

48-port GbE fixed configuration  
1-RU switch

Up to four 10 GbE uplinks

Scalable stacking technology supports  
144 GbE ports in up to three S50s

### S-Series S50V High Performance GbE/10 GbE Access Switch

The Force10 S50V brings core-like resiliency in a compact form factor to the network edge, enabling cost-effective scalability. With PoE and low switching latency, the high density Gigabit Ethernet switch delivers the critical functionalities that advanced enterprise network edges demand.

#### Key Applications

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

- Line-rate GbE and 10 GbE rack switches for the most demanding data center, storage or compute facility
- PoE-ready for wiring closets that require core resiliency and high availability for VoIP and wireless connectivity
- Small form factor POP Layer 2 interconnects leveraging 10 GbE LAN PHY for cost effective metro or intra-POP transport

#### Key Features

The S50V is a PoE ready fixed configuration switch that delivers the reliability and scalability that wiring closets demand.

- 48 10/100/1000 ports in a 1-RU form factor
  - 44 ports 10/100/1000 Base-T
  - 4 ports 10/100/1000 Base-T shared with SFP pluggable optics
  - IEEE802.3af compliant POE that provides up to 15.4W per port and 320W per switch
- Optional Modules
  - 2-port 10 GbE LAN PHY (XFP pluggable optics)
  - 2-port 10 GbE (CX4)
  - 2-port 12 Gbps stacking
  - 1-port 24 Gbps stacking
- Switching fabric capacity of 288 Gbps and forwarding capacity of more than 131 Mpps
- Stack up to three S50Vs to deliver a scalable high capacity solution
- Supports Jumbo frames of up to 9,216 bytes; ideal for high-end server connectivity and network attached file servers
- Full complement of standards-based Layer 2 and Layer 3 features
- Built-in power redundancy



# Specifications: S-Series S50V Power over Ethernet Switch



## Ordering Information

ORDER NUMBER	DESCRIPTION
S50-01-GE-48T-V	48 port 10/100/1000Base-T with 4 SFP ports, 2 Modular slots and POE
S50-01-10GE-2P	2-Port 10 GbE XFP Fiber 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	60cms stacking cable for S50-01-12G-2S
S50-01-LSC-12G	4m stacking cable for S50-01-12G-2S
S50-01-SSC-24G	60cms stacking cable for S50-01-24G-1S
S50-01-LSC-24G	4m stacking cable for S50-01-24G-1S
S50-01-PSU-V	Redundant Power Supply Unit* Includes one cable
S50-01-EPS	Redundant Power Supply Shelf*
S50-01-SW-L3	Layer 3 Software Upgrade*

\* Optional module for S50-01-GE-48T-V

## Physical

48 line-rate ports 10/100/1000Base-T  
4-ports SFP (shared with 1000Base-T)

### 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

1 RJ-45 Console/management port with RS-232 signaling

Size: 17.32 w x 16.73 d x 1.73" h (440 x 425 x 44 mm)

Weight: 14.41 lbs (6.54 Kg)

Power Supply: Primary 100-240V AC, 50-60Hz, Autosensing  
Redundant -48V Terminal Type DC

Max. Thermal Output: 560BTU/hr (S50V)

Max. Current Draw per System: 100vAC/4A, 240vAC/2A

Max. Power Consumption: 470W (S50V)

19" rack mountable

Standard 1U chassis height

Max. Operating Specifications:

Temperature: 14° to 131°F (-10° to 55°C)

Operating humidity: 10 to 90% (RH), non-condensing

Max. Non-operating Specifications:

Storage Temperature: -40° to 158°F (-40° to 70°C)

Storage humidity: 10 to 90% (RH), non-condensing

Reliability: MTBF 130,000 hours

## Redundancy

Redundancy in stack connectivity (self healing ring)

Redundancy with up to 4 ports of 10 GbE uplinks

Redundancy with dual modular slots

Redundancy with GbE uplinks – using Link Aggregation

External Power Redundancy

## Performance

Layer 2 MAC Addresses: 16K  
Layer 3 Forwarding Entries: Up to 3k LPM table and 4k host entries  
Switching Fabric Capacity: 288 Gbps  
User Traffic Capacity: 176 Gbps (131 Mpps)  
Jumbo Frame Support: 9216 bytes  
Link Aggregation: 8 links per Link Aggregation Group and 48 groups per system  
Stacking Capacity: Up to 96 Gbps  
Queues per port: 8 Queues (8th queue reserved for stacking)  
VLANs: 1024 VLANs with 4096 tag value support

