67A
	HPE 25GbE SFP28 to SFP28 5m Smart Active Optical Cable	Q9S68A
	HPE 25GbE SFP28 to SFP28 10m Smart Active Optical Cable	Q9S69A
	HPE 25GbE SFP28 to SFP28 15m Smart Active Optical Cable	Q9S70A
	HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable	Q9S71A
	HPE 40G QSFP+ to 4x10G SFP+ 7m Active Optical	721070-B21
	HPE 40G QSFP+ to 4x10G SFP+ 10m Active Optical	721073-B21
	HPE QSFP+ to 4x10G SFP+ 15m Active Optical Cable	721076-B21
	HPE 40G QSFP+ to QSFP+ 7m Active Optical Cable	720205-B21
	HPE 40G QSFP+ to QSFP+ 10m Active Optical Cable	720208-B21
	HPE 40G QSFP+ to QSFP+ 15m Active Optical Cable	720211-B21
	HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable	Q9S71A
	HPE 100Gb QSFP28 to QSFP28 7m Active Optical Cable	845410-B21
	HPE 100G QSFP28 to QSFP28 10m Active Optical Cable	845412-B21
	HPE 100Gb QSFP28 to QSFP28 15m Active Optical Cable	845414-B21
	HPE QSFP28 to 4x25Gb SFP28 7m Active Optical Cable	845420-B21
	HPE QSFP28 to 4x25Gb SFP28 15m Active Optical Cable	845424-B21
	HPE 40GbE QSFP+ to 4x10GbE SFP+ 5m Active Optical Cable	Q9S66A

Configuration Rules and Notes:
NOTE: 1: JG915A - Storage connectivity support for this transceiver is limited to 40Km
NOTE: 2: QSA (QSFP+ to SFP+) adapter (655874-B21) is compatible with all M-series switches and is required to convert a QSFP+ slot to a single SFP+ slot for 1G or 10G operation
NOTE: 3: HPE QSA28 (QSFP28 to SFP28) adapter (845970-B21) is compatible with all M-series switches and is required with this transceiver to convert a QSFP28 slot to a single SFP28 or SFP+ slot for 25G or 10G operation with this switch model.
Use of 813874-B21 10Gbase-T transceiver or any 25G transceiver with QSA (QSFP+ to SFP+) adapter 655874-B21 is not supported.
NOTE: 4: QSFP (+ or 28) cable end is supported in SN2010M. The SFP (+ or 28) end is not supported in the SN2010M
NOTE: 5: The SN2010M 25G DAC connectivity to another M-series switch or 3rd party switch is limited to a 0.5m DAC cable. End device connectivity may use 1m or a 3m (26 gauge) DAC.
NOTE: 6: This HPE transceiver is compatible and supported for use in the SFP28 slots with this M-series switch model and is not restricted to use only with a QSA28 in QSFP28 slots.
NOTE: 7: This HPE transceiver is compatible and supported for use in the SFP28 slots and also the QSFP28 slots with this M-series switch model with the QSA28 (QSFP28 to SFP28) adapter (845970-B21) or the QSA (QSFP+ to SFP+) adapter (655874-B21).
NOTE: 8: This RJ45 crossover cable is compatible and supported for use when directly connecting the two M-series switch MGMT ports. When configuring MLAG and also utilizing in-band management, the MGMT0 ports of the two switches should be connected.
NOTE: 9: The interoperable 845972-B21 and 855817-B21 HPE 100Gb QSFP28 Bidirectional XCVRs do not interoperate with the JH419A and R0R40A transceivers.
NOTE: 10: 100Gbe SWDM4 LC transceivers JH419A and R0R40A are interoperable.
NOTE: 11: 10Gbase-T SFP+ RJ45 transceiver supports maximum length 30M CAT6a cable and due to power density is limited to 6 transceivers for each group of 8 SFP28 slots. For example, SFP28 slots 17 to 22 of the SN2410M and SN2410bM can be populated with the R0R41A and slots 23 and 24 shall not be populated with R0R41A or any other transceiver, i.e., slots 23 and 24 shall not be used and instead be disabled.

Technical Specification

Supported Optical Cables for all M-series switch models

Description	SKU
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 10m Cable	QK729A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 50m Cable	QK731A
HPE Premier Flex LC/LC OM4 2f 1m Multi-Mode Optical Cable	QK732A
HPE Premier Flex LC/LC OM4 2f 2m Multi-Mode Optical Cable	QK733A
HPE Premier Flex LC/LC OM4 2f 5m Multi-Mode Optical Cable	QK734A
HPE Premier Flex LC/LC OM4 2f 15m Multi-Mode Optical Cable	QK735A
HPE Premier Flex LC/LC OM4 2f 30m Multi-Mode Optical Cable	QK736A
HPE Premier Flex LC/LC OM4 2f 50m Multi-Mode Optical Cable	QK737A
HPE .5m OM3 LC/LC Multi-Mode Optical Cable	AJ833A
HPE 1m OM3 LC/LC Multi-Mode Optical Cable	AJ834A
HPE 2m OM3 LC/LC Multi-Mode Optical Cable	AJ835A
HPE 5m OM3 LC/LC Multi-Mode Optical Cable	AJ836A
HPE 15m OM3 LC/LC Multi-Mode Optical Cable	AJ837A
HPE 30m OM3 LC/LC Multi-Mode Optical Cable	AJ838A
HPE 50m OM3 LC/LC Multi-Mode Optical Cable	AJ839A
HPE Premier Flex MPO/MPO OM4 12 Fiber 100m Cable	H6Z30A
HPE Premier Flex Multi Fiber Push On to 4 x Lucent Connector 5m Cable	K2Q46A
HPE Premier Flex Multi Fiber Push On to 4 x Lucent Connector 15m Cable	K2Q47A
HPE Premier Flex MPO/MPO OM4 12f 1m Cable	Q1H63A
HPE Premier Flex MPO/MPO OM4 12f 2m Cable	Q1H64A
HPE Premier Flex MPO/MPO OM4 12f 5m Cable	Q1H65A
HPE Premier Flex MPO/MPO OM4 12f 15m Cable	Q1H66A
HPE Premier Flex MPO/MPO OM4 12f 30m Cable	Q1H67A
HPE Premier Flex MPO to 4xLC 30m Cable	Q1H68A
HPE Premier Flex MPO to 4xLC 50m Cable	Q1H69A

