



# DELL EMC POWERSWITCH S4100-ON

## High-performance open networking top-of-rack switches with multirate Gigabit Ethernet and unified ports

The S4100-ON 10GbE switches comprise DellTechnologies' latest disaggregated hardware and software data center networking solutions, providing state-of-the-art 100GbE uplinks, fibre channel connectivity 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 compact S4100-ON models provide industry-leading density with up to 48 ports of 10GbE or up to 48 ports of 10GBaseT ports, 2 ports of 40GbE and 4 ports of 100GbE in a 1RU form factor. The S4148U-ON model can support up to 28 8/16G fibre channel ports, or 16 ports of 32G\* fibre channel ports. The S4112-ON is a half-rack width model that supports up to 12 ports of 10GbE or 12 ports 10GBaseT, and 3 ports of 100GbE.

Using industry-leading hardware and a choice of Dell EMC SmartFabric OS10 or select 3rd party network operating systems and tools, the S4100-ON Series offers flexibility by provision of configuration profiles and delivers non-blocking performance for workloads sensitive to packet loss. The compact S4100-ON models provide multirate speed, enabling denser footprints and simplifying migration to 100Gbps. Also unique to the S4100-ON series is the ability to meet the demands of converged and virtualized data centers by offering unified ports (S4148U) and hardware support for L2 and L3 VXLAN Gateway. Priority-based flow control (PFC), data center bridge exchange (DCBX) and enhanced transmission selection (ETS) make the S4100-ON ideally suited for DCB environments. Dell EMC PowerSwitch S4100-ON switches support the open source Open Network Install Environment (ONIE) for zero touch installation of Dell EMC SmartFabric OS10 networking operating system, as well as of alternative network operating systems

### Maximum performance and functionality

The S4100-ON series are high-performance, multifunction, 1/10/25/40/50/100 GbE and 8/16/32G FC 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 1/10/25/40/50/100 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

- iSCSI and FC storage deployment, including DCB converged lossless transactions
- Small-scale data center fabric implementation via the S4100-ON switch in leaf and spine along with S-Series 1/10GbE ToR switches
- VXLAN layer 2/layer 3 gateway support (available in hardware only)

### Key features

- 1RU high-density 10/40/100 GbE ToR switches with up to 48 ports of 10 GbE (SFP+) or up to 48 ports of 10GBaseT ports, or up to 28 ports of 8/16 fibre channel, two ports of 40 GbE (QSFP+), and up to four ports of 100GbE (QSFP28) or four ports of 8/16/32G fibre channel
- The S4112 is a 1RU, half-rack width 10/100GbE ToR switch with up to 12 ports of 10GbE (SFP+) or up to 12 ports of 10GBaseT ports, and up to three ports of 100GbE (QSFP28)
- Multi-rate 100GbE ports support 10/25/40/50 GbE. 40GbE ports support 10GbE. 10GbE ports support 1GbE. Up to four different simultaneous speeds are possible in a given profile.
- Supports dynamic reconfiguration of unified ports on S4148U product as 10GbE or 8/16G FC on SFP+ ports, and 25GbE or 16/32Gb FC on QSFP28 ports
- 1.76Tbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4148F-ON, S4148FE-ON, S4148T-ON and S4148U-ON.
- 960Gbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4128F-ON and S4128T-ON
- 840Gbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4112F-ON and S4112T-ON
- VXLAN gateway functionality support for bridging and routing the non-virtualized and the virtualized overlay networks with line rate performance
- Converged Network support with DCB
- IO panel to PSU airflow or PSU to IO panel airflow
- Redundant, hot-swappable power supplies and fans (S4112-ON has redundant, fixed power supplies and fans)
- Support for 10GBASE-LRM optics over OM1/OM2 fiber on S4148FE-ON product (not supported on other products in S4100 product family)
- IEEE 1588v2 supported (hardware only) on 48 port models

\* Not line rate

## Key Features with Dell EMC SmartFabric OS10

- Consistent DevOps framework across compute, storage and networking elements
- Standard networking features, interfaces and scripting functions for legacy network operations integration
- Standards-based switching hardware abstraction via Switch Abstraction Interface (SAI)
- Pervasive, unrestricted developer environment via Control Plane Services (CPS)
- OS10 Enterprise Edition software enables Dell Technologies layer 2 and 3 switching and routing protocols with integrated IP services, quality of service, manageability and automation features
- OS10 supports Precision Time Protocol (PTP, IEEE 1588v2) to synchronize clocks on network devices.
- Leverage common open source tools and best practices (data models, commit rollbacks)
- Increase VM Mobility region by stretching L2 VLAN within or across two DCs with unique VLT capabilities
- Scalable L2 and L3 Ethernet Switching with GoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR
- Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)
- Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)
- Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV

