



Quidway® S3900 Series Intelligent and Resilient Switches Product Specification

Port Configuration	S3928P-SI / S3928P-EI / S3928P-PWR-EI	S3928TP-SI	S3952P-SI / S3952P-EI / S3952P-PWR-EI	S3928F-EI
Fixed ports	(1) 24 10/100 BASE-TX Ethernet ports (2) 1 console port	(1) 24 10/100 BASE-TX Ethernet ports (2) 2 10/100/1000 BASE-T Ethernet ports (3) 1 console port	(1) 48 10/100 BASE-TX Ethernet ports; (2) 1 console port	(1) 24 100BASE-FX SFP ports (2) 2 10/100/1000 BASE-T Ethernet ports (3) 1 console port
Extended Ports	4 1000M SFP extended ports	2 1000M SFP extended ports	4 1000M SFP extended ports	2 1000M SFP extended ports
Extended Module	(1) SFP-GE-T (2) SFP-GE-SX(850nm, 0.55km) (3) SFP-GE-LX(1310nm, 10km) (4) SFP-GE-LH40(1310nm, 40km) (5) SFP-GE-LH40(1550nm, 40km) (6) SFP-GE-LH70(1550nm, 70km) (7) SFP-GE-LH70 -CW (1470nm, 70km) (8) SFP-GE-LH70 -CW (1490nm, 70km) (9) SFP-GE-LH70 -CW (1510nm, 70km) (10) SFP-GE-LH70 -CW (1530nm, 70km) (11) SFP-GE-LH70 -CW (1550nm, 70km) (12) SFP-GE-LH70 -CW (1570nm, 70km) (13) SFP-GE-LH70 -CW (1590nm, 70km) (14) SFP-GE-LH70 -CW (1610nm, 70km)			(1) SFP-GE-T (2) SFP-GE-SX (850nm, 0.55km) (3) SFP-GE-LX (1310nm, 10km) (4) SFP-GE-LH40 (1310nm, 40km) (5) SFP-GE-LH40 (1550nm, 40km) (6) SFP-GE-LH70 (1550nm, 70km) (7) SFP-GE-LH70 -CW (1470nm, 70km) (8) SFP-GE-LH70 -CW (1490nm, 70km) (9) SFP-GE-LH70 -CW (1510nm, 70km) (10) SFP-GE-LH70 -CW (1530nm, 70km) (11) SFP-GE-LH70 -CW (1550nm, 70km) (12) SFP-GE-LH70 -CW



Port Configuration	S3928P-SI / S3928P-EI / S3928P-PWR-EI	S3928TP-SI	S3952P-SI / S3952P-EI / S3952P-PWR-EI	S3928F-EI
				(1570nm, 70km) (13) SFP-GE-LH70 -CW (1590nm, 70km) (14) SFP-GE-LH70 -CW (1610nm, 70km) (15) SFP-FE-SX (1310nm, 2km) (16)SFP-FE-LX (1310nm, 15km) (17) SFP-FE-LH40 (1310nm 40km) (18) SFP-FE-LH80 (1550nm, 80km)

Attribute	S3900-SI	S3900-EI
Wire speed L2/L3 switching	Wire speed forwarding on all ports Switching capacity (28/52 ports): 12.8Gbps/17.6Gbps Packet forwarding speed (28/52 ports): 9.53Mpps/11.78Mpps	
Switching Fabric	32G bps	
Switching mode	Store and forward	
SDRAM	64M	
Buffer	32M	
Forwarding Latency	<40μs	
Flash	8M	16M
IRF Stack	RMON on IRF HGMP on IRF Peer fabric port testing	



