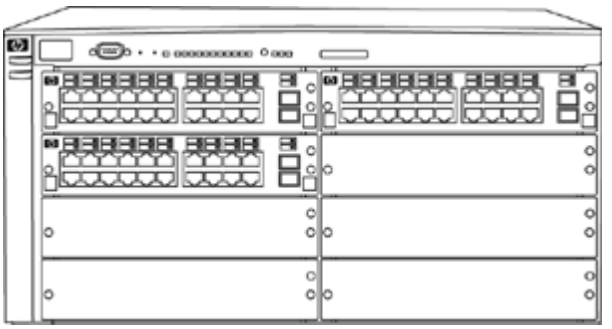
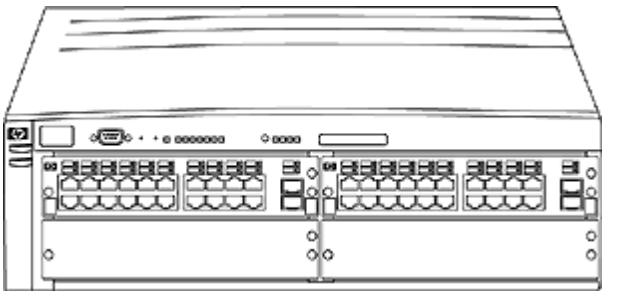
Overview



ProCurve Switch 4160gl



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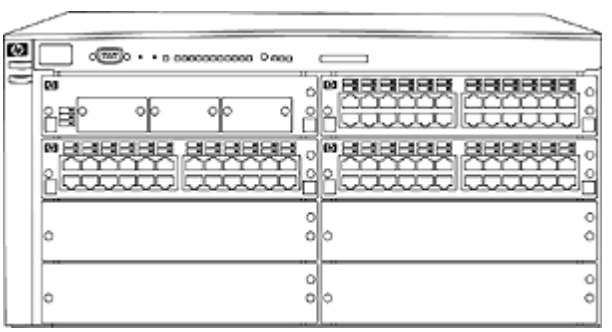
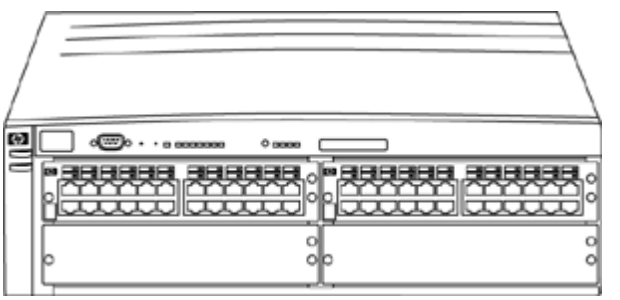
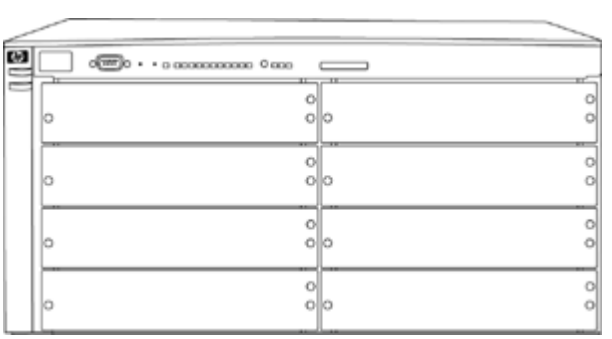


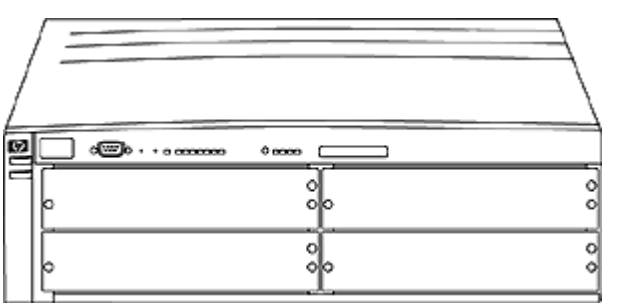
ProCurve Switch 4108gl Bundle



ProCurve Switch 4148gl



ProCurve Switch 4108gl



ProCurve Switch 4104gl

Models

ProCurve Switch 4160gl	J8152A
ProCurve Switch 4140gl	J8151A
ProCurve Switch 4108gl Bundle	J4861A
ProCurve Switch 4148gl	J4888A
ProCurve Switch 4108gl	J4865A
ProCurve Switch 4104gl	J4887A

