ProCurve Switch 4100gl Series

The ProCurve Switch 4100gl series is convergence-ready and easy to use, 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

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

• Traffic prioritization (802.1p): allows real-time traffic classification into 8 priority levels mapped to 3 queues

• 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

• Dual flash images: provide independent primary and secondary OS files for backup while upgrading

• VLAN support and tagging: support complete 802.1Q (4,096 VLAN IDs) and 30 VLANs simultaneously

• Group VLAN Registration Protocol (GVRP): allows automatic learning and dynamic assignment of VLANs

• 802.1w Rapid Convergence Spanning Tree Protocol *: increases network uptime through faster recovery from failed links

• 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

• Cisco Fast EtherChannel® (FEC): supports Cisco's proprietary FEC trunking protocol

• Port security: prevents unauthorized access using MAC address lockdown

• TACACS+: eases switch management security administration by using a password authentication server

• Secure Shell (SSHv2): encrypts all transmitted data for secure CLI remote 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 access to manage the ProCurve 4100gl series: all access methods—CLI, GUI, or MIB—are securely encrypted through SSHv2, SSL, and/or SNMPv3

• Optional redundant power supply: provides uninterrupted power and allows hot swapping 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

• Friendly port names: allows assignment of descriptive names to ports

• RMON: provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events

• ProCurve/IEEE Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports

• 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 4104gl
• Installation with HP-provided configuration,
ProCurve Switch 4100gl Series

(U2856A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304A/E)

ProCurve Switch 4108gl
- Installation with minimum configuration, system-based pricing (U4827A/E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware (H4496A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319A/E)

ProCurve Switch 4108gl bundle
- Installation with HP-provided configuration, system-based pricing (U4831A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware (H4496A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319A/E)

ProCurve Switch 4140gl
- Installation with HP-provided configuration, system-based pricing (U4831A/E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware (U2855A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (U2856A/E)
- Installation with minimum configuration, system-based pricing (U4827A/E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304A/E)

