Overview

Models

HP 1410-8G Switch	J9559A
HP 1410-16G Switch	J9560A
HP 1410-24G-R Switch	JG708A
HP 1410-24G Switch	J9561A
HP 1410-8 Switch	J9661A
HP 1410-16 Switch	J9662A
HP 1410-24 Switch	J9663A
HP 1410-24-R Switch	JD986B
HP 1410-24-2G Switch	J9664A

Key features

- Unmanaged Gigabit Ethernet and Fast Ethernet switches
- Green features for low power consumption
- Fanless design for silent operation
- Quality of service (QoS) support
- Lifetime warranty

Product overview

HP 1410 Switch Series comprises unmanaged Gigabit Ethernet and Fast Ethernet switches designed for small businesses looking for entry-level, low-cost networking solutions that come with a lifetime warranty. The series consists of nine models with flexible mounting options to meet different network switching needs. All models have quality of service(QoS) support and IEEE 802.3x flow control features that provide outstanding data efficiency. Simplified plug-and-play convenience is enabled by features such as Auto-MDIX and auto-speed negotiation. HP has innovated and combined the latest advances in silicon technology to bring you some of the most power-efficient switches: 1410-24G-R,1410-16 and 1410-24 models are advanced IEEE 802.3az-compliant unmanaged Gigabit and Fast Ethernet switches. The switches come with built-in green features and a lifetime warranty, making the series the right choice for organizations seeking a networking solution that's both economical and reliable.

Features and benefits

Quality of Service (QoS)

- **IEEE 802.1p prioritisation**
  delivers data to devices based on the priority and type of traffic
- **DiffServ Code Point (DSCP) support**
  allows real-time traffic prioritisation based on Layer 3 TOS/DSCP parameters

Connectivity

- **Auto-MDIX**
  provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

Performance

Overview

- **NEW Energy-efficient Ethernet support**
  supports new IEEE 802.3az standard; allows lower power consumption when operated with IEEE-compliant client devices in 100 Mb/s mode only (JG708A, J9662A and J9663A switches)
- **Half-/full-duplex auto-negotiating capability on every port**
  doubles the throughput of every port
- **NEW Jumbo frame support**
  allows frames up to 9216 bytes to be switched through the network (Gigabit Ethernet models)
- **Mini jumbo frame support**
  allows frames up to 2048 bytes to be switched through the network, which supports large data transfers (J9662A and J9663A switches)

Ease of use

- **Unmanaged**
  provides plug-and-play simplicity
- **Comprehensive LED display with per-port indicators**
  provides an at-a-glance view of status, activity, speed and full-duplex operation
- **Flow control**
  helps ensure reliable communications during full-duplex operation
- **Auto-speed negotiation**
  selects individual port speed automatically depending on client capabilities without the need for manual intervention, allowing for simple plug-and-play operation

Flexibility

- **Fanless design**
  enables quiet operation for deployment in open spaces
- **NEW Internal power supply**
  provides operation convenience and a neat operation environment (JG708A, J9561A and JD986B switches)

Warranty and support

- **NEW Lifetime Warranty 2.0**
  advance hardware replacement for as long as you own the product with next-business-day delivery (available in most countries)†
- **NEW Electronic and telephone support (for 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 complete warranty period; to reach our support centres, 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**

* HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765 zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft® Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at **www.hp.com/networking/warranty**

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 1410-8G Switch — J9559A
- 8 autosensing 10/100/1000 ports

See Configuration Note:2

HP 1410-16G Switch — J9560A
- 16 autosensing 10/100/1000 ports
- 1U - Height

See Configuration Note:2

HP 1410-24G-R Switch — JG708A
- 24 autosensing 10/100/1000 ports
- 1U - Height

See Configuration Note:2

HP 1410-24G Switch — J9561A
- 22 autosensing 10/100/1000 ports
- 2 dual-personality ports; either an RJ-45 10/100/1000 port or an open mini-GBIC slot
- 1U - Height

See Configuration Note:1, 3

PDU Cable NA/MX/TW/JP — J9561A #B2B
- C15 PDU Jumper Cord (NA/MX/TW/JP)

PDU Cable ROW — J9561A #B2C
- C15 PDU Jumper Cord (ROW)

HP 1410-8 Switch — J9661A
- 8 autosensing 10/100 ports

See Configuration Note:2

HP 1410-16 Switch — J9662A
- 16 autosensing 10/100 ports
- 1U - Height

See Configuration Note:2

HP 1410-24 Switch — J9663A
- 24 autosensing 10/100 ports
- 1U - Height

See Configuration Note:2

HP 1410-24-R Switch — JD986B
- 24 autosensing 10/100 ports
- 1U - Height

See Configuration Note:2

Configuration

HP 1410-24-2G Switch • 24 autosensing 10/100ports • 2 autosensing 10/100/1000 ports • 1U - Height	J9664A See Configuration Note:2

