

Overview

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HPE Networking Instant On Switch Series 1840

QuickSpecs

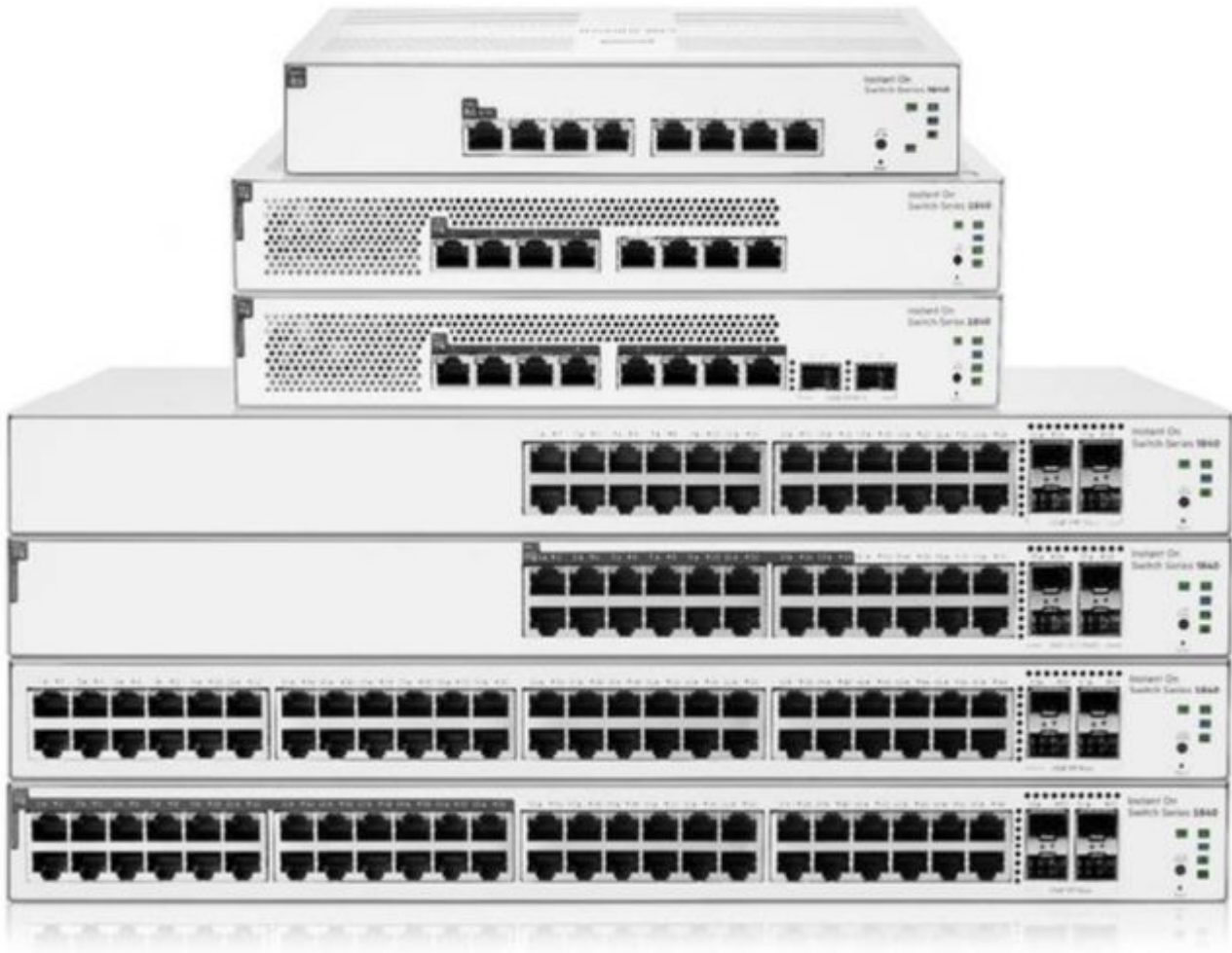
Small businesses continue to face operational challenges in an evolving digital landscape a cost-effective, reliable, and secure networking solution must be designed to meet their needs.

With simplified management and enterprise-grade features, the Instant On 1840 helps streamline day-to-day network tasks, ensuring smooth operations. Its affordable price point makes it accessible for budget-conscious businesses seeking high performance without compromising security or reliability.

In an environment where network uptime is critical, the Instant On 1840 provides fast, dependable connectivity to support interconnected devices and growing bandwidth demands. This switch enables SMBs to maximize their network investments, maintaining a competitive edge while managing limited resources effectively.

HPE Networking Instant On Switch 1840 is an affordable, easy to deploy, smart-managed switch series for small businesses looking for a cost-effective ways to keep up with evolving network demands. These are entry-level switches offering Layer 2 switching capabilities, Gigabit connectivity along with flexible management modes - all at an affordable price point.

Overview



Key Features

- Smart-managed Layer 2 Ethernet switch series ready to deploy in 8-, 24-, 48-port for non-PoE and Class 4 PoE models.
- Up to 370W of PoE to power APs, IP Phones, surveillance cameras, door locks and other IoT devices
- Two (2) and four (4) dedicated 1G SFP fiber ports on across models to eliminate traffic bottlenecks across your network.
- Cost-effective PoE Support: with half of the ports capable of supporting PoE, these switches are ideal for cost-sensitive environments.
- 8-port non-PoE switch that can be powered by an upstream Power over Ethernet (PoE) switch for environments where no line power is available.
- Convenient mobile app and web-based GUI for set up, management and troubleshooting.
- Compact and fan-less 8-port non-PoE and PoE models for acoustically sensitive environments

Standard Features

Highlights

Simplicity At Its Best

Plug-and-play switches that work together with Instant On APs right out of the box Mobile app to easily setup, monitor and manage your network

Security You Can Count On

- Protect your network from unauthorized access with Global Storm Control, TPM 2.0 (Trusted Platform module) based security and VLANs
- Automatic denial-of-service (DOS) monitors and protects the network against malicious attacks

We've Got You Covered

- No extra licensing or subscription fees
- Industry-leading limited lifetime warranty and support

With a flexible management dashboard, Power over Ethernet (PoE) options, and energy-efficient features, these switches deliver a solid business network for small businesses with limited budget.

