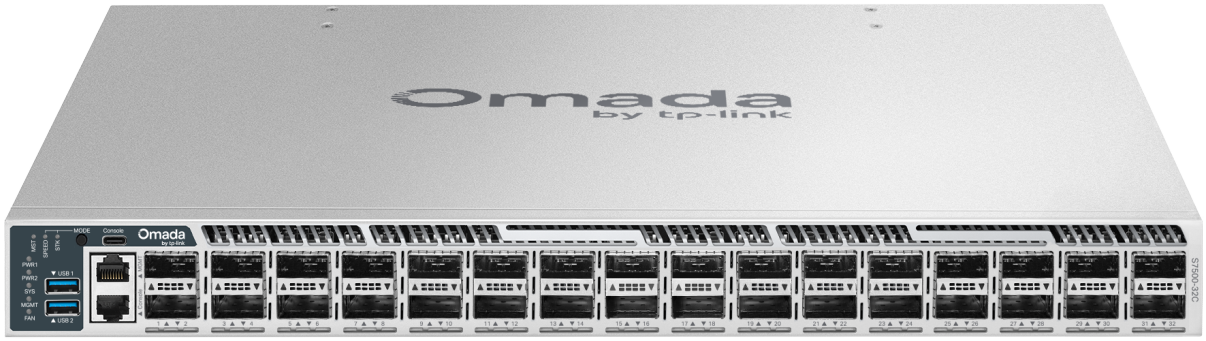
Omada Switch | Datasheet

S7500-32C

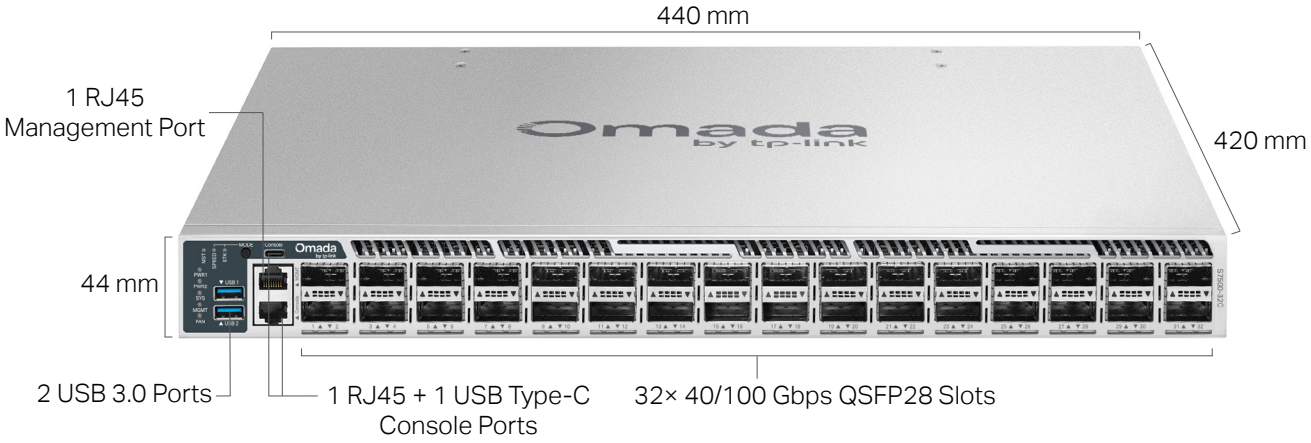
Omada Campus 32-Port 100G Stackable L3 Managed Core Switch