ProCurve Switch 4148gl
- Installation with HP-provided configuration, system-based pricing (U4831A/E)
- 3-year, 4-hour onsite, 13x5 coverage for hardware
## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>ProCurve Switch 4104gl</th>
<th>ProCurve Switch 4108gl</th>
<th>ProCurve Switch 4108gl bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ports</strong></td>
<td>4 open module slots</td>
<td>8 open module slots</td>
<td>4 open module slots</td>
</tr>
<tr>
<td></td>
<td>1 RS-232C DB-9 console port</td>
<td>1 RS-232C DB-9 console port</td>
<td>1 RS-232C DB-9 console port</td>
</tr>
<tr>
<td></td>
<td>Supports a maximum of 96 10/100 ports or 80 Gigabit ports or 8 mini-GBICs.</td>
<td>Supports a maximum of 192 10/100 ports or 160 Gigabit ports or 16 mini-GBICs, or a combination</td>
<td>Supports a maximum of 192 10/100 ports or 160 Gigabit ports or 16 mini-GBICs, or a combination</td>
</tr>
<tr>
<td><strong>Maximum ports</strong></td>
<td>72 10/100 ports</td>
<td>3 transceiver ports</td>
<td>4 open module slots</td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>17.4(d) x 15.3(w) x 5.25(h) in. (44.2 x 38.86 x 13.34 cm) (3U height)</td>
<td>17.4(d) x 15.3(w) x 8.75(h) in. (44.2 x 38.86 x 22.23 cm) (5U height)</td>
<td>17.4(d) x 15.3(w) x 8.75(h) in. (44.2 x 38.86 x 22.23 cm) (5U height)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>14.75 lb. (6.64 kg), fully loaded</td>
<td>20.7 lb. (9.32 kg), fully loaded</td>
<td>22.9 lb. (10.31 kg), fully loaded</td>
</tr>
<tr>
<td><strong>Memory and processor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fabric Module</strong></td>
<td>Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM</td>
<td>Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM</td>
<td>Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM</td>
</tr>
<tr>
<td><strong>Module</strong></td>
<td>IDT MIPS32 @ 125 MHz, 512 KB flash</td>
<td>IDT MIPS32 @ 125 MHz, 512 KB flash</td>
<td>IDT MIPS32 @ 125 MHz, 512 KB flash</td>
</tr>
<tr>
<td><strong>SDRAM</strong></td>
<td>Packet buffer size: 512 KB</td>
<td>Packet buffer size: 1 MB</td>
<td>Packet buffer size: 1 MB</td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only</td>
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<td>Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Latency</strong></td>
<td>&lt; 10.2 µs (FIFO 64-byte packets)</td>
<td>&lt; 10.2 µs (FIFO 64-byte packets)</td>
<td>&lt; 10.2 µs (FIFO 64-byte packets)</td>
</tr>
<tr>
<td><strong>Throughput</strong></td>
<td>up to 35.7 million pps</td>
<td>up to 71.4 million pps</td>
<td>up to 71.4 million pps</td>
</tr>
<tr>
<td><strong>Switch fabric speed</strong></td>
<td>18.3 Gbps</td>
<td>36.6 Gbps</td>
<td>36.6 Gbps</td>
</tr>
<tr>
<td><strong>Routing table size</strong></td>
<td>8,000 entries</td>
<td>8,000 entries</td>
<td>8,000 entries</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>32 °F to 131 °F (0 °C to 55 °C)</td>
<td>32 °F to 131 °F (0 °C to 55 °C)</td>
<td>32 °F to 131 °F (0 °C to 55 °C)</td>
</tr>
<tr>
<td><strong>Operating relative humidity</strong></td>
<td>15 % to 95 % at 104 °F (40 °C), non-condensing</td>
<td>15 % to 95 % at 104 °F (40 °C), non-condensing</td>
<td>15 % to 95 % at 104 °F (40 °C), non-condensing</td>
</tr>
<tr>
<td><strong>Non-operating/storage</strong></td>
<td>-40 °F to 158 °F (-40 °C to 70 °C)</td>
<td>-40 °F to 158 °F (-40 °C to 70 °C)</td>
<td>-40 °F to 158 °F (-40 °C to 70 °C)</td>
</tr>
<tr>
<td><strong>Non-operating/storage</strong></td>
<td>15 % to 95 % at 149 °F (65 °C), non-condensing</td>
<td>15 % to 95 % at 149 °F (65 °C), non-condensing</td>
<td>15 % to 95 % at 149 °F (65 °C), non-condensing</td>
</tr>
<tr>
<td><strong>Altitude</strong></td>
<td>up to 15,091 ft (4.6 km)</td>
<td>up to 15,091 ft (4.6 km)</td>
<td>up to 15,091 ft (4.6 km)</td>
</tr>
<tr>
<td><strong>Electrical characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maximum Heat Dissipation</strong></td>
<td>2,152 BTU/hr</td>
<td>2,152 BTU/hr</td>
<td>2,152 BTU/hr</td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>100-127 VAC/200-240 VAC</td>
<td>100-127 VAC/200-240 VAC</td>
<td>100-127 VAC/200-240 VAC</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>8.2 A /3.8 A</td>
<td>8.2 A /3.8 A</td>
<td>8.2 A /3.8 A</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>630 W</td>
<td>630 W</td>
<td>630 W</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition</td>
<td>cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition</td>
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</tr>
<tr>
<td><strong>Emissions</strong></td>
<td>FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A</td>
<td>FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A</td>
<td>FCC Class A; EN 55022/CISPR-22 Class A; VCCI Class A</td>
</tr>
<tr>
<td><strong>Immunity</strong></td>
<td>EN 55024/CISPR-24</td>
<td>EN 55024/CISPR-24</td>
<td>EN 55024/CISPR-24</td>
</tr>
</tbody>
</table>
ProCurve Switch 4100gl Series

**ESD**
- IEC 61000-4-2, 4kV CD, 8 kV AD
- IEC 61000-4-3, 3V/m

**Radiated**
- 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)
- 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
- IEC 61000-4-5, 1 kV/2 kV AC

**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)
- IEC 61000-4-4, 1.0 kV (power line), 0.5 kV (signal line)

**Power frequency magnetic field**
- IEC 61000-4-8, 1A/m, 50 or 60 Hz
- IEC 61000-4-8, 1A/m, 50 or 60 Hz
- 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
- 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