The HPE Networking Instant On Switch 1840 includes seven switches: three (3) 8-port, two (2) 24-port and two (2) 48-port models in PoE and non-PoE configurations. Besides powering up through a power adapter, the 8-port PD model can also be powered from an upstream PoE switch, offering greater flexibility for space-constrained environments by eliminating the need for additional power outlets and simplifying wiring infrastructure.

With PoE models, up to 30W PoE power delivery is available for Class 4 PoE devices like access points, surveillance cameras and VoIP phones. The 8-port, 24-port and 48-port PoE models come with the power budget of 65W, 195W and 370W respectively to support latest IoT devices.

Using either the Instant On mobile app or the cloud-based web portal, you can quickly set up, monitor and manage the 1830 Switch Series from anywhere at any time.

Easy Set Up and Management

The HPE Networking Instant On mobile app allows you to set up, manage, and monitor Instant On switches and access points directly from your phone. Within the app, you get guided step-by-step instructions to install Instant On devices to get your network up and running quickly - no technical expertise required. And cloud-based access allows you to access the network from anywhere, at any time.

Better Together

Instant On automatically detects and applies highest (critical) PoE priority to Instant On Access Points for uninterrupted power delivery and wireless network access. Wired and wireless voice traffic is prioritized with high QoS priority end-to-end for optimal voice performance.

Optimized User Experience

The HPE Networking Instant On mobile app provides common workflows for Instant On switches and access points making it easier to configure, monitor and manage your network remotely without the need for additional hardware like cloud keys or VPN. You can also update firmware on your Instant On devices directly from the cloud whenever you want, from wherever you are.

Standard Features

Site Inventory And Topology View

The site inventory view shows all Instant On switches and access points on a single interface, and the topology view provides an intuitive structure of all Instant On devices deployed on the network - allowing you to quickly identify non-functioning devices and troubleshoot accordingly. Network issues can be easily diagnosed with connectivity tests like Ping and Traceroute.

Two-Factor Authentication (2FA)

As the number of security breaches continues to rise, 2FA has become an essential tool to mitigate risk against compromised login credentials. Two-Factor Authentication (2FA), provides an additional layer of authentication, prevents attackers from remotely accessing the network, and secures sensitive customer information.

Built-In Security

Built-in security features protect your network from external threats by blocking malware attacks and keeping unauthorized users off the network. Network traffic can be filtered and access restricted based on MAC and IP address.

No Hidden Fees

All features are included in the price of the hardware - there are no recurring subscription or licensing fees. Expert-level support and industry-leading limited lifetime warranty are also included, along with chat support for the life of the product.

Multi-Site Remote Management

The cloud-hosted web interface and mobile app make it easy to remotely manage multiple sites, multiple networks, distributed and multi-tenant deployments. Each site is logically separated and has its own configuration, statistics, guest portal, and admin read/write privileges. Instant On allows you to create three admin accounts per site, offering the option to lock accounts from accidental deletion.

Management

Cloud-Based Management

The cloud-hosted web interface and mobile app make it easy to manage networks with Instant On APs and switches.

Simple Local Web GUI Management

For management of individual switches, the intuitive Web GUI makes management simple, even for non-technical users. Supports up to five (5) HTTP and HTTP Secure (HTTPS) sessions.

Secure Web-Management Sessions With HTTPS

Encrypts and otherwise protects management sessions through HTTP Secure (HTTPS), which prevents snooping of

Standard Features

sensitive management information. Regardless of whether the switch is managed from the local Web GUI or the cloud, data between the switch and the management interface is encrypted and secure.

Firmware Update

Provides notification of the latest firmware with the ability to schedule update at a preferred time through Instant On mobile app and cloud-based web portal.

Configuration File Management

Allows the user to back up and restore the configuration settings in case of a firmware upgrade or to apply them to other switches on the network.

DHCP Client Mode

Allows the switch to be directly connected to a network, enabling plug-and-play operation. In the absence of a DHCP server on the network, the switch falls back to the default static address 192.168.1.1.

Locator LED

Allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifying troubleshooting by making it easy to locate a particular switch within a rack of similar switches.

Comprehensive LED Display

Provides an at-a-glance view of status, activity, speed, and full-duplex operation with per-port indicators.

Management VLAN ID

Provides secure management access to the switch for administrators from within the specified VLAN.

Simple Network Time Protocol (SNTP)

Allows automatic synchronization of the switch date and time for accurate tracking of system events and various schedules set by the administrator.

Quality Of Service (Qos)

Class of Service (CoS)

Provides time-sensitive packets (like VoIP and video) with priority over other traffic based on DSCP or IEEE 802.1p classification; packets are mapped to four hardware queues for more effective throughput.

Standard Features

Connectivity

Auto MDI/MDI-X

Adjusts automatically for straight-through or crossover cables on all 10/100/1000 ports.

Auto-negotiating capability

Supports half/full-duplex auto-negotiating capability on every port that doubles the throughput of every port.

1G fiber connectivity

Provides 1G fiber connections for uplinks and other connections across longer distances than copper cabling can support. SFP ports are in addition to available copper Ethernet ports, providing a higher total number of available ports. Two (2) SFP ports on the 8-port PoE switch and four (4) SFP ports available on 24- and 48-port models.

Ethernet Alliance PSE Class 4 PoE Certification

Power Over Ethernet (PoE) functionality is supported on certain 1830 models, known as power source equipment (PSE) ports which provide power to connected devices.

