Overview

HP 1820 Switch Series

Models

HP 1820-8G Switch	J9979A
HP 1820-8G-PoE+ (65W) Switch	J9982A
HP 1820-24G Switch	J9980A
HP 1820-24G-PoE+ (185W) Switch	J9983A
HP 1820-48G Switch	J9981A
HP 1820-48G-PoE+ (370W) Switch	J9984A

Key features

- Customized operation using intuitive Web interface
- Flexible deployment options including wall, under table and desktop mounting
- 24- and 48 port models include SFP ports
- 8-, 24- and 48 port non-PoE+ models are fanless for quiet operation
- Limited lifetime Warranty 2.0

Product overview

HP 1820 Switch Series devices are basic smart-managed, fixed-configuration Gigabit Ethernet Layer 2 switches designed for small businesses looking for key features in an easy-to-administer solution.

The series consists of 6 switches including 8-, 24- and 48 port Gigabit Ethernet switches and 8-, 24-, and 48 port Gigabit PoE+ models each providing non-blocking Gigabit per port performance. Some models include SFP ports for fiber connectivity and some are fanless, making them ideal for office deployments. All 1820 Switches support flexible installation options, including mounting on wall, under table, or on desktop. The 8-port Gigabit Ethernet model can be powered by an upstream Power over Ethernet (PoE) switch for environments where no line power is available.

These Gigabit switches are plug-and-play out of the box, yet network operation can be fine-tuned through features available from a simple web browser-based GUI, if necessary. Customizable features include VLANs, Rapid Spanning Tree, IGMP Snooping, link aggregation trunking and DSCP QoS policies. All models include the latest energy-saving capabilities, including Energy Efficient Ethernet (EEE) and idle-port power down.

Features and Benefits
Management

- **Simple Web management**
  Allows for easy management of the switch—even by nontechnical users—through an intuitive Web GUI; supports HTTP and HTTP Secure (HTTPS).
- **SNMPv1, v2c**
  Enables devices to be discovered and monitored from an SNMP management station.
- **Port mirroring**
  Enables traffic on a port to be simultaneously sent to a network analyzer for monitoring.
- **Dual flash images**
  Provides independent primary and secondary operating system files for backup while upgrading.
- **Network Time Protocol (NTP)**
  Synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network.
- **Manual network time configuration**
  Manually set the date and time on the switch in the absence of an NTP server.
- **Default DHCP client mode**
  Allows the switch to be directly connected to a network, enabling plug-and-play operation; in absence of a DHCP server

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on the network, the switch falls back to a default, fixed IP address.

Quality of Service (QoS)

- **Traffic prioritization**
  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 eight hardware queues for more effective throughput.
- **Broadcast control**
  Allows limiting of broadcast traffic rate to reduce unwanted network broadcast traffic.
- **IEEE 802.1p/Q**
  Delivers data to devices based on the priority and type of traffic; supports IEEE 802.1Q.

Connectivity

- **Auto-MDI/MDIX**
  Automatically adjusts for straight-through or crossover cables on all ports.
- **IEEE 802.3X flow control**
  Provides a flow throttling mechanism propagated through the network to prevent packet loss at a congested node.
- **Loop protection**
  If the switch detects a loop, it disables the source port from forwarding data packets originating from the switch to avoid broadcast storms.
- **SFP ports for fiber connectivity**
  Provides 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. SFP ports available on 24- and 48 port models.
- **IEEE 802.3af PoE-powered device option**
  Obtains power provided by a standard PoE device connected to Port 1; deploy the switch wherever an Ethernet cable can reach as a power outlet is not needed (8-port GbE non-PoE+ model only).
- **IEEE 802.3at Power over Ethernet (PoE+)**
  Provides up to 30W per port, which allows support of the latest PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device; lowers the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments.
- **PoE+ port availability**
  Ports 1-4 provide PoE+ on the HP 1820-8G-PoE+ (65W) switch. Ports 1 – 12 provide PoE+ on the HP 1820-24G-PoE+ (180W) switch. Ports 1-24 provide PoE+ on the HP 1820-48G-PoE+ (370W) switch.
- **Auto PoE power configuration**
  The switch automatically assigns the required power to a port for a PD device based on LLDP (Link Layer Discovery Protocol). Optionally, the switch permits manual, per port, PoE power configuration.
- **PoE shut down mode**
  A PoE scheduler provides the ability to define the hours of PoE power being supplied on a group of switch ports based on a 24 hour day. The scheduler enables the flexibility to select individual days of a week as well as reoccurrence on a weekly basis with a start and end date.
- **Energy Efficient Ethernet**
  Compliant with IEEE 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 savings status**
  The switch provides an estimated cumulative energy savings due to green Ethernet features enabled.

Security

- **Secure Sockets Layer (SSL)**
  Encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch.