Overview

Introduction

The ProCurve Switch 4100gl series is convergence-ready and easy to use, and is available in compact 8-slot and 4-slot modular form factors. Based on ProCurve Fast Path Technology, these switches provide reliable, high-performance, high-density 10 Mbit, 100 Mbit, or Gigabit connectivity for a growing network. The ProCurve 4100gl series is the low-cost, modular alternative to stackable switches and includes a lifetime warranty.

Features and Benefits

Performance

- Fast Path Technology: wire-speed switching of intra-module traffic for up to 31.9 million pps throughput; fully loaded 8-slot chassis capable of switching 255 million pps
  " Fast switch fabric: inter-module traffic switching of up to 2.97 million pps

Resiliency and high availability

- IEEE 802.3ad Link Aggregation Control Protocol (LACP) and ProCurve trunking: support up to 6 trunks, each with up to 4 links (ports) per trunk; trunking across modules is supported
- IEEE 802.1w Rapid Convergence Spanning Tree Protocol: increases network uptime through faster recovery from failed links
- Optional redundant power supply: provides uninterrupted power; allows hot-swapping of one of the two supplies when installed
- Hot-swappable modules: permit modules, mini-GBICs, and one of the power supplies in a redundant power supply configuration to be added or swapped without interrupting the network

Layer 3 routing

- Basic IP routing: enables automatic routing to the connected VLANs and up to 16 static routes-including one default route-in IP networks

Layer 2 switching

- VLAN support and tagging: support complete IEEE 802.1Q (4,096 VLAN IDs) and 30 VLANs simultaneously
- GARP VLAN Registration Protocol: allows automatic learning and dynamic assignment of VLANs

Security

- Port security: allows access only to specified MAC addresses, which can be learned or specified by the administrator
- IEEE 802.1X and RADIUS network login and OpenVLAN: control port-based access for authentication and accountability
- TACACS+: eases switch management security administration by using a password authentication server
- Secure Shell (SSHv2): encrypts all transmitted data for secure, remote command-line interface access over IP networks
- Secure Sockets Layer (SSL): encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- Secure management access: all access methods-CLI, GUI, or MIB-are securely encrypted through SSHv2, SSL, and/or SNMPv3

Quality of Service (QoS)

- Traffic prioritization (IEEE 802.1p): allows real-time traffic classification into 8 priority levels mapped to 4 queues

Manageability

- RMON: provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- Friendly port names: allow assignment of descriptive names to ports
- ProCurve/IEEE Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- Dual flash images: provide independent primary and secondary OS files for backup while upgrading

Overview

- **Link Layer Discovery Protocol (IEEE 802.1ab):** automated device discovery protocol for easy mapping by network management applications

Convergence

- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the ProCurve 2500 series, 2600 series, 2800 series, 3400cl series, 6108, 6400cl series, and 4100gl series
- **Lifetime warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)

Services

ProCurve Switch 4108gl, ProCurve Switch 4108gl Bundle, and ProCurve Swith 4160gl	3-year, 4-hour onsite, 13x5 coverage for hardware	H7675E
	3-year, 4-hour onsite, 24x7 coverage for hardware	H7676E
	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support	U6320E
	Installation with minimum configuration, system-based pricing	U4827E
	Installation with HP-provided configuration, system-based pricing	U4831E
ProCurve Switch 4104gl, ProCurve Switch 4140gl, and ProCurve Switch 4148gl	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
	Installation with minimum configuration, system-based pricing	U4827E
	Installation with HP-provided configuration, system-based pricing	U4831E

Check http://www.hp.com/go/procurveservices for part numbers and service-level descriptions. For details about services and response times in your area, please contact your local HP sales office.

