Dell PowerSwitch S4348-ON Series

Open networking top-of-rack multi-rate switches with 10 Gigabit Ethernet

The PowerSwitch S4348-ON 10GbE switches comprise Dell Technologies' latest disaggregated hardware and software data center networking solutions, providing state- of-the-art 100GbE uplinks and a broad range of functionality to meet the growing demands of today's data center environment. These innovative, next-generation top-of-rack open networking switches offer optimum flexibility and cost-effectiveness for the enterprise, midmarket and tier 2 cloud service providers with demanding compute and storage traffic environments.

The PowerSwitch S4348-ON models provide high density with 48 ports of 10GbE SFP+ (S4348F-ON) or up to 48 ports of 10GBaseT (S4348T-ON), 6 ports of 100GbE in a 1U form factor.

Using modern hardware and a choice of Enterprise SONiC Distribution by Dell Technologies, the PowerSwitch S4348-ON series deliver non-blocking performance for workloads sensitive to packet loss. The compact S4348-ON models provide multi-rate speed, enabling denser footprints and simplifying migration to 100Gbps. Also unique to the S4348-ON series is the ability to meet the demands of converged and virtualized data centers by offering hardware support for L2 and L3 VXLAN gateway. Dell PowerSwitch S4348-ON switches support the Open Network Install Environment (ONIE) for zero touch installation of Enterprise SONiC Distribution by Dell Technologies.

Maximum performance and functionality

The S4348-ON series are high-performance, multifunction, 1/10/25/40/100 GbE top-of-rack (ToR) switches purpose- built for applications in high-performance data center, cloud and computing environments. Architectural features to optimize data center network flexibility, efficiency and availability include IO panel to PSU airflow or PSU to IO panel airflow for hot/cold aisle environments and redundant, hot-swappable power supplies and fans.

Key applications

- Organizations looking to enter the software-defined data center era with a choice of networking technologies designed to maximize flexibility
- Multi-functional 1/10/25/40/100 GbE switching in High Performance Computing Clusters or other business-sensitive deployments requiring the highest bandwidth
- High-density 1/10 GbE ToR server access in high-performance data center environments
- Small-scale data center fabric implementation via the S4348-ON switch in leaf and spine along with S-series 1/10GbE ToR switches
- VXLAN layer 2/layer 3 support

Key features

- 1RU high-density 10/100 GbE ToR switches with up to 48 10GbE (SFP+) or 10GBaseT ports, and 6 ports of 100GbE (QSFP28)
- Multi-rate 100GbE ports support 10/25/40 GbE
- 1.08Tb/s (half-duplex) non-blocking switching fabric delivers line-rate performance under full load on S4348F-ON and S4348T-ON
- VXLAN functionality support for bridging and routing the non-virtualized and the virtualized overlay networks with line rate performance
- IO panel to PSU airflow or PSU to IO panel airflow
- Redundant, hot-swappable power supplies and fans
- IEEE 1588v2 supported (hardware)

	S4348F-ON	S4348T-ON
Ports	48xSFP+ 6xQSFP28	48x10GbT 6xQSFP28
Max 10GbE density	60	60
Switching capacity	1.08Tb/s	1.08Tb/s
Throughput	1001.7Mpps	1001.7Mpps
Max power consumption	362W	393W
Typical operating power	119W	222W
Number of fan trays	5	5
Fans per fan tray	2	2
Weight	20.28 lbs (9.20 kg) with two PSUs and five fan trays	19.84 lbs (9.0 kg) with two PSUs and five fan trays
Max thermal output	1076.97 BTU/h	986.14 BTU/h

Product	Description
S4348-ON Series	PowerSwitch S4348F-ON, 48x 10GbE SFP+, 6x 100GbE QSFP28, IO to PSU, NON-TAA PowerSwitch S4348F-ON, 48x 10GbE SFP+, 6x 100GbE QSFP28, IO to PSU PowerSwitch S4348F-ON, 48x 10GbE SFP+, 6x 100GbE QSFP28, PSU to IO, NON-TAA PowerSwitch S4348F-ON, 48x 10GbE SFP+, 6x 100GbE QSFP28, PSU to IO PowerSwitch S4348T-ON, 48x 10GBase-T, 6x 100GbE QSFP28, IO to PSU, NON-TAA PowerSwitch S4348T-ON, 48x 10GBase-T, 6x 100GbE QSFP28, IO to PSU PowerSwitch S4348T-ON, 48x 10GBase-T, 6x 100GbE QSFP28, PSU to IO, NON-TAA PowerSwitch S4348T-ON, 48x 10GBase-T, 6x 100GbE QSFP28, PSU to IO
Redundant power supplies	AC Power Supply, IO Panel to PSU Airflow AC Power Supply, PSU to IO Panel Airflow DC Power Supply, IO Panel to PSU Airflow (available as custom kit) DC Power Supply, PSU to IO Panel Airflow (available as custom kit)
Fans	S4348 fan module, IO Panel to PSU Airflow S4348 fan module, PSU to IO Panel Airflow
Optics, Cables and Cable Management	Please refer to Dell Networking Transceivers and Cables spec sheet for complete list of optics and cables.

