Overview

Models

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

Key features

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

Product overview

HP 1410 series switches are unmanaged Gigabit Ethernet and Fast Ethernet switches designed for small businesses looking for entry-level, low-cost networking solutions with a lifetime warranty. The HP 1410 switch series consists of seven models with flexible mounting options that allow customers to choose the best switch to meet their network switching needs. All models have QoS support and IEEE 802.3x flow control features to provide outstanding data efficiency. Simplified plug-and-play operation is enabled by features like Auto-MDIX and auto-speed negotiation. HP has innovated and combined the latest advances in silicon technology to provide some of the most power-efficient switches: 16- and 24-port Fast Ethernet models are the industry's first IEEE 802.3az compliant unmanaged Fast Ethernet switches. The available green features, along with the lifetime warranty, make the HP 1410 switch series ideal for customers seeking low-cost and reliable networking solutions.

Features and benefits

Quality of Service (QoS)

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

Connectivity

- **Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

Performance

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

Overview

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**: automatically selects individual port speed 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

Warranty and support

- **Lifetime warranty**: for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)*
- **Electronic and telephone support**: limited electronic and telephone support is available from HP; refer to: www.hp.com/networking/warranty for details on the support provided and the period during which support is available

* Hardware warranties replacement for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP Alliance One Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Ext zl Mod w/Rvrbd Stlhd, HP E-MSM765zl Mobility Controller and HP Surv Brch Com zl Mod pwrby Msft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at: www.hp.com/networking/warranty.

Technical Specifications

HP 1410-8G Switch (J9559A)

Ports	8 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
Physical characteristics	**Dimensions**	3.8(d) x 6.14(w) x 0.96(h) in. (9.65 x 15.6 x 2.45 cm) (.5U height)
	Weight	.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	up to 11.9 million pps (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	**Maximum heat dissipation**	41 BTU/hr (43.26 kJ/hr)
	Voltage	100-240 VAC
	Current	1.0 A
	Maximum power rating	12 W
	Frequency	50/60 Hz
	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 adapter part number ordered. Please select the correct power adapter 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
	ESD	IEC 61000-4-2
	Radiated	IEC 61000-4-3

Technical Specifications

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)

Ports		16 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); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	**Dimensions**	4.41(d) x 8.21(w) x 1.73(h) in. (11.2 x 20.85 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	up to 23.8 million pps (64-byte packets)
	Switching capacity	32 Gbps
	MAC address table size	8000 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

Technical Specifications

	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	**Maximum heat dissipation**	44 BTU/hr (46.42 kJ/hr)
	Voltage	100-240 VAC
	Current	1.1 A
	Maximum power rating	13 W
	Frequency	50/60 Hz
	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 adapter part number ordered. Please select the correct power adapter 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)	
	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)	

Technical Specifications

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)

Ports	22 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
	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)

Physical characteristics

Dimensions	6.65(d) x 13.23(w) x 1.73(h) in. (16.9 x 33.6 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	up to 35.7 million pps (64-byte packets)
Switching capacity	48 Gbps
MAC address table size	8000 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

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
Frequency	50/60 Hz

Technical Specifications

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.
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		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)

Ports		Supports a maximum of 8 autosensing 10/100 ports
Physical characteristics	**Dimensions**	3.74(d) x 6.14(w) x 0.97(h) in. (9.5 x 15.6 x 2.46 cm)
	Weight	0.74 lb. (0.34 kg)
Memory and processor		96 KB

Technical Specifications

Mounting	Wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 3.7µs (LIFO 64-byte packets)
	Throughput	up to 1.1 million pps (64-byte packets)
	Switching capacity	1.6 Gbps
	MAC address table size	1040 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	**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
	Frequency	50/60 Hz
	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 adapter part number ordered. Please select the correct power adapter 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
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	Supports a maximum of 16 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	4.21(d) x 8.21(w) x 1.73(h) in. (10.7 x 20.85 x 4.4 cm)
	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 in. telco rack (hardware included); wall, desktop, and under-table mounting	
Performance	**100 Mb Latency**	< 10.6 µs (LIFO 64-byte packets)
	Throughput	up to 2.3 million pps (64-byte packets)
	Switching capacity	3.2 Gbps
	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	**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
	Frequency	50/60 Hz
	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.

Technical Specifications

The exact input voltage and frequency rating are determined by the specific power adapter part number ordered. Please select the correct power adapter 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)

Ports	Supports a maximum of 24 autosensing 10/100 ports	
Physical characteristics	**Dimensions**	6.65(d) x 13.23(w) x 1.73(h) in. (16.9 x 33.6 x 4.4 cm)
	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	up to 3.5 million pps (64-byte packets)
	Switching capacity	4.8 Gbps
	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	**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
	Frequency	50/60 Hz
	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 adapter part number ordered. Please select the correct power adapter 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

Technical Specifications

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 1410-24-2G Switch (J9664A)

Ports	Supports a maximum of 24 autosensing 10/100 ports plus 2 autosensing 10/100/1000 ports, or a combination	
Physical characteristics	**Dimensions**	6.65(d) x 13.23(w) x 1.73(h) in. (16.9 x 33.6 x 4.4 cm)
	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	up to 6.5 million pps (64-byte packets)
	Switching capacity	8.8 Gbps
	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	**Maximum heat dissipation**	37 BTU/hr (39.03 kJ/hr)
	Voltage	100-240 VAC
	DC voltage	12 V
	Current	0.9 A

Technical Specifications

	Maximum power rating	10.8 W
	Frequency	50/60 Hz
	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 adapter part number ordered. Please select the correct power adapter 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)

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
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X

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
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable QK732A
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable QK733A
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable QK734A
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable QK735A
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable QK736A
	NEW HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable QK737A
	HP V1410-24G 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.

QuickSpecs

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. |

Accessory Product Details

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.

Accessory Product Details

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.

Accessory Product Details

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.

Accessory Product Details

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)

Accessory Product Details

	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.	

To learn more, visit: www.hp.com/networking