DELL EMC POWERSWITCH
S3100 SERIES

High-performance managed Ethernet switches designed for non-blocking access

The S3100 switch series offers a power-efficient and resilient Gigabit Ethernet (GbE) switching solution with integrated 10GbE uplinks for advanced Layer 3 distribution for offices and campus networks. The S3100 switch series has high-performance capabilities and wire-speed performance utilizing a non-blocking architecture to easily handle unexpected traffic loads. Use dual internal hot-swappable 80PLUS-certified power supplies for high availability and power efficiency. The switches offer simple management and scalability via an 84Gbps (full-duplex) high-availability stacking architecture that allows management of up to 12 switches from a single IP address.

Modernize campus network architectures
Modernize campus network architectures with a power-efficient and resilient 1/10GbE switching solution with dense Power over Ethernet Plus (PoE+). Select S3100 models offer 24 or 48 ports of PoE+ to deliver clean power to network devices such as wireless access points (APs), Voice-over-IP (VoIP) handsets, video conferencing systems and security cameras. For greater interoperability in multivendor networks, S3100 series switches offer the latest open-standard protocols and include technology to interface with Cisco protocol PVST+. The S3100 series supports Dell Networking OS9, VLT and network virtualization features such as VRF-lite and support for Dell Embedded Open Automation Framework.

Leverage familiar tools and practices
All S3100 switches include Dell EMC OS9 for easier deployment and greater interoperability. One common command line interface (CLI) using a well-known command language means a faster learning curve for network administrators.

Deploy with confidence at any scale
S3100 series switches help create performance assurance with a data rate up to 260Gbps (full duplex) and a forwarding rate up to 193Mpps. Scale easily with built-in rear stacking ports. Switch stacks of up to 624 ports can be managed from a single screen using the highly-available stacking architecture for high-density aggregation with seamless redundant availability.

Hardware, performance and efficiency
- Available with dual 80PLUS-certified hot swappable power supplies. Variable speed fan operation helps decrease cooling and power costs
- Energy-Efficient Ethernet and lower-power PHYs reduce power to inactive ports and idle links, providing energy savings from the power cord to the port
- Dell Fresh Air compliance for operation in environments up to 113°F (45°C) helps reduce cooling costs in temperature constrained deployments

Deploying, configuring and managing
- Tool-less ReadyRails™ significantly reduces rack installation time
- Management via an intuitive and familiar CLI, SNMP-based management console application (including Dell OpenManage Network Manager), Telnet or serial connection
- Private VLAN support
- AAA authorization, TACACS+ accounting and RADIUS support for comprehensive secure access
- Authentication tiering allows network administrators to tier port authentication methods such as 802.1x, MAC Authentication Bypass in priority order so that a single port can provide flexible access and security
- Achieve high availability and full bandwidth utilization with VLT and support firmware upgrades without taking the network offline
- Interfaces with PVST+ protocol for greater flexibility and interoperability in Cisco networks
- Advanced Layer 3 IPv4 and IPv6 functionality
- Flexible routing options with policy-based routing to route packets based on assigned criteria beyond destination address
- Routed Port Monitoring (RPM) covers a Layer 3 domain without costly dedicated network taps
- OpenFlow 1.3 provides the ability to separate the control plane from the forwarding plane for deployment in SDN environments