Attribute	S3900-SI	S3900-EI
	Support Basic IRF stack (DDM, Dynamic link aggregation on one device), up to 8 units, stacking bandwidth is 4G bps.	Support Enhanced IRF Stack (DDM、DDR、DLA through LACP and across devices), up to 8 units, stacking bandwidth is 4G bps Peer fabric port testing
PoE	N/A	Supported by S3928P-PWR-EI and S3952P-PWR-EI S3928P-PWR-EI and S3952P-PWR-EI support RPS Support POE profile
Layer 2 switching		
MAC Address	Address self-learning 16K MAC addresses Up to 1k static MAC addresses	
VLAN	4K VLANs (IEEE 802.1Q) Voice VLAN GVRP(GARP VLAN Registration Protocol) Support Port-based VLAN Protocol-based VLAN Configure VLANs in batch VLAN Tag Frame Extension	
Link Aggregation	Dynamic link aggregation (DLA) through Link Aggregation Control Protocol (LACP)	Dynamic link aggregation through LACP and across devices
	Manual link aggregation through command lines Aggregation of FE/GE ports: Up to 8 FE or 4 GE ports in each aggregation group	
Mirroring	Many-to-one port mirroring (multiple monitored ports to one monitor port N:1) Traffic mirroring	
Flow Control	IEEE 802.3x full-duplex flow control Back pressure flow control for half-duplex	
STP/RSTP/MSTP	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)	



Attribute	S3900-SI	S3900-EI
	QinQ BPDU Tunnel	
Broadcast/ Multicast/ Unicast storm suppression	Port rate ratio(1% granularity) and PPS based on suppression	
QinQ	Y, Support VLAN-VPN or double tag	
Layer 3 Switching		
IP Routing	Static routing RIP v1, v2 (Routing Information Protocol v1, v2) RIP equivalent route	
	1K IP Routes	8K IP Routes OSPF v2 (Open Shortest Path First) ECMP (Equal Cost Multi-path Protocol): 3 Paths
Multicast	256 Multicast groups IGMP (Internet Group Management Protocol) snooping IGMP Group Limit on Interface Adding multicast MAC addresses manually Multicast source port suppression MVR(Multicast VLAN Registration)	
	N/A	IGMP v1 and v2 PIM-DM PIM-SM MSDP(Multicast Source Discovery Protocol)
Network Protocol	N/A	VRRP (Virtual redundancy routing protocol) DHCP server Mirroring remote ports (Support RSPAN)
	DHCP Snooping (Dynamic Host Configuration Protocol Snooping) DHCP Relay (Dynamic Host Configuration Protocol Relay)	



Attribute	S3900-SI	S3900-EI
	DHCP Client DHCP option 60 ARP (Address Resolution Protocol) NTP (Network Time Protocol) BOOTP (Bootstrap Protocol) UDP helper	
Convergence		
QoS (Quality of Service)/ ACL (Access Control List)	Support bi-directional port rate-limiting with the 64kbps granularity Packet redirection Eight hardware queues per port WRED (Weighted Random Early Detect/Discard) Five scheduling algorithms that can be set based on port and queue at the same time: • SP (Strict Priority) • WRR (Weighted Round Robin) • WFQ (Weighted Fair Queue) • SP + WRR • SP + WFQ Packet tagging based on 802.1p or DSCP preference L2~L4 Packet filter providing filtering based on source/destination MAC address, source/destination IP address, port, protocol, VLAN, VLAN range, MAC address range, or invalid frame Time-based QoS QoS profile management, allowing QoS service scheme customization Flow statistics for ACL rules defined using the deny keyword Improvements made for the depth-first order of ACL matching DSCP (differentiated services code point) refined when defining ACL rules Delivering ACLs in RADIUS Configuring synchronization for the queue schedule of aggregation ports Protocol packet priority Controlling Telnet users	
Security		
Network	Support Centralized MAC address authentication	



Attribute	S3900-SI	S3900-EI
Login	Support DUD (disconnect unauthorized device) authentication Support Port isolation Support MAC address black hole Support MAC Address Learning Limit Prevent unauthorized access to the network by binding of MAC, IP and PORT Support SSH V2 (Secure Shell) Support Port security Support EAD(endpoint admission defense)	
802.1x	Support IEEE 802.1x user authentication Version checking (802.1x supplicant system) Guest VLAN Dynamic VLAN 802.1x PEAP/EAP/TLS/TTLS Performing 802.1x authentication and MAC address-based authentication simultaneously 802.1x -trusted MAC address 802.1x client checking	
AAA&Radius	Separated authentication, authorization, and accounting Authenticated users need to be authenticated again when the device restarts Delivering of trunk ports and hybrid ports in Tag VLAN is supported when performing 802.1x authentications The tag authentication method field is added to RADIUS protocol HWTACACS	
Management/ Maintenance		
System Configuration and Management	Support CLI (Command Line Interface) configuration mode Support Configuration via the console port Support Local/Remote configuration via Telnet Support Remote configuration via modem dial-up Support System configuration with SNMP v1, 2 and 3 Support SNMP Agent logging Support HGMP V2 Support RMON (Remote Monitoring) v1, 1/2/3/9 groups of MIBs	