**Management**
- ProCurve Manager Plus; ProCurve Manager (Included); Command line interface; Web browser; Configuration menu; Out-of-band management (serial RS-232C)
- ProCurve Manager Plus; ProCurve Manager (Included); Command line interface; Web browser; Configuration menu; Out-of-band management (serial RS-232C)
- ProCurve Manager Plus; ProCurve Manager (Included); 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 IGMP v1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; Cisco Fast EtherChannel® (FEC); 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 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
- 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 IGMP v1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; Cisco Fast EtherChannel® (FEC); 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 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
- 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 IGMP v1/v2/v3; IEEE 802.1D Spanning Tree; IEEE 802.1w Rapid Convergence Spanning Tree; IEEE 802.3ad Link Aggregation Control Protocol; Cisco Fast EtherChannel® (FEC); 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 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
## Specifications

### Ports

<table>
<thead>
<tr>
<th>ProCurve Switch 4140gl</th>
<th>ProCurve Switch 4148gl</th>
<th>ProCurve Switch 4160gl</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 open module slots</td>
<td>2 open module slots</td>
<td>5 open module slots</td>
</tr>
<tr>
<td>40 10/100/1000 ports</td>
<td>48 10/100 ports</td>
<td>60 10/100/1000 ports</td>
</tr>
<tr>
<td>4 mini-GBIC slots</td>
<td>4 mini-GBIC slots</td>
<td>6 mini-GBIC slots</td>
</tr>
<tr>
<td>1 RS-232C DB-9 console port</td>
<td>1 RS-232C DB-9 console port</td>
<td>1 RS-232C DB-9 console port</td>
</tr>
<tr>
<td>Supports a maximum of 96 10/100 ports or 80 Gigabit ports or 8 mini-GBICs.</td>
<td>Supports a maximum of 96 10/100 ports or 80 Gigabit ports or 8 mini-GBICs.</td>
<td>Supports a maximum of 192 10/100 ports or 160 Gigabit ports or 16 mini-GBICs, or a combination</td>
</tr>
</tbody>
</table>

### Maximum ports

- **ProCurve Switch 4140gl**
  - 2 open module slots
  - 40 10/100/1000 ports
  - 4 mini-GBIC slots
  - 1 RS-232C DB-9 console port
  - Supports a maximum of 96 10/100 ports or 80 Gigabit ports or 8 mini-GBICs.

- **ProCurve Switch 4148gl**
  - 2 open module slots
  - 48 10/100 ports
  - 4 mini-GBIC slots
  - 1 RS-232C DB-9 console port
  - Supports a maximum of 96 10/100 ports or 80 Gigabit ports or 8 mini-GBICs.

- **ProCurve Switch 4160gl**
  - 5 open module slots
  - 60 10/100/1000 ports
  - 6 mini-GBIC slots
  - 1 RS-232C DB-9 console port
  - Supports a maximum of 192 10/100 ports or 160 Gigabit ports or 16 mini-GBICs, or a combination

### Physical characteristics

<table>
<thead>
<tr>
<th>ProCurve Switch 4140gl</th>
<th>ProCurve Switch 4148gl</th>
<th>ProCurve Switch 4160gl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>17.4(d) x 15.3(w) x 5.25(h) in. (44.2 x 38.8 x 13.3 cm) (3U height)</td>
<td>17.4(d) x 15.3(w) x 5.25(h) in. (44.2 x 38.8 x 13.3 cm) (3U height)</td>
</tr>
<tr>
<td>Weight</td>
<td>22.9 lb. (10.31 kg), fully loaded</td>
<td>15.84 lb. (7.13 kg), fully loaded</td>
</tr>
</tbody>
</table>