*Contact your Dell Technologies representative for a full list of validated storage arrays.*
<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
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<tbody>
<tr>
<td>S3124</td>
<td>24x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 200W PSU included</td>
</tr>
<tr>
<td>S3124F</td>
<td>24x 1000-SX (up to 500m distance) or 1000-LX (up to 10km distance) SFP GbE ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 200W PSU included</td>
</tr>
<tr>
<td>S3124P</td>
<td>24x RJ45 10/100/1000Mb PoE+ (up to 30.8W) auto-sensing ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 715W PSU included</td>
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<tr>
<td>S3148</td>
<td>48x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 200W PSU included</td>
</tr>
<tr>
<td>S3148P</td>
<td>48x RJ45 10/100/1000Mb PoE+ (up to 30.8W) auto-sensing ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 1100W PSU included*</td>
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<table>
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<tr>
<th>Power cords</th>
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<tbody>
<tr>
<td>C13 to NEMA 5-15, 3M; C13 to C14, 2M; C15 to NEMA 5-15, 2M (C15 for PoE S-Series only)</td>
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<th>Modules (optional)</th>
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<tr>
<td>2-port 10GBASE-T RJ-45 hot swappable uplink module</td>
<td></td>
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<tr>
<td>2-port 10GbE SFP+ hot swappable uplink module</td>
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<th>Power supplies (optional)</th>
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<tr>
<td>200W AC hot swappable with V-Lock, adds redundancy to non-PoE switches (S3124, S3124F and S3148 only)</td>
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<tr>
<td>715W AC hot swappable, adds redundancy to S3124P (S3124P only)</td>
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</tr>
<tr>
<td>1100W AC hot swappable, adds redundancy to S3148P or upgrade S3124P for additional PoE+ power (S3124P and S3148P only)</td>
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<tr>
<th>Optics (optional)</th>
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<tbody>
<tr>
<td>Transceiver, SFP, 100BASE-FX, 1310nm wavelength, up to 2km reach</td>
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<tr>
<td>Transceiver, SFP, 1000BASE-T</td>
<td></td>
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<tr>
<td>Transceiver, SFP, 1000BASE-SX, 850nm wavelength, up to 550m reach</td>
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<tr>
<td>Transceiver, SFP, 1000BASE-LX, 1310nm wavelength, up to 10km reach</td>
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<tr>
<td>Transceiver, SFP, 1000BASE-ZX, 1550nm wavelength, up to 80km reach</td>
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<tr>
<td>Transceiver, SFP+, 10GbE, LRM, 1310nm wavelength, up to 220m reach</td>
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<tr>
<td>Transceiver, SFP+, 10GbE, SR, 850nm wavelength, up to 300m reach</td>
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<tr>
<td>Transceiver, SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach</td>
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<tr>
<td>Transceiver, SFP+, 10GbE, ER, 1550nm wavelength, up to 40km reach</td>
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<tr>
<th>Cables (optional)</th>
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<tr>
<td>Stacking cable 0.25m, 1m and 3m</td>
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<tr>
<td>Dell Networking cable, SFP+ to SFP+, 10GbE, copper twinax direct attach cable, 0.5m, 1m, 3m, 5m and 7m</td>
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</tbody>
</table>

*Requires C15 plug
Physical
2 rear stacking ports (21Gbps) supporting up to 84Gbps (full-duplex)
2 integrated front 10Gbps SFP+ dedicated ports
Out-of-band management port (10/100/1000BASE-T)
USB (Type A) port for configuration via USB flash drive
Auto-negotiation for speed and flow control
Auto-MDI/MDIX, port mirroring
Energy-Efficient Ethernet per port settings
Redundant variable speed fans
Air flow: I/O to power supply
RJ45 console/management port with RS232 signaling (RJ-45 to female DB-9 connector cable included)
Dual firmware images on-board
Swiching engine model: Store and forward

Chassis
Size (1RU): 1.7126in x 17.0866in x 16.0236in (43.5mm x 434.0mm x 407.0mm) (H x W x D)
Approximate weight: 13.227lbs/6.8kg (S3124 and S3124F), 14.550lbs/6.6kg (S3124P), 15.211lbs/6.9kg (S3148P)
ReadyRails rack mounting system, no tools required

Environmental
Power supply: 200W (S3124, S3124F and S3148), 715W or 1100W (S3124P), 1100W (S3148P)
Power supply efficiency: 80% or better in all operating modes
Max. thermal output (BTU/hr): 182.55 (S3124), 228.96 (S3124F), 4391.42 (S3124P), 221.11 (S3148), 7319.04 (S3148P)
Power consumption max (watts): 52.8 (S3124, S3124F, S3148), 67.1 (S3124P), 1287 (S3124P), 74.8 (S3148), 2145 (S3148P)
Operating temperature: 32° to 113°F (0° to 45°C)
Operating relative humidity: 95%
Storage temperature: −40° to 149°F (−40° to 65°C)
Storage relative humidity: 85%