Technical Specifications

ProCurve Switch 4160gl (J8152A)	What's included	3 ProCurve Switch gl 20-Port 10/100/1000 Modules (J4908A)	
	Ports	60 10/100/1000 ports and 6 mini-GBIC slots 5 open module slots 1 RS-232C DB-9 console port	
		Maximum ports	Supports a maximum of 120 10/100 ports or 160 Gigabit ports plus 16 mini-GBICs, or 36 mini-GBICs, or a combination
	Physical characteristics	Dimensions (D x W x H)	15.3 x 17.4 x 8.75 in. (38.86 x 44.2 x 22.23 cm) (5U height)
		Weight (fully loaded)	30.6 lb (13.77 kg)
	Memory and processor	Fabric processor type and speed	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
		Module processor type and speed	IDT MIPS32 @ 125 MHz
		Flash	512 KB
		SRAM	512 KB
		Packet buffer size	1 MB
		SDRAM	N/A
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	Latency	<10.2 μs (FIFO 64-byte packets)
		Throughput	Up to 71.4 million pps
		Switch fabric speed	36.6 Gbps
		Routing table size	8,000 entries
	Environment	Operating temperature	32° to 131°F (0° to 55°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
		Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
		Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
		Altitude	Up to 15,091 ft. (4.6 km)
	Electrical characteristics	Maximum BTUs	2,152 BTU/hr
		Voltage	100–127 VAC/200–240 VAC
		Current	8.2 A/3.8 A
		Power consumption	630 W
		Frequency	50/60 Hz
	Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
	Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	

	Immunity	EN	EN55024, CISPR 24
		ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
		Radiated	IEC 61000-4-3, 3V/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, 3V
		Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
		Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
		Harmonics	EN61000-3-2/IEC61000-3-2
		Flicker	EN61000-3-3/IEC61000-3-3
	Management	ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
	Standards and protocols	RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB	

ProCurve Switch 4108gl Bundle (J4861A)	What's included	3 ProCurve Switch gl 24-port 10/100-TX Module (J4862B) 1 ProCurve Switch gl Transceiver Module (J4864A)	
	Ports	72 10/100 ports and 3 transceiver ports 4 open module slots 1 RS-232C DB-9 console port	
		Maximum ports	Supports a maximum of 168 10/100 ports or 80 Gigabit ports plus 8 mini-GBICs, or 24 mini-GBICs, or a combination
	Physical characteristics	**Dimensions** (D x W x H)	15.3 x 17.4 x 8.75 in. (38.86 x 44.2 x 22.23 cm) (5U height)
		Weight (fully loaded)	22.9 lb. (10.31 kg)

Technical Specifications

Memory and processor	Fabric processor type and speed	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
	Module processor type and speed	IDT MIPS32 @ 125 MHz
	Flash	512 KB
	SRAM	512 KB
	Packet buffer size	1 MB
	SDRAM	N/A
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Latency	<10.2 µs (FIFO 64-byte packets)
	Throughput	Up to 71.4 million pps
	Switch fabric speed	36.6 Gbps
	Routing table size	8,000 entries
Environment	Operating temperature	32°F to 131°F (0°C to 55°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
	Altitude	Up to 15,091 ft. (4.6 km)
Electrical characteristics	Maximum BTUs	2,152 BTU/hr
	Voltage	100–127 VAC/200–240 VAC
	Current	8.2 A/3.8 A
	Power consumption	630 W
	Frequency	50/60 Hz
Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	EN	EN55024, CISPR 24
	ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3, 3V/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, 3V
	Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN61000-3-2/IEC61000-3-2
	Flicker	EN61000-3-3/IEC61000-3-3

Technical Specifications

	Management		ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
	Standards and protocols		RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
ProCurve Switch 4108gl (J4865A)	Ports		8 open module slots 1 RS-232C DB-9 console port
		Maximum ports	Supports a maximum of 192 10/100 ports or 160 Gigabit ports plus 16 mini-GBICs, or 48 mini-GBICs or a combination
	Physical characteristics	Dimensions (D x W x H)	15.3 x 17.4 x 8.75 in. (38.86 x 44.2 x 22.23 cm) (5U height)
		Weight (fully loaded)	20.7 lb. (9.32 kg)
	Memory and processor	Fabric processor type and speed	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
		Module processor type and speed	IDT MIPS32 @ 125 MHz
		Flash	512 KB
		SRAM	512 KB
		Packet buffer size	1 MB
		SDRAM	N/A
	Mounting		Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance	Latency	<10.2 μs (FIFO 64-byte packets)
		Throughput	Up to 71.4 million pps
		Switch fabric speed	36.6 Gbps
		Routing table size	8,000 entries