	S4112F-ON	S4112T-ON	S4128F-ON	S4128T-ON	S4148F-ON	S4148FE-ON	S4148T-ON	S4148U-ON
<b>Ports</b>	12xSFP+ 3xQSFP28	12x10GbT 3xQSFP28	28xSFP+ 2xQSFP28	28x10GbT 2x QSFP28	48xSFP+ 2xQSFP+ 4xQSFP28	48xSFP+ 2xQSFP+ 4xQSFP28	48x10GbT 2xQSFP+ 4xQSFP28	48xSFP+ 2xQSFP+ 4xQSFP28
<b>Unified port</b>								●
<b>Max 10GbE density</b>	24	24 (12 10GbT and 12 SFP+)	36	36 (28 10GbT and 8 FP+)	72	72	72 (48 10GbT and 24 FP+)	72
<b>Max 25GbE density</b>	12	12	8	8	16	16	16	16
<b>Max 40GbE density</b>	3	3	2	2	6	6	6	6
<b>Max 50GbE density</b>	6	6	4	4	8	8	8	8
<b>Max 100GbE density</b>	3	3	2	2	4	4	4	4
<b>Max FC 8G/16G ports (oversubscribed)</b>	0	0	0	0	0	0	0	40
<b>Max FC 16G line rate</b>	0	0	0	0	0	0	0	28
<b>Max FC 32G ports (oversubscribed)</b>	0	0	0	0	0	0	0	16
<b>Max FC 32G line rate</b>	0	0	0	0	0	0	0	8
<b>Switching capacity</b>	840Gbps	840Gbps	960Gbps	960Gbps	1.76Tbps	1.76Tbps	1.76Tbps	1.76Tbps
<b>Throughput</b>	630Mpps	630Mpps	720Mpps	720Mpps	1320Mpps	1320Mpps	1320Mpps	1320Mpps
<b>LRM optics support</b>						●		
<b>1588v2 PTP timing</b>					●	●	●	●
<b>Max power consumption</b>	180W	200W	260W	300W	370W	400W	440W	460W
<b>Typical operating power</b>	90W	120W	160W	250W	200W	240W	320W	300W
<b>Number of fan trays</b>	Fixed	Fixed	4	4	4	4	4	4
<b>Fans per fan tray</b>	3	3	1	1	1	1	2	2
<b>Weight</b>	8.30lbs	8.45lbs	19.66 lbs (8.92 kg)	20.67 lbs (9.38 kg)	20.15 lbs (9.14 kg)	20.85 lbs (9.46 kg)	22.37 lbs (10.15 kg)	20.52 lbs (9.31 kg)
<b>Max thermal output</b>	614 BTU/ hour	682 BTU/ hour	886 BTU/h	1,023 BTU/h	1,261 BTU/h	1,364 BTU/h	1,500 BTU/h	1,568 BTU/h