Performance
MAC addresses: 56K (60K in L2 scaled mode)
Static routes: 16K (IPv4)/8K (IPv6)
Dynamic routes: 16K (IPv4)/8K (IPv6)
Switch fabric capacity: 212Gbps (S3124, S3124F and S3124P) (full duplex) 260Gbps (S3148 and S3148P)
Forwarding rate: 158Mpps (S3124, S3124F and S3124P) 193Mpps (S3148 and S3148P)
Link aggregation: 16 links per group, 128 groups
Priority queues per port: 8
Line-rate Layer 2 switching: All (non-blocking)
Line-rate Layer 3 routing: All (non-blocking)
Flash memory: 1G
Packet buffer memory: 4MB
CPU memory: 2GB DDR3
Layer 2 VLANs: 4K
MSTP: 64 instances
VRF-lite: 511 instances
Line-rate Layer 2 switching: All protocols, including IPv4 and IPv6
Line-rate Layer 3 routing: IPv4 and IPv6
IPv4 host table size: 22K (42K in L3 scaled hosts mode)
IPv6 host table size: 16K (both global + Link Local) (32K in L3 scaled hosts mode)
IPv4 Multicast table size: 8K
LAG load balancing: Based on Layer 2, IPv4 or IPv6 headers
IEEE compliance
802.1AB LLDP
802.1D Bridging, STP
802.1p L2 Prioritization
802.1Q VLAN Tagging, Double VLAN Tagging, GVRP
802.1Qbb ETS
802.1Qaz MSTP
802.1s RSTP
802.1x Network Access Control
802.1x-2010 Port Based Network Access Control
802.3ab Gigabit Ethernet (1000BASE-T)
802.3ac Frame Extensions for VLAN Tagging
802.3ad Link Aggregation with LACP
802.3ae Link Aggregation Revision - 2008 and 2011
802.3af 10 Gigabit Ethernet (10GBase-X)
802.3at PoE (for S3124P and S3148P)
802.3az Energy Efficient Ethernet (EEE)
803.3u Fast Ethernet (100Base-TX) on mgmt ports
802.3x Flow Control
802.3z Gigabit Ethernet (1000BASE-X)
802.3Az Energy Efficient Ethernet (EEE)
802.3af Fast Ethernet (100Base-TX) on mgmt ports
802.3z Gigabit Ethernet (1000BASE-X)
802.3at PoE (for S3124P and S3148P)
802.3az PoE+ (for S3124P and S3148P)
802.3u Fast Ethernet (100Base-TX) on mgmt ports
802.3x Flow Control
802.3z Gigabit Ethernet (1000BASE-X)
ANSI/TIA-1057 LLDP-MED
Force10 PVST+
MTU 12,000 bytes

RFC and I-D compliance
General Internet protocols
768 UDP
793 TCP
854 Telnet
959 FTP
General IPv4 protocols
791 IPv4
792 ICMP
826 ARP
1027 Proxy ARP
1035 DNS (client)
1042 Ethernet Transmission
1305 NTP/3
1519 CIDR
1542 BOOTP (relay)
1812 Requirements for IPv4
Routers
1918 Address Allocation for Private Internets
2474 Diffserv Field in IPv4 and IPv6 Headers
2596 Assured Forwarding
PHB Group
3164 BDS Syslog
3195 Reliable Delivery for Syslog
3246 Expedited Assured Forwarding
4364 VRF-lite (IPv4 VRF with OSPF and BGP)
5798 VRRP

General IPv6 protocols
1981 Path MTU Discovery Features
2460 Internet Protocol, Version 6 (IPv6) Specification
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
4443 ICMP for IPv6
4861 Neighbor Discovery for IPv6
4862 IPv6 Stateless Address Autoconfiguration
5095 Deprecation of Type 0 Routing Headers in IPv6
IPv6 Management support (telnet, FTP, TACACS, RADIUS, SSH, NTP)
RIP
1058 RIPv1 2453 RIPv2
OSPF (v2/v3)
1587 NSSA-452 Authentication/
2154 OSPF with Digital Signatures
2328 OSPFv2 OSPFv3
2370 Opaque LSA 5340 OSPF for IPv6
IS-IS
5301 Dynamic hostname exchange mechanism for IS-IS
5302 Domain-wide prefix distribution with two-level IS-IS
5303 Three way handshake for IS-IS point-to-point adjacencies
5308 IS-IS for IPv6
BGP
1997 Communities
2385 MD5
2545 BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
2439 Route Flap Damping
2796 Route Reflection
2842 Capabilities
2858 Multiprotocol Extensions
2918 Route Refresh
3065 Confederations
4360 Extended Communities
4893 4-byte ASN
5396 4-byte ASN representations