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- **Automatic denial-of-service protection**
  Monitors nine types of malicious attacks and protects the network by blocking these attacks.
- **Management password**
  Provides security so that only authorized access to the Web browser interface is allowed.

Performance

- **Half-/full-duplex auto-negotiating capability on every port**
  Doubles the throughput of every port.
- **IGMP snooping**
  Improves network performance through multicast filtering, instead of flooding traffic to all ports.

Layer 2 switching

- **VLAN support and tagging**
  Supports up to 64 port-based VLANs and dynamic configuration of IEEE 802.1Q VLAN tagging, providing security between workgroups.
- **Jumbo packet support**
  Improves the performance of large data transfers; supports frame size of up to 9220 bytes.

Resiliency and high availability

- **IEEE 802.1D Spanning Tree Protocol (STP) and IEEE 802.1W Rapid Spanning Tree Protocol (RSTP)**
  Provides redundant links while preventing network loops.
- **Link aggregation (trunking)**
  Brings together groups of ports automatically using Link Aggregation Control Protocol (LACP) or, manually, to form an ultra-high-bandwidth connection to the network backbone; helps prevent traffic bottlenecks; the 8 port models support four trunks, the 24-port models support eight trunks and the 48-port models support 16 trunks. The 8- and 24-port switches can support up to four trunk members, the 48-port switches can support up to eight trunk members.

Ease of use

- **Locator LED**
  Allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches.
- **Comprehensive LED display with per-port indicators**
  Provides an at-a-glance view of status, activity, speed, and full-duplex operation.

Flexibility

- **Flexible installation**
  Allows mounting on wall, desktop, or under-table with supplied hardware.
- **Rack mountable**
  All models include rack-mounting hardware for mounting in a standard 19 inch telco rack.
- **Kensington lock slot**
  Allows switches to be physically secured in open-space deployments (8-,and 24 port models).

Convergence

- **LLDP-MED (Media Endpoint Discovery)**
  Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure

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network devices such as IP phones, access points and allocate PoE power for more efficient energy savings.

Warranty and support

- **Limited Lifetime Warranty 2.0**
  Advance hardware replacement with next-business-day delivery (available in most countries). See
  www.hp.com/networking/warrantysummary for duration details.
- **Electronic and telephone support (for Limited Lifetime Warranty 2.0)**
  Limited 24x7 telephone support is available from HP for the first 3 years; limited electronic and business hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to
  www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary.

Configuration

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

HP 1820-8G Switch	J9979A
• 8 RJ-45 autosensing 10/100/1000 ports • 1U - Height (Desktop Model)	See Configuration Note:2
HP 1820-24G Switch	J9980A
• 24 RJ-45 autosensing 10/100/1000 ports • 2 SFP 100/1000 Mbps ports (min=0 \ max=2 SFP Transceivers) • 1U - Height	See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP	J9980A#B2B
• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
PDU Cable NA/MEX/TW/JP	J9980A#B2C
• C15 PDU Jumper Cord (ROW)	
High Volt Switch/Router to Wall Power Cord	J9980A#B2E
• NEMA L6-20P Cord (NA/MEX/JP/TW)	
HP 1820-48G Switch	J9981A
• 48 RJ-45 autosensing 10/100/1000 ports • 4 SFP 100/1000 Mbps ports (min=0 \ max=4 SFP Transceivers) • 1U - Height	See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP	J9981A#B2B
• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
PDU Cable NA/MEX/TW/JP	J9981A#B2C
• C15 PDU Jumper Cord (ROW)	
High Volt Switch/Router to Wall Power Cord	J9981A#B2E
• NEMA L6-20P Cord (NA/MEX/JP/TW)	
HP 1820-8G-PoE+ (65W) Switch	J9982A
• 4 RJ-45 autosensing 10/100/1000 PoE+ ports • 4 RJ-45 autosensing 10/100/1000 ports • 1U - Height (Desktop Model)	See Configuration Note:2
HP 1820-24G-PoE+ (185W) Switch	J9983A
• 12 RJ-45 autosensing 10/100/1000 PoE+ ports • 12 RJ-45 autosensing 10/100/1000 ports • 2 SFP 100/1000 Mbps ports (min=0 \ max=2 SFP Transceivers) • 1U - Height	See Configuration Note:1, 3
PDU Cable NA/MEX/TW/JP	J9983A#B2B
• C15 PDU Jumper Cord (NA/MEX/TW/JP)	

Configuration

PDU Cable NA/MEX/TW/JP	J9983A#B2C

- C15 PDU Jumper Cord (ROW)

High Volt Switch/Router to Wall Power Cord	J9983A#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

HP 1820-48G-PoE+ (370W) Switch — J9984A
See Configuration Note:1, 3

- 24 RJ-45 autosensing 10/100/1000 PoE+ ports
- 24 RJ-45 autosensing 10/100/1000 ports
- 4 SFP 100/1000 Mbps ports (min=0 \ max=4 SFP Transceivers)
- 1U - Height

PDU Cable NA/MEX/TW/JP	J9984A#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable NA/MEX/TW/JP	J9984A#B2C

- C15 PDU Jumper Cord (ROW)

High Volt Switch/Router to Wall Power Cord	J9984A#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

Configuration Rules:

Note 1	"The following Transceivers install into this switch:	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP X121 1G SFP RJ45 T Transceiver	J8177C

Note 2   Localization required. (See Localization Menu for list.)