With half of the ports supporting Class 4 PoE, these models provide up to 30 W per port, which allows support of class 4 PoE or IEEE 802.3at capable devices such as video IP phones, wireless access points, as well as any 15.4 W IEEE 802.3af compliant end device, mitigating the cost of additional electrical cabling and circuits that would otherwise be necessary.

Ethernet Alliance PD Class 3 PoE Certification

Devices receiving power through PoE are referred to as powered devices (PDs).

The 8-port non-PoE Gigabit Ethernet model is a powered device that can be powered by an upstream Power over Ethernet (PoE) switch for environments where no line power is available, besides being powered up by an external power adapter. Port 1 supports Class 3 PoE with the capability of receiving IEEE 802.3af PoE power up to a maximum of 13W.

Auto-PoE power configuration

The switch automatically assigns the required power to a port for a PD device based on Link Layer Discovery Protocol (LLDP).

PoE power allocation

Support multiple methods (LLDP-MED automatic, class of PoE, or usage-based) to allocate PoE power for more efficient energy savings.

PoE Scheduling

Allows user to configure a specific day/time of the week (e.g., business hours) for Instant On switches to supply power to connected devices (e.g., surveillance cameras, access points etc.).

Port Scheduling

Allows user to configure up to three (3) schedules to enable or disable individual ports or PoE power delivery on certain

Standard Features

switch ports by selecting a particular time of the day or a periodic occurrence.

Switching

Flow control

Provides a flow-throttling mechanism propagated through the network to prevent packet loss at a congested node.

Spanning Tree Protocol (STP)

Supports 802.1D STP, 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence. Provides redundant links while preventing network loops.

BPDU filtering

Drops BPDU packets when STP is enabled globally but disabled on a specific port.

Loop protection

Allows loop detection in the network for switches that do not run spanning tree, or on which STP feature is disabled.

IGMP v1, v2 snooping

IGMP snooping allows the switch to forward IPv4 multicast traffic intelligently. With IGMP snooping enabled, the switch forwards traffic only to ports that request the multicast traffic. This prevents the switch from broadcasting traffic to all ports and possibly affecting network performance.

Link aggregation

Groups together multiple ports of up to 16 trunks with a maximum of eight (8) ports per trunk automatically using Link Aggregation Control Protocol (LACP), or manually, to form a high-bandwidth connection to the network backbone that helps prevent traffic bottlenecks.

Link Layer Discovery Protocol (LLDP)

Advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications.

LLDP-MED (Media Endpoint Discovery)

Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN for automatic configuration of network devices such as IP phones.

VLAN support

Offers some of the benefits of both bridging and routing. VLANs partition the network into logical segments, which provide better administration, security, and multicast traffic management.

Port mirroring

Enables traffic on a port or VLAN to be simultaneously sent to a network analyzer for monitoring.

Auto recovery

Allows ports to be placed in a suspended state when defined error conditions are met. Features supported by Auto Recovery are BPDU Guard, Storm Control, Port Security, Loop Protection and Link Flap Prevention.

Network Security

TPM-based security

Standard Features

Includes a Trusted Platform Module 2.0 (TPM) for secure hardware-based generation and storage of cryptographic keys used for secure connection to the Instant On Cloud Portal.

Automatic denial-of-service protection

Manages high-volume traffic and prevents denial-of-service (DoS) attacks against the network.

Global Storm Control

Protects against conditions where incoming packets flood the LAN, causing network performance degradation for unicast traffic with an unknown destination, and for broadcast and multicast traffic.

Performance and Efficiency

Energy Efficient Ethernet (EEE)

Compliant with 802.3az standard requirements to save energy during periods of low data activity.

Auto-port shut down

The switch saves power by automatically shutting down power to inactive ports. Power is restored on a port upon link detection.

Energy-efficient cooling

Includes variable speed fans operating only at the speed necessary to maintain operating temperature to reduce excess noise and power consumption.

Fan-less operation

Fan-less design for 8-port non-PoE, and PoE models as well as 24-port non-PoE model, making the switches ideal for silent operation environments.

Features Accessed Through Local Web-Management Interface

Quick start-up wizard

Includes a quick start-up wizard which enable automatic configuring of the initial settings such as IP address, device information and system time.

Jumbo frame support

Supports up to 9216 bytes frame size to improve the performance of large data transfers.

User account management

Password strength checking and aging feature provides enhanced security to user account administration on the local web management interface. Password management further enhances the security so that only authorized users can access the switch's web interface.

Standard Features

Secure Sockets Layer (SSL)

Encrypts all HTTP traffic and secures access to the local browser-based management of the switch.

SCP and TFTP file transfer

Provides different mechanisms for secure file transfer through SCP (Secure Copy Protocol) or TFTP.

Dual image support

Provide independent primary and secondary software images for backup while upgrading.

SNMPv1, v2c (read only)

Facilitates remote management of the switch as the device can be discovered and monitored from an SNMP management station.

Diagnostics

Event logs

Provides detailed information for problem identification and resolution.

Session logging

Displays the active users connected to the switch, displaying client IP address, duration of the individual session.

Remote syslog

Provides support for a single syslog server allowing the user to redirect and store events to a remote syslog server (supported on local web only).

Cable diagnostic tool

Provides the mechanism to detect and report potential cabling issues, such as cable opens or cable shorts on copper links, in addition to providing distance to the fault and total length of cable (supported on local web only).

Ping IPv4

The switch supports ICMP for sending ping requests to IPv4 addresses.

Support file

Includes summary information for the switch including the current switch configuration, statistics and buffered log messages (supported on local web only).

MAC address table

Also known as the bridge table or the forwarding database, this table enables the switch to forward traffic through the appropriate port and supports up to 16K MAC address entries.

Standard Features

Warranty, Service And Support

HPE Networking Instant On Limited Lifetime Support provides 24X7 phone support for the first 90 days and chat support for the entire warranty period. Community support is included for the life of the product.

Refer to the Hewlett Packard Enterprise website at 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.

