

Modular Force10 Operating System (FTOS) software delivers inherent stability

24-port and 48-port GbE fixed configuration 1-RU switch with up to four 10 GbE ports

Scalable stacking technology supports 384 GbE ports with up to eight S50Vs

S-Series High Performance GbE/10 GbE Access Switch

The Force10 S25V and S50V bring core-like resiliency in a compact form factor to the network edge, enabling cost-effective scalability. These high performance and low latency Gigabit Ethernet switches deliver the critical functionality that advanced enterprise network edges demand.

Key Applications

Coupled with the E-Series and C-Series, which deliver unmatched resiliency and performance, the S25V and S50V enable IT managers to deploy a reliable end-to-end 10 GbE solution that spans from core to network edge.

- Line-rate GbE edge switches with 10 GbE uplinks for converged services and high bandwidth desktop applications
- Cost-effective PoE-enabled 10/100/1000Base-T wiring closet aggregation of VoIP phones, wireless access points, video cameras or other IEEE 802.3af-compliant devices

Key Features

The S25V and S50V are fixed configuration switches with PoE that deliver the reliability and scalability that wiring closets demand.

- 24 or 48 10/100/1000 ports in a 1-RU form factor
 - 20 or 44 ports 10/100/1000Base-T
 - 4 ports 10/100/1000Base-T shared with SFP ports
 - IEEE802.3af compliant PoE that provides up to 15.4 W per port and 790 W per switch
- Optional modules
 - 2-port 10 GbE LAN PHY (pluggable XFP modules)
 - 2-port 10 GbE (CX4)
 - 2-port 12 Gbps stacking
 - 1-port 24 Gbps stacking
- Modular FTOS with advanced monitoring and serviceability functions
- Suite of security, access control and wiring closet edge features for enterprise networks
- PowerSmart suite of intelligent power management features provide automatic sensing, provisioning and management of PoE power
- Full complement of standards-based Layer 2, IPv4 and IPv6 features for unicast and multicast applications
- Switching fabric capacity of up to 288 Gbps and forwarding capacity of more than 131 Mpps
- Stack up to eight S25N, S25P, S25V, S50N or S50V switches to deliver a scalable and flexible high capacity solution



Specifications: S-Series Power over Ethernet Switches

Ordering Information

ORDER NUMBER	DESCRIPTION
S25-01-GE-24V	24-port 10/100/1000Base-T chassis with PoE, 4 SFP ports, 2 modular slots, 1 AC + 1 DC power supply, FTOS software
S50-01-GE-48T-V-2	48-port 10/100/1000Base-T chassis with PoE, 4 SFP ports, 2 modular slots, 1 AC + 1 DC power supply, FTOS software
S50-01-10GE-2P	2-port 10 GbE XFP module
S50-01-10GE-2C	2-port 10 GbE CX4 module
S50-01-12G-2S	2-port 12 Gbps stacking module
S50-01-24G-1S	1-port 24 Gbps stacking module
S50-01-SSC-12G	60 cm stacking cable for S50-01-12G-2S
S50-01-LSC-12G	4 m stacking cable for S50-01-12G-2S
S50-01-SSC-24G	60 cm stacking cable for S50-01-24G-1S
S50-01-LSC-24G	4 m stacking cable for S50-01-24G-1S
S50-01-PSU-V	S25V/S50V redundant power supply unit
SW-SB-LATEST	Layer 3 FTOS software upgrade

Physical

S25V: 24 line-rate 10/100/1000Base-T ports
 S50V: 48 line-rate 10/100/1000Base-T ports
 4-ports SFP (shared)
 1 RJ45 console/management port with RS232 signaling

Optional modules:

2 line-rate ports 10 Gigabit Ethernet XFP
 2 line-rate ports 10 Gigabit Ethernet CX4
 2 line-rate ports 12 Gigabit Stacking
 1 line-rate port 24 Gigabit Stacking

Size: 1 RU, 1.7 h x 17.32 w x 16.73" d (4.3 h x 44 w x 42.5 cm d)
 Weight: 15.62 lbs (7.10 kg)