### Memory and processor

- **Fabric Module**
  - Motorola PowerPC @ 200 MHz, 8 MB flash, 32 MB SDRAM

- **Module**
  - IDT MIPS32 @ 125 MHz, 512 KB flash

- **SDRAM**
  - 8 MB

### Mounting

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

### Performance

<table>
<thead>
<tr>
<th>ProCurve Switch 4140gl</th>
<th>ProCurve Switch 4148gl</th>
<th>ProCurve Switch 4160gl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>&lt; 10.2 µs (FIFO 64-byte packets)</td>
<td>&lt; 10.2 µs (FIFO 64-byte packets)</td>
</tr>
<tr>
<td>Throughput</td>
<td>up to 35.7 million pps</td>
<td>up to 35.7 million pps</td>
</tr>
<tr>
<td>Switch fabric speed</td>
<td>18.3 Gbps</td>
<td>18.3 Gbps</td>
</tr>
<tr>
<td>Routing table size</td>
<td>8,000 entries</td>
<td>8,000 entries</td>
</tr>
</tbody>
</table>

### Environment

- **Operating temperature**: 32 °F to 131 °F (0 °C to 55 °C)
- **Operating relative humidity**: 15 % to 95 % at 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 % at 149 °F (65 °C), non-condensing
- **Altitude**: up to 15,091 ft (4.6 km)

### Electrical characteristics

- **Maximum Heat Dissipation**: 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-SCTF-1994; UL 1950 3rd edition

### Emissions

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

### Immunity
## EN
- 55024/CISPR-24

## ESD
- IEC 61000-4-2, 4kV CD, 8 kV AD
- IEC 61000-4-2, 4kV CD, 8 kV AD
- IEC 61000-4-3, 3V/m
- IEC 61000-4-3, 3V/m
- 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)
- IEC 61000-4-5, 1 kV/2 kV AC
- IEC 61000-4-5, 1 kV/2 kV AC
- IEC 61000-4-6, 3V
- IEC 61000-4-6, 3V
- IEC 61000-4-8, 1A/m, 50 or 60 Hz
- 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
- IEC 61000-4-11, >95% reduction, 0.5 period, 30% reduction, 25 periods
- EN 61000-3-2 / IEC 61000-3-2
- EN 61000-3-2 / IEC 61000-3-2
- EN 61000-3-3 / IEC 61000-3-3
- EN 61000-3-3 / IEC 61000-3-3

## Harmonics
- IEC 61000-4-2, 4kV CD, 8 kV AD
- IEC 61000-4-2, 4kV CD, 8 kV AD
- IEC 61000-4-3, 3V/m
- IEC 61000-4-3, 3V/m
- 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)
- IEC 61000-4-5, 1 kV/2 kV AC
- IEC 61000-4-5, 1 kV/2 kV AC
- IEC 61000-4-6, 3V
- IEC 61000-4-6, 3V

## Flicker
- EN 61000-3-2 / IEC 61000-3-2
- EN 61000-3-3 / IEC 61000-3-3
- EN 61000-3-3 / IEC 61000-3-3

## Management
- ProCurve Manager Plus; ProCurve Manager (Included); Command line interface; Web browser; Configuration menu; Out-of-band management (serial RS-232C)
- ProCurve Manager Plus; ProCurve Manager (Included); Command line interface; Web browser; Configuration menu; Out-of-band management (serial RS-232C)
- ProCurve Manager Plus; ProCurve Manager (Included); Command line interface; Web browser; Configuration menu; Out-of-band management (serial RS-232C)

## Standards and protocols
- RADIUS Accounting MIB
- RADIUS Client MIB; RFC 2620
- 802.1Q Bridge MIB; RFC 2618
- SMON; RFC 2674
- 802.1p and IEEE 802.3 MAU MIB; RFC 2613
- probe configuration (RMON v2); RFC 2819
- Four groups of RMON: 1 Interface; RFC 2665
- Evolution of Forwarding Table MIB; RFC 2737
- RFC 1213 MIB II; RFC 2096 IP
- Forwarding Table MIB; RFC 2377
- 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 802.3 MAU MIB; RFC 2613 SMON; RFC 2674 802.1p and IEEE 802.1Q Bridge MIB; RFC 2618 RADIUS Client MIB; RFC 2620 RADIUS Accounting MIB
- RADIUS Accounting MIB
- 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; IEE 802.3x Flow Control; DHCP Relay; RFC 2236 IEC 61000-4-8, 1A/m, 50 or 60 Hz
- 0.5 kV (signal line)
- 0.5 kV (signal line)
- 0.5 kV (signal line)
- 0.5 period, 30% reduction, 25 periods
- 0.5 period, 30% reduction, 25 periods
- 0.5 period, 30% reduction, 25 periods
ProCurve Gigabit 1000Base-T Mini-GBIC (J8177B)
Pluggable Gigabit transceiver (RJ-45) for up to 100m over Cat 5 cable or better.