## IEEE Compliance

802.3 10Base-T  
802.3u Fast Ethernet (100Base-TX)  
802.3ab 1000Base-T  
802.3z Gigabit Ethernet  
802.3ae 10 Gigabit Ethernet  
802.3ak 10 Gigabit Ethernet CX4  
802.3af Power over Ethernet  
802.1p L2 Prioritization  
802.1Q VLAN Tagging, Double VLAN Tagging  
802.1s Multiple Spanning Tree Protocol  
802.1w Rapid Spanning Tree Protocol  
802.1AB Link Layer Discovery Protocol  
802.3ad Link Aggregation with LACP  
802.1D Bridging  
802.3x Flow Control

## RFC Compliance

**OSPF:**  
1765 OSPF Database overflow 2154 OSPF MD5 2328 OSPF v2  
1850 OSPF MIB

**RIP:**  
1058 RIP v1 2082 RIP MD5  
1724 RIP MIB 2453 RIP v2

**IP Multicast:**  
1112 IGMP 3376 IGMPv3  
2236 IGMPv1 and v2 letf-draft IGMP-snooping v1 and v2  
2362 PIM-SM

## General Routing and Switching Protocols:

768	UDP	1256	ICMP
783	TFTP	1519	CIDR
791	IP	1542	BootP (relay)
792	ICMP	1812	IP v4 routers
793	TCP	1866	HTML
826	ARP	2068	HTTP
854	Telnet	2030	SNTP
894	IP over Ethernet	2131	BootP/DHCP helper
903	Reverse ARP		
951	BootP	2236	IGMP v1 & v2
1027	Proxy ARP	2338	VRRP

## Security:

1492 TACACS+  
2865 RADIUS  
3128 Protection Against a Variant of the Tiny Fragment Attack

## Port Security:

letf-draft SSH v2, SSL, Layer 2/3/4 ACLs,  
IP Broadcast Control

## Quality of Service:

7 user queues per port  
IEEE 802.1p  
IP DiffServ support  
Per port rate limiting  
Per queue rate limiting  
Strict Priority and Weighted Round Robin Scheduling

## Management and SNMP:

RADIUS/TACACS+ Authentication  
Secure Web-based Management  
Industry familiar CLI: Scripting, Command completion, Context sensitive help

1157	SNMP v1
1212	Concise MIB Definition
1213	SNMP v2 (MIB-II)
1493	Bridge MIB
1643	Ethernet-like MIB
1901	Community based SNMPv2
1905	Protocol Operations for SNMPv2
1906	Transport Mappings for SNMPv2
1907	Management Information Base for SNMPv2
1908	Coexistence between SNMPv1 and SNMPv2
1724	RIP v2 MIB extension
1850	OSPF v2 MIB
2096	IP forwarding table MIB
2233	The Interfaces Group MIB using SMI v2
2570	SNMP v3
2665	Ethernet-like interfaces
2674	VLAN MIB
2787	VRRP MIB
2819	RMON (Groups 1,2,3,9)
2933	IGMP MIB
2934	PIM MIB for IPv4

## Compliances

### Safety

CUS 60950, 3rd edition (US NRTL through CSA)  
CSA 60950, 3rd edition  
CE Mark (EN 60950)  
CB Report, all country deviations  
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 Communications Systems  
21 CFR 1040.10 and 1040.11 FDA laser device requirements

### EMC

USA: FCC CFR47 Part 15, Subpart J, Class A  
Canada: ICES-003, Issue-2, Class A  
Europe: EN55022 1998 (CISPR 22: 1997), Class A  
Japan: VCCI V3/01.4 Class A  
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 300 386 V1.3.1 (2001-09) EMC for Network Equipment  
EN 55024 1998

### Telecoms

JATE (for Japan)

### RoHS Compliance

All components of the S50V are EU RoHS compliant with the exception of lead, which is exempt from the Directive for network equipment



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