Datasheet

HP ProCurve Switch 2610 Series

The HP ProCurve Switch 2610 Series consists of five switches—the HP ProCurve Switch 2610-24 and 2610-48 provide 24 and 48 ports of 10/100 connectivity. The HP ProCurve Switch 2610-24 is fanless, providing quiet operation and making it ideal for deployment in open spaces. The HP ProCurve 2610- 24/12PWR, 2610-24-PWR, and 2610-48-PWR are IEEE 802.3af-compliant for Power over Ethernet (PoE) and provide up to 15.4 W for 12, 24, and 48 ports. The 2610-24/12PWR has 24 10/100 ports and provides 12 ports of PoE. All switches include two 10/100/1000Base-T ports and two mini-GBIC slots for Gigabit uplink connectivity. An optional redundant external power supply is also available to provide redundancy in the event of a power supply failure. With static routing, robust security and management features, free lifetime warranty, and free software updates, the 2610 series is a cost-effective solution for customers who are building converged enterprise edge networks.
HP ProCurve Switch 2610 Series

Features and benefits

Industry-leading warranty

Connectivity

- IEEE 802.3af Power over Ethernet: 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
- Pre-standard PoE support: detects and provides power to pre-standard PoE devices; see list of supported devices in the product FAQ at www.ProCurve.com
- Gigabit Uplink Connectivity: two 10/100/1000BASE-T ports and two mini-GBIC ports for connectivity such as Gigabit (SX, LX, LH, 1000BaseT) and 100Base-FX
- ProCurve Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100 ports
- Jumbo packet support: supports up to 9,216 byte frame size to improve performance of large data transfers

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 (4,094 VLAN IDs) and 256 VLANs simultaneously
- GARP VLAN Registration Protocol: allows automatic learning and dynamic assignment of VLANs

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

Security

- 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 the client's MAC address
- Authentication flexibility:
  - Multiple IEEE 802.1X users per port: provides authentication of up to eight IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
  - Concurrent IEEE 802.1X and Web or MAC authentication schemes per port: switch port will accept any of IEEE 802.1X and either Web or MAC authentications
- Access control lists (ACLs): provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- Identity-driven ACL: enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- Dynamic ARP protection: blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- Port security: allows access only to specified MAC addresses, which can be learned or specified by the administrator
- MAC address lockout: prevents configured particular MAC addresses from connecting to the network
- Source-port filtering: allows only specified ports to communicate with each other
- RADIUS/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 (CLI) access over IP networks

* For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products and their related series modules have a one-year hardware warranty with extensions available: HP ProCurve Routing Switch 9300m Series, HP ProCurve Switch 8100fl Series, and HP ProCurve Network Access Controller 800. The following hardware mobility products have a one-year hardware warranty with extensions available: HP ProCurve M111 Client Bridge, HP ProCurve MSM3xx-R Access Points, HP ProCurve MSM7xx Mobility and Access Controllers, HP ProCurve RF Manager IDS/IPS Systems, HP ProCurve MSM Power Supplies, HP ProCurve 1-Port Power Injector, and HP ProCurve CNMS Appliances. Disk drives in the HP ProCurve ONE Services zl Modules have a five-year hardware warranty. Standalone software, upgrades, or licenses may have a different warranty duration. For details, refer to the ProCurve Software License, Warranty, and Support booklet at http://www.procurve.com/warranty.
HP ProCurve Switch 2610 Series

- **Port monitoring for network threats**: Provides sampled port traffic using sFlow technology to the HP ProCurve Network Immunity Manager application for Network Behavior Anomaly Detection (NBAD) analysis to detect threats and mitigate threats at the port where the threat originated

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

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

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

- **DHCP protection**: blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- **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

**Convergence**

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

- **LLDP-MED (Media Endpoint Discovery)**: a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

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

**Quality of Service (QoS)**

- **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

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

**Manageability**

- **RMON, XRMON, and sFlow**: provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- **Uni-Directional Link Detection (UDLD)**: monitors a link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices

- **Command authorization**: leverages RADIUS to link a custom list of CLI commands to individual network administrator's login; also provides an audit trail

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

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

- **Stacking capability**: single IP address management for a virtual stack of up to 16 switches, including the HP ProCurve Switch 2500 Series, 2510 Series, 2600 Series, 2610 Series, 2810 Series, 2900 Series, 3400cl Series, 3500l Series, 4200vl Series, 6108, 6200yl-24G-mGBIC, and 6400cl Series

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

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

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

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

**Monitor and diagnostics**

- **Port mirroring**: enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

**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.
# HP ProCurve Switch 2610 Series

## Specifications

### HP ProCurve Switch 2610-48 (J9088A)

**Ports**
- 48 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
- 1 RJ-45 serial console port
- 2 open mini-GBIC (SFP) slots

### HP ProCurve Switch 2610-24 (J9085A)

**Ports**
- 24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
- 1 RJ-45 serial console port
- 2 open mini-GBIC (SFP) slots