Note 3   Localization (Wall Power Cord) required on orders without #B2B or #B2C (PDU Power Cord). (See Localization Menu)

Rack Level Integration CTO Models

HP 1820-24G Switch — J9980A
See Configuration Note:1, 2, 3

- 24 RJ-45 autosensing 10/100/1000 ports
- 2 SFP 100/1000 Mbps ports (min=0 \ max=2 SFP Transceivers)
- 1U - Height

PDU Cable NA/MEX/TW/JP	J9980A#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable NA/MEX/TW/JP	J9980A#B2C

- C15 PDU Jumper Cord (ROW)

HP 1820-48G Switch	J9981A

Configuration

- 48 RJ-45 autosensing 10/100/1000 ports
- 4 SFP 100/1000 Mbps ports (min=0 \ max=4 SFP Transceivers)
- 1U - Height

See Configuration Note:1, 2, 3

PDU Cable NA/MEX/TW/JP   J9981A#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable NA/MEX/TW/JP   J9981A#B2C

- C15 PDU Jumper Cord (ROW)

HP 1820-24G-PoE+ (185W) Switch   J9983A

- 12 RJ-45 autosensing 10/100/1000 PoE+ ports
- 12 RJ-45 autosensing 10/100/1000 ports
- 2 SFP 100/1000 Mbps ports (min=0 \ max=2 SFP Transceivers)
- 1U - Height

See Configuration Note:1, 2, 3

PDU Cable NA/MEX/TW/JP   J9983A#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable NA/MEX/TW/JP   J9983A#B2C

- C15 PDU Jumper Cord (ROW)

HP 1820-48G-PoE+ (370W) Switch   J9984A

- 24 RJ-45 autosensing 10/100/1000 PoE+ ports
- 24 RJ-45 autosensing 10/100/1000 ports
- 4 SFP 100/1000 Mbps ports (min=0 \ max=4 SFP Transceivers)
- 1U - Height

See Configuration Note:1, 2, 3

PDU Cable NA/MEX/TW/JP   J9984A#B2B

- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable NA/MEX/TW/JP   J9984A#B2C

- C15 PDU Jumper Cord (ROW)

Configuration Rules:

Note 1   The following Transceivers install into this switch
                HP X121 1G SFP LC SX Transceiver   J4858C
                HP X121 1G SFP LC LX Transceiver   J4859C
                HP X111 100M SFP LC FX Transceiver   J9054C
                HP X121 1G SFP RJ45 T Transceiver   J8177C

Note 2   Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) . (See Localization Menu)
                REMARK: When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable
                option on the Switches/Routers.

Note 3   If this switch is factory installed in any HP Racks, Then the J9583A#0D1 is required.

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

Configuration

Transceivers

SFP Transceivers

HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X111 100M SFP LC FX Transceiver	J9054C

Internal Power Supplies

Power supplies included

Remarks:
Drop down under power supply should offer the following options and results:
Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)
Switch/Router/Power Supply to Wall Power Cord – Localized Option (Watson Default for BTO and Box Level CTO)
High Volt Switch/Router/Power Supply to Wall Power Cord – #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)

Cables

Multi-Mode Cables

HP .5m Multi-mode OM3 LC/LC FC Cable	AJ833A
HP 1m Multi-mode OM3 LC/LC FC Cable	AJ834A
HP 2 m Multimode OM3 LC/LC FC Cable	AJ835A
HP 5 m Multimode OM3 LC/LC FC Cable	AJ836A
HP 15 m Multimode OM3 LC/LC FC Cable	AJ837A
HP 30 m Multimode OM3 LC/LC FC Cable	AJ838A
HP 50 m Multimode OM3 LC/LC FC Cable	AJ839A
HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
HP Premier Flex LC/LC OM4 2f 2m Cbl	QK733A
HP Premier Flex LC/LC OM4 2f 5m Cbl	QK734A
HP Premier Flex LC/LC OM4 2f 15m Cbl	QK735A
HP Premier Flex LC/LC OM4 2f 30m Cbl	QK736A
HP Premier Flex LC/LC OM4 2f 50m Cbl	QK737A

Switch Enclosure Options

Rack Mount Kit

HP X410 1U Univ 4-post Rack Mnt Kit	J9583A
• Supported on J9980A, J9981A, J9983A, J9984A	See Configuration Note:1