Configuration Information

BTO Models

IOn 1840

Description	SKU
HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840	S5E25A
HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840 PDU	S5E25A#B2B
HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840 PDU	S5E25A#B2C
HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840 220v	S5E25A#B2E
HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840 No Loc	S5E25A#AC3
HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840	S5E26A
HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840 PDU	S5E26A#B2B
HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840 PDU	S5E26A#B2C
HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840 220v	S5E26A#B2E
HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840 No Loc	S5E26A#AC3
HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840	S5E27A
HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840 PDU	S5E27A#B2B
HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840 PDU	S5E27A#B2C
HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840 220v	S5E27A#B2E
HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840 No Loc	S5E27A#AC3
HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840	S5E28A
HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840 PDU	S5E28A#B2B
HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840 PDU	S5E28A#B2C
HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840 220v	S5E28A#B2E
HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840 No Loc	S5E28A#AC3
HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840	S5E29A
HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840 PDU	S5E29A#B2B
HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840 PDU	S5E29A#B2C
HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840 220v	S5E29A#B2E
HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840 No Loc	S5E29A#AC3
HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840	S5E30A
HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840 PDU	S5E30A#B2B
HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840 PDU	S5E30A#B2C
HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840 220v	S5E30A#B2E
HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840 No Loc	S5E30A#AC3
HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840	S5E31A
HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840 PDU	S5E31A#B2B
HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840 PDU	S5E31A#B2C
HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840 220v	S5E31A#B2E
HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840 No Loc	S5E31A#AC3

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

Configuration Information

Transceivers

Note: Localization (Wall Power Cord) required on orders without B2B or B2C (PDU Power Cord). (See [HPN Localization Menu](#))

SFP Transceivers

Note: The following Transceivers install into this switch:

Description	SKU
HPE Networking Instant On 1G SFP LC SX 500m OM2 MMF Transceiver	R9D16A
HPE Networking Instant On 1G LX SFP LC 10km SMF Transceiver	S0G20A
HPE Networking Instant On 1G SFP RJ45 100m Cat5e Transceiver	R9D17A
HPE Networking Instant On 1G SFP RJ45 100m Cat5e Transceiver	R9D17B

Technical Specifications

Specifications	HPE Networking Instant On Switch 8p Gigabit 1p CL3 PD 1840 S5E25A	HPE Networking Instant On Switch 8p Gigabit 4p CL4 PoE 65W 1840 S5E26A	HPE Networking Instant On Switch 8p Gigabit CL4 PoE 2p SFP 124W 1840 S5E27A	HPE Networking Instant On Switch 24p Gigabit 4p SFP 1840 S5E28A
I/O ports and slots				
Access	1 RJ-45 autosensing 10/100/1000BASE-T ports with IEEE 802.3af Class 3 PD (port 1) 7 RJ-45 autosensing 10/100/1000BASE-T ports (port 2-8) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE- T/100BASE-TX: half or full; 1000BASE-T: full only	4 RJ-45 autosensing 10/100/1000BASE-T ports with IEEE 802.3at Class 4 PoE (ports 1-4) 4 RJ-45 autosensing 10/100/1000BASE-T ports (ports 5-8) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE- T/100BASE-TX: half or full; 1000BASE-T: full only	8 RJ-45 autosensing 10/100/1000BASE-T ports with IEEE 802.3at Class 4 PoE (ports 1-8) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE- T/100BASE-TX: half or full; 1000BASE-T: full only	24 RJ-45 autosensing 10/100/1000BASE-T ports (ports 1-24) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE- T/100BASE-TX: half or full; 1000BASE-T: full only
Uplink	N/A	N/A	2x SFP 1GbE ports (ports 9-10)	4x SFP 1GbE ports (ports 25-28)
Console port	N/A	N/A	N/A	N/A
Physical Characteristics				
Dimensions (Depth x Width x Height) Specify in both 'inch' and 'cm'	6.50 x 10.00 x 1.73 in (16.50 x 25.40 x 4.40 cm)	11.65 x 11.61 x 1.73 in (29.60 x 29.50 x 4.40 cm)	11.65 x 11.61 x 1.73 in (29.60 x 29.50 x 4.40 cm)	12.05 x 17.48 x 1.73 in (30.60 x 44.40 x 4.40 cm)
Weight Specify in both 'lb' and 'kg'	2.50 lb (1.13 kg)	4.60 lb (2.09kg)	4.81 lb (2.18 kg)	6.60 lb (2.99 kg)
Processor and memory				
Processor Type/Frequency	ARM Cortex-A9 @1.2GHz	ARM Cortex-A9 @1.2GHz	ARM Cortex-A9 @1.2GHz	ARM Cortex-A9 @1.2GHz
SDRAM	1GB DDR4	1GB DDR4	1GB DDR4	1GB DDR4
Flash	256MB NAND	256MB NAND	256MB NAND	256MB NAND
Packet Buffer Size	512 KB	512 KB	512 KB	512 KB
Scale				
Jumbo frames support	Up to 9216 bytes	Up to 9216 bytes	Up to 9216 bytes	Up to 9216 bytes
Switching capacity	16 Gbps	16 Gbps	20Gbps	56 Gbps
MAC Address table size (# of entries)	16K entries	16K entries	16K entries	16K entries
Maximum VLAN supported	64	64	64	64