Technical Specifications

HPE StoreFabric M-Series SN2700 Switch Specifications		
	HPE SN2700M 100GbE 32QSFP28 Switch	**HPE SN2700M 100GbE 16QSFP28 Switch**
Description	100GbE Aggregation /ToR switch	100GbE Aggregation /ToR switch
Ports Speeds	• 32x40/100GbE • 32x50GbE • 64x10/25GbE	• 16x40/100GbE • 16x50GbE • 32x10/25GbE
Minimum Configuration	16 Ports	16 Ports - pay as you grow with 16 additional ports with License SKU (Q6J39AAE)
Size	1U	1U
Switching Capacity	6.4Tb/s	6.4Tb/s
Processing Capacity	9.52Bpps	9.52Bpps
Forwarding Technology	Cut Through	Cut Through
Latency	300ns	300ns
Typical Power Consumption	150W	150W
Supported Operating Systems	ONYX & ONIE	ONYX
System Memory	8GB	8GB
SSD Memory	32MB	32MB
Packet Buffer	16MB	16MB
100/100 Mgmt Ports	2 RJ45	2 RJ45
Serial Ports	1 RJ45	1 RJ45
USB Ports	1	1
Airflow	Power-to-Connector and Connector-to-Power airflow ; hot swappable	Power to connector only; hot swappable
Power Supplies	2 (1+1 redundant) hot-swappable	2 (1+1 redundant) hot-swappable
Fans	4 (N+1 redundant) hot-swappable	4 (N+1 redundant) hot-swappable
Power Supplies	Frequency: 50-60Hz Input range: 100–264 AC Input current 4.5-2.9A	Frequency: 50-60Hz Input range: 100–264 AC Input current 4.5-2.9A
Size	1.72" x 16.84" x 27"(43.9mm x 427.8mm x 686mm)	1.72" x 16.84" x 27"(43.9mm x 427.8mm x 686mm)
Weight	11.1kg (24.5Lb)	11.1kg (24.5Lb)

Technical Specifications

Environment
Operating temperature
0°C to 40°C
Operating relative humidity (operational)
10% to 85%, noncondensing

Electrical characteristics
Frequency **50/60 Hz**
Voltage **90-264 VAC**

Safety
EN 60950-1:2006+A11:2009+A1:2010+A12:2011+AC:2011+A2:2013, IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 and EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC:2011 + A2:2013, UL 60950-1:2007, CAN/CSA C22.2 60950 -1:2007+A1:2011+A2:2014, IEC 60950-1 Ed. 2.0 :2005 + Am 1:2009+ Am 2:2013, LV CU TR 004/2011 and EMC CU TR 020/2011 Technical Regulation, DSTU EN 55032:2014 and DSTU EN 60950-1:2014

EMC
EN 55032:2012 class A, EN 55024:2010, EN 61000-3-2:2014, EN 61000-3-3: 2013, EN 61000-4-2: 2002, EN 61000-4-3: 2006+A1(08)+A2(10), EN 61000-4-4: 2004+A1(10), EN 61000-4-5: 2006, EN 61000-4-6: 2014
EN 61000-4-11:2004, FCC 47 CFR, Part 15:2017, Sub-part B, Class A, ICES-003, Issue 6: 2016 Class A, VCCI V-3/2015.04 Class A, AZ/NZS CISPR 32:2015 Class A, KN22:2009 class A/ KN24:2009

Acoustic:
High-speed fan: : SN2700 - 71.6 dB(A)

Typical power with passive cables (ATIS):
150W

Summary of Changes

Date	Version History	Action	Description of Change
05-Aug-19	Version 8	Changed	Overview, Service and Support, Family Information and Technical Specifications sections were updated.
02-Apr-2019	Version 7	Changed	Family Information and Technical Specifications sections were updated.
07-Jan-2019	Version 6	Changed	Overview, Models, Service and Support, Family Information, Configuration Information and Technical Specifications sections were updated
15-Oct-2018	Version 5	Changed	Overview section was updated. SKUs descriptions were updated. Obsolete SKUs were removed from Configuration Information section. New SKUs were added in Configuration Information section.
02-Apr-2018	Version 4	Changed	SKU descriptions were updated.
		Removed	Obsolete SKUs were removed
08-Jan-2018	Version 3	Changed	The support matrix was updated and few typos were fixed.
02-Oct-2017	Version 2	Changed	Fixed a typo on the main image
25-Sep-2017	Version 1	New	New QuickSpecs

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