HP E2810 Switch Series

Data sheet

Product overview

The HP E2810 Switch Series consists of two switches: the 24-port HP E2810-24G Switch with 20 10/100/1000 ports, and the 48-port HP E2810-48G Switch with 44 10/100/1000 ports. Each switch also has four dual-personality ports for RJ-45 10/100/1000 or mini-GBIC fiber Gigabit connectivity. Ideal for high-performance and secure 10/100/1000 connectivity, the E2810 switch series offers access security and advanced prioritization and traffic-monitoring capabilities. The series is cost-effective and easy to use, with a shallow, 1U form factor that provides operational flexibility for use in smaller wiring closets.

Key features

- Managed Layer 2 feature set with 24 or 48 Gb ports
- sFlow, source port filtering, enhanced security
- Optional redundant power supply
- Four dual-personality mini-GBIC slots
- Industry-leading warranty

Features and benefits

Quality of Service (QoS)

- **Class of Service (CoS):** sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

- **Layer 4 prioritization:** enables prioritization based on TCP/UDP port numbers

- **Traffic prioritization (IEEE 802.1p):** allows real-time traffic classification with support for eight priority levels mapped to four queues

Connectivity

- **Dual-personality functionality:** four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit-SX, -LX, and -LH, or 100-FX

Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Protocol (LACP) and HP port trunking:** support up to 24 trunks, each with up to 8 links (ports) per trunk

- **IEEE 802.1s Multiple Spanning Tree:** provides high link availability in multiple VLAN environments by allowing multiple spanning trees; provides legacy support for IEEE 802.1d and IEEE 802.1w

- **Optional redundant power supply:** provides uninterrupted power (provided by HP E600 RPS/EPS)

Manageability

- **sFlow (RFC 3176):** wire-speed traffic accounting and monitoring

- **RMON (remote monitoring):** provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- **Dual flash images:** provides independent primary and secondary operating system files for backup while upgrading

- **Troubleshooting:** ingress/egress port monitoring enables network problem-solving

- **Single IP Address Management:** single IP address management for a virtual stack of up to 16 switches

- **Multiple configuration files:** allow multiple configuration files to be stored to a flash image

Layer 2 switching

- **VLAN support and tagging:** supports IEEE 802.1Q (4,094 VLAN IDs) and 256 VLANs simultaneously

- **GARP VLAN Registration Protocol:** allows automatic learning and dynamic assignment of VLANs

- **Jumbo packet support:** supports up to 9220-byte frame size to improve performance of large data transfers

Security

- **Port security:** allows access only to specified MAC addresses, which can be learned or specified by the administrator

- **Protected ports:** provides increased security by allowing specified ports to be isolated from all other ports on the switch; the protected port or ports can communicate only with the uplink or shared resources

- **MAC address lockout:** prevents particular configured MAC addresses from connecting to the network

- **Multiple user authentication methods:**
  - **IEEE 802.1X:** is an 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

- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon

- **Multiple IEEE 802.1X users per port:** provides authentication of up to two IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication

- **STP BPDU port protection:** blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

- **Secure FTP:** allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file

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- **RADIUS/TACACS+:** eases switch management security administration by using a password authentication server

- **Source-port filtering:** allows only specified ports to communicate with each other

- **Secure Shell:** encrypts all transmitted data for secure remote CLI access over IP networks

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

Convergence

- **IP multicast snooping and data-driven IGMP:** automatically prevent flooding of IP multicast traffic

- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** is an automated device discovery protocol that provides easy mapping of network management applications

- **Per-port broadcast throttling:** selectively configures broadcast control on heavy traffic port uplinks

- **Software updates:** free downloads from the Web

Ease of use

- **Locator LED (switch):** allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches

- **Friendly port names:** allow assignment of descriptive names to ports

- **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator

- **HP/IEEE Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all RJ-45 ports

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.