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
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)	

Internal or External Power Supplies(Model Dependant)

Power supplies included

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

Transceivers

SFP Transceivers

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

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

Configuration

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

Technical Specifications

HP 1410-8G Switch (J9559A)

I/O ports and slots	8 RJ-45 autosensing 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Supports a maximum of 8 autosensing 10/100/1000 ports	
Physical characteristics	**Dimensions**	6.14(w) x 3.8(d) x 0.96(h) in (15.6 x 9.65 x 2.45 cm)
	Weight	0.74 lb (0.34 kg)
Memory and processor	4 Kb EEPROM capacity; packet buffer size: 192 KB	
Mounting	Wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 3.6 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 1.2 µs (LIFO 64-byte packets)
	Throughput	11.9 Mpps (64-byte packets)
	Switching capacity	16 Gbps
	MAC address table size	4096 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	41 BTU/hr (43.26 kJ/hr)
	Voltage	100 - 240 VAC
	Current	1.0 A
	Maximum power rating	12 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor country option.
Safety	CSA 22.2 No. 60950; EN 60950/IEC 60950; UL 60950-1	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	EN	EN 55024, CISPR 24

Technical Specifications

	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF795E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF796E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR843E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR844E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR816E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR817E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR818E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR819E) 3 Yr 6 hr Call-to-Repair Onsite (UW386E) 4 Yr 6 hr Call-to-Repair Onsite (UW387E) 5 Yr 6 hr Call-to-Repair Onsite (UW388E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR845E) 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 1410-16G Switch (J9560A)

I/O ports and slots	16 RJ-45 autosensing 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Supports a maximum of 16 autosensing 10/100/1000 ports	
Physical characteristics	**Dimensions**	8.21(w) x 4.41(d) x 1.73(h) in (20.85 x 11.2 x 4.4 cm) (1U height)
	Weight	1.43 lb (0.65 kg)
Memory and processor	512 Kb flash; packet buffer size: 512 KB	
Mounting	Mounts in an EIA-standard 19 in. telco rack (hardware included); wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 8.0 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 3.6 µs (LIFO 64-byte packets)
	Throughput	23.8 Mpps (64-byte packets)
	Switching capacity	32 Gb/s

Technical Specifications

	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	44 BTU/hr (46.42 kJ/hr)
	Voltage	100 - 240 VAC
	Current	1.1 A
	Maximum power rating	13 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor country option.
Safety	CSA 22.2 No. 60950; UL 60950-1; IEC 60950-1; EN 60950-1	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E)	

Technical Specifications

Installation with minimum configuration, system-based pricing (U4826E)
Installation with HP-provided configuration, system-based pricing (U4830E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E)
3 Yr 6 hr Call-to-Repair Onsite (UW389E)
4 Yr 6 hr Call-to-Repair Onsite (UW390E)
5 Yr 6 hr Call-to-Repair Onsite (UW391E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR848E)

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 1410-24G-R Switch (JG708A)

I/O ports and slots	24 RJ-45 autosensing 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Supports a maximum of 24 autosensing 10/100/1000 ports	
Physical characteristics	**Dimensions**	17.32(w) x 6.81(d) x 1.73(h) in (44 x 17.3 x 4.4 cm) (1U height)
	Weight	6.61 lb (3 kg)
Memory and processor	1 MB flash; packet buffer size: 512 KB	
Mounting	Mounts in an EIA standard 19-inch telco rack (hardware included); desktop mounting	
Performance	**100 Mb Latency**	< 8.0 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 3.6 µs (LIFO 64-byte packets)
	Throughput	35.7 Mpps (64-byte packets)
	Switching capacity	48 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 16,404 ft (5 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	55 BTU/hr (58 kJ/hr)
	Voltage	100 - 240 VAC
	Current	0.3 A

Technical Specifications

	Maximum power rating	16 W
	Notes	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. This model provides internal power supply. Please select the correct power cord country option.
Safety	CSA 22.2 No. 60950; UL 60950-1; IEC 60950-1; EN 60950-1	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Notes	IEEE 802.3az Energy Efficient Ethernet protocol is supported by the HP 1410-24G-R (JG708A), HP 1410-16 (J9662A) and HP 1410-24 (J9663A) Switches.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR848E) 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 1410-24G Switch (J9561A)