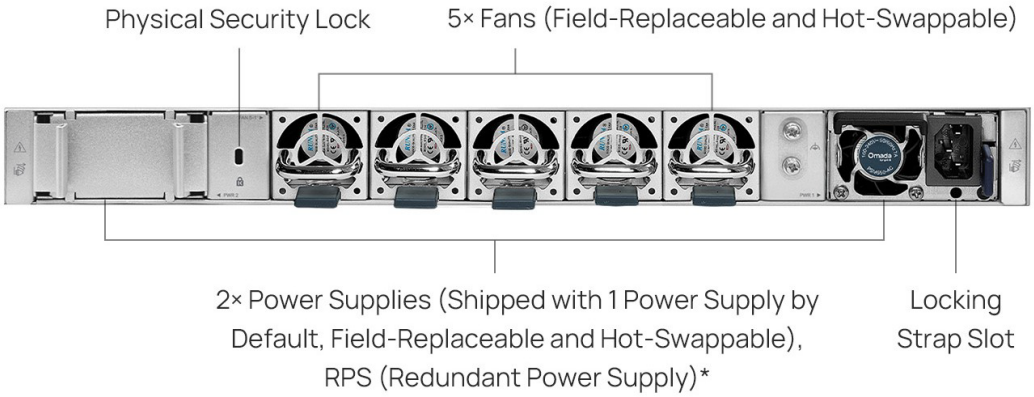


Highlights

- 32× 40/100G QSFP28 Slots
- Physical stacking for built-in redundancy and performance
- M-LAG improve link reliability from the card level to the device level.
- L3 Features: OSPF, BGP, IS-IS, VRF, VRRP, PIM-SM/PIM-DM/PIM-SSM, ECMP, PBR
- Security Strategies: Secure Boot, RADSEC, IMPB, SFTP, 802.1X, Port Security
- Highly available with two field-replaceable power supplies,* VRRP, ERPS, BFD
- Easy O&M: NETCONF, Configuration Rollback, Hot Patching, RSPAN, and PTPv2
- Centralized cloud management via the web or the Omada app‡

Product Pictures





Specifications

Hardware Features & Performance

Model		S7500-32C
General	Interface	32× 40/100G QSFP28 Slots
	Console Ports	1 × RJ45 + 1 × USB Type-C
	Management Port	1 × RJ45
	USB Ports	2 × USB 3.0
	Flash	8GB EMMC + 2 × 4MB Nor
	DRAM	16GB DDR4 + 2GB ECC
	Processor	Quad-Core ARM @2.2GHz CPU
Performance	Switching Capacity	6.4 Tbps
	Forwarding Bandwidth	3.2 Tbps
	MAC Address Table	Max 256K
	Hardware Routes Entries	Max 504K
	Packet Forwarding Rate	2.8 Bpps
	Packet Buffer	24 MB
	Stacking Port	100G QSFP28 slots* (All 100G QSFP28 slots can be used as stacking ports)
	Max Stacking Number	12 in standalone mode, 4 in controller mode
	Stacking Bandwidth	6.4 Tbps (All 32 QSFP28 slots set as stacking ports)
	Compatible Model for Stacking	S7500-32C
	Transmission Method	Store and Forward
	Jumbo Frame	9 KB
Physical & Environment	Power Supply	100-240 V ~50/60 Hz
	Redundant Power Supply	Max 2 hot swappable power supply module, N+1 redundant (shipped with one PSM550-AC module by default)
	Suitable Power Supply Module	PSM550-AC
	Max Power Consumption	311.2 W max @ 220V/50Hz 25 °C 316.7 W max @ 110V/60Hz 25 °C
	Max Heat Dissipation	1061.16 BTU/hr @ 220V/50Hz 25 °C 1080.02 BTU/hr @ 110V/60Hz 25 °C
	Standby Power Consumption	104.2 W max @ 220V/50Hz 25 °C 102.2 W max @ 110V/60Hz 25 °C
	Noise	2× PSM550-AC power supply module: Min: 35.5 dBA @ 1m & 25 °C Max: 59.1 dBA @ 1m & 25 °C
	Fan Quantity	5 hot swappable fan trays (shipped by default), N+1 redundant
	Airflow	Front-to-back
	Surge Protection	Service port: ±6 kV in common mode Power port: ±4 kV in differential mode; ±4 kV in common mode
	ESD Protection	Air: ±15 kV, Contact: ±8 kV
	MTBF	273,236 h @ 25 °C
	Dimensions (W x D x H)	17.3 × 16.5 × 1.7 in (440 × 420 × 44 mm)
	Net Weight	8.49 kg (18.72 lbs)
	Installation	Rackmount
	Operating Temperature & Altitude	-5 °C to 45 °C (23 °F to 113 °F) @ 300 meters -5 °C to 40 °C (23 °F to 104 °F) @ 2,000 meters -5 °C to 35 °C (23 °F to 95 °F) @ 3,000 meters**
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
	Operation Humidity	10% to 90% RH, non-condensing
	Storage Humidity	5% to 90% RH, non-condensing
	Certification	CE, FCC, RoHS