**Ports**
- Connectors: RJ-45
- Duplex: full

**Physical characteristics**
- Dimensions: 2.56 (d) x 0.55 (w) x 0.57 (h) in. (6.5 x 1.4 x 1.46 cm)
- Weight: 0.05 lb. (0.02 kg)

**Environment**
- Operating temperature: 32° to 158°F (0° to 70°C)
- Operating relative humidity: 5% to 95%
- Non-operating/Storage temperature: -40° to 167°F (-40° to 75°C)
- Non-operating/Storage relative humidity: 5% to 95%

**Cabling**
- 1000Base-T: Category 5 (5E or better recommended), 100 ohm differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 100Base-T

**Maximum Distance**
- 100m

**Notes**
- For use with J4885A, J4894A, J4878A, J4893A, J4684A, and J4908A.
- When used in the ProCurve Switch gl 10/100/1000 Module (J4908A), the J8177B Mini-GBIC can be installed in either the upper or lower Mini-GBIC port, but will block access to the other port.
- Requires specific code version for support:
  - For use with 9300 series modules, requires code 7.08.00a or greater
  - For use with 5300 series modules, requires code E.09.11 or greater (excluding E.09.21)
  - For use with 4100 series modules, requires code G.07.69 or greater
- Not supported on dual personality ports.

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ProCurve Switch gl 20-Port 10/100/1000 Module (J4908A)
with 20 10/100/1000 ports and 2 mini-GBIC slots

**Ports**
- 2 open mini-GBIC slots
- 20 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)
- ProCurve Auto-MDIX: yes
- Connectors: RJ-45
- Duplex: half or full

**Physical characteristics**
- Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)
- Weight: 1.25 lb. (0.56 kg)

**Mini-GBICs supported (ordered separately)**
- ProCurve Gigabit-SX-LC Mini-GBIC
- ProCurve Gigabit-LX-LC Mini-GBIC
- ProCurve Gigabit-LH-LC Mini-GBIC
- ProCurve Gigabit 1000Base-T Mini-GBIC

**Cabling**
- 10Base-T: Category 3 (or better) 100 ohm 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 ohm differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3 Type 100Base-TX
- 1000Base-T: Category 5 (5E or better recommended), 100 ohm 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 4100gl Series
## ProCurve Switch 4100gl Series

### ProCurve Switch gl 6-Port Mini-GBIC Module (J4893A)

<table>
<thead>
<tr>
<th>Ports</th>
<th>6 open mini-GBIC slots</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)</td>
<td></td>
</tr>
<tr>
<td>Weight: 0.96 lb. (0.43 kg)</td>
<td></td>
</tr>
</tbody>
</table>

**Mini-GBICs supported (ordered separately)**
- ProCurve Gigabit-SX-LC Mini-GBIC
- ProCurve Gigabit-LX-LC Mini-GBIC
- ProCurve Gigabit-LH-LC Mini-GBIC
- ProCurve Gigabit 1000Base-T Mini-GBIC

### ProCurve Switch gl 12-Port 100-FX MTRJ Module (J4892A)

<table>
<thead>
<tr>
<th>Ports</th>
<th>12 100Base-FX ports (IEEE 802.3u Type 100Base-FX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectors:</td>
<td>MTRJ</td>
</tr>
<tr>
<td>Duplex:</td>
<td>half or full</td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)</td>
<td></td>
</tr>
<tr>
<td>Weight: 1.45 lb. (0.65 kg)</td>
<td></td>
</tr>
</tbody>
</table>

**Cabling**
- 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, 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 Transceiver Module (J4864A)