Technical Specifications

I/O ports and slots	22 RJ-45 autosensing 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab 1000BASE-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) Supports a maximum of 24 Gigabit Ethernet ports	
Physical characteristics	**Dimensions**	13.23(w) x 6.65(d) x 1.73(h) in (33.6 x 16.9 x 4.4 cm) (1U height)
	Weight	2.98 lb (1.35 kg)
Memory and processor	512 Kb flash; packet buffer size: 512 KB	
Mounting	Mounts in an EIA-standard 19 in. telco rack (hardware included); wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 8.0 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 3.6 µs (LIFO 64-byte packets)
	Throughput	35.7 Kpps (64-byte packets)
	Switching capacity	48 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	75 BTU/hr (79.13 kJ/hr)
	Voltage	100 - 127 / 200 - 240 VAC
	Current	0.3/0.2 A
	Maximum power rating	22 W
	Notes	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. This model provides internal power supply. Please select the correct power cord country option.
Safety	CSA 22.2 No. 60950; UL 60950-1; IEC 60950-1; EN 60950-1	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2

Technical Specifications

	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Notes	Use only supported genuine HP mini-GBICs with your switch.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR848E) 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 1410-8 Switch (J9661A)

I/O ports and slots	8 RJ-45 autosensing 10/100 ports; Duplex: half or full (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX) Supports a maximum of 8 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	6.14(w) x 3.74(d) x 0.97(h) in (15.6 x 9.5 x 2.46 cm)
	Weight	0.74 lb (0.34 kg)
Memory and processor	16 Kb EEPROM; packet buffer size: 96 KB	
Mounting	Wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 3.7µs (LIFO 64-byte packets)
	Throughput	1.1 Mpps (64-byte packets)
	Switching capacity	1.6 Gb/s
	MAC address table size	1024 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)

Technical Specifications

	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	13 BTU/hr (13.72 kJ/hr)
	Voltage	100 - 240 VAC
	DC voltage	12 V
	Current	0.3 A
	Maximum power rating	3.6 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor country option.
Safety	UL 60950-1; CSA 22.2 60950-1; IEC 60950-1:2005; EN 60950-1:2006 + A11:2009	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF795E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF796E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR843E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR844E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR817E)	

3 Yr 6 hr Call-to-Repair Onsite (UW386E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR845E)

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 1410-16 Switch (J9662A)

Ports	16 RJ-45 autosensing 10/100 ports; Duplex: half or full (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX) Supports a maximum of 16 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	8.21(w) x 4.21(d) x 1.73(h) in (20.85 x 10.69 x 4.39 cm) (1U height)
	Weight	1.43 lb (0.65 kg)
Memory and processor	16 Kb EEPROM; packet buffer size: 2 Mb	
Mounting	Mounts in an EIA standard 19-inch telco rack (hardware included); wall, desktop and under-table mounting	
Performance	**100 Mb Latency**	< 10.6 µs (LIFO 64-byte packets)
	Throughput	2.3 Mpps (64-byte packets)
	Switching capacity	3.2 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	13 BTU/hr (13.72 kJ/hr)
	Voltage	100 - 240 VAC
	DC voltage	12 V
	Current	0.3 A
	Maximum power rating	3.6 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor

Technical Specifications

		country option.
Safety	UL 60950-1; CSA C22.2 60950-1; IEC 60950-1:2005; EN 60950-1:2006 + A11:2009	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Notes	IEEE 802.3az Energy Efficient Ethernet protocol is supported by the HP 1410-16 (J9662A) and HP 1410-24 (J9663A) Switches only	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 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 1410-24 Switch (J9663A)

I/O ports and slots	24 RJ-45 autosensing 10/100 ports; Duplex: half or full (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX) Supports a maximum of 24 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	13.23(w) x 6.65(d) x 1.73(h) in (33.6 x 16.89 x 4.39 cm) (1U height)
	Weight	2.98 lb (1.35 kg)
Memory and processor	16 Kb EEPROM; packet buffer size: 2 Mb	
Mounting	Mounts in an EIA-standard 19 in. telco rack (hardware included); wall, desktop, and under-table mounting	

Technical Specifications

Performance	**100 Mb Latency**	< 11 µs (LIFO 64-byte packets)
	Throughput	3.5 Mpps (64-byte packets)
	Switching capacity	4.8 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	17 BTU/hr (17.93 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	12 V
	Current	0.4 A
	Maximum power rating	4.8 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor country option.
Safety	UL 60950-1; CSA 22.2 60950-1; IEC 60950-1:2005; EN 60950-1:2006 + A11:2009	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2

Technical Specifications

	Flicker	IEC 61000-3-3
Notes	IEEE 802.3az Energy Efficient Ethernet protocol is supported by the HP 1410-24G-R (JG708A), HP 1410-16 (J9662A) and HP 1410-24 (J9663A) Switches.	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 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 1410-24-R Switch (JD986B)