*The 100G QSFP28 slots support stacking only through 100G DAC/100G QSFP28 modules rather than 40G DAC/40G QSFP modules.
**The supported altitude is sea level to 5000 m. It should be noted that when the altitude is above 2000 m, for every 220 meters of altitude increase, the maximum operating temperature will drop by 1°C (1.8°F).

Software Features[Δ]

Model		S7500-32C	
System	System Info	• Device Description - Name - Location - System Contact • System Time - Manual - Synchronize with PC's Clock - SNTP Client • DST - Predefined Mode - Recurring Mode - Date Mode	• LED - LED on/off • System IP - Static IP/DHCP/BOOTP • System IPv6 - Link-local Address Config - Global Address Autoconfig via RA Message - Global Address Autoconfig via DHCPv6 Server - Add a Global Address Manually
	User Management	• User Settings • Access Level: 4 levels	• Password Recorvery Settings
	System Tools	• Config Restore/Backup - Web: HTTP - CLI: TFTP/Flash/USB • Firmware Upgrade - Web: HTTP - CLI: TFTP/Flash/USB	• System Reboot • System Reset • Boot Config (Dual Image) • Reboot Schedule • Config Rollback • Hot Patch
	Access Security	• Access Control Config - IP-based - MAC-based - Port-based - IPv6-based • HTTP Config - Enable/Disable - Session Config - Access User Number - Port Setting • SSL Config - SSLv3/TLSv1 Enable/Disable - CipherSuite Config - IPv6 SSL	• SSH Config - Enable/Disable - v2 - Encryption Algorithm - Data Integrity Algorithm - Port Setting - IPv6 SSH • Telnet Config - Enable/Disable - Port Setting - IPv6 Telnet • Console Port - Baud Rate setting
	Stack	• Stack Setting • Stack-port LAG: up to 6 groups, each group supports a maximum of all stackable-ports • Stackable Devices: up to 12 devices	• Stack MAC Address Switching Delay • Multi-active Detection (MAD) • Virtual MAC
	M-LAG	• M-LAG domain configuration • DAD (Dual-Active Detection) • M-LAG Config Consistency Check	• Peer-link-port LAG: 1 Group, each group supports a maximum of all peerLinkable-ports • M-LAG Member Interface MAC Address Switching Delay
	SDM Template	• Default Template - IPv4 ACL Rules: 1700 entries - MAC ACL Rules: 1700 entries - Combined ACL Rules: 1700 entries - IPv6 ACL Rules: 0 entries - IPv4 Source Guard: 399 entries - IPv6 Source Guard: 0 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 1600 entries - Combined ACL Rules: 1600 entries - IPv6 ACL Rules: 0 entries - IPv4 Source Guard: 499 entries - IPv6 Source Guard: 0 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 1400 entries - Combined ACL Rules: 0 entries - IPv6 ACL Rules: 350 entries - IPv4 Source Guard: 0 entries - IPv6 Source Guard: 149 entries	• Extacl Access - IPv4 ACL Rules: 2200 entries - MAC ACL Rules: 2200 entries - Combined ACL Rules: 2200 entries - IPv6 ACL Rules: 1100 entries - IPv4 Source Guard: 0 entries - IPv6 Source Guard: 0 entries • Omada - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 0 entries - Combined ACL Rules: 1400 entries - IPv6 ACL Rules: 350 entries - IPv4 Source Guard: 0 entries - IPv6 Source Guard: 0 entries
	Time Range	• Time Range Config	• Holiday Config
	PTP	• Profile: IEEE 1588v2 (PTPv2), IEEE 802.1AS	• Clock-type: oc, bc, e2etc, p2ptc
	File System	• File Operation • FTP • SFTP	• SCP • TFTP • USB Storage