### HP ProCurve Switch 2610-24-PWR (J9087A)

**Ports**
- 24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
- 1 RJ-45 serial console port
- 2 open mini-GBIC (SFP) slots

### Physical characteristics

| Dimensions | 9.3(d) x 17.4(w) x 1.73(h) in. (23.62 x 44.2 x 4.39 cm) (1U height) |
| Weight     | 10.75 lb. (4.88 kg), Fully loaded |

### Memory and processor

| Processor | MIPS @ 300 MHz, 16 MB flash, 128 MB SDRAM; packet buffer size: 2 MB |

### Mounting

| Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only |

### Performance

| 100 Mb Latency | < 6.2 µs (LIFO) |
| 1000 Mb Latency | < 4.4 µs (LIFO) |
| Throughput     | up to 13.0 million pps |
| Routing/Switching capacity | 17.6 Gbps |
| MAC address table size | 8000 entries |

### Environment

| Operating temperature | 32°F to 122°F (0°C to 50°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 90% @ 149°F (65°C), non-condensing |
| Altitude | up to 10000 ft. (3 km) |
| Acoustic | Power: 45 dB, Pressure: 36.2 dB; DIN 45635T.19 per ISO 7779 |

### Electrical characteristics

| Maximum heat dissipation | 285 BTU/hr (300.67 kJ/hr) |
| Voltage | 100-127 / 200-240 VAC |
| Current | 1.3 / 0.8 A |
# HP ProCurve Switch 2610 Series

## Power Consumption

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<tr>
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<td>Frequency</td>
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</table>

## Notes

Maximum power rating is the worst-case theoretical maximum power number with fully loaded PoE, 100% traffic, all ports plugged in, and all modules populated.

Power consumption: 77 W without PoE; 527 W with PoE.

## Safety

- CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
- CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
- CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950

## Emissions

- FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A
- FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A
- FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A

## Immunity

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<th>EFT/Burst</th>
<th>Surge</th>
<th>Conducted</th>
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## Management

- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)

## Notes

When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product ends with the letter "B" or later, e.g., J4856B, J4859C) are required.

When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product ends with the letter "B" or later, e.g., J4856B, J4859C) are required.

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## Services

- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
- HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
HP ProCurve Switch 2610 Series

3-year, 4-hour onsite, 13x5 coverage for hardware (U4683E)
3-year, 4-hour onsite, 24x7 coverage for hardware (U4835E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6321E)
3-year, 24x7 SW phone support, software updates (UF702E)
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.

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 802.1v VLAN classification by Protocol and Port
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3af Power over Ethernet
- IEEE 802.3x Flow Control
- RFC 768 UDP
- RFC 783 TFTP Protocol (revision 2)
- RFC 792 ICMP
- RFC 797 TCP
- RFC 826 ARP
- RFC 854 TELNET

RFC 951 BOOTP
RFC 1542 BOOTP Extensions
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 2131 DHCP
RFC 3046 DHCP Relay Agent Information Option
IP multicast
RFC 3376 IGMPv3

MIBs
- RFC 1213 MIB II
- RFC 1493 Bridge MIB
- RFC 2021 RMONv2 MIB
- RFC 2096 IP Forwarding Table MIB
- RFC 2613 SMON MIB
- RFC 25615 RADIUS Client MIB
- RFC 2665 Ethernet-Like-MIB
- RFC 2668 802.3 MAU MIB

Security
- IEEE 802.1X Port Based Network Access Control
- RFC 1492 TACACS+
- Secure Sockets Layer (SSL)
- SSHv1/SSHv2 Secure Shell

Network management
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- RFC 3164 BSD syslog Protocol
- RFC 3176 sFlow
- ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
- SNMPv1/v2c/v3

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.
# HP ProCurve Switch 2610 Series

## Specifications

### HP ProCurve Switch 2610-48-PWR (J9089A)

### HP ProCurve Switch 2610-24/12PWR (J9086A)

### Ports

- **48 auto-sensing 10/100 ports** (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
- 1 RJ-45 serial console port
- 2 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only
- 2 open mini-GBIC (SFP) slots

- **24 auto-sensing 10/100 ports** (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full
- 1 RJ-45 serial console port
- 2 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only
- 2 open mini-GBIC (SFP) slots

### Physical characteristics

#### Dimensions
- 13.5(d) x 17.4(w) x 1.73(h) in. (34.29 x 44.2 x 4.39 cm) (1U height)
- 9.3(d) x 17.4(w) x 1.73(h) in. (23.62 x 44.2 x 4.39 cm) (1U height)

#### Weight
- 16.7 lb. (7.58 kg), Fully loaded
- 7.5 lb. (3.4 kg)

### Memory and processor

- **Processor**
  - MIPS @ 300 MHz, 16 MB flash, 128 MB SDRAM; packet buffer size: 2 MB