Technical Specifications

HP 1820-8G Switch (J9979A)	I/O ports and slots		8 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
			Supports a maximum of 8 autosensing 10/100/1000 ports
	Physical characteristics	**Dimensions**	10(w) x 6.28(d) x 1.73(h) in (25.4 x 15.95 x 4.39 cm) (1U height)
		Weight	1.81 lb (0.82 kg)
	Memory and processor		ARM Cortex-A9 @ 400 MHz, 128 MB SDRAM; Packet buffer size: 1.5 MB, 16 MB flash
	Performance	**100 Mb Latency**	< 7 µs (LIFO 64-byte packets)
		1000 Mb Latency	< 2.4 µs (LIFO 64-byte packets)
		Throughput	up to 11.9 Mpps (64-byte packets)
		Switching capacity	16 Gbps
		MAC address table size	8000 entries
	Reliability	**MTBF (years)**	144.93
	Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C)
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)
		Altitude	up to 9,842 ft (3 km)
		Acoustic	Power: 0 dB no fan
	Electrical characteristics	**Frequency**	50/60 Hz
		Voltage	100 - 240 VAC, rated (depending on power supply chosen)
		Current	. 2 A
		Maximum power rating	12.2 W
		Idle power	10.2 W
		PoE power	
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Safety		UL 60950-1; EN 60825; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
	Emissions		FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A F
	Immunity	**Generic**	EN 55024, CISPR 24
		EN	EN 55024, CISPR 24
		ESD	IEC 61000-4-2
		Radiated	IEC 61000-4-3
		EFT/Burst	IEC 61000-4-4

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		Surge	IEC 61000-4-5
		Conducted	IEC 61000-4-6
		Power frequency magnetic field	IEC 61000-4-8
		Voltage dips and interruptions	IEC 61000-4-11
		Harmonics	EN 61000-3-2, IEC 61000-3-2
		Flicker	EN 61000-3-3, IEC 61000-3-3
	Management	Web browser	
	Notes	Use only supported genuine HP mini-GBICs with your switch	
	Services	Refer to the HP website at www.hp.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 HP sales office.	

HP 1820-8G-PoE+ (65W) Switch (J9982A)	I/O ports and slots	4 RJ-45 autosensing 10/100/1000 PoE+ ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
		4 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
	Physical characteristics	Dimensions	10(w) x 6.28(d) x 1.73(h) in (25.4 x 15.95 x 4.39 cm) (1U height)
		Weight	2.01 lb (0.91 kg)
	Memory and processor	ARM Cortex-A9 @ 400 MHz, 128 MB SRAM; Packet buffer size: 1.5 MB, 16 MB flash	
	Performance	100 Mb Latency	< 7 µs (LIFO 64-byte packets)
		1000 Mb Latency	< 2.3 µs (LIFO 64-byte packets)
		Throughput	up to 11.9 Mpps (64-byte packets)
		Switching capacity	16 Gbps
		MAC address table size	8000 entries
	Reliability	MTBF (years)	112.36
	Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C)
		Nonoperating/Storage temperature	–40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)
		Altitude	up to 9,842 ft (3 km)
		Acoustic	Power: 0 dB no fan
	Electrical characteristics	Frequency	50/60 Hz
		Voltage	100 - 240 VAC, rated (depending on power supply chosen)
		Current	. 9 A
		Maximum power rating	83.9 W
		Idle power	12.6 W
		PoE power	65 W PoE+
		Notes	Idle power is the actual power consumption of

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			the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of an External Power Supply (EPS).
	Safety		UL 60950-1; EN 60825; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
	Emissions		FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A
	Immunity	**Generic**	EN 55024, CISPR 24
		EN	EN 55024, CISPR 24
		ESD	IEC 61000-4-2
		Radiated	IEC 61000-4-3
		EFT/Burst	IEC 61000-4-4
		Surge	IEC 61000-4-5
		Conducted	IEC 61000-4-6
		Power frequency magnetic field	IEC 61000-4-8
		Voltage dips and interruptions	IEC 61000-4-11
		Harmonics	EN 61000-3-2, IEC 61000-3-2
		Flicker	EN 61000-3-3, IEC 61000-3-3
	Management		Web browser
	Notes		Use only supported genuine HP mini-GBICs with your switch
	Services		Refer to the HP website at www.hp.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 HP sales office.
HP 1820-24G Switch (J9980A)	**I/O ports and slots**		24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
			2 SFP 100/1000 Mbps ports (IEEE 802.3z Type 1000BASE-X, IEEE 802.3u Type 100BASE-FX)
			Supports a maximum of 24 autosensing 10/100/1000 ports plus 2 SFP ports
	Physical characteristics	**Dimensions**	17.42(w) x 9.69(d) x 1.73(h) in (44.25 x 24.61 x 4.39 cm) (1U height)
		Weight	6 lb (2.72 kg)
	Memory and processor		ARM Cortex-A9 @ 400 MHz, 128 MB SDRAM; Packet buffer size: 1.5 MB, 16 MB flash
	Performance	**100 Mb Latency**	< 7 µs (LIFO 64-byte packets)
		1000 Mb Latency	< 2 µs (LIFO 64-byte packets)