Technical specifications

Physical

1 RJ45 console port (for debugging)
1 USB 2.0 Type A console port
1 RJ45 10/100/1000Base-T management Ethernet port
Size: 1 U, 1.69” (h) x 17.26” (w) x 18.11” (d) (43mm (h) x 438.5mm (w) x 460mm (d)
Power supply: 90–240 VAC 50/60 Hz
Max. current draw per system:
S4348F-ON: 3.56A at 100V AC, 1.61A at 240V AC
S4348T-ON: 3.87A at 100V AC, 1.69A at 240V AC
DC specifications:
S4348F-ON, S4348T-ON: -40V DC to -72V DC
Input current at full load:
S4348F-ON: -48 V/7.29 A, -60 V/5.89 A
S4348T-ON: -48 V/7.68 A, -60 V/6.33 A
Max. operating specifications: 0°C – 45°C (32°F - 113°F)
Operating humidity: 8% to 90% (RH), noncondensing
Max. non-operating specifications:
Storage temperature: -40° to 149°F (-40°C to 65°C)
Storage humidity: 8 % to 90% (RH), noncondensing
Maximum operational altitude: 3048 m (10K ft)
Maximum non-operational altitude: 12000 m (39370 ft)

Redundancy

Hot swappable redundant power
Hot swappable redundant fans

Performance

Packet buffer memory: 32MB
Integrated SmartBuffer CPU memory: 16GB
MAC addresses: 224K (in L2 mode), 64K (in L3 mode)
Latency:
S4348F-ON: sub-650 ns
S4348T-ON: sub-3.5 µs (for 1518 bytes)
RPVST: 510 instances
ARP: 16K
IPv6 hosts: 32K
IPv6 routes: 32K (65K in Route Scale mode)
Link aggregation: 128 port channels / port channel member per system, 32 port channel members per port channel
Layer 2 VLANs: 4K
Layer 3 interfaces per system: 4K
Max number of VRF per system: 1000
MAC ACL entries (768 Ingress, 512 Egress)
Max number of Ingress IPv4 Only ACL Tables Applied to Interface: 768
Number of IPv6 ACL Rules Per Applied ACL Table at Ingress: 768
Max number of IPv4 ACL Rules Per Applied ACL Table at Egress: 512
Number of IPv6 ACL Rules Per Applied ACL Table at Egress: 512

For Network Operating System (NOS) specific features, refer to Enterprise SONiC Distribution by Dell Technologies spec sheet.

Regulatory compliance

Safety standards and compliance, agency certifications

UL/CSA 62368-1
CNS 15598-1
EN 62368-1
EN 60825-1 Safety of Laser Products—Part 1: Equipment Classification Requirements and User’s Guide
EN 60825-2 Safety of Laser Products—Part 2: Safety of Optical Fiber Communication Systems
FDA Regulation 21CFR 1040.10 and 1040.11
IEC 62368-1, Including National Deviations, and Group Differences
India TEC
China NAL
EU CE
EAEU EAC
AU/NZ RCM

Electromagnetic Compatibility

Emissions

Australia/New Zealand: AS/NZS CISPR 32: Class A
Canada: ICES-003, Issue-4, Class A
Europe: EN55032: CISPR 32: Class A
International: CISPR 32: Class A
EN55032
EN55035
Japan: VCCI-CISPR 32, Class A
Korea: KN32, Class A
Taiwan: CNS15936, Class A
USA: FCC CFR47 Part 15, Subpart B, Class A

Immunity

EN 300 386 v2.1.1 (2016-07) for Network Equipment
EN 55035
EN 61000-3-2 Harmonic Current Emissions
EN 61000-3-3 Voltage Fluctuations and Flicker
EN 61000-4-2 ESD
EN 61000-4-3 Radiated Immunity
EN 61000-4-4 EFT
EN 61000-4-5 Surge
EN 61000-4-6 Low Frequency Conducted Immunity.
EN 61000-6-1
EN 61000-4-11 Voltage Dips/Interruptions

RoHS

All S-series components are EU RoHS compliant.

Certifications

Japan: VCCI V3/2009 Class A
USA: FCC CFR 47 Part 15, Subpart B:2009, Class A

Warranty

1 Year Return to Depot

IT Lifecycle Services for Networking

Experts, insights and ease

Our highly trained experts, with innovative tools and proven processes, help you transform your IT investments into strategic advantages.

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Let us analyze your multivendor environment and deliver a comprehensive report and action plan to build upon the existing network and improve performance.

Deploy & Integrate

Get new wired or wireless network technology installed and configured with ProDeploy. Reduce costs, save time, and get up and running fast.

Educate

Ensure your staff builds the right skills for long- term success. Get certified on Dell Networking technology and learn how to increase performance and optimize infrastructure.

Manage & Support

Gain access to technical experts and quickly resolve multivendor networking challenges with ProSupport. Spend less time resolving network issues and more time innovating.

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Maximize performance for dynamic IT environments with Dell Optimize. Benefit from in-depth predictive analysis, remote monitoring and a dedicated systems analyst for your network.

Retire

We can help you resell or retire excess hardware while meeting local regulatory guidelines and acting in an environmentally responsible way.

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