<table>
<thead>
<tr>
<th>Ports</th>
<th>3 open transceiver slots</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)</td>
<td></td>
</tr>
<tr>
<td>Weight: 1.16 lb. (0.52 kg)</td>
<td></td>
</tr>
</tbody>
</table>

**Transceivers supported (ordered separately)**
- ProCurve Switch Gigabit Stacking Kit
- ProCurve Gigabit-SX Transceiver
- ProCurve Gigabit-LX Transceiver
- ProCurve 100/1000-T Transceiver
- ProCurve 100-FX SC Transceiver

### ProCurve Switch gl 6-Port 100/1000-T Module (J4863A)

<table>
<thead>
<tr>
<th>Ports</th>
<th>6 auto-sensing 10/1000 ports (802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProCurve Auto-MDIX:</td>
<td>yes</td>
</tr>
<tr>
<td>Connectors:</td>
<td>RJ-45</td>
</tr>
<tr>
<td>Duplex: 100Base-TX:</td>
<td>half or full</td>
</tr>
<tr>
<td>Duplex: 1000Base-T:</td>
<td>full</td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)</td>
<td></td>
</tr>
<tr>
<td>Weight: 1.0 lb. (0.45 kg)</td>
<td></td>
</tr>
</tbody>
</table>

**Cabling**
- 100Base-TX: Category 5 (or better), 100 ohm differential unshielded twisted pair (UTP) or shielded twisted pair (STP), complying with IEEE 802.3u 100Base-TX
- 1000Base-T: Category 5 (SE or better recommended), 100 ohm 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 4100gl Series

### ProCurve Switch gl 24-Port 10/100-TX Module (J4862B)

- **Ports**
  - 24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T; 802.3u Type 100Base-TX)
  - ProCurve Auto-MDIX: yes
  - Connectors: RJ-45
  - Duplex: half or full

- **Physical characteristics**
  - Dimensions: 8.97 (d) x 8.0 (w) x 1.75 (h) in. (22.78 x 20.32 x 4.45 cm)
  - Weight: 1.24 lb. (0.56 kg)

### ProCurve Switch gl/xl Redundant Power Supply (J4839A)

- **Ports**
  - 14 auto-sensing 10/100/1000 ports and 2 dual-personality ports (10/100/1000 or mini-GBIC)

- **Physical characteristics**
  - Dimensions: 7.9 (d) x 6.3 (w) x 5.0 (h) in. (20.07 x 16 x 12.7 cm)
  - Weight: 5.55 lb. (2.5 kg)

- **Electrical characteristics**
  - Voltage: 100-127 VAC/200-240 VAC
  - Maximum current: 8.2A/3.8A
  - Frequency range: 50/60 Hz

- **Notes**
  - For additional RPS specification information, see the data sheet for the product in which the RPS is being installed.

### ProCurve Gigabit-LH-LC Mini-GBIC (J4860B)

- **Ports**
  - 1 1000Base-LH port (No IEEE standard exists for 1550 nm optics)
  - Connectors: LC
  - Duplex: full

- **Physical characteristics**
  - Dimensions: 2.28 (d) x 0.51 (w) x 0.51 (h) in. (5.79 x 1.3 x 1.3 cm)
  - Weight: 0.04 lb. (0.02 kg)

- **Cabling**
  - 9/125 µm (core/cladding) diameter, 1310 nm, low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1

- **Maximum Distance**
  - 70 km

### ProCurve Gigabit-LX-LC Mini-GBIC (J4859B)

- **Ports**
  - 1 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)
  - Connectors: LC
  - Duplex: full

- **Physical characteristics**
  - Dimensions: 2.28 (d) x 0.51 (w) x 0.51 (h) in. (5.79 x 1.3 x 1.3 cm)
  - Weight: 0.04 lb. (0.02 kg)

- **Cabling**
  - Either single mode or multimode
    - 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively
    - 9/125 µm (core/cladding) diameter, 1310 nm, low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1

- **Maximum Distance**
  - 10 km (single mode) or 550 m (multimode)