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	Throughput	up to 38.6 Mpps (64-byte packets)
	Switching capacity	52 Gbps
	MAC address table size	8000 entries
Reliability	**MTBF (years)**	80.00
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C)
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)
	Altitude	up to 9,842 ft (3 km)
	Acoustic	Power: 0 dB no fan
Electrical characteristics	**Frequency**	50/60 Hz
	Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Current	. 5/. 3 A
	Maximum power rating	22 W
	Idle power	16.9 W
	PoE power	
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825; IEC 60950-1; EN 60950-1	
Emissions	FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A	
Immunity	**Generic**	EN 55024, CISPR 24
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Web browser	
Notes	Use only supported genuine HP mini-GBICs with your switch	
Services	Refer to the HP website at www.hp.com/networking/services for details on	

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the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 1820-24G-PoE+ (185W) Switch (J9983A)	I/O ports and slots	12 RJ-45 autosensing 10/100/1000 PoE+ ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
		12 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
		2 SFP 100/1000 Mbps ports (IEEE 802.3z Type 1000BASE-X, IEEE 802.3u Type 100BASE-FX)	
	Physical characteristics	Dimensions	17.42(w) x 9.69(d) x 1.73(h) in (44.25 x 24.61 x 4.39 cm) (1U height)
		Weight	7.3 lb (3.31 kg)
	Memory and processor	ARM Cortex-A9 @ 400 MHz, 128 MB SDRAM; Packet buffer size: 1.5 MB, 16 MB flash	
	Performance	100 Mb Latency	< 7 µs (LIFO 64-byte packets)
		1000 Mb Latency	< 2 µs (LIFO 64-byte packets)
		Throughput	up to 38.6 Mpps (64-byte packets)
		Switching capacity	52 Gbps
		MAC address table size	8000 entries
	Reliability	MTBF (years)	64.52
	Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C)
		Nonoperating/Storage temperature	-40°F to 70°F (-40°C to 21.1°C)
		Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)
		Altitude	up to 9,842 ft (3 km)
		Acoustic	Power: 45 dB
	Electrical characteristics	Frequency	50/60 Hz
		Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
		Current	2.6/1.3 A
		Maximum power rating	240 W
		Idle power	28.3 W
		PoE power	185 W PoE+
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be

Technical Specifications

		supplemented with the use of an External Power Supply (EPS).
Safety		UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825; IEC 60950-1; EN 60950-1
Emissions		FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A
Immunity	**Generic**	EN 55024, CISPR 24
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted	IEC 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	IEC 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Web browser
Notes		Use only supported genuine HP mini-GBICs with your switch
Services		Refer to the HP website at www.hp.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 HP sales office.

HP 1820-48G Switch (J9981A)	**I/O ports and slots**		48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
			4 SFP 100/1000 Mbps ports (IEEE 802.3z Type 1000BASE-X, IEEE 802.3u Type 100BASE-FX)
			Supports a maximum of 48 autosensing 10/100/1000 ports plus 4 SFP ports
	Physical characteristics	**Dimensions**	17.42(w) x 9.69(d) x 1.73(h) in (44.25 x 24.61 x 4.39 cm) (1U height)
		Weight	7.3 lb (3.31 kg)
	Memory and processor		ARM Cortex-A9 @ 400 MHz, 128 MB SDRAM; Packet buffer size: 1.5 MB, 16 MB flash
	Performance	**100 Mb Latency**	< 7 µs (LIFO 64-byte packets)
		1000 Mb Latency	< 2 µs (LIFO 64-byte packets)
		Throughput	up to 77.3 Mpps (64-byte packets)
		Switching capacity	104 Gbps
		MAC address table size	16000 entries
	Reliability	**MTBF (years)**	61.73
	Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C)
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)

Technical Specifications

	Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)	
	Altitude	up to 9,842 ft (3 km)	
	Acoustic	Power: 0 dB no fan	
Electrical characteristics	**Frequency**	50/60 Hz	
	Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)	
	Current	. 8/. 5 A	
	Maximum power rating	39 W	
	Idle power	28.8 W	
	PoE power		
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	
Safety		UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825; IEC 60950-1; EN 60950-1	
Emissions		FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A	
Immunity	**Generic**	EN 55024, CISPR 24	
	EN	EN 55024, CISPR 24	
	ESD	IEC 61000-4-2	
	Radiated	IEC 61000-4-3	
	EFT/Burst	IEC 61000-4-4	
	Surge	IEC 61000-4-5	
	Conducted	IEC 61000-4-6	
	Power frequency magnetic field	IEC 61000-4-8	
	Voltage dips and interruptions	IEC 61000-4-11	
	Harmonics	EN 61000-3-2, IEC 61000-3-2	
	Flicker	EN 61000-3-3, IEC 61000-3-3	
Management		Web browser	
Notes		Use only supported genuine HP mini-GBICs with your switch	
Services		Refer to the HP website at www.hp.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 HP sales office.	