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MAC Table Capacity	16K entries	16K entries	16K entries	16K entries
IGMP Groups	1K groups	1K groups	1K groups	1K groups
IPv4/MAC ACL Entries (ingress)	50	50	50	50
IPv4/MAC ACL Entries (egress)	unsupported	unsupported	unsupported	unsupported
Maximum ACEs	2048	2048	2048	2048
Link aggregation groups (LAG)	8	8	8	16
LAG members	4	4	4	4
Performance				
Latency				
100 Mb Latency (LIFO)	< 10.3 µSec	< 10.3 µSec	< 10.3 µSec	< 10.3 µSec
1000 Mb Latency (LIFO)	< 6.2 µSec	< 6.2 µSec	< 6.2 µSec	< 6.2 µSec
10000 Mb Latency (LIFO)	n/a	n/a	n/a	n/a
Throughput				
Throughput (Mpps) @ 64 bytes packet	11.90 Mpps	11.90 Mpps	14.88 Mpps	41.66 Mpps
Reliability				
Reliability MTBF (years)	666	200	153	175
Environment				
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Operating relative humidity	15% to 95% @ 104°F (40°C) non-condensing	15% to 95% @ 104°F (40°C) non-condensing	15% to 95% @ 104°F (40°C) non-condensing	15% to 95% @ 104°F (40°C) non-condensing
Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C) non-condensing	15% to 95% @ 140°F (60°C) non-condensing	15% to 95% @ 140°F (60°C) non-condensing	15% to 95% @ 140°F (60°C) non-condensing
Altitude	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)
Acoustics				
Acoustics measured in 23°C semi-anechoic chamber with a loading of 100% traffic and 50% PoE on all ports. Measured in accordance with ISO 7779. Declared in accordance with ECMA-109:2010. Values presented	N/A	N/A	N/A	Sound Power, LWAd = 3.1 Bel

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are the Declared A-Weighted Sound Power Level (LWAd) and the mean Bystander A-Weighted Sound Pressure Level (LpAm)	N/A	N/A	N/A	Sound Pressure, LpAm (Bystander) = 18 dB
Fans (i.e. Fan-less, Fixed, Modular, and if possible, number of fans)	Fan-less	Fan-less	Fan-less	1 Fixed Fan Non Field-Replaceable-Unit
Primary Airflow	N/A	N/A	N/A	left-to-right
Electrical Characteristics				
Frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
AC voltage	100 - 240 VAC	100 - 127 VAC / 200 - 240 VAC	100 - 127 VAC / 200 - 240 VAC	100 - 127 VAC / 200 - 240 VAC
Current	0.6A (12VDC - 1.3A)	0.9 /1.5 A	1.5 / 0.8 A	0.4 / 0.3 A
Maximum heat dissipation BTU/hr and kj/hr (100% traffic rate)	>> Powered by External power adapter. 100-127V: 25.1 BTU/hr, 26.5 Kj/hr 200-220V: 24.9 BTU/hr, 26.3 Kj/hr	100-127V: 33.5 BTU/hr, 35.3 Kj/hr 200-220V: 32.9 BTU/hr, 34.7 Kj/hr	100-127V: 45.9 BTU/hr, 48.4 Kj/hr 200-220V: 43.4 BTU/hr, 45.8 Kj/hr	100-127V: 67.6 BTU/hr, 71.3 Kj/hr 200-220V: 67.9 BTU/hr, 71.6 Kj/hr
Maximum heat dissipation BTU/hr and kj/hr (100% traffic rate + 100% PoE)	N/A	100-127V: 293.2 BTU/hr, 309.3 Kj/hr 200-220V: 287.0 BTU/hr, 302.8 Kj/hr	100-127V: 499.3 BTU/hr, 526.8 Kj/hr 200-220V: 487.0 BTU/hr, 513.8 Kj/hr	N/A
Maximum heat dissipation BTU/hr and kj/hr (Idle)	>> Powered by External power adapter. 100-127V: 17.8 BTU/hr, 18.8 Kj/hr 200-220V: 17.6 BTU/hr, 18.6 Kj/hr	100-127V: 27.5 BTU/hr, 29.0 Kj/hr 200-220V: 27.0 BTU/hr, 28.5 Kj/hr	100-127V: 30.8 BTU/hr, 32.5 Kj/hr 200-220V: 29.4 BTU/hr, 31.0 Kj/hr	100-127V: 16.3 BTU/hr, 17.2 Kj/hr 200-220V: 17.2 BTU/hr, 18.1 Kj/hr
Power consumption (100% traffic rate)	>> Powered by External power adapter. 100-127V: 7.4W 200-220V: 7.3W >> Powered by PE device. DC 54V (PSE Voltage) / 7.02W	100-127V: 9.8W 200-220V: 9.6W	100-127V: 13.5W 200-220V: 12.7W	100-127V: 19.8W 200-220V: 19.9W
Power consumption (100% traffic rate + 100% PoE)	N/A	100-127V: 85.9W 200-220V: 84.1W	100-127V: 146.4W 200-220V: 142.7W	N/A

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Power consumption (Idle)	>> Powered by External power adapter. 100-127V: 5.2W 200-220V: 5.2W	100-127V: 8.1W 200-220V: 7.9W	100-127V: 9.0W 200-220V: 8.6W	100-127V: 4.8W 200-220V: 5.0W
PoE power	Class 3 PD input	65W Class 4 PoE	124W Class 4 PoE	N/A
Power Supply Type	External Power Supply	Internal Power Supply	Internal Power Supply	Internal Power Supply
Safety				
Compliance	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1

Emissions				
Compliance	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A
Immunity				
Generic	BS/EN 55035, CISPR 35, KS C 9835	BS/EN 55035, CISPR 35, KS C 9835	BS/EN 55035, CISPR 35, KS C 9835	BS/EN 55035, CISPR 35, KS C 9835
EN	EN 55035, CISPR 35	EN 55035, CISPR 35	EN 55035, CISPR 35	EN 55035, CISPR 35
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
Device Management				
Options	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCs (Telnet, SSH)	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCs (Telnet, SSH)	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCs (Telnet, SSH)	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCs (Telnet, SSH)

Technical Specifications

Mounting Kit				
Options	Supports table-top mounting Supports wall-mounting with ports facing either up or down Supports under-table mounting, with top-surface facing downward	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward or downward
Transceivers				
Options	N/A	N/A	Refer to supported list table	Refer to supported list table

