HP A3100 EI Switch Series

Data sheet

Product overview

These Layer 2 Ethernet switches are designed for enterprise networks demanding high security and intelligence. They provide 10/100 Mbps downlink and 1000 Mbps uplink Ethernet ports, and serve as access devices for 100 Mpbs-to-desktop applications in enterprise networks. In metropolitan area networks or various industry networks, they connect end users or aggregate client devices with 10/100 Mbps connections, converging at a higher capacity switch with 1000 Mbps interfaces. Features include advanced quality of service (QoS), rate limiting, QinQ (virtual LAN [VLAN]/VPN), SSHv2, Multicast VLAN Registration (MVR), Virtual Cable Test (VCT), HGMP V2, GARP VLAN Registration Protocol (GVRP), access control list (ACL), media access control (MAC)-IP-port binding, and Endpoint Admission Defense, voice and protocol-based VLAN, Internet Group Management Protocol snooping, and Power over Ethernet (PoE)

Key features

- Comprehensive security control policies
- High reliability with improved backup redundancy
- Simplified deployment and ease of use
- Highly expandable and highly reliable
- Diversified management modes and maintenance

Features and benefits

Quality of Service (QoS)

- **Broadcast control:** allows limitation of broadcast traffic rate to cut down on unwanted broadcast traffic on the network
- **Advanced classifier-based QoS:** classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- **Powerful QoS feature:** supports the following congestion actions: strict priority queuing (SP), weighted round robin queuing, and SP+WRR
- **Traffic policing:** supports Committed Access Rate (CAR) and line rate

Management

- **Friendly port names:** allow assignment of descriptive names to ports
- **Remote configuration and management:** is available through a secure Web browser or a command-line interface (CLI)
- **Manager and operator privilege levels:** enable read-only (operator) and read-write (manager) access on CLI and Web browser management interfaces
- **Command authorization:** leverages HWTACACS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail
- **Secure Web GUI:** provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- **Multiple configuration files:** can be stored to the flash image
- **Complete session logging:** provides detailed information for problem identification and resolution
- **SNMPv1, v2c, and v3:** facilitate centralized discovery, monitoring, and secure management of networking devices
- **Remote monitoring (RMON):** uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol provides easy mapping by network management applications
- **Management VLAN:** segments traffic to and from management interfaces, including CLI/telnet, a Web browser interface, and SNMP
- **Local and Remote Intelligent Mirroring:** mirror traffic from a switch port to a local or remote switch port anywhere on the network; mirror ACL-selected traffic to a local switch port
- **Device Link Detection Protocol (DLDP):** monitors cable between two switches and shuts down the ports on both ends if the cable is broken, preventing network problems such as loop
- **Troubleshooting:** ingress and egress port monitoring enable network problem solving; virtual cable tests provide visibility into cable problems
- **Stacking capability:** single IP address management for a stack of up to 16 switches

Connectivity

- **Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **Flow control:** using standard IEEE 802.3x, it provides back pressure to reduce congestion in heavy traffic situations
- **Gigabit uplinks:** dual-personality ports for either 10/100/1000 or mini-GBIC SFP connectivity for increased connectivity flexibility
- **IEEE 802.3af Power over Ethernet (PoE):** provides up to 15.4 W per port to IEEE 802.3af-compliant PoE-powered devices such as IP phones, wireless access points, and security cameras
- **Ethernet OAM:** provides a Layer 2 link performance and fault detection monitoring tool, which reduces failover and network convergence times

Performance

- **Hardware-based wire-speed access control lists (ACLs):** feature-rich ACL implementation (TCAM based) helps ensure high levels of security and ease of administration without impacting network performance
- **Gigabit Ethernet interface:** provides a connection to the network that eliminates the network as a bottleneck

Resiliency and high availability

- **Separate data and control paths:** increases security and performance

- **External redundant power supply:** provides high reliability
- **Smart link:** allows 50 ms failover between links
- **Spanning Tree/MSTP, RSTP:** provides redundant links while preventing network loops
- **Port trunking:** provides higher switch-to-switch throughput and link-level redundancy, with support for standards-based link aggregation (IEEE 802.3ad); supports up to 13 trunks, each with up to 8 links (ports) per trunk
- **Device Link Detection Protocol (DLDP):** monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks

Layer 2 switching

- **8K MAC addresses:** provide access to many Layer 2 devices
- **VLAN support and tagging:** supports the IEEE 802.1Q, with 4094 simultaneous VLAN IDs; supports port-based VLANs, MAC-based VLANs, and protocol-based VLANs
- **GARP VLAN Registration Protocol (GVRP):** allows automatic learning and dynamic assignment of VLANs
- **IEEE 802.1ad QinQ and Selective QinQ:** increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- **Gigabit Ethernet port aggregation:** allows grouping of ports to increase overall data throughput to a remote device
- **IGMP and MLD snooping:** effectively control and manage the flooding of multicast packets in a Layer 2 network

Layer 3 services

- **Address Resolution Protocol (ARP):** determines the MAC address of another IP host in the same subnet
- **Dynamic Host Configuration Protocol (DHCP):** simplifies the management of large IP networks and supports client and server
- **Loopback interface address:** defines an address in Routing Information Protocol (RIP) and OSPF that can always be reachable, improving diagnostic capability

Security

- **Access control lists (ACLs):** provide IP Layer 2 to Layer 4 traffic filtering; support global ACL, VLAN ACL, and IPv6 ACL
- **Multiple user authentication methods:**
  - **IEEE 802.1X:** industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
  - **Web-based authentication:** similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
  - **MAC-based authentication:** client is authenticated with the RADIUS server based on the client's MAC address
- **Identity-driven security and access control:**
  - **Per-user ACLs:** permits or denies user access to specific network resources based on user identity and time of day, allowing multiple types of users on the same network to access specific network services without risk to network security or unauthorized access to sensitive data
  - **Automatic VLAN assignment:** automatically assigns users to the appropriate VLAN based on their identities
- **Secure management access:** securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **Secure File Transfer Protocol (FTP):** allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- **Guest VLAN:** similar to IEEE 802.1X, it provides a browser-based environment to authenticated clients
- **Endpoint Admission Defense (EAD):** provides security policies to users accessing a network
- **Port security:** allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **Port isolation:** secures and adds privacy, and prevents malicious attackers from obtaining user information
- **STP BPDU port protection:** blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **STP Root Guard:** protects root bridge from malicious attack or configuration mistakes
- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **IP Source Guard:** filters packets on a per-port basis, which prevents illegal packets from being forwarded
- **RADIUS/HWTACACS:** eases switch management security administration by using a password authentication server

Convergence

- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** is an automated device discovery protocol for easy mapping by network management applications
- **LLDP-MED:** is a standard extension that automatically configures network devices, including LLDP-capable IP phones
- **LLDP-CDP compatibility:** receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation
- **IEEE 802.3af Power over Ethernet:** provides up to 15.4 W per port to PoE-powered devices such as IP phones, wireless access points, and video cameras
- **PoE allocations:** support multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings
- **Voice VLAN:** automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance
- **Multicast VLAN:** allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, reducing network bandwidth demand by eliminating multiple streams to each VLAN
- **IGMP/MLD snooping:** effectively controls and manages the flooding of multicast packets in a Layer 2 network

Device support

- **Cisco prestandard PoE support:** detects and provides power to Cisco's prestandard PoE devices such as wireless LAN access points and IP phones

Flexibility

- **Designed with no fan:** enables quiet operation for deployment in open spaces

Additional information

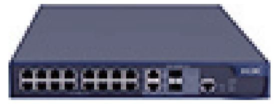
- **Green initiative support:** provides support for RoHS and WEEE regulations
- **Green IT and power:** uses the latest advances in silicon development and shuts off unused ports to improve power efficiency

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
- **Software releases:** refer to www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

*Hardware warranty replacement for as long as you own the product, with next business day advance replacement (available in most countries) with a five-year hardware warranty replacement for the disk drive included with HP AllianceONE Services zl Module, HP Threat Management Services zl Module, HP PCM+ Agent with AllianceONE Services zl Module, and HP E-MSM765 zl Mobility Controller. For details, refer to the HP Software License, Warranty, and Support booklet at www.hp.com/networking/warranty.