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HP E2810 Switch Series

Specifications

	HP E2810-24G Switch (J9021A)	HP E2810-48G Switch (J9022A)
Ports	20 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	44 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
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or an open mini-GBIC slot (for use with mini-GBIC transceivers)	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port or an open mini-GBIC slot (for use with mini-GBIC transceivers)
Physical characteristics		
Dimensions	12.7(d) x 17.4(w) x 1.7(h) in. (32.26 x 44.2 x 4.32 cm) (1U height)	12.7(d) x 17.4(w) x 1.7(h) in. (32.26 x 44.2 x 4.32 cm) (1U height)
Weight	7.21 lb. (3.27 kg)	8.6 lb. (3.9 kg)
Memory and processor		
Processor	MIPS @ 264 MHz, 16 MB flash, 64 MB SDRAM; packet buffer size: 0.75 MB	MIPS @ 264 MHz, 16 MB flash, 64 MB SDRAM; packet buffer size: 1.5 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance		
Latency	< 5.6 μs (FIFO 64-byte packets)	< 5.4 μs (FIFO 64-byte packets)
Throughput	up to 35.7 million pps	up to 71.4 million pps
Switching capacity	48 Gbps	96 Gbps
MAC address table size	8000 entries	8000 entries
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	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), 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	15% to 95% @ 149°F (65°C), noncondensing	15% to 95% @ 149°F (65°C), noncondensing
Altitude	up to 10,000 ft. (3 km)	up to 10,000 ft. (3 km)
Acoustic	Power: 40.3 dB	Power: 40.5 dB
Electrical characteristics		
Maximum heat dissipation	164 BTU/hr (173 kJ/hr)	341 BTU/hr (360 kJ/hr)
Voltage	100-127/200-240 VAC	100-127/200-240 VAC
Current	1.0 A	1.5 A
Maximum power rating	48 W	92 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	cUL (CSA 22.2 No. 60950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 60950	cUL (CSA 22.2 No. 60950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 60950
Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3
Immunity		
EN	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD	IEC 61000-4-2; 4 kV CD, 8 kV AD
Radiated	IEC 61000-4-3; 3 V/m	IEC 61000-4-3; 3 V/m
EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
Surge	IEC 61000-4-5; 1 kV/2 kV AC	IEC 61000-4-5; 1 kV/2 kV AC
Conducted	IEC 61000-4-6; 3 V	IEC 61000-4-6; 3 V
Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM; command-line interface; Web browser; configuration menu; out-of-band management	HP PCM+; HP PCM; command-line interface; Web browser; configuration menu; out-of-band management
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.

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HP E2810 Switch Series

Specifications (continued)

	HP E2810-24G Switch (J9021A)	HP E2810-48G Switch (J9022A)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (U2855E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U2856E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (U6304E) 3-year, 24x7 SW phone support, software updates (UE262E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR889E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR890E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR891E) 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 (UR868E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR869E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR870E) 4-year, 24x7 SW phone support, software updates (UR871E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR872E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR873E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR874E) 5-year, 24x7 SW phone support, software updates (UR875E) 3 Yr 6 hr Call-to-Repair Onsite (UW356E) 4 Yr 6 hr Call-to-Repair Onsite (UW357E) 5 Yr 6 hr Call-to-Repair Onsite (UW358E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR893E) 1-year, 24x7 software phone support, software updates (HR892E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS610E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS611E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS612E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS613E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS614E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS615E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS616E) 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS617E) 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 (H4496E) 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (U6319E) 3-year, 24x7 SW phone support, software updates (UE264E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR894E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR895E) 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 (UR884E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR885E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR886E) 4-year, 24x7 SW phone support, software updates (UR887E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR888E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR889E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR890E) 5-year, 24x7 SW phone support, software updates (UR891E) 3 Yr 6 hr Call-to-Repair Onsite (UW365E) 4 Yr 6 hr Call-to-Repair Onsite (UW366E) 5 Yr 6 hr Call-to-Repair Onsite (UW367E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR898E) 1-year, 24x7 software phone support, software updates (HR897E) 1-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support and software updates (HR896E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS618E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS619E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS620E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS621E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS621E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS622E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS623E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS624E) 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS625E) 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)	**Device management** HTML and telnet management **General protocols** IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3x Flow Control RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 951 BOOTP RFC 1542 BOOTP Extensions RFC 2030 Simple Network Time Protocol (SNTP) v4	**IP multicast** RFC 3376 IGMPv3 **MIBs** RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1573 SNMP MIB II RFC 2021 RMONv2 MIB RFC 2096 IP Forwarding Table MIB RFC 2613 SMON MIB RFC 2618 RADIUS Client MIB RFC 2620 RADIUS Accounting MIB RFC 2665 Ethernet-Like-MIB RFC 2668 802.3 MAU MIB RFC 2674 802.1p and IEEE 802.1Q Bridge MIB RFC 2737 Entity MIB (Version 2) RFC 2863 The Interfaces Group MIB RFC 3418 MIB for SNMPv3 **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) RFC 3176 sFlow SNMPv1/v2c/v3 **Security** IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2138 RADIUS Authentication RFC 2866 RADIUS Accounting Secure Sockets Layer (SSL) SSHv2 Secure Shell

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HP E2810 Switch Series accessories

Transceivers

HP X111 100M SFP LC FX Transceiver (J9054C)
HP X112 100M SFP LC BX-D Transceiver (J9099B)
HP X112 100M SFP LC BX-U Transceiver (J9100B)
HP X121 1G SFP LC LH Transceiver (J4860C)
HP X121 1G SFP LC SX Transceiver (J4858C)
HP X121 1G SFP LC LX Transceiver (J4859C)
HP X122 1G SFP LC BX-D Transceiver (J9142B)
HP X122 1G SFP LC BX-U Transceiver (J9143B)

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 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 E600 Redundant and External Power Supply (J8168A)

Mounting Kit

HP X410 E-Series 1U Universal 4-Post Rack Mounting Kit (J9583A)

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