Specifications	HPE Networking Instant On Switch 24p Gigabit 16p CL4 PoE 4p SFP 195W 1840 S5E29A	HPE Networking Instant On Switch 48p Gigabit 4p SFP 1840 S5E30A	HPE Networking Instant On Switch 48p Gigabit 24p CL4 PoE 4p SFP 370W 1840 S5E31A
I/O ports and slots			
Access	16 RJ-45 autosensing 10/100/1000BASE-T ports with IEEE 802.3at Class 4 PoE (ports 1-16) 8 RJ-45 autosensing 10/100/1000BASE-T ports (ports 17-24) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	48 RJ-45 autosensing 10/100/1000BASE-T ports (ports 1-48) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	24 RJ-45 autosensing 10/100/1000BASE-T ports with IEEE 802.3at Class 4 PoE (ports 1-24) 24 RJ-45 autosensing 10/100/1000BASE-T ports (ports 25-48) (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Uplink	4x SFP 1GbE ports (ports 25-28)	4x SFP 1GbE ports (ports 49-52)	4x SFP 1GbE ports (ports 49-52)
Console port	N/A	N/A	N/A
Physical Characteristics			

Technical Specifications

Dimensions (Depth x Width x Height) Specify in both 'inch' and 'cm'	12.05 x 17.48 x 1.73 in (30.60 x 44.40 x 4.40 cm)	14.45 x 17.48 x 1.73 in (36.70 x 44.40 x 4.40 cm)	14.45 x 17.48 x 1.73 in (36.70 x 44.40 x 4.40 cm)
Weight Specify in both 'lb' and 'kg'	7.74 lb (3.51 kg)	8.29 lb (3.76 kg)	10.01 lb (4.54 kg)
Processor and memory			
Processor Type/Frequency	ARM Cortex-A9 @1.2GHz	ARM Cortex-A9 @1.25GHz	ARM Cortex-A9 @1.25GHz
SDRAM	1GB DDR4	1GB DDR4	1GB DDR4
Flash	256MB NAND	512 MB NAND	512 MB NAND
Packet Buffer Size	512 KB	4 MB	4 MB
Scale			
Jumbo frames support	Up to 9216 bytes	Up to 9216 bytes	Up to 9216 bytes
Switching capacity	56 Gbps	104 Gbps	104Gbps
MAC Address table size (# of entries)	16K entries	16K entries	16K entries
Maximum VLAN supported	64	64	64
MAC Table Capacity	16K entries	16K entries	16K entries
IGMP Groups	1K groups	1K groups	1K groups
IPv4/MAC ACL Entries (ingress)	50	50	50
IPv4/MAC ACL Entries (egress)	unsupported	512	512
Maximum ACEs	2048	2048	2048
Link aggregation groups (LAG)	16	16	16
LAG members	4	8	8
Performance			
Latency			
100 Mb Latency (LIFO)	< 8.8 µSec	< 8.0 µSec	< 8.0 µSec
1000 Mb Latency (LIFO)	< 4.7 µSec	< 3.3 µSec	< 3.3 µSec
10000 Mb Latency (LIFO)	n/a	n/a	n/a
Throughput			
Throughput (Mpps) @ 64 bytes packet	41.66 Mpps	77.37 Mpps	77.37 Mpps
Reliability			
Reliability MTBF (years)	114	196	122
Environment			
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)

Technical Specifications

Operating relative humidity	15% to 95% @ 104°F (40°C) non-condensing	15% to 95% @ 104°F (40°C) non-condensing	15% to 95% @ 104°F (40°C) non-condensing
Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C) non-condensing	15% to 95% @ 140°F (60°C) non-condensing	15% to 95% @ 140°F (60°C) non-condensing
Altitude	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)
Acoustics			
Acoustics measured in 23°C semi-anechoic chamber with a loading of 100% traffic and 50% PoE on all ports. Measured in accordance with ISO 7779. Declared in accordance with ECMA-109:2010. Values presented are the Declared A-Weighted Sound Power Level (LWAd) and the mean Bystander A-Weighted Sound Pressure Level (LpAm)	Sound Power, LWAd = 3.3 Bel	Sound Power, LWAd = 3.9 Bel	Sound Power, LWAd = 3.4 Bel
	Sound Pressure, LpAm (Bystander) = 21 dB	Sound Pressure, LpAm (Bystander) = 25 dB	Sound Pressure, LpAm (Bystander) = 20 dB
Fans (i.e. Fan-less, Fixed, Modular, and if possible, number of fans)	2 Fixed Fans Non Field-Replaceable-Unit	1 Fixed Fan Non Field-Replaceable-Unit	3 Fixed Fans Non Field-Replaceable-Unit
Primary Airflow	left-to-right	left-to-right	left-to-right
Electrical Characteristics			
Frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
AC voltage	100 - 127 VAC / 200 - 240 VAC	100 - 127 VAC / 200 - 240 VAC	100 - 127 VAC / 200 - 240 VAC
Current	2.5 / 1.2 A	0.8 / 0.5	4.7 / 2.3 A
Maximum heat dissipation BTU/hr and kj/hr (100% traffic rate)	100-127V: 73.2 BTU/hr, 77.2 Kj/hr 200-220V: 68.2 BTU/hr, 72.0 Kj/hr	100-127V: 132.3 BTU/hr, 139.6 Kj/hr 200-220V: 131.2 BTU/hr, 138.4 Kj/hr	100-127V: 189.7 BTU/hr, 200.1 Kj/hr 200-220V: 185.7 BTU/hr, 195.9 Kj/hr
Maximum heat dissipation BTU/hr and kj/hr (100% traffic rate + 100% PoE)	100-127V: 819.6 BTU/hr, 864.7 Kj/hr 200-220V: 799.3 BTU/hr, 843.3 Kj/hr	N/A	100-127V: 1590.3 BTU/hr, 1677.9 Kj/hr 200-220V: 1544.2 BTU/hr, 1629.2 Kj/hr
Maximum heat dissipation BTU/hr and kj/hr (Idle)	100-127V: 33.5 BTU/hr, 35.3 Kj/hr 200-220V: 31.8 BTU/hr, 33.6 Kj/hr	100-127V: 67.5 BTU/hr, 71.2 Kj/hr 200-220V: 67.4 BTU/hr, 71.1 Kj/hr	100-127V: 83.3 BTU/hr, 87.9 Kj/hr 200-220V: 82.5 BTU/hr, 87.0 Kj/hr