● Supported

Product	Description
<b>S4100-ON</b>	<p>S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow  S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow  S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow  S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow  S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow  S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow  S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow  S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow  S4128F, 28x 10GbE SFP+, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow  S4128F, 28x 10GbE SFP+, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow  S4128T, 28x 10GBASE-T, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow  S4128T, 28x 10GBASE-T, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow  S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow  S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow  S4148FE, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fans, I/O Panel to PSU Airflow  S4148FE, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow  S4148T, 48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow  S4148T, 48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow  S4148U, 24x Unified port SFP+, 24x 10GbE SFP+, 2x QSFP+, 4x Unified port QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow  S4148U, 24x Unified port SFP+, 24x 10GbE SFP+, 2x QSFP+, 4x Unified port QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow</p>
<b>Redundant power supplies (not applicable to S4112)</b>	<p>S4100, AC Power Supply, IO Panel to PSU Airflow  S4100, AC Power Supply, PSU to IO Panel Airflow  S4100, DC Power Supply, IO Panel to PSU Airflow (available as custom kit)  S4100, DC Power Supply, PSU to IO Panel Airflow (available as custom kit)  S4100, HV DC Power Supply, IO Panel to PSU Airflow  S4100, HV DC Power Supply, PSU to IO Panel Airflow</p>
<b>Fans (not applicable to S4112)</b>	<p>S4100 fan module, IO Panel to PSU Airflow  S4100 fan module, PSU to IO Panel Airflow</p>
<b>Optics</b>	<p>Transceiver, 1000Base-T, 1GbE (SFP to RJ45)  Transceiver, 10GbE, SR SFP+, short reach  Transceiver, 10GbE, LR SFP+, long reach  Transceiver, 10GbE, ER SFP+, extended reach  Transceiver, 10GbE, ZR SFP+ extra extended reach 10G,  Transceiver, 10GbE, USR, SFP+  Transceiver, 10GbE, LRM, SFP+ (for S4148FE only)  Transceiver, 10GBASE-T use with QSA in QSFP+ port, 30m reach on CAT6a/7  Transceiver, 40GbE, SR4 optic QSFP+ Transceiver, 40GbE, eSR4 optic QSFP+  Transceiver, 40GbE, LR4 optic QSFP+  Transceiver, 40GbE, ER4 optics QSFP+  Transceiver, 40GbE, PSM4-LR MPO 10Km QSFP+ to LC  Transceiver, 40GbE, LM4 / SM4 Duplex QSFP+  Transceiver, 100GbE, SR4 QSFP28  Transceiver, 100GbE, LR4 QSFP28  Transceiver, 100GbE, LR4Lite QSFP28  Transceiver, 100GbE, CWDMM4 2Km QSFP28  Transceiver, 100GbE, PSM4 500m QSFP28  Transceiver, 100GbE, PSM4-IR, QSFP28  Transceiver, SFP+, 16Gbps Fibre Channel, SWL, 850nm, LC Duplex (S4148U model only)  Transceiver, SFP+, 16Gbps Fibre Channel, LWL, 1310nm, LC SMF (S4148U model only)  Transceiver, QSFP+, 4x16Gbps Fibre Channel, SW4, 850nm, MPO MMF (S4148U model only)  Transceiver, QSFP28, 4x32Gbps Fibre Channel, SW4, 850nm, MPO MMF (S4148U model only)</p>
<b>Cables</b>	<p>40GbE, QSFP+ to QSFP+, active optical  40GbE, QSFP+ to QSFP+, passive DAC  40GbE, MTP to 4xLC optical breakout  40GbE, 4x10GbE, QSFP+ to 4xSFP+, passive DAC  100GbE, 4x25GbE, QSFP28 to 4xSFP28, passive DAC  100GbE, QSFP28 to QSFP28, active optical  100GbE, QSFP28 to QSFP28, passive DAC  100GbE, 2x50GbE, QSFP28 to 2xQSFP28, passive DAC, breakout</p>

## Physical

1 RJ45 console/management port with RS232 signaling  
1 RJ45 micro-USB-B console port  
1 RJ45 10/100/1000Base-T management Ethernet port  
Size: 1 RU, 1.75"(h) x 17"(w) x 18"(d) (4.4cm (h) x 43.1cm (w) x 45.7cm (d))  
S4112: 1.7"(h) x 8.28"(w) x 18"(d) (4.125cm (h) x 20.9cm (w) x 45cm (d))  
Power supply: 100–240 VAC 50/60 Hz  
Power supply (DC), applicable to S4412: rated -40 to -72 VDC  
Max. current draw per system: 6A/5A at 100/120V  
AC: 3A/2.5A at 200/240V AC  
S4112: 2A/1.7A at 100/120V AC; 1A/0.8A at 200/240V AC  
S4112 (DC): -40V/5A, -48V/4.2A, -72V/2.8A  
Max. operating specifications:  
Operating temperature: 41° to 104° F (5° to 40° C)  
Operating humidity: 5 to 85% (RH), non-condensing  
Max. non-operating specifications:  
Storage temperature: -40° to 149° F (-40° C to 65° C)  
Storage humidity: 5 to 95% (RH), non-condensing

## Redundancy

Hot swappable redundant power (not applicable to S4112)  
Hot swappable redundant fans (not applicable to S4112)  
Fixed, redundant power supply and fan for S4112