HP 1820-48G-PoE+ (370W) Switch (J9984A)	**I/O ports and slots**	24 RJ-45 autosensing 10/100/1000 PoE+ ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
		24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
		4 SFP 100/1000 Mbps ports (IEEE 802.3z Type 1000BASE-X, IEEE 802.3u Type 100BASE-FX)

Technical Specifications

Physical characteristics	**Dimensions**	17.42(w) x 12.7(d) x 1.73(h) in (44.25 x 32.26 x 4.39 cm) (1U height)
	Weight	9.7 lb (4.4 kg)
Memory and processor	ARM Cortex-A9 @ 400 MHz, 128 MB SDRAM; Packet buffer size: 1.5 MB, 16 MB flash	
Performance	**100 Mb Latency**	< 7 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 2 µs (LIFO 64-byte packets)
	Throughput	up to 77.3 Mpps (64-byte packets)
	Switching capacity	104 Gbps
	MAC address table size	16000 entries
Reliability	**MTBF (years)**	45.05
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C)
	Nonoperating/Storage temperature	–40°F to 158°F (–40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)
	Altitude	up to 9,842 ft (3 km)
	Acoustic	Power: 45 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Current	5.1/2.6 A
	Maximum power rating	481 W
	Idle power	54.8 W
	PoE power	370 W PoE+
	Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of an External Power Supply (EPS).
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825; IEC 60950-1; EN 60950-1	
Emissions	FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A	
Immunity	**Generic**	EN 55024, CISPR 24
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3
	EFT/Burst	IEC 61000-4-4

Technical Specifications

Surge	IEC 61000-4-5	
Conducted	IEC 61000-4-6	
Power frequency magnetic field	IEC 61000-4-8	
Voltage dips and interruptions	IEC 61000-4-11	
Harmonics	EN 61000-3-2, IEC 61000-3-2	
Flicker	EN 61000-3-3, IEC 61000-3-3	
Management	Web browser	
Notes	Use only supported genuine HP mini-GBICs with your switch	
Services	Refer to the HP website at www.hp.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 HP sales office.	

Standards and protocols
(applies to all products in series)

Denial of service protection
CPU DoS Protection

General protocols
IEEE 802.1D Spanning Tree Protocol
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1W Rapid Spanning Tree Protocol
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3x Flow Control
RFC 1534 DHCP/BOOTP Interoperation
RFC 2030 Simple Network Time Protocol (SNTP) v4

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

Accessories

HP 1810 Switch Series accessories	**Cables**	
	HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
	HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
	HP LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable	AJ835A
	HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
	HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
	HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
	HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
	HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
	Mounting Kit	
	HP X410 1U Universal 4-post Rack Mounting Kit	J9583A
	HP 1820-24G Switch (J9980A)	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP RJ45 T Transceiver	J8177C
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP 1820-24G-PoE+ (185W) Switch (J9983A)	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP RJ45 T Transceiver	J8177C
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP 1820-48G Switch (J9981A)	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP RJ45 T Transceiver	J8177C
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP 1820-48G-PoE+ (370W) Switch (J9984A)	
	HP X111 100M SFP LC FX Transceiver	J9054C
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X121 1G SFP RJ45 T Transceiver	J8177C

Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)	**Cabling**	**Cable type**: 50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m
		Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m
	Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical glass: Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical glass: Bandwidth: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber and designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.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 HP sales office.
HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)	**Cabling**	**Cable type**: 50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m
		Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m
	Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um

Accessory Product Details

- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; **Maximum distance**: 10Gbps Transfer Rate (Ethernet): 300m
	Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @

Accessory Product Details

1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)	**Cabling**	**Cable type**: 50/125 μm core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; **Maximum distance**: 10Gbps Transfer Rate (Ethernet): 300m
	Notes	Cable Specs: This specification defines the detail requirements for a tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)	**Cabling**	**Cable type**: 50/125 μm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; **Maximum distance**: 10Gbps Transfer Rate (Ethernet): 300m

Accessory Product Details

	Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

	Services	Refer to the HP website at www.hp.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 HP sales office.

HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m;
		Maximum distance: 10Gbps Transfer Rate (Ethernet): 300m
	Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen

Accessory Product Details

thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services	Refer to the HP website at www.hp.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 HP sales office.

HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)

Cabling	**Cable type**: 50/125 µm (core/cladding) diameter, multimode fiber optic, with effective modal bandwidth of 2000 MHz/km as detailed in TIA-492AAAC for distances of up to 300 m; **Maximum distance**: 10Gbps Transfer Rate (Ethernet): 300m
Notes	Cable Specs: Tight buffered duplex fiber optic multimode OM3 50/125 um fiber optic cable and Ethernet assembly with LC duplex connectors on one end and LC duplex connectors on other end.

- Dimensions: Core diameter: 50 ± 3.0um Cladding diameter: 125 ± 2.0um Coating diameter: 245 ± 10um
- Optical Glass Bandwidth: For LED sources: 1500/500 MHz-km @850/1300nm.
- Optical Glass: For Laser sources: 2000/500 MHz-km @850/1300nm. VCSEL Laser sources: Shall achieve 600 / 600 meters @850/1300nm for Gigabit Ethernet compliant links.
- CABLE: The cable is duplex zip cord graded index 50/125um multimode optical fiber. The cable is designed to work in both the 850 and 1300 nm wavelength windows.
- BULK CABLE & CABLE ASSEMBLY CONFIGURATION:
- Jacket Material: Riser Grade - Low Smoke Zero Halogen thermoplastic.
- Jacket Color: Aqua for OM3 multimode per TIA 598
- Boot Color: White
- Insertion Loss: less than 0.5 dB @ 850 with LED source, 0.003 dB/M added for lengths > 30 meters.
- Maximum Cable attenuation: 3.0 dB/km @ 850 nm, 1.0 dB/Km @ 1310 nm @ 23°C as tested in accordance with EIA 455-46.
- Weight: Air Packed Weight: 1 LB Net Weight: 0.454Kg

Services	Refer to the HP website at www.hp.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 HP sales office.

HP Premier Flex LC/LC Multi-mode OM4 2 fiber

Notes	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors

Accessory Product Details

1m Cable (QK732A)		on each end.

• Core Diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
• Bandwidth: 3000 MHz-km @ 850nm (Laser)
• Jacket Color: Blue
• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
• Boot Color: White
• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services   Refer to the HP website at www.hp.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 HP sales office.

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A)   **Notes**   Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
• Bandwidth: 3000 MHz-km @ 850nm (Laser)
• Jacket Color: Blue
• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic
• Boot Color: White
• Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable.
• Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m
• Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

Services   Refer to the HP website at www.hp.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 HP sales office.

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)   **Notes**   Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.

• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um
• Bandwidth: 3000 MHz-km @ 850nm (Laser)
• Jacket Color: Blue
• Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic

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		• Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)	**Notes**	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A)	**Notes**	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end. • Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45

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	Services	Refer to the HP website at www.hp.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 HP sales office.
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A)	**Notes**	Cable Specs: Graded-index, "bendable" fiber optic multimode OM3+ 50/125um duplex cable and Ethernet assembly with LC duplex connectors on each end.
		• Core diameter: 50um ±3um, Cladding diameter: 125um ±2um; Coating diameter: 245 ± 10um • Bandwidth: 3000 MHz-km @ 850nm (Laser) • Jacket Color: Blue • Jacket Material: Riser Grade – Low Smoke Zero Halogen (LSZH) thermoplastic • Boot Color: White • Outer Jacket Print: HP PremierFlex OM3+ Fiber Optic Cable, 50/125um, Type OFNR (UL), LSZH, cUL, OFN FT4, ROHS. Cable also has a longitudinal white stripe that runs the entire length of the cable. • Insertion Loss: Less than 0.5dB @ 850nm with LED source, 0.003dB/m added for lengths >30m • Maximum Cable Attenuation: 3.0 dB/km @ 850nm, 1.0 dB/km @ 1310nm @ 23°C as tested in accordance with EIA 455-45
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP X410 1U Universal 4-post Rack Mounting Kit (J9583A)	**Notes**	The rack mounting kit supports the 1U, full width switches in the following switch series and the power supply: V1810 Series, E2510 Series, E2520 Series, E2610 Series, E2810 Series, E2910 Series, E3500 Series, and the E620 Power Supply This universal rack mounting kit is design to fit the following racks: HP 10K 10642, HP 10K 10842, Panduit CN, Panduit CS, Wrightline Vantage S2, APC Netshelter 600mm, and APC Netshelter 800mm. It may well fit many other brands and models too.
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP X111 100M SFP LC FX Transceiver (J9054C) HP X111 100M SFP LC FX Transceiver: An SFP format 100-megabit transceiver with LC connectors using FX technology.	**Ports**	1 LC 100BASE-FX port (IEEE 802.3u Type 100BASE-FX); Duplex: half or full
	Physical characteristics	Dimensions: 2.7(d) x 0.54(w) x 0.48(h) in. (6.86 x 1.38 x 1.22 cm) Weight: 0.06 lb. (0.03 kg)
	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 5% to 95% Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C) Nonoperating/Storage relative humidity: 5% to 85% Altitude: up to 10,000 ft. (3 km)
	Cabling	Cable type: 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively; Maximum distance: • 2 km (full duplex) or 412 m (half duplex)