Technical Specifications

Power consumption (100% traffic rate)	100-127V: 21.5W 200-220V: 20.0W	100-127V: 38.8W 200-220V: 38.5W	100-127V: 55.6W 200-220V: 54.4W
Power consumption (100% traffic rate + 100% PoE)	100-127V: 240.2W 200-220V: 234.3W	N/A	100-127V: 466.1W 200-220V: 452.6W
Power consumption (Idle)	100-127V: 9.8W 200-220V: 9.3W	100-127V: 19.8W 200-220V: 19.8W	100-127V: 24.4W 200-220V: 24.2W
PoE power	195W Class 4 PoE	N/A	370W Class 4 PoE
Power Supply Type	Internal Power Supply	Internal Power Supply	Internal Power Supply
Safety			
Compliance	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1	EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368-1, 3rd.Ed. CAN/CSA C22.2 No. 62368-1, 3rd. Ed. EN/IEC 60825-1:2014 Class 1
Emissions			
Compliance	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A	EN 55032:2015/ CISPR 32, Class A FCC CFR 47 Part 15: 2018, Class A ICES-003, Class A VCCI-32, Class A CNS 13438, Class A KS C 9832, Class A AS/NZS CISPR 32, Class A
Immunity			
Generic	BS/EN 55035, CISPR 35, KS C 9835	BS/EN 55035, CISPR 35, KS C 9835	BS/EN 55035, CISPR 35, KS C 9835
EN	EN 55035, CISPR 35	EN 55035, CISPR 35	EN 55035, CISPR 35
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
Device Management			
Options	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCS (Telnet, SSH)	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCS (Telnet, SSH)	Instant On Cloud Portal; Mobile App; Web Browser; SNMP Manager; DOCS (Telnet, SSH)

Technical Specifications

Mounting Kit			
Options	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward or downward	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward or downward	Mounts in an EIA standard 19 in. telco rack or equipment cabinet. 2-post rack kit included Supports table-top mounting Supports rack-mounting, using the brackets provided Supports wall-mounting, using the brackets provided, with ports facing either up or down Supports under-table, using the brackets provided, with top-surface facing upward or downward
Transceivers			
Options	Refer to supported list table	Refer to supported list table	Refer to supported list table

Standards Compliance

Standard / RFC	Protocol / Technology Title	Functional Category
RFC 1027	Using ARP to Implement Transparent Subnet Gateways	IP-to-MAC / Proxy ARP
RFC 1042	A Standard for the Transmission of IP Datagrams over IEEE 802 Networks	Packet Encapsulation
RFC 1071	Computing the Internet Checksum	Error Detection / Integrity
RFC 1123	Requirements for Internet Hosts - Application and Support	Core Internet Architecture
RFC 1141	Incremental Updating of the Internet Checksum	Error Detection / Integrity
RFC 1155	Structure and Identification of Management Information for TCP/IP-based Internets	Network Management
RFC 1157	A Simple Network Management Protocol (SNMP)	Network Management
RFC 1213	Management Information Base for Network Management of TCP/IP-based internets: MIB-II	Network Management
RFC 1215	A Convention for Defining Traps for use with the SNMP	Network Management
RFC 1286	Definitions of Managed Objects for Bridges	Network Management
RFC 1350	The TFTP Protocol (Revision 2)	File Transfer
RFC 1442	Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)	Network Management
RFC 1451	Manager-to-Manager Management Information Base	Network Management
RFC 1493	Definitions of Managed Objects for Bridges	Network Management
RFC 1533	DHCP Options and BOOTP Vendor Extensions	IP Allocation / Provisioning
RFC 1542	Clarifications and Extensions for the Bootstrap Protocol	IP Allocation / Provisioning
RFC 1573	Evolution of the Interfaces Group of MIB-II	Network Management
RFC 1624	Computation of the Internet Checksum via Incremental Update	Error Detection

Technical Specifications

RFC 1643	Definitions of Managed Objects for the Ethernet-like Interface Types	Network Management
RFC 1700	Assigned Numbers	Core Internet Architecture
RFC 1757	Remote Network Monitoring Management Information Base	Network Management
RFC 1867	Form-based File Upload in HTML	Web Application Layer
RFC 1907	Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2)	Network Management
RFC 2011	SNMPv2 Management Information Base for the Internet Protocol using SMIv2	Network Management
RFC 2012	SNMPv2 Management Information Base for the Transmission Control Protocol using SMIv2	Network Management
RFC 2013	SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2	Network Management
RFC 2021	Remote Network Monitoring Management Information Base Version 2 using SMIv2 (RMON2)	Network Management
RFC 2030	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI	Network Time / Sync
RFC 2131	Dynamic Host Configuration Protocol (DHCP client)	IP Allocation / Provisioning
RFC 2132	DHCP Options and BOOTP Vendor Extensions (Update)	IP Allocation / Provisioning
RFC 2233	The Interfaces Group MIB using SMIv2	Network Management
RFC 2236	Internet Group Management Protocol, Version 2	Multicast Management
RFC 2460	IPv6 specification	Network Routing
RFC 2464	Transmission of IPv6 Packets over Ethernet Networks	Packet Encapsulation
RFC 2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers	QoS Marking
RFC 2576	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	Network Management
RFC 2579	Textual Conventions for SMIv2	Network Management
RFC 2580	Conformance Statements for SMIv2	Network Management
RFC 2616	Hypertext Transfer Protocol -- HTTP/1.1	Web Application Layer
RFC 2618	RADIUS Authentication Client MIB	Network Security / Management
RFC 2618	RADIUS Authentication Client MIB	Network Security / Management
RFC 2620	RADIUS Accounting Client MIB	Network Security / Management
RFC 2665	Definitions of Managed Objects for the Ethernet-like Interface Types	Network Management
RFC 2666	Definitions of Object Identifiers for Identifying Ethernet Chipsets	Network Management
RFC 2674	Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual Extensions	Network Management
RFC 2737	Entity MIB (Version 2)	Network Management
RFC 2819	Remote Network Monitoring Management Information Base	Network Management
RFC 2827	Network Ingress Filtering: Defeating Denial of Service Attacks which employ IP Source Address Spoofing	DoS Mitigation / Ingress Filtering