Software Features[△]

Model		S7500-32C	
L2 Features	Port	• Auto Negotiation/Auto MDI/MDIX • Port config - Status - Speed and Duplex - Flow Control(802.3x) - Jumbo Frame: 1518-9216 KB • Port Mirror - Ingress (Many to One) - Egress (Many to One) - RSPAN	• Port Security - Learn mode: Dynamic/Static/ Permanent/Sticky - Port Max Learned MAC: 64 - Current Learned Number - Status - Exceed Max Learned Trap • Port Isolation • Loopback Detection - Alert - Port Based - VLAN Based
	DDM		
	LAG	• Hash Algorithm: SRC MAC/DST MAC/SRC MAC + DST MAC/SRC IP/ DST IP/SRC IP + DST IP	• Static LAG: Up to 120 groups, up to 8 ports per group • LACP (802.3ad)
	Traffic Monitor	• TX Packets/Bytes • RX Packets/Bytes • TX Unicast/Multicast/Broadcast • RX Unicast/Multicast/Broadcast	• TX Errors • RX Errors • TX/RX Packet Size Analysis
	MAC Address	• MAC Address Table: Max 256K entries • IVL/SVL: IVL • Create Static Unicast Address	• Bind Dynamic Address • Create Filtering Address • MAC Notification Settings
	VLAN	• 802.1Q VLAN(802.1q): 4K VLANs • MAC VLAN: 200 entries • Protocol VLAN (IEEE 802.1v) - 16 Protocol VLAN Templates - 12 Protocol VLAN Groups	• QinQ(VLAN VPN): 256 entries • Private VLAN • GVRP
	L2 Multicast	• Max Multicast Groups: 1024 (IGMP Snooping & MLD Snooping & MVR) • IGMP Snooping - IGMP V1/V2/V3 - Report Message Suppression - Fast Leave - Unknown Multicast Discard - Static Multicast Groups - IGMP Snooping Querier - IGMP Packet Statistics - IGMP Authentication - Multicast Filtering: 256 profiles and 16 entries per profile - Router Port Setting: Static Router Port/Forbidden Router Port	• MLD Snooping - MLD V1/V2 - Report Message Suppression - Unknown Multicast Discard - Fast Leave - Static Multicast Groups - MLD Snooping Querier - MLD Packet Statistics - Multicast Filtering: 256 profiles and 16 entries per profile - Router Port Setting: Static Router Port/Forbidden Router Port • MVR
	STP	• STP(802.1d) • RSTP(802.1w) • MSTP(802.1s)	• STP Security - Loop Protect - Root Protect - TC Protect - BPDU Protect - BPDU Filter
	LLDP (802.1ab)	• Local Info • Neighbor Info	• Statistic Info • LLDP-MED
	L2PT		
	PPPoE ID Insertion	• Circuit-ID Type	• Remote-ID
	ERPS	• Ring: 64	
	Virtual MAC		
	Sticky MAC		

Software Features[Δ]