I/O ports and slots	24 RJ-45 autosensing 10/100 ports; Duplex: half or full (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX) Supports a maximum of 24 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	17.32(w) x 6.81(d) x 1.73(h) in (44 x 17.3 x 4.4 cm)
	Weight	4.41 lb (2.0 kg)
Memory and processor	8kb EEPROM; packet buffer size: 2 Mb	
Mounting	Mounts in an EIA standard 19-inch telco rack (hardware included); desktop mounting	
Performance	**100 Mb Latency**	< 11 µs (LIFO 64-byte packets)
	Throughput	3.5 Mpps (64-byte packets)
	Switching capacity	4.8 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 16,404 ft (5 km)
	Acoustic	Power: 0 dB No fan
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	21 BTU/hr (22 kJ/hr)

Technical Specifications

	Voltage	100 - 240 VAC
	DC voltage	3.3 V
	Current	1.1 A
	Maximum power rating	3.6 W
	Notes	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. This model provides an internal power supply. Please select the correct power cord country option.
Safety	UL 60950-1; CSA 22.2 60950-1; IEC 60950-1:2005; EN 60950-1:2006 + A11:2009	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR848E) 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 1410-24-2G Switch (J9664A)

Technical Specifications

I/O ports and slots	24 RJ-45 autosensing 10/100 ports; Duplex: half or full (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX) 2 RJ-45 autosensing 10/100/1000 ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) Supports a maximum of 24 autosensing 10/100 ports plus 2 autosensing 10/100/1000 ports	
Physical characteristics	**Dimensions**	13.23(w) x 6.65(d) x 1.73(h) in (33.6 x 16.89 x 4.39 cm) (1U height)
	Weight	2.98 lb (1.35 kg)
Memory and processor	2 Kb EEPROM; packet buffer size: 2.5 Mb	
Mounting	Mounts in an EIA-standard 19 in. telco rack (hardware included); wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 5.6 µs (LIFO 64-byte packets)
	1000 Mb Latency	< 2.2 µs (LIFO 64-byte packets)
	Throughput	6.5 Mpps (64-byte packets)
	Switching capacity	8.8 Gb/s
	MAC address table size	8192 entries
Environment	**Operating temperature**	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	15% to 90% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft. (3 km)
	Acoustic	Power: 0 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	37 BTU/hr (39.03 kJ/hr)
	Voltage	100 - 240 VAC
	DC voltage	12 V
	Current	0.9 A
	Maximum power rating	10.8 W
	Notes	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. The exact input voltage and frequency rating are determined by the specific power adaptor part number ordered. Please select the correct power adaptor country option.
Safety	UL 60950-1; CSA 22.2 60950-1; IEC 60950-1:2005; EN 60950-1:2006 + A11:2009	
Emissions	FCC Rules Part 15, Subpart B Class A	
Immunity	**Generic**	EN 55022 CISPR 22
	EN	EN 55024, CISPR 24

Technical Specifications

	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	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UF797E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UF798E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR846E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR847E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR820E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR821E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR822E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR823E) 3 Yr 6 hr Call-to-Repair Onsite (UW389E) 4 Yr 6 hr Call-to-Repair Onsite (UW390E) 5 Yr 6 hr Call-to-Repair Onsite (UW391E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR848E) 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)	**General protocols** IEEE 802.1p Priority IEEE 802.3ab 1000BASE-T Gigabit Ethernet over twisted pair (10/100/1000 models only) IEEE 802.3i 10BASE-T Ethernet over twisted pair IEEE 802.3u 100BASE-TX Fast Ethernet, 100BASE-FX with autonegotiation IEEE 802.3x Flow Control	

Accessories

HP 1410 Switch series accessories	**Cables**	
	HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
	HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
	HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
	HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
	HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
	HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
	HP 50 m Multimode OM3 LC/LC Optical 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
	HP 1410-24G Switch (J9561A)	
	HP X121 1G SFP LC SX Transceiver	J4858C
	HP X121 1G SFP LC LX Transceiver	J4859C
	HP X111 100M SFP LC FX Transceiver	J9054C

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, mulitimode 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 zipcord 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.

Accessory Product Details

HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, mulitimode 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 zipcord 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.

Accessory Product Details

HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, mulitimode 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 zipcord 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.

Accessory Product Details

HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)	**Cabling**	**Cable type**: 50/125 µm core/cladding) diameter, mulitimode 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 zipcord 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.

Accessory Product Details

HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, mulitimode 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 zipcord 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.

Accessory Product Details

HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, mulitimode 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 zipcord 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.

Accessory Product Details

HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)	**Cabling**	**Cable type**: 50/125 µm (core/cladding) diameter, mulitimode 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 zipcord 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.

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HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A)	**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 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.

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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 • 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.

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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
	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.

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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, 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)

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	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 X111 100M SFP LC FX Transceiver (J9054C)	**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 ìm or 50/125 ìm (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)
	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 J9054B 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.

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