Technical Specifications

RFC 2863	The Interfaces Group MIB	Network Management
RFC 2925	Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations	Network Management
RFC 2992	Analysis of an Equal-Cost Multi-Path Algorithm	ECMP Load Balancing Algorithm
RFC 3019	IP Version 6 Management Information Base for the Multicast Listener Discovery Protocol	Network Management
RFC 3164	The BSD Syslog Protocol	System Logging
RFC 3261	SIP: Session Initiation Protocol	VoIP Signaling
RFC 3376	Internet Group Management Protocol, Version 3	Multicast Management
RFC 3411	An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks	Network Management
RFC 3412	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	Network Management
RFC 3413	Simple Network Management Protocol (SNMP) Applications	Network Management
RFC 3414	User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)	Network Management
RFC 3415	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	Network Management
RFC 3416	Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP)	Network Management
RFC 4007	IPv6 scoped address architecture RFC 3484: default address selection mechanism	Network Addressing
RFC 4250	The Secure Shell (SSH) Protocol Assigned Numbers	Protocol Parameter Registry
RFC 4251	The Secure Shell (SSH) Protocol Architecture	General Architecture
RFC 4252	The Secure Shell (SSH) Authentication Protocol	Client Authentication Layer
RFC 4253	The Secure Shell (SSH) Transport Layer Protocol	Connection Transport & Encryption
RFC 4254	The Secure Shell (SSH) Connection Protocol	Channel Multiplexing / Sessions
RFC 4256	Generic Message Exchange Authentication (Keyboard-Interactive)	Authentication Extension
RFC 4291	(which obsoletes RFC 3513): IPv6 address architecture RFC 4291: IPv6 addressing architecture	Network Addressing
RFC 4293	MIB IPv6: textual conventions and general group RFC 3595: textual conventions for IPv6 flow label	Network Management
RFC 4335	The Secure Shell (SSH) Session Channel Break Extension	Connection Control Extension
RFC 4344	SSH Transport Layer Cryptographic Algorithms	Cipher Suite Updates (AES-GCM/CTR)
RFC 4345	Improved Arcfour Modes for the Secure Shell (SSH) Transport Layer Protocol	Legacy Cipher Optimization
RFC 4419	Diffie-Hellman Group Exchange for the SSH Transport Layer Protocol	Key Exchange (KEX) Mechanism
RFC 4432	RSA Key Exchange for the Secure Shell (SSH) Transport Layer Protocol	Key Exchange (KEX) Mechanism

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RFC 4443	Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification (obsoletes RFC 2463)	Network Diagnostics
RFC 4716	The Secure Shell (SSH) Public Key File Format	Public Key Management
RFC 4861	(which obsoletes RFC 2461): neighbor discovery for IPv6	Neighbor Discovery / Control
RFC 4862	IPv6 Stateless Address Autoconfiguration (obsoletes RFC 2462)	IP Allocation / SLAAC
RFC 5214	(which obsoletes RFC 4214): ISATAP tunneling	IPv4-to-IPv6 Transition / Tunneling
RFC 5424	The Syslog Protocol	System Logging / Telemetry
RFC 5519	Multicast Group Membership Discovery MIB	Network Management
RFC 5647	AES-GCM Subsystem for SSH	Authenticated Encryption (AEAD)
RFC 5656	Elliptic Curve Algorithm Integration for the SSH Transport Layer	Modern Crypto (ECDSA / ECDH)
RFC 5722	Handling of Overlapping IPv6 Fragments	Network Security / Management
RFC 768	User Datagram Protocol (UDP)	Transport Layer
RFC 783	TFTP Protocol (revision 2)	File Transfer
RFC 791	Internet Protocol (IP)	Network Routing
RFC 792	Internet Control Message Protocol (ICMP)	Network Diagnostics
RFC 793	Transmission Control Protocol (TCP)	Transport Layer
RFC 813	Window and Acknowledgement Strategy in TCP	Transport Layer Optimization
RFC 826	An Ethernet Address Resolution Protocol (ARP)	IP-to-MAC Resolution
RFC 854	Telnet Protocol Specification	Remote Management
RFC 855	Telnet Option Specifications	Remote Management
RFC 856	Telnet Binary Transmission	Remote Management
RFC 858	Telnet Suppress Go Ahead Option	Remote Management
RFC 879	The TCP Maximum Segment Size and Related Topics	Transport Layer Optimization
RFC 894	A Standard for the Transmission of IP Datagrams over Ethernet Networks	Packet Encapsulation
RFC 896	Congestion Control in IP/TCP Internetworks	Transport Layer Optimization
RFC 896	Congestion Control in IP/TCP Internetworks (Duplicate entry in list)	Transport Layer Optimization
RFC 919	Broadcasting Internet Datagrams	Network Addressing
RFC 920	Domain Requirements	Core Internet Architecture
RFC 922	Broadcasting Internet Datagrams in the Presence of Subnets	Network Addressing
RFC 950	Internet Standard Subnetting Procedure	Network Addressing
RFC 951	Bootstrap Protocol (BOOTP)	IP Allocation / Provisioning

Summary of Changes

Date	Version History	Action	Description of Change:
03-Aug-2026	Version 1	New	New QuickSpecs

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