HPE Altoline 6960 Switch Series

Product overview

- HPE Altoline 6960 Switch Series are top-of-rack (ToR) or spine switches for high-performance data centers. In a compact 1RU form factor, the switch provides line-rate L2 and L3 switching across up to 32 x QSFP28 ports, supporting 25GbE server connections as a ToR switch, or 100GbE spine interconnects as a spine switch.
- The 32 fixed QSFP28 ports support up to 32 x 100GbE connections.
- HPE Altoline 6960 Switch Series are bare-metal switches loaded with ONIE, which supports the installation of compatible independent switch OS offerings.

Features and benefits

Data center optimized

- Flexible high-port density
  HPE Altoline 6960 Switch Series enables scaling of the server edge with 100GbE spine and ToR deployments to new heights with high-density 32-port solutions delivered in a 1RU design. Up to 32 100GbE QSFP28 ports can also be configured as four 25GbE ports by using a 100GbE-to-25GbE splitter cable providing up to 128 25GbE ports

- High-performance switching
  Cut-through and nonblocking architecture delivers low latency (600–720 nanosecond for 100GbE) for very demanding enterprise applications; the switch delivers high-performance switching capacity and wire-speed packet forwarding
• **Hot/cold aisle support**  
Models available with front-to-back (port-to-power) or back-to-front (power-to-port) airflow

• **Redundant fans and power supplies**  
1+1 internal redundant and hot-pluggable power supplies and N+1 redundant fan trays enhance reliability and availability

• **VXLAN hardware support**  
Supports VXLAN VTEP overlay technologies

**Manageability**

• **Out-of-band interface**  
Isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane

• **ONIE bootloader**  
Switch is loaded with ONIE software installer

• **Intel® x86 CPU**  
Provides high-performance support of widely available, industry-standard software and utilities

**Layer 2 switching**

• **VLAN support**

• Provides support for 4,096 VLAN IDs

**Additional information**

• **Low-power consumption**

• Typical operation uses just 267 W of AC power

**Warranty and support**

• **1-year warranty**  
See [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary) for warranty and support information included with your product purchase.

• **Software releases**  
To find software for your product, refer to [hpe.com/networking/support](http://hpe.com/networking/support); for details on the software releases available with your product purchase, refer to [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary)
## I/O ports and slots
- 32 QSFP28 100GbE ports

## Additional ports and slots
- 1 RJ-45 serial console port
- 1 RJ-45 out-of-band management port
- 1 USB 2.0

## Power supplies
- 2 power supply slots
- 1 minimum power supply required includes: 2 x PSUs

## Fan tray
- 5 fan tray slots
- Switch comes with five (5) fan trays (port to power airflow)

## Physical characteristics

| Dimensions | 17.26(w) x 20.28(d) x 1.73(h) in. (43.84 x 51.50 x 4.4 cm) | 17.26(w) x 20.28(d) x 1.73(h) in. (43.84 x 51.50 x 4.4 cm) |
| Weight | 18.52 lb (8.4 kg) | 18.52 lb (8.4 kg) |

## Memory and processor
- Intel Rangeley C2538 4-core @ 2.4 GHz, 8 GB DDR3 SDRAM,
  Storage: mSATA: 32 GB; Packet buffer size: 12 MB, 8 GB NAND flash

## Performance
- Routing/Switching capacity: 3.2 Tbps
- MAC address table size: 8000 entries

## Environment

| Operating temperature | 32°F to 104°F (0°C to 40°C) | 32°F to 113°F (0°C to 45°C) |
| Operating relative humidity | 5% to 95%, noncondensing | 5% to 95%, noncondensing |
| Nonoperating/Storage temperature | -40°F to 158°F (-40°C to 70°C) | -40°F to 158°F (-40°C to 70°C) |
| Altitude | Up to 10,000 ft (3 km) | Up to 10,000 ft (3 km) |
| Acoustic | Power: 62 dB | Power: 62 dB |

## Electrical characteristics

| Frequency | 50/60 Hz | 50/60 Hz |
| Voltage | 90–264 VAC, rated (depending on power supply chosen) | 90–264 VAC, rated (depending on power supply chosen) |
| Maximum power rating | 315 W | 315 W |
| Idle power | 267 W | 267 W |

Notes: Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded, 100% traffic, all ports plugged in, and all modules populated.

PSU Efficiency: Up to 93% for AC PSUs

## Safety
- cUL Certified, EN 60950, EN 55022 Class A, VCCI Class A, RoHS Compliance, FCC Class A: Regulations for Radio Frequency Devices for Electromagnetic Compliance, UL
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### HPE Altoline 6960 32QSFP28 x86 ONIE AC Front-to-Back Switch (JL279A)  
### HPE Altoline 6960 32QSFP28 x86 ONIE AC Back-to-Front Switch (JL280A)

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