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	Notes	Transmitter wavelength: 1310nm Power consumption is 1.1 watt maximum. For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J9054C 100-FX SFP-LC Transceiver" on the "ProCurve Mini-GBICs and SFPs" Manuals Web page.
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP X121 1G SFP LC SX Transceiver (J4858C) A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550 m on multimode fiber.	**Ports**	1 LC 1000BASE-SX port; Duplex: full only
	Physical characteristics	Dimensions: 2.24(d) x 0.54(w) x 0.48(h) in. (5.69 x 1.37 x 1.22 cm) Weight: 0.04 lb. (0.02 kg) Transceiver form factor: SFP
	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 5% to 85%, noncondensing Nonoperating/Storage temperature: -40°F to 203°F (-40°C to 85°C) Altitude: up to 10,000 ft. (3 km)
	Electrical characteristics	Power consumption typical: 0.4 W Power consumption maximum: 0.7 W
	Cabling	Type: • 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively; Maximum distance: • 2-220 m (62.5 µm core diameter, 160 MHz*km bandwidth • 2-275 m (62.5 µm core diameter, 200 MHz*km bandwidth • 2-500 m (50 µm core diameter, 400 MHz*km bandwidth) • 2-550 m (50 µm core diameter, 500 MHz*km bandwidth) Cable length: 2-550m Fiber type: Multi Mode
	Services	Refer to the HP website at www.hp.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 HP sales office.
HP X121 1G SFP LC LX Transceiver (J4859C) HP X121 1G SFP LC LX Transceiver: An SFP format gigabit transceiver with LC connectors using LX technology.	**Ports**	1 LC 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX); Duplex: full only
	Physical characteristics	Dimensions: 2.24(d) x 0.54(w) x 0.486(h) in. (5.69 x 1.37 x 1.23 cm) Weight:0.04 lb. (0.02 kg)
	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C) Operating relative humidity: 0% to 85%, noncondensing Nonoperating/Storage temperature: -40°F to 212°F (-40°C to 100°C) Altitude: up to 10,000 ft. (3 km)
	Cabling	Type: • Either single mode or multimode; 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content,

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multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively; Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1;

Maximum distance:

- 2-550 m (multimode 62.5 µm core diameter, 500 MHz*km bandwidth)
- 2-550 m (multimode 50 µm core diameter, 400 MHz*km bandwidth)
- 2-550 m (multimode 50 µm core diameter, 500 MHz*km bandwidth)
- 2-10,000 m (single-mode fiber)

Notes	A mode conditioning patch cord may be needed in some multimode fiber installations. Wavelength: 1310nm Power Consumption: < 500mW Typical
Services	Refer to the HP website at www.hp.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 HP sales office.

HP X121 1G SFP RJ45 T Transceiver (J8177C) HP X121 1G SFP RJ45 T Transceiver: An SFP format gigabit transceiver with RJ45 connectors using 1000BaseT technology.	**Ports**	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T); Duplex: full only
	Physical characteristics	Dimensions: 2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm) Weight: 0.06 lb. (0.03 kg)
	Environment	Operating temperature: 32°F to 158°F (0°C to 70°C); with 100 LFM airflow over the SFP module) Operating relative humidity: 0% to 95% @ 75°F (25°C), noncondensing Nonoperating/Storage temperature: -40°F to 185°F (-40°C to 85°C) Nonoperating/Storage relative humidity: 0% to 95% @ 77°F (25°C), noncondensing Altitude: up to 10,000 ft. (3000 km)
	Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ù differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T; Maximum distance: • 100 m
	Notes	Power consumption is nominally 1 watt. For supported platforms and minimum software requirements to support this product, see the document titled "Support for the J8177C 1000Base-T Mini-GBIC" on the "ProCurve Mini-GBICs and SFPs" Manuals Web page. The J8177C Gigabit copper mini-GBIC is not supported on dual-personality ports. The J8177C is capable of 100 Mb operation. This is supported on only the HP ProCurve Switch 8200zl, 5400zl, and 6200yl Series using software version K.12.21 or later. Use the "auto-100" port setting to enable 100 Mb operation. Important: The earlier J8177B does not support 100 Mb operation. When used in the ProCurve Switch gl 20-Port 10/100/1000 Module (J4908A), the J8177C mini-GBIC can be installed in either the upper or lower

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	mini-GBIC port, but will block access to the other port.
Services	Refer to the HP website at www.hp.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 HP sales office.

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