- **Notes**
  - (a mode conditioning patch cord may be needed in some multimode fiber installations)
<table>
<thead>
<tr>
<th>Model</th>
<th>Ports</th>
<th>Cabling</th>
<th>Maximum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProCurve Gigabit-SX-LC Mini-GBIC (J4858B)</td>
<td>1 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)</td>
<td>62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively</td>
<td>550 m (50 µm core diameter, 500 MHz/km bandwidth)</td>
</tr>
<tr>
<td></td>
<td>Connectors: LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duplex: full</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Physical characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dimensions: 2.28 (d) x 0.51 (w) x 0.51 (h) in. (5.79 x 1.3 x 1.3 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 0.04 lb. (0.02 kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProCurve 100-FX SC Transceiver (J4853A)</td>
<td>1 100Base-FX ports (IEEE 802.3u Type 100Base-FX)</td>
<td>62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively</td>
<td>2 km (full-duplex) or 412 m (half-duplex)</td>
</tr>
<tr>
<td></td>
<td>Connectors: SC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duplex: half or full (full duplex only when installed in Duplex: unmanaged switches and 2500 series)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Physical characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dimensions: 3.8 (d) x 2.05 (w) x 0.95 (h) in. (9.65 x 5.21 x 2.41 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 0.09 lb. (0.04 kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProCurve 100/1000-T Transceiver (J4834A)</td>
<td>1 auto-sensing 10/1000 ports (802.3u Type 100Base-TX; 802.3ab Type 1000Base-T)</td>
<td>62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively</td>
<td>100 m</td>
</tr>
<tr>
<td></td>
<td>Connectors: RJ-45</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duplex: 100Base-TX: half or full</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duplex: 1000Base-T: full</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Physical characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dimensions: 3.8 (d) x 2.05 (w) x 0.95 (h) in. (9.65 x 5.21 x 2.41 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 0.11 lb. (0.05 kg)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# ProCurve Switch 4100gl Series

## ProCurve Gigabit-LX Transceiver (J4132A)
with one 1000Base-LX port

| **Ports** | 1 1000Base-LX port (IEEE 802.3z Type 1000Base-LX)  
Connectors: SC  
Duplex: full |
| --- | --- |
| **Physical characteristics** | Dimensions: 3.8 (d) x 2.05 (w) x 0.95 (h) in.  
(9.65 x 5.21 x 2.41 cm)  
Weight: 0.09 lb. (0.04 kg) |
| **Cabling** | Either single mode or multimode  
62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
9/125 µm (core/cladding) diameter, 1310 nm, low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1 |
| **Maximum Distance** | 10 km (single mode) or 550 m (multimode) |
| **Notes** | A mode conditioning patch cord may be needed in some multimode fiber installations. |

## ProCurve Gigabit-SX Transceiver (J4131B)
with one 1000Base-SX port

| **Ports** | 1 1000Base-SX port (IEEE 802.3z Type 1000Base-SX)  
Connectors: SC  
Duplex: full |
| --- | --- |
| **Physical characteristics** | Dimensions: 3.8 (d) x 2.05 (w) x 0.95 (h) in.  
(9.65 x 5.21 x 2.41 cm)  
Weight: 0.09 lb. (0.04 kg) |
| **Cabling** | 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic, complying with ITU-T G.651 and ISO/IEC 793-2 Type A1b or A1a, respectively  
220 m (62.5 µm core diameter, 160 MHz/km bandwidth)  
275 m (62.5 µm core diameter, 200 MHz/km bandwidth)  
500 m (50 µm core diameter, 400 MHz/km bandwidth)  
550 m (50 µm core diameter, 500 MHz/km bandwidth) |

## ProCurve Switch Gigabit Stacking Kit (J4116A)
with 2 Gigabit transceivers plus interconnecting cable

| **Ports** | 2 Gigabit transceivers (1 HSSDC port each)  
Connectors: HSSDC  
Duplex: full |
| --- | --- |
| **Physical characteristics** | Dimensions: 3.8 (d) x 2.05 (w) x 0.95 (h) in.  
(9.65 x 5.21 x 2.41 cm)  
Weight: 0.09 lb. (0.04 kg) |
| **Cabling** | Included with product |
| **Maximum Distance** | 23.5 inches |