ISO 7779 A-weighted sound pressure level:

S25V: 42.9 dBA at 73.4°F (23°C), S50V: 62.2 dBA at 73.4°F (23°C)

Power supply: 100–240 VAC 50/60 Hz, –48 VDC

Max. thermal output: S25V: 349 BTU/h, S50V: 497 BTU/h

Max. current draw per System:

6.5 A at 100/120 VAC, 3.25 A at 200/240 VAC, 11.5 A at –48 VDC

Max. power consumption:

S25V: 102 W, S50V: 146 W

Max. PoE power:

320 W using either AC or DC inputs
 790 W using load sharing AC and DC inputs

Max. operating specifications:

Operating temperature: 32° to 122°F (0° to 50°C)
 Operating humidity: 10 to 85% (RH), non-condensing

Max. non-operating specifications:

Storage temperature: –40° to 158°F (–40° to 70°C)
 Storage humidity: 5 to 95% (RH), non-condensing

Reliability: S25V: MTBF 107,720 hours, S50V: MTBF 130,482 hours

Redundancy

Ring stacking topology with dynamic master election
 Dual modular slots with up to four 10 GbE ports
 Link aggregation across stack members
 Power redundancy

Performance

MAC addresses: S25V: 16K, S50V: 32K
 IPv4 routes: 4K
 IPv6 routes: 2,500
 Switching fabric capacity: S25V: 144 Gbps, S50V: 288 Gbps
 User traffic capacity: S25V: 128 Gbps (95 Mpps)
 S50V: 176 Gbps (131 Mpps)
 Link aggregation: 8 links per group, 128 groups per stack
 Stacking capacity: 96 Gbps per stack member
 Queues per port: 4 queues
 VLANs: 1024 VLANs with 4096 tag value support
 Line-rate Layer 2 switching: all protocols, including IPv4 and IPv6
 Line-rate Layer 3 routing: IPv4 and IPv6
 LAG load balancing: based on Layer 2, IPv4 or IPv6 headers
 Switching latency: <5 µs for 64 byte frames

IEEE Compliance

802.1AB LLDp
 802.1D Bridging, STP
 802.1p L2 Prioritization

802.1Q VLAN Tagging, Double VLAN Tagging, GVRP
 802.1s MSTP
 802.1w RSTP
 802.1X Network Access Control
 802.3ab Gigabit Ethernet (1000BASE-T)
 802.3ac Frame Extensions for VLAN Tagging
 802.3ad Link Aggregation with LACP
 802.3ae 10 Gigabit Ethernet (10GBASE-X)
 802.3ak 10 Gigabit Ethernet (10GBASE-CX4)
 802.3af Power over Ethernet
 802.3i Ethernet (10BASE-T)
 802.3u Fast Ethernet (100BASE-TX)
 802.3x Flow Control
 802.3z Gigabit Ethernet (1000BASE-X)
 ANSI/TIA-1057 LLDP-MED
 Force10 PVST+
 MTU 9,252 bytes

RFC and I-D Compliance

General Internet Protocols

768 UDP	1321 MD5
793 TCP	1350 TFTP
854 Telnet	2474 Differentiated Services
959 FTP	3164 Syslog

General IPv4 Protocols

791 IPv4	1812 Routers
792 ICMP	1858 IP Fragment Filtering
826 ARP	2131 DHCP (relay)
1027 Proxy ARP	2338 VRRP
1035 DNS (client)	3021 31-bit Prefixes
1042 Ethernet Transmission	3046 DHCP Option 82
1191 Path MTU Discovery	3069 Private VLAN
1305 NTPv3	3128 Tiny Fragment Attack Protection
1519 CIDR	
1542 BOOTP (relay)	

General IPv6 Protocols

1981 Path MTU Discovery (partial)	2463 ICMPv6
2460 IPv6	2464 Ethernet Transmission
2461 Neighbor Discovery (partial)	2675 Jumbograms
2462 Stateless Address Autoconfiguration (partial)	3587 Global Unicast Address Format Addressing