Specifications

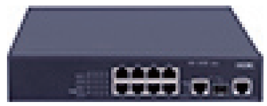



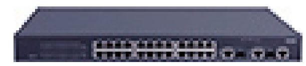

	HP A3100-8-PoE EI Switch (JD311A)	HP A3100-16-PoE EI Switch (JD312A)	HP A3100-24-PoE EI Switch (JD313A)
Ports	8 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Duplex: half or full 1 dual-personality port; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	16 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	24 autosensing 10/100 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3af PoE); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port
Physical characteristics			
Dimensions	8.66(d) x 11.81(w) x 1.72(h) in. (22. x 30 x 4.36 cm) (1U height)	10.24(d) x 11.81(w) x 1.72(h) in. (26 x 30 x 4.36 cm) (1U height)	16.54(d) x 17.32(w) x 1.72(h) in. (42 x 44 x 4.36 cm) (1U height)
Weight	6.61 lb. (3 kg)	7.72 lb. (3.5 kg)	14.33 lb. (6.5 kg)
Memory and processor	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB
Mounting	Requires angle mounting set if rack mounted (not included)	Requires angle mounting set if rack mounted (not included)	Mounts in an EIA standard 19-in. telco rack or equipment cabinet (hardware included)
Performance			
Latency	< 10 µs	< 10 µs	< 10 µs
Throughput	up to 2.6 million pps	up to 5.3 million pps	up to 6.5 million pps
Routing/Switching capacity	3.6 Gbps	7.2 Gbps	8.8 Gbps
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing	10% to 90%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing	5% to 95%, noncondensing
Electrical characteristics			
Maximum heat dissipation	103 BTU/hr (108.67 kJ/hr)	119 BTU/hr (125.54 kJ/hr)	324 BTU/hr (341.82 kJ/hr)
Voltage	100-240 VAC	100-240 VAC	100-240 VAC
DC voltage			-52 V to -56 VDC
Maximum power rating	95 W	160 W	465 W
PoE power	64 W	125 W	370 W
Frequency	50 / 60 Hz	50 / 60 Hz	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. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS).	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS).	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). With DC input: maximum power is 400 W, PoE power is 370 W.
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager

Specifications (continued)

	HP A3100-8-PoE EI Switch (JD311A)	HP A3100-16-PoE EI Switch (JD312A)	HP A3100-24-PoE EI Switch (JD313A)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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 802.1ad Q-in-Q IEEE 802.1ag Service Layer OAM IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s (MSTP) IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.1X PAE IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3af Power over Ethernet IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-X IEEE 802.3x Flow Control IEEE 802.3z 1000BASE-X RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 951 BOOTP RFC 959 File Transfer Protocol (FTP)	**MIBs** IEEE 8021-PAE-MIB IEEE 8023-LAG-MIB RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2011 SNMPv2 MIB for IP RFC 2013 SNMPv2 MIB for UDP RFC 2233 Interface MIB RFC 2273 SNMP-NOTIFICATION-MIB RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2573 SNMP-Notification MIB RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB RFC 2665 Ethernet-Like-MIB RFC 2674 802.1p and IEEE 802.1Q Bridge MIB RFC 2819 RMON MIB RFC 2925 Ping MIB RFC 3414 SNMP-User based-SM MIB RFC 3418 MIB for SNMPv3 RFC 3621 Power Ethernet MIB RFC 3826 AES for SNMP's USM MIB RFC 4133 Entity MIB (Version 3) LLDP-EXT-DOT1-MIB LLDP-EXT-DOT3-MIB LLDP-MIB	**Network management** IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events) ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 **QoS/CoS** IEEE 802.1P (CoS) RFC 2474 DSCP DiffServ

Specifications (continued)





	HP A3100-8 DC EI Switch (JD316A)	HP A3100-16 DC EI Switch (JD314A)	HP A3100-24 DC EI Switch (JD315A)
Ports	8 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 1 dual-personality port; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	16 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	24 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port
Physical characteristics			
Dimensions	6.3(d) x 9.06(w) x 1.72(h) in. (16 x 23. x 4.36 cm) (1U height)	6.3(d) x 14.17(w) x 1.72(h) in. (16 x 36. x 4.36 cm) (1U height)	6.3(d) x 17.32(w) x 1.72(h) in. (16 x 44 x 4.36 cm) (1U height)
Weight	3.97 lb. (1.8 kg)	5.51 lb. (2.5 kg)	7.72 lb. (3.5 kg)
Memory and processor	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB RAM; packet buffer size: 384 KB
Mounting	Requires angle mounting set if rack mounted (not included)	Requires angle mounting set if rack mounted (not included)	Mounts in an EIA standard 19-in. telco rack or equipment cabinet (hardware included)
Performance			
Latency	$< 10\ \mu s$	$< 10\ \mu s$	$< 10\ \mu s$
Throughput	up to 2.6 million pps	up to 5.3 million pps	up to 6.5 million pps
Routing/Switching capacity	3.6 Gbps	7.2 Gbps	8.8 Gbps
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing	10% to 90%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing	5% to 95%, noncondensing
Electrical characteristics			
Maximum heat dissipation	41 BTU/hr (43.26 kJ/hr)	51 BTU/hr (53.81 kJ/hr)	58 BTU/hr (61.19 kJ/hr)
DC voltage	-48 V to -60 VDC	-48 V to -60 VDC	-48 V to -60 VDC
Maximum power rating	12 W	15 W	17 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.	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.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager

Specifications (continued)

	HP A3100-8 DC EI Switch (JD316A)	HP A3100-16 DC EI Switch (JD314A)	HP A3100-24 DC EI Switch (JD315A)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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 802.1ad Q-in-Q IEEE 802.1ag Service Layer OAM IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s (MSTP) IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.1X PAE IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3af Power over Ethernet IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-X IEEE 802.3x Flow Control IEEE 802.3z 1000BASE-X RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 951 BOOTP RFC 959 File Transfer Protocol (FTP)	**MIBs** IEEE 8021-PAE-MIB IEEE 8023-LAG-MIB RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2011 SNMPv2 MIB for IP RFC 2013 SNMPv2 MIB for UDP RFC 2233 Interface MIB RFC 2273 SNMP-NOTIFICATION-MIB RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2573 SNMP-Notification MIB RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB RFC 2665 Ethernet-Like-MIB RFC 2674 802.1p and IEEE 802.1Q Bridge MIB RFC 2819 RMON MIB RFC 2925 Ping MIB RFC 3414 SNMP-User based-SM MIB RFC 3418 MIB for SNMPv3 RFC 3621 Power Ethernet MIB RFC 3826 AES for SNMP's USM MIB RFC 4133 Entity MIB (Version 3) LLDP-EXT-DOT1-MIB LLDP-EXT-DOT3-MIB LLDP-MIB	**Network management** IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events) ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 **QoS/CoS** IEEE 802.1P (CoS) RFC 2474 DSCP DiffServ

Specifications (continued)

	 HP A3100-8 EI Switch (JD318A)	 HP A3100-16 EI Switch (JD319A)
Ports	8 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 1 dual-personality port; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	16 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-21 serial console port
Physical characteristics		
Dimensions	6.3(d) x 9.06(w) x 1.72(h) in. (16 x 23. x 4.36 cm) (1U height)	6.3(d) x 14.17(w) x 1.72(h) in. (16 x 36. x 4.36 cm) (1U height)
Weight	3.97 lb. (1.8 kg)	5.51 lb. (2.5 kg)
Memory and processor		
	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB
Mounting	Requires angle mounting set if rack mounted (not included)	Requires angle mounting set if rack mounted (not included)
Performance		
Latency	< 10 μs	< 10 μs
Throughput	up to 2.6 million pps	up to 5.3 million pps
Routing/Switching capacity	3.6 Gbps	7.2 Gbps
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Electrical characteristics		
Maximum heat dissipation	41 BTU/hr (43.26 kJ/hr)	51 BTU/hr (53.81 kJ/hr)
Voltage	100-240 VAC	100-240 VAC
Maximum power rating	12 W	15 W
Frequency	50 Hz	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.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; ULAR; GOST; EN 60950-1/A11; FDA 21 CFR Subchapter J; NOM; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.

Specifications (continued)

HP A3100-8 EI Switch (JD318A)

HP A3100-16 EI Switch (JD319A)

Standards and protocols
(applies to all products in series)

General protocols
IEEE 802.1ad Q-in-Q
IEEE 802.1ag Service Layer OAM
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s (MSTP)
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3af Power over Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 959 File Transfer Protocol (FTP)

MIBs
IEEE 8021-PAE-MIB
IEEE 8023-LAG-MIB
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2013 SNMPv2 MIB for UDP
RFC 2233 Interface MIB
RFC 2273 SNMP-NOTIFICATION-MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2618 RADIUS Authentication Client MIB
RFC 2620 RADIUS Accounting Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2819 RMON MIB
RFC 2925 Ping MIB
RFC 3414 SNMP-User based-SM MIB
RFC 3418 MIB for SNMPv3
RFC 3621 Power Ethernet MIB
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
LLDP-EXT-DOT1-MIB
LLDP-EXT-DOT3-MIB
LLDP-MIB

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

QoS/CoS
IEEE 802.1P (CoS)
RFC 2474 DSCP DiffServ

Specifications (continued)

