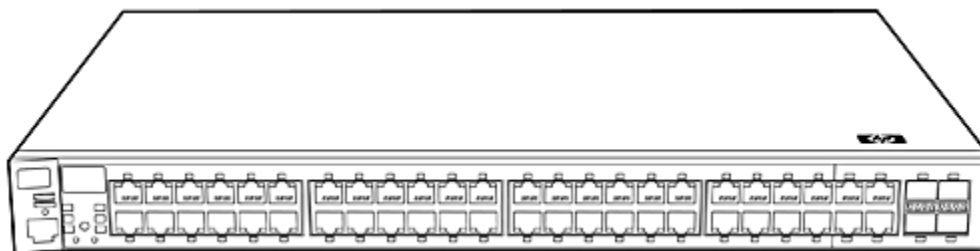
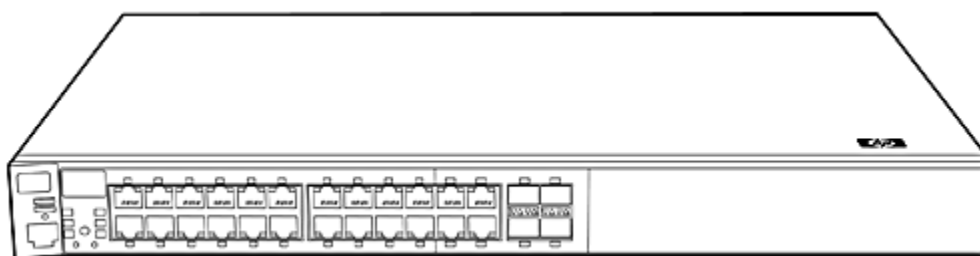


Overview



HP ProCurve Switch 2810-48G



HP ProCurve Switch 2810-24G

Models

HP ProCurve Switch 2810-24G
HP ProCurve Switch 2810-48G

J9021A
J9022A

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

Introduction

The HP ProCurve Switch 2810 Series consists of two switches: the 24-port HP ProCurve Switch 2810-24G with 20 10/100/1000 ports, and the 48-port HP ProCurve Switch 2810-48G 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 2810 series offers access security and advanced prioritization and traffic-monitoring capabilities. The 2810 series is cost-effective and easy to use, with a shallow, 1U form factor that provides operational flexibility for use in smaller wiring closets.

Features and Benefits

Connectivity

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

Performance

- **35.7 Mpps at 64 bytes (HP ProCurve 2810-24G) and 71.4 Mpps at 64 bytes (HP ProCurve Switch 2810-48G):** ten times the bandwidth for low-latency throughput



Overview

Resiliency and high availability

- **IEEE 802.3ad Link Aggregation Protocol (LACP) and ProCurve 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 ProCurve 600 RPS/EPS)

Layer 2 switching

- **VLAN support and tagging:** supports the IEEE 802.1Q (4,096 VLAN IDs) and 256 VLANs simultaneously
- **GARP VLAN Registration Protocol:** allows automatic learning and dynamic assignment of VLANs
- **Jumbo packet support:** supports up to 9,224-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
- **NEW 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 only communicate with the uplink or shared resources
- **MAC address lockout:** prevents configured particular MAC addresses from connecting to the network
- **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, 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 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/from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- **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 (SSHv2):** encrypts all transmitted data for secure, remote command-line interface (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 prevents flooding of IP multicast traffic
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol for easy mapping by network management applications
- **Per-port broadcast throttling:** selectively configure broadcast control on heavy traffic port uplinks
- **Software updates:** free downloads from the Web

Quality of Service (QoS)

- **Traffic prioritization (IEEE 802.1p):** allows real-time traffic classification into eight priority levels mapped to eight queues
- **Class of Service (CoS):** sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ
- **Layer 4 prioritization:** enables prioritization based on TCP/UDP port numbers

Manageability



Overview

- **sFlow** (RFC 3176): wire-speed traffic accounting and monitoring
- **RMON**: 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
- **Stacking capability**: single IP address management for a virtual stack of up to 16 switches, including the HP ProCurve 2500 series, 2510 series, 2600 series, 2800 series, 2810 series, 2900 series, 3400cl series, 3500yl series, 4200vl series, 6108, 6200yl-24G-mGBIC, and 6400cl series
- **Multiple configuration files**: allow multiple config files to be stored to flash image

Ease of use

- **Locator LED**: allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches
- **Friendly port names**: allow assignment of descriptive names to ports
- **Find-Fix-and-Inform**: finds and fixes common network problems automatically, then informs administrator
- **ProCurve/IEEE Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all RJ-45 ports

Warranty and support

- **ProCurve Lifetime Warranty**: for as long as you own the product, with next-business-day advance replacement (available in most countries).
- **Electronic and telephone support**: limited electronic and telephone support is available from HP. Refer to the HP Web site at www.procurve.com/support for details on the support provided and the period during which support is available.
- **Software releases**: refer to the HP Web site at www.procurve.com/support for details on the software releases provided and the period during which software releases are available.