Technical Specifications

Environment	Operating temperature	32° to 131°F (0° to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	Up to 15,091 ft. (4.6 km)
Electrical characteristics	Maximum BTUs	2,152 BTU/hr
	Voltage	100–127 VAC/200–240 VAC
	Current	8.2 A/3.8 A
	Power consumption	630 W
	Frequency	50/60 Hz
Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	EN	EN55024, CISPR 24
	ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3, 3V/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, 3V
	Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN61000-3-2/IEC61000-3-2
	Flicker	EN61000-3-2/IEC61000-3-3
Management	ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Standards and protocols	RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB	

ProCurve Switch 4140gl (J8151A)	**What's included**	2 ProCurve Switch gl 20-Port 10/100/1000 Modules (J4908A)	
	Ports	40 10/100/1000 ports and 4 mini-GBIC slots 2 open module slots 1 RS-232C DB-9 console port	
		Maximum ports	Supports a maximum of 48 10/100 ports or 80 Gigabit ports plus 8 mini-GBICs, or 16 mini-GBICs, or a combination
	Physical characteristics	**Dimensions** (D x W x H)	15.3 x 17.4 x 5.25 in. (38.86 x 44.2 x 13.34 cm) (3U height)
		Weight (fully loaded)	22.9 lb. (10.31 kg)
	Memory and processor	**Fabric processor type and speed**	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
		Module processor type and speed	IDT MIPS32 @ 125 MHz
		Flash	512 MB
		SRAM	N/A
		Packet buffer size	512 KB
		SDRAM	8MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	**Latency**	<10.2 μs (FIFO 64-byte packets)
		Throughput	Up to 35.7 million pps
		Switch fabric speed	18.3 Gbps
		Routing table size	8,000 entries
	Environment	**Operating temperature**	32° to 131°F (0° to 55°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
		Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
		Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
		Altitude	Up to 15,091 ft. (4.6 km)
	Electrical characteristics	**Maximum BTUs**	2,152 BTU/hr
		Voltage	100–127 VAC/200–240 VAC
		Current	8.2 A/3.8 A
		Power consumption	630 W
		Frequency	50/60 Hz
	Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
	Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	

	Immunity	EN	EN55024, CISPR 24
		ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
		Radiated	IEC 61000-4-3, 3V/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, 3V
		Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
		Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
		Harmonics	EN61000-3-2/IEC61000-3-2
		Flicker	EN61000-3-2/IEC61000-3-3
	Management		ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
	Standards and protocols		RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
ProCurve Switch 4148gl (J4888A)	What's included		2 ProCurve Switch gl 24-Port 10/100-TX Modules (J4862B)
	Ports		48 10/100 ports (2 x J4862B) 2 open module slots 1 RS-232C DB-9 console port
		Maximum ports	Supports a maximum of 96 10/100 ports or 40 Gigabit ports plus 4 mini-GBICs, or 12 mini-GBICs, or a combination
	Physical characteristics	Dimensions (D x W x H)	15.3 x 17.4 x 5.25 in. (38.86 x 44.2 x 13.34 cm) (3U height)
		Weight (fully loaded)	15.84 lb. (7.13 kg)

Memory and processor	Fabric processor type and speed	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
	Module processor type and speed	IDT MIPS32 @ 125 MHz
	Flash	512 KB
	SRAM	N/A
	Packet buffer size	512 KB
	SDRAM	8 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Latency	<10.2 μs (FIFO 64-byte packets)
	Throughput	Up to 35.7 million pps
	Switch fabric speed	18.3 Gbps
	Routing table size	8,000 entries
Environment	Operating temperature	32° to 131°F (0° to 55°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Altitude	Up to 15,091 ft. (4.6 km)
Electrical characteristics	Maximum BTUs	2,152 BTU/hr
	Voltage	100–127 VAC/200–240 VAC
	Current	8.2 A/3.8 A
	Power consumption	630 W
	Frequency	50/60 Hz
Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	EN	EN55024, CISPR 24
	ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3, 3V/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, 3V
	Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN61000-3-2/IEC61000-3-2
	Flicker	EN61000-3-2/IEC61000-3-3
Management	ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	