	 HP A3100-24 EI Switch (JD320A)	 HP A3100-48 Switch (JD317A)
Ports	24 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 2 dual-personality ports; auto-sensing 10/100/1000Base-T or SFP 1 RJ-45 serial console port	48 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 4 SFP fixed Gigabit Ethernet SFP ports 1 RJ-45 serial console port
Physical characteristics		
Dimensions	6.3(d) x 17.32(w) x 1.72(h) in. (16 x 44 x 4.36 cm) (1U height)	9.06(d) x 17.32(w) x 1.72(h) in. (23.0 x 44.0 x 4.36 cm) (1U height)
Weight	7.72 lb. (3.5 kg)	8.82 lb. (4 kg)
Memory and processor		
	64 MB SDRAM, 8 MB flash; packet buffer size: 384 KB	64 MB SDRAM, 8 MB flash; packet buffer size: 32 MB
Mounting	Mounts in an EIA standard 19-in. telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-in. telco rack or equipment cabinet (hardware included)
Performance		
Latency	< 10 µs	< 10 µs
Throughput	up to 6.5 million pps	11.7 million pps
Routing/Switching capacity	8.8 Gbps	17.6 Gbps
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Electrical characteristics		
Maximum heat dissipation	58 BTU/hr (61.19 kJ/hr)	171 BTU/hr (180.41 kJ/hr)
Voltage	100-240 VAC	100-240 VAC
Maximum power rating	17 W	50 W
Frequency	50 / 60 Hz	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.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	UL 60950; NOM-019-SCFI Mexico; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UV810E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV813E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV816E) 3-year, 24x7 SW phone support, software updates (UV819E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UV811E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV814E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV817E) 4-year, 24x7 SW phone support, software updates (UV820E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UV812E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV815E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV818E) 5-year, 24x7 SW phone support, software updates (UV821E) 3 Yr 6 hr Call-to-Repair Onsite (UW428E) 4 Yr 6 hr Call-to-Repair Onsite (UW429E) 5 Yr 6 hr Call-to-Repair Onsite (UW430E) 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.

Specifications (continued)

HP A3100-24 EI Switch (JD320A)

HP A3100-48 Switch (JD317A)

Standards and protocols
(applies to all products in series)

General protocols
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IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s (MSTP)
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3af Power over Ethernet
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
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RFC 2572 SNMP-MPD MIB
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RFC 2620 RADIUS Accounting Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2819 RMON MIB
RFC 2925 Ping MIB
RFC 3414 SNMP-User based-SM MIB
RFC 3418 MIB for SNMPv3
RFC 3621 Power Ethernet MIB
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
LLDP-EXT-DOT1-MIB
LLDP-EXT-DOT3-MIB
LLDP-MIB

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
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ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

QoS/CoS
IEEE 802.1P (CoS)
RFC 2474 DSCP DiffServ

HP A3100 EI Switch Series accessories

Transceivers

HP X120 1G SFP LC BX 10-U Transceiver (JD098B)
HP X120 1G SFP LC BX 10-D Transceiver (JD099B)
HP X110 100M SFP LC FX Transceiver (JD102B)
HP X120 1G SFP LC SX Transceiver (JD118B)
HP X120 1G SFP LC LX Transceiver (JD119B)
HP X110 100M SFP LC LX Transceiver (JD120B)

Cables

HP A3600 Switch SFP Stacking Kit (JD324B)
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 0.5 m PremierFlex OM3+ LC/LC Optical Cable (BK837A)
NEW HP 1 m PremierFlex OM3+ LC/LC Optical Cable (BK838A)
NEW HP 2 m PremierFlex OM3+ LC/LC Optical Cable (BK839A)
NEW HP 5 m PremierFlex OM3+ LC/LC Optical Cable (BK840A)
NEW HP 15 m PremierFlex OM3+ LC/LC Optical Cable (BK841A)
NEW HP 30 m PremierFlex OM3+ LC/LC Optical Cable (BK842A)
NEW HP 50 m PremierFlex OM3+ LC/LC Optical Cable (BK843A)

Power Supply

HP A-RPS800 Redundant Power System (JD183A)
HP A-RPS1600 Redundant Power System (JG136A)
HP A-RPS1600 1600W AC Power Supply (JG137A)

Mounting Kit

HP A3100/E4210-16 Rack-mount Kit (JD321A)
HP A3100/E4210-9 Rack-mount Kit (JD322A)
HP A3100/E4210-16/-8 PoE Rack-mount Kit (JD323A)

Power cords

HP X290 H2.7 H2.7 1m RPS800 Cable (JD184A)
HP X290 JD5 JD5 2m RPS1600 Cable (JD187A)

HP A3100-48 Switch (JD317A)

HP X124 1G SFP LC LH40 1310nm Transceiver (JD061A)
HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)
HP X125 1G SFP LC LH70 Transceiver (JD063B)
HP X125 1G SFP RJ45 T Transceiver (JD089B)

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