Accessories

HP ProCurve 100-FX SFP-LC Transceiver	J9054B
NEW HP ProCurve 100-BX-D SFP-LC Transceiver	J9099B
NEW HP ProCurve 100-BX-U SFP-LC Transceiver	J9100B
HP ProCurve Gigabit-SX-LC Mini-GBIC	J4858C
HP ProCurve Gigabit-LX-LC Mini-GBIC	J4859C
HP ProCurve Gigabit-LH-LC Mini-GBIC	J4860C
NEW HP ProCurve 1000-BX-D SFP-LC Mini-GBIC	J9142B
NEW HP ProCurve 1000-BX-U SFP-LC Mini-GBIC	J9143B
HP ProCurve 600 Redundant External Power Supply	J8168A
HP ProCurve Manager 2.3	
HP ProCurve Network Immunity Manager 1.0 50-device license	J9060A
HP ProCurve Network Immunity Manager 1.0 +100-device license	J9061A
HP ProCurve Network Immunity Manager 1.0 unlimited-device license	J9062A

Overview

Services

HP ProCurve Switch 2810-24G	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 software phone support	U6304E
	3-year, 24x7 SW phone support, software updates	UE262E
	Installation with minimum configuration, system-based pricing	U4826E
HP ProCurve Switch 2810-48G	Installation with HP-provided configuration, system-based pricing	U4830E
	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 software phone support	U6319E
	3-year, 24x7 SW phone support, software updates	UE264E
	Installation with minimum configuration, system-based pricing	U4826E
	Installation with HP-provided configuration, system-based pricing	U4830E
Refer to the HP Web site at www.procurve.com/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.		

Technical Specifications

HP ProCurve Switch 2810-24G (J9021A)	Ports	<p>20 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Media Type: IEEE Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only</p> <p>1 RJ-45 serial console port</p> <p>4 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)</p>
	Dimensions (DxWxH)	12.7 x 17.4 x 1.7 in. (32.26 x 44.2 x 4.32 cm) (1U height)
	Weight	7.21 lb. (3.27 kg)
	Memory and processor	Processor MIPS @ 264 MHz, 16 MB flash, 64 MB SDRAM; packet buffer size: 0.75 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	<p>Latency < 5.6 μs (FIFO 64-byte packets)</p> <p>Throughput up to 35.7 million pps</p> <p>Switching capacity 48 Gbps</p> <p>MAC address table size 8,000 entries</p>
	Environment	<p>Operating temperature 32°F to 113°F (0°C to 45°C)</p> <p>Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing</p> <p>Non-operating/ Storage temperature -40°F to 158°F (-40°C to 70°C)</p> <p>Non-operating/ Storage relative humidity 15% to 95% @ 149°F (65°C), non-condensing</p>
	Electrical characteristics	<p>Altitude Up to 10,000 ft. (3 km)</p> <p>Acoustic Power: 40.3 dB</p> <p>Maximum heat dissipation 164 BTU/hr (173 kJ/hr)</p> <p>Voltage 100-127 / 200-240 VAC</p> <p>Current 1.0 A</p> <p>Power consumption 48 W</p> <p>Frequency 50 / 60 Hz</p> <p>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.</p>
	Safety	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
	Immunity	<p>EN EN 55024, CISPR 24</p> <p>ESD IEC 61000-4-2; 4 kV CD, 8 kV AD</p> <p>Radiated IEC 61000-4-3; 3 V/m</p> <p>EFT/Burst IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)</p>

Technical Specifications

	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	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
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		HP ProCurve Manager Plus; HP ProCurve Manager; command-line interface; Web browser; configuration menu; out-of-band management
Standards and protocols	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
	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+

Technical Specifications

		RFC 2138 RADIUS Authentication RFC 2866 RADIUS Accounting Secure Sockets Layer (SSL) SSHv2 Secure Shell
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.
HP ProCurve Switch 2810-48G (J9022A)	Ports	44 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Media Type: IEEE Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only 1 RJ-45 serial console port 4 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)
	Dimensions	12.7(d) x 17.4(w) x 1.7(h) in. (32.26 x 44.2 x 4.32 cm) (1U height)
	Weight	8.6 lb. (3.9 kg)
	Memory and processor	Processor 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
	Performance	Latency < 5.4 μ s (FIFO 64-byte packets) Throughput up to 71.4 million pps Switching capacity 96 Gbps MAC addressable size 8,000 entries
	Environment	Operating temperature 32°F to 113°F (0°C to 45°C) Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing Non-operating/ Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/ Storage relative humidity 15% to 95% @ 149°F (65°C), non-condensing
	Electrical characteristics	Altitude Up to 10,000 ft. (3 km) Acoustic Power: 40.5 dB Maximum heat dissipation 341 BTU/hr (360 kJ/hr) Voltage 100-127 / 200-240 VAC Current 1.5 A Power consumption 92 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.
	Safety	cUL (CSA 22.2 No. 60950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 60950

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Emissions	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
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	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
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager; command-line interface; Web browser; configuration menu; out-of-band management	
Standards and protocols	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
	Network Management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

Technical Specifications

		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
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.

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