	Standards and protocols	RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB	
ProCurve Switch 4104gl (J4887A)	Ports	4 open module slots 1 RS-232C DB-9 console port	
		Maximum ports	Supports a maximum of 96 10/100 ports or 80 Gigabit ports plus 8 mini-GBICs, or 24 mini-GBICs, or a combination
	Physical characteristics	Dimensions (D x W x H)	15.3 x 17.4 x 5.25 in. (38.86 x 44.2 x 13.34 cm) (3U height)
		Weight (fully loaded)	14.75 lb. (6.64 kg)
	Memory and processor	Fabric processor type and speed	Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM
		Module processor type and speed	Power consumption
		Flash	512 KB
		SRAM	N/A
		Packet buffer size	512 KB
		SDRAM	8 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	Latency	<10.2 μs (FIFO 64-byte packets)
		Throughput	Up to 35.7 million pps
		Switch fabric speed	18.3 Gbps
		Routing table size	8,000 entries
	Environment	Operating temperature	32° to 131°F (0° to 55°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
		Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
		Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
		Altitude	Up to 15,091 ft. (4.6 km)

Technical Specifications

Electrical characteristics	Maximum BTUs	2,152 BTU/hr
	Voltage	100–127 VAC/200–240 VAC
	Current	8.2 A/3.8 A
	Power consumption	630 W
	Frequency	50/60 Hz
Safety	cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	EN	EN55024, CISPR 24
	ESD	IEC 61000-4-2, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3, 3V/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, 3V
	Power frequency magnetic field	IEC 61000-4-8, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN61000-3-2/IEC61000-3-2
	Flicker	EN61000-3-2/IEC61000-3-3
Management	ProCurve Manager (included); ProCurve Manager Plus; command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Standards and protocols	RFC 783 TFTP; RFC 951 BootP; RFC 1542 BootP; RFC 854 Telnet; RFC 768 UDP; RFC 792 ICMP; RFC 793 TCP; RFC 826 ARP; RFC 2030 Simple Network Time Protocol; IEEE 802.3X Flow Control; DHCP Relay; RFC 2236 IGMPv1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; RFC 1492 TACACS+; RFC 2138 RADIUS; RFC 2866 RADIUS accounting; SSHv1/SSHv2 Secure Shell; Secure Sockets Layer (SSL); IEEE 802.1X Network Login; IEEE 802.1Q VLAN tagging; IEEE 802.1Q GVRP; IEEE 802.1p Priority; SNMPv1/v2c/v3; HTML and telnet management; RFC 1493 Bridge MIB; RFC 1213 MIB II; RFC 2096 IP Forwarding Table MIB; RFC 2737 Entity MIB; RFC 2863 Evolution of Interface; RFC 2665 Ethernet MIB; RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events); RFC 2021 RMON probe configuration (RMON v2); RFC 2668 IEEE 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 IEEE 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB	

ProCurve Switch gl 24-Port 10/100-TX Module (J4862B)	Ports	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) 2 open mini-GBIC slots Connector: RJ-45 IEEE Auto-MDIX: yes Duplex: half or full
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 1.25 lb. (0.56 kg)
	Mini-GBICs supported (ordered separately)	• J4858B ProCurve Gigabit-SX-LC mini-GBIC • J4859B ProCurve Gigabit-LX-LC mini-GBIC • J4860B ProCurve Gigabit-LH-LC mini-GBIC • J8177B ProCurve Gigabit 1000Base-T Mini-GBIC
	Other mini-GBICs supported	• J4858A ProCurve Gigabit-SX-LC mini-GBIC • J4859A ProCurve Gigabit-LX-LC mini-GBIC • J4860A ProCurve Gigabit-LH-LC mini-GBIC
	Cabling	Type: • 10Base-T: Category 3 (or better), 100 differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T • 100Base-TX: Category 5 (or better), 100 differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX • 1000Base-T: Category 5 (5E or better recommended), 100 differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000Base-T Maximum distance: 100 m

ProCurve Switch gl 24-Port 10/100-TX Module (J4862B)	Ports	24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX) Connector: RJ-45 ProCurve Auto-MDIX: yes Duplex: half or full
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 1.24 lb. (0.56 kg)
	Cabling	Type: • 110Base-T: Category 3 (or better), 100 O differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 10Base-T • 100Base-TX: Category 5 (or better), 100 O differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX Maximum distance: 100 m