RIP

1058 RIPv1 2453 RIPv2

OSPF

2154 MD5	3623 Graceful Restart
1587 NSSA	4222 Prioritization and Congestion Avoidance
2328 OSPFv2	
2370 Opaque LSA	

BGP

1997 Communities	2858 Multiprotocol Extensions
2385 MD5	2918 Route Refresh
2439 Route Flap Damping	3065 Confederations
2796 Route Reflection	4360 Extended Communities
2842 Capabilities	4893 4-byte ASN
draft-ietf-idr-bgp4-20 BGPv4	Graceful Restart
draft-ietf-idr-restart-06	Graceful Restart
draft-michaelson-4byte-as-representation-05	4-byte ASN Representation (partial)

Multicast

1112 IGMPv1	
2236 IGMPv2	
3376 IGMPv3	
3569 SSM for IPv4	
4541 IGMPv1/v2 Snooping	
draft-ietf-pim-sm-v2-new-05	PIM-SM

Network Management

1155 SMIv1	
1156 Internet MIB	
1157 SNMPv1	
1212 Concise MIB Definitions	
1215 SNMP Traps	
1493 Bridges MIB	
1850 OSPFv2 MIB	
1901 Community-based SNMPv2	

2011 IP MIB	
2012 TCP MIB	
2013 UDP MIB	
2024 DLSw MIB	
2096 IP Forwarding Table MIB	
2570 SNMPv3	
2571 Management Frameworks	
2572 Message Processing and Dispatching	
2574 SNMPv3 USM	
2575 SNMPv3 VACM	
2576 Coexistence Between SNMPv1/v2/v3	
2578 SMIv2	
2579 Textual Conventions for SMIv2	
2580 Conformance Statements for SMIv2	
2618 RADIUS Authentication MIB	
2665 Ethernet-like Interfaces MIB	
2674 Extended Bridge MIB	
2787 VRRP MIB	
2819 RMON MIB (groups 1, 2, 3, 9)	
2863 Interfaces MIB	
2865 RADIUS	
3273 RMON High Capacity MIB	
3416 SNMPv2	
3418 SNMP MIB	
3434 RMON High Capacity Alarm MIB	
3580 802.1X with RADIUS	
5060 PIM MIB	
ANSI/TIA-1057 LLDP-MED MIB	
draft-grant-tacacs-02 TACACS+	
draft-ietf-idr-bgp4-mib-06 BGP MIBv1	
IEEE 802.1AB LLDP MIB	
IEEE 802.1AB LLDP DOT1 MIB	
IEEE 802.1AB LLDP DOT3 MIB	
ruzin-mstp-mib-02 MSTP MIB (traps)	
sFlow.org sFlowv5	
sFlow.org sFlowv5 MIB (version 1.3)	
FORCE10-BGP4-V2-MIB Force10 BGP MIB (draft-ietf-idr-bgp4-mibv2-05)	
FORCE10-IF-EXTENSION-MIB	
FORCE10-LINKAGG-MIB	
FORCE10-COPY-CONFIG-MIB	
FORCE10-MON-MIB	
FORCE10-PRODUCTS-MIB	
FORCE10-SS-CHASSIS-MIB	
FORCE10-SMI	
FORCE10-SYSTEM-COMPONENT-MIB	
FORCE10-TC-MIB	
FORCE10-TRAP-ALARM-MIB	

Regulatory Compliance

Safety

UL/CSA 60950-1, 1st Edition
 EN 60950-1, 1st Edition
 IEC 60950-1, 1st 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 22: 2006, Class A
 Canada: ICES-003, Issue-4, Class A
 Europe: EN 55022: 2006 (CISPR 22: 2006), Class A
 Japan: VCCI V3/2007.04 Class A
 USA: FCC CFR 47 Part 15, Subpart B, Class A

Immunity

EN 300 386 V1.3.3: 2005 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.

The features and specifications are for FTOS. For SFTOS features and specifications, please refer to the SFTOS data sheet.



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