### Mounting

- Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only

### Performance

- **100 Mb Latency**
  - < 6.2 µs (LIFO)
  - < 4.1 µs

- **1000 Mb Latency**
  - < 4.4 µs (LIFO)
  - < 2.9 µs

- **Throughput**
  - up to 13.0 million pps
  - up to 9.5 million pps

- **Routing/Switching capacity**
  - 17.6 Gbps
  - 12.8 Gbps

- **MAC address table size**
  - 8000 entries
  - 8000 entries

### Environment

- **Operating temperature**
  - 32°F to 122°F (0°C to 50°C)
  - 32°F to 122°F (0°C to 50°C)

- **Operating relative humidity**
  - 15% to 95% @ 104°F (40°C), non-condensing
  - 15% to 95% @ 104°F (40°C), non-condensing

- **Non-operating/Storage temperature**
  - -40°F to 158°F (-40°C to 70°C)
  - -40°F to 158°F (-40°C to 70°C)

- **Non-operating/Storage relative humidity**
  - 15% to 90% @ 149°F (65°C), non-condensing
  - 15% to 90% @ 149°F (65°C), non-condensing

- **Altitude**
  - up to 10000 ft. (3 km)
  - up to 10000 ft. (3 km)

- **Acoustic**
  - Power: 63.6 dB, Pressure: 56.6 dB; DIN 45635/19 per ISO 7779
  - Power: 46 dB, Pressure: 38.4 dB; DIN 45635/19 per ISO 7779

### Electrical characteristics

- **Maximum heat dissipation**
  - 410 BTU/hr (432.55 kJ/hr), (switch-only BTU/hr: 410; combined switch + max. PoE devices at 15.4 W: 2281 BTU/hr)
  - 181 BTU/hr (190.96 kJ/hr), (switch-only BTU/hr: 181; combined switch + max. PoE devices at 15.4 W: 827 BTU/hr)

- **Voltage**
  - 100-127 / 200-240 VAC
  - 100-127 / 200-240 VAC

- **Current**
  - 7.0 / 3.5 A
  - 3.3 / 1.7 A

- **Power consumption**
  - 96 W
  - 62 W

- **Frequency**
  - 50 / 60 Hz
  - 50 / 60 Hz

### Notes

- Maximum power rating is the worst-case theoretical maximum power number with fully loaded PoE, 100% traffic, all ports plugged in, and all modules populated.
  - Power consumption: 96 W without PoE; 590 W with PoE.
  - Maximum power rating is the worst-case theoretical maximum power number with fully loaded PoE, 100% traffic, all ports plugged in, and all modules populated.
  - Power consumption: 62 W without PoE; 189 W with PoE.
### Safety

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### Management

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### Notes

When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product 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 ends with the letter "B" or later, e.g., J4858B, J4859C) are required.

### Services

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<td>3-year, 24x7 SW phone support, software updates (UF792E)</td>
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<td>Installation with minimum configuration, system-based pricing (U4826E)</td>
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<tr>
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<td>Installation with HP-provided configuration, system-based pricing (U4830E)</td>
</tr>
<tr>
<td></td>
<td>Refer to the HP Web site at <a href="http://www.procurve.com/services">www.procurve.com/services</a> 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.</td>
</tr>
</tbody>
</table>
## 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 802.1v VLAN classification by Protocol and Port
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree

### MIBs
- RFC 1213 MIB II
- RFC 1493 Bridge MIB
- RFC 2021 RMONv2 MIB
- RFC 2096 IP Forwarding Table MIB
- RFC 2613 SMON MIB
- RFC 2618 RADIUS Client MIB
- RFC 2665 Ethernet-Like-MIB
- RFC 2668 802.3 MAU MIB

### IEEE Standards
- IEEE 802.3af Power over Ethernet
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3x Flow Control
- RFC 768 UDP
- RFC 783 TFTP Protocol (revision 2)
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 TELNET
- RFC 951 BOOTP
- RFC 1492 TACACS+
- RFC 1542 BOOTP Extensions
- RFC 2030 Simple Network Time Protocol (SNTP) v4
- RFC 2131 DHCP
- RFC 2319 DHCP Relay Agent Information Option
- RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
- RFC 2737 Entity MIB (Version 2)
- RFC 2863 The Interfaces Group MIB
- RFC 3164 BSD syslog Protocol
- RFC 3176 sFlow
- RFC 3376 IGMPv3

### Network management
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- RFC 3164 BSD syslog Protocol
- RFC 3176 sFlow
- RFC 3176 sFlow
- RFC 3376 IGMPv3

### Security
- IEEE 802.1X Port Based Network Access Control
- RFC 1492 TACACS+
- Secure Sockets Layer (SSL)
- SSHv1/SSHv2 Secure Shell
HP ProCurve Switch 2610 Series 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)
HP ProCurve Gigabit 1000Base-T Mini-GBIC (J8177C)
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 610 External Power Supply (J8169A)
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)

For more information

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