Modules and RPS

ProCurve Switch gl 6-Port Mini-GBIC Module (J4893A)	**Ports**	6 open mini-GBIC
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 0.96 lb. (0.43 kg)
	Mini-GBICs supported (ordered separately)	• J4858B ProCurve Gigabit-SX-LC mini-GBIC • J4859B ProCurve Gigabit-LX-LC mini-GBIC • J4860B ProCurve Gigabit-LH-LC mini-GBIC • J8177B ProCurve Gigabit 1000Base-T Mini-GBIC
	Other mini-GBICs supported	• J4858A ProCurve Gigabit-SX-LC mini-GBIC • J4859A ProCurve Gigabit-LX-LC mini-GBIC • J4860A ProCurve Gigabit-LH-LC mini-GBIC
ProCurve Switch gl 6-Port 100/1000-T Module (J4863A)	**Ports**	6 auto-sensing 100/1000 ports (IEEE 802.3u Type 100Base-TX; IEEE 802.3ab Type 1000Base-T) Connector: RJ-45 IEEE Auto-MDIX: yes Duplex: • 100Base-TX: half or full • 1000Base-T: full
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 1.0 lb. (0.45 kg)
	Cabling	Type: • 100Base-TX: Category 5 (or better), 100 O differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX • 1000Base-T: Category 5 (5E or better recommended), 100 O differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000Base-T Maximum distance: 100 m
ProCurve Switch gl Transceiver Module (J4864A)	**Ports**	3 open transceiver slots
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 1.16 lb. (0.52 kg)
	Transceivers supported (ordered separately)	• J4116A ProCurve Switch Gigabit Stacking Kit • J4131B ProCurve Gigabit-SX Transceiver • J4132A ProCurve Gigabit-LX Transceiver • J4834A ProCurve 100/1000-T Transceiver • J4853A ProCurve 100-FX SC Transceiver

Modules and RPS

ProCurve Switch gl 12-Port 100-FX MTRJ Module (J4892A)	**Ports**	12 100Base-FX ports (IEEE 802.3u Type 100Base-FX) Connector: MTRJ Duplex: half or full
	Physical characteristics	Dimensions (D x W x H): 8.97 x 8.0 x 1.75 in. (22.78 x 20.32 x 4.45 cm) Weight: 1.45 lb. (0.65 kg)
	Cabling	Type: • 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, 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)
ProCurve Switch gl/xl/vl Redundant Power Supply (J4839A)	**Physical characteristics**	Dimensions (D x W x H): 7.9 x 6.3 x 5.0 in. (20.07 x 16.0 x 12.7 cm) Weight: 5.55 lb. (2.5 kg)
	Electrical characteristics	• Voltage: 100–127 VAC/200–240 VAC • Maximum current: 8.2 A/3.8 A • Frequency: 50/60 Hz
	For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.	

Additional accessories	ProCurve Gigabit-SX-LC Mini-GBIC (See the ProCurve Mini-GBICs QuickSpec for details.)	J4858B
	ProCurve Gigabit-LX-LC Mini-GBIC (See the ProCurve Mini-GBICs QuickSpec for details.)	J4859B
	ProCurve Gigabit-LH-LC Mini-GBIC (See the ProCurve Mini-GBICs QuickSpec for details.)	J4860B
	ProCurve Gigabit 1000Base-T Mini-GBIC (See the ProCurve Mini-GBICs QuickSpec for details.)	J8177B
	ProCurve Switch Gigabit Stacking Kit (See the ProCurve Transceivers QuickSpec for details.)	J4116A
	ProCurve Gigabit SX Transceiver (See the ProCurve Transceivers QuickSpec for details.)	J4131B
	ProCurve Gigabit LX Transceiver (See the ProCurve Transceivers QuickSpec for details.)	J4132A
	ProCurve 100/1000-T Transceiver (See the ProCurve Transceivers QuickSpec for details.)	J4834A
	ProCurve 100-FX SC Transceiver (See the ProCurve Transceivers QuickSpec for details.)	J4853A

Services for accessories are covered under the product in which they are installed.

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