## Performance

Packet buffer memory: 12MB  
CPU memory: 4GB  
MAC addresses: 272K (in Scaled L2 mode)  
PVST: 128 instances  
ARP table 200K (in Scaled L3 host mode)  
IPv4 routes: 200K (in Scaled L3 routes mode)  
IPv6 hosts: 64K  
IPv6 routes: 130K (in Scaled L3 routes mode)  
Multicast hosts: 8K  
Link aggregation: 32 links per group, 128 groups  
Layer 2 VLANs: 4K  
Layer 3 VLANs: 500  
MSTP: 32 instances  
LAG load balancing: Based on layer 2, IPv4 or IPv6 headers  
L2 Ingress ACL: 6K  
L2 Egress ACL: 1K  
IPv4 Ingress ACL: 6K  
IPv4 Egress ACL: 1K  
IPv6 Ingress ACL: 3K  
IPv6 Egress ACL: 500  
Storage performance parameters  
iSCSI Sessions: 255  
iSCSI Target: 16  
F-Port: Max F-Port Sessions: 526  
F-Port: Max members in a zone: 526

## Dell EMC SmartFabric OS10 Software Specifications

IEEE Compliance  
802.1AB LLDP  
TIA-1057 LLDP-MED  
802.1s MSTP  
802.1w RSTP  
802.3ab Gigabit Ethernet (1000Base-T)

802.3ad Link Aggregation with LACP  
802.3ae 10 Gigabit Ethernet (10GBase-X)  
802.3ba 40 Gigabit Ethernet (40GBase-X)  
802.3i Ethernet (10Base-T)  
802.3u Fast Ethernet (100Base-TX)  
802.3z Gigabit Ethernet (1000Base-X)  
802.1D Bridging, STP  
802.1p L2 Prioritization  
802.1Q VLAN Tagging, GVRP  
802.1Qbb PFC  
802.1Qaz ETS  
802.1s MSTP  
802.1w RSTP  
802.1x PVST+  
802.1X Network Access Control  
802.3ab Gigabit Ethernet (1000BASE-T) or breakout  
802.3ac Frame Extensions for VLAN Tagging  
802.3ad Link Aggregation with LACP  
802.3ae 10 Gigabit Ethernet (10GBase-X)  
802.3ba 40 Gigabit Ethernet (40GBase- SR4, 40GBase-CR4, 40GBase-LR4, 100GBase-SR10, 100GBase-LR4, 100GBase-ER4) on optical ports  
802.3bj 100 Gigabit Ethernet  
802.3u Fast Ethernet (100Base-TX) on mgmt ports  
802.3x Flow Control  
802.3z Gigabit Ethernet (1000Base-X) with QSA

ANSI/TIA-1057 LLDP-MED  
Jumbo MTU support 9,416 bytes

## Layer2 Protocols

802.1D Compatible  
802.1p L2 Prioritization  
802.1Q VLAN Tagging  
802.1s MSTP  
802.1w RSTP  
802.1t RVPST+  
802.3ad Link Aggregation with LACP

## VLT (Virtual Link Trunking)

VLT Enhancements  
Minloss Upgrades  
VLT Proxy Gateway  
RVPST over VLT  
DCB, FSB, iSCSI over VLT  
RSPAN over VLT

## RFC Compliance

768 UDP  
793 TCP  
854 Telnet  
959 FTP  
1321 MD5  
1350 TFTP  
2474 Differentiated Services  
2698 Two Rate Three Color Marker  
3164 Syslog  
4254 SSHv2

## General IPv4 Protocols

791 IPv4  
792 ICMP  
826 ARP  
1027 Proxy ARP  
1035 DNS (client)  
1042 Ethernet Transmission  
1191 Path MTU Discovery  
1305 NTPv4  
1519 CIDR  
1588v2 PTP support  
1812 Routers  
1858 IP Fragment Filtering  
2131 DHCP (server and relay)  
5798 VRRP

3021 31-bit Prefixes  
3046 DHCP Option 82 (Relay)  
1812 Requirements for IPv4 Routers  
1918 Address Allocation for Private Internets  
2474 Diffserv Field in IPv4 and Ipv6 Headers  
2597 Assured Forwarding PHB Group  
3195 Reliable Delivery for Syslog  
3246 Expedited Forwarding PHB  
4364 VRF-lite (IPv4 VRF with OSPF and BGP)  
COPP: Control Plane Policing  
Policy Based Routing  
General IPv6 Protocols  
1981 Path MTU Discovery  
2460 IPv6  
2461 Neighbor Discovery  
2462 Stateless Address AutoConfig  
2463 ICMPv6  
2464 Ethernet Transmission  
2675 Jumbo grams  
3587 Global Unicast Address Format  
4291 IPv6 Addressing  
2464 Transmission of IPv6 Packets over Ethernet Networks  
2711 IPv6 Router Alert Option  
4007 IPv6 Scoped Address Architecture  
4213 Basic Transition Mechanisms for IPv6 Hosts and Routers  
4291 IPv6 Addressing Architecture  
5095 Deprecation of Type 0 Routing Headers in IPv6  
IPv6 Management support (telnet, FTP, TACACS, RADIUS, SSH, NTP)