Attribute	S3900-SI	S3900-EI
	Support Quidway network management system Web-based network management	
File system management and seven-segment display	Upgrading all the units of a fabric using the App (or BootROM, Web) files of an unit Setting an App file of a fabric or a unit of a fabric to be the primary/a secondary configuration file. Specifying a fabric or an unit of a fabric to use the primary configuration file, a secondary configuration file, or no configuration file to start. Performing specific file-related operations for a fabric or a unit of a fabric, such as deleting files stored in the storage devices of a Ethernet switch, displaying the information about specified files or directories in the storage devices of a Ethernet switch, and clearing the recycle bin. Customizing the password for entering the BOOT menu. Configuration files backup/recovery. Seven-segment display, which indicates the progress of loading software using FTP/TFTP.	
System Maintenance and debugging	Detailed alarm/debug information output Support Ping and Tracert Support remote maintenance via Telnet Modems and SSH Support HWping Support System log Hierarchical alarm management and alarm filtering Support DLDP (Device Link Detection Protocol) Saving debugging information into Flash Displaying the information about all enabled types of debugging Displaying the statistics of MAC addresses of a switch Configuring Telnet users with specified source IP addresses/source ports Setting the Daylight Saving Time Loopback detection on ports Support VCT(Virtual Cable Test)	
Information center	Exporting switch synchronization information Setting the format of time stamps to be sent to log hosts	
Hardware configuration		



Attribute	S3900-SI	S3900-EI
Outline Dimensions (HxWxD)mm	• 43.6*440*260 mm • 43.6*440*420 mm (S3928P-PWR-EI / S3952P-PWR-EI)	
Weight	• S3928P-SI/ S3928TP-SI/ S3928P-EI/ S3928F-EI: 3.5kg • S3952P-SI/ S3952P-EI: 4kg • S3928P-PWR-EI: 5.8kg • S3952P-PWR-EI: 6.2kg	
Input Voltage	The S3900-SI series is AC-powered. The S3900-EI series can be AC-powered and DC-powered. AC: 100v ~ 240V AC50/60Hz DC: -48 ~ -60V DC	
Maximum System Power Consumption	40W (S3928P-SI/S3928P-EI/S3928TP-SI) 50W (S3952P-SI/S3952P-EI) 65W (S3928F-EI) 450W (AC input) • Dissipated power: 150W • PoE: 300W 430W (DC input) • Dissipated power: 60W • PoE: 370W 450W (S3928P-PWR-EI, AC input) • Dissipated power: 150W • PoE: 300W 430W (S3928P-PWR-EI, DC input) • Dissipated power: 60W • PoE: 370W 465W (S3952P-PWR-EI, AC input) • Dissipated power: 165W • PoE: 300W 820W (S3952P-PWR-EI, DC input) • Dissipated power: 80W • PoE: 740W RPS (only EI support)	



Attribute	S3900-SI	S3900-EI
	• RPS1000-A (two PSU slots, with one PSU1500 module and 5 connector cables)	
MTBF	S3928P-SI: 54.79years (479,960 hours) S3952P-SI: 34.24years (299,942 hours) S3928P-EI: 52.51 years (459,987 hours) S3952P-EI: 34.96 years (306,249 hours) S3928P-PWR-EI: 41.09 years (359,948 hours) S3952P-PWR-EI: 22.83 years (199,990 hours) S3928TP-SI: 52.51 years (459,987 hours) S3928F-EI: 39.95 years (349,962 hours)	
Noise Parameter	S3928P-SI/EI: 40.1dbA S3928TP-SI: 40.1dbA S3952P-SI/EI: 46.5dBA S3928F-EI: 51.3dBA S3952P-PWR-EI: 46.3dBA	
Environment	Operation temperature: 0°C ~ 45°C Storage temperature: -40°C ~ 70°C Operating humidity: 5% to 85% noncondensing Relative humidity: 10% ~ 90%, noncondensing	