## OSPF

1587 NSSA  
1745 OSPF/BGP interaction  
1765 OSPF Database overflow  
2154 MD5  
2328 OSPFv2  
2370 Opaque LSA  
3101 OSPF NSSA  
3623 OSPF Graceful Restart (Helper mode)

## Security

2865 RADIUS  
3162 Radius and IPv6  
4250, 4251, 4252, 4253, 4254 SSHv2  
4301 Security Architecture for IPsec  
4302 IPsec Authentication Header  
4303 ESP Protocol

## BGP

1997 Communities  
2385 MD5  
2439 Route Flap Damping  
2796 Route Reflection  
2842 Capabilities  
2918 Route Refresh  
3065 Confederations  
4271 BGP-4  
4360 Extended Communities  
4893 4-byte ASN  
5396 4-byte ASN Representation  
5492 Capabilities Advertisement

## Linux Distribution

Debian Linux version 8.4  
Linux Kernel 3.16

## MIBS

IP MIB– Net SNMP  
IP Forward MIB– Net SNMP  
Host Resources MIB– Net SNMP  
IF MIB – Net SNMP

LLDP MIB  
Entropy MIB  
LAG MIB  
Dell-Vendor MIB  
TCP MIB – Net SNMP  
UDP MIB – Net SNMP  
SNMPv2 MIB – Net SNMP

#### **Network Management**

SNMPv1/2  
SSHv2  
FTP, TFTP, SCP  
Syslog  
Port Mirroring  
RADIUS  
802.1X  
Support Assist (Phone Home)  
Netconf APIs  
XML Schema  
CLI Commit (Scratchpad)  
sFlow  
Automation  
Control Plane Services APIs  
Linux Utilities and Scripting Tools  
Quality of Service  
Access Control Lists  
Prefix List  
Route-Map  
Rate Shaping (Egress)  
Rate Policing (Ingress)  
Scheduling Algorithms  
    Round Robin  
    Weighted Round Robin  
    Deficit Round Robin  
    Strict Priority  
Weighted Random Early Detect

#### **Data center bridging**

802.1Qbb Priority-Based Flow Control  
802.1Qaz Enhanced Transmission Selection (ETS)  
Data Center Bridging eXchange (DCBx)  
DCBx Application TLV (iSCSI, FCoE)  
Fibre Channel (applicable only to S4148U-ON)  
FCF F-Port  
FC Zoning

#### **Regulatory compliance**

##### **Safety**

UL/CSA 60950-1, Second Edition  
EN 60950-1, Second Edition  
IEC 60950-1, Second Edition Including All National Deviations and Group Differences  
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 Fibre Communication Systems  
FDA Regulation 21 CFR 1040.10 and 1040.11

##### **Emissions**

Australia/New Zealand: AS/NZS CISPR 32: Class A  
Canada: ICES-003, Issue-4, Class A  
Europe: EN 55032: 2015+A1:2007 (CISPR 32), Class A  
Japan: VCCI V3/2009 Class A  
USA: FCC CFR 47 Part 15, Subpart B:2009, Class A

##### **Immunity**

EN 300 386 V1.4.1:2008 EMC for Network Equipment  
EN 55024: 1998 + A1: 2001 + A2: 2003  
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

##### **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



**Dell  
Technologies  
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#### **Consulting**

Dell Technologies Consulting Services provides industry professionals with a wide range of tools and the experience you need to design and execute plans to transform your business.

#### **Deployment**

Accelerate technology adoption with ProDeploy Enterprise Suite. Trust our experts to lead deployments through planning, configuration and complex integrations.

#### **Management**

Regain control of operations with flexible IT management options. Our Residency Services help you adopt and optimize new technologies and our Managed Services allow you to outsource portions of your environment to us.

#### **Support**

Increase productivity and reduce downtime with ProSupport Enterprise Suite. Expert support backed by proactive and predictive artificial intelligence tools.

#### **Education**

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