Model		S7500-32C	
L3 Features	IPv4 Interfaces: 4094 IPv6 Interfaces: 4094		
	IPv4 Static Routes: 2048 (shared with IPv6 Static Routes) IPv6 Static Routes: 1024 (shared with IPv4 Static Routes)		
	IPv4 Host Routes: 22528 (shared with IPv4 Host Routes) IPv6 Host Routes: 22528 (shared with IPv6 Host Routes)		
	IPv4 Network Routes: MAX 516096 (shared with IPv6 Network Routes) IPv6 Network Routes: MAX 258048 (shared with IPv4 Network Routes)		
	ECMP	• Max ECMP Routes: 768 • Max ECMP Nexhops per Destination: 32	
	ARP	• Static ARP: 2048	• Dynamic ARP: 45056
	ND: 45056		
	DHCP	• DHCP Server - IP Pools: 512 - Max Leases: 16384 - Manual Binding Entries: 1000 - Exclude IP range Entries: 100	• DHCP Relay • DHCP L2 Relay • DHCPv6 Relay • DHCPv6 L2 Relay
	VRRP	• VRRP V2/V3 • VRRP Instance: 64 • VRRP Virtual IP: 32 per instance	
	OSPF	• OSPFv2 - OSPF Process: 24 - Graceful Restart - OSPFv2 BFD	• OSPFv3 - OSPFv3 Instance: 1 - OSPFv3 BFD
	RIP	• RIPv1/v2	• RIPng
	VRF	• VRF Instance: 1024	
	IS-IS	• IS-ISv4 • IS-ISv6 • IS-IS BFD	• IS-IS Instance: 24 • IS-IS Graceful Restart
	BGP	• BGPv4	• BGP Graceful Restart
	PIM	• PIM-DM (IPv4) • PIM-SM (IPv4) • PIM-SSM (IPv4)	• IPv4 Multicast Route entries: 1024
	IGMP	• Version: v1/v2/v3	• IGMP Groups: 2048
	BFD	• Template Numbers: 16	• Session Numbers: 32
	PBR		
	uRPF		
QoS	Class of Service	• Priority Queues: 8 Queues • Port Priority • 802.1P Priority • DSCP/ToS Priority	• Priority Schedule Mode: SP/WRR per Queue • Queue Weight Config: For WRR/SP+WRR Mode
	Bandwidth Control	• Rate Limit - Ingress Rate Limit - Egress Rate Limit - Rate Limit Grade: 64kbps	• Storm Control - Control Mode: kbps/ratio - Broadcast - Multicast - Unknown Unicast
	Voice VLAN	• OUI entries: 64	
	WRED		

Software Features[Δ]

Model		S7500-32C	
Network Security	IP-MAC Binding	• Binding entries: 1024 entries • Manual Binding	• ARP Scanning • DHCP Snooping
	IPv6-MAC Binding	• Binding entries: 1024 entries • Manual Binding	• DHCPv6 Snooping • ND Snooping
	ARP Inspection	• ARP Detect entries: 1024 entries • Dynamic ARP Inspection (DAI)	• ARP Defend • ARP Statistics
	ND Detection	• ND Detection entries: 1024 entries • ND Detect	• ND Statistics
	IP Source Guard	• IP Source Guard entries - Default SDM Template: 399 - IPv4 SDM Template: 499 - IPv6 SDM Template: 0 - Extacl SDM Template: 0	• Security Type - Source IP - Source IP + Source MAC
	IPv6 Source Guard	• IPv6 Source Guard entries - Default SDM Template: 0 - IPv4 SDM Template: 0 - IPv6 SDM Template: 149 - Extacl SDM Template: 0	• Security Type - Source IPv6 - Source IPv6 + Source MAC
	RA Guard: 30 entries		
	DoS Defend	• Scan SYNFIN • Xmascan • NULL Scan	• SYN sPort less 1024 • Ping Flooding • SYN/SYN-ACK Flooding
	DHCP Filter	• DHCPv4 Filter - Legal Server entries: 200	• DHCPv6 Filter - Legal Server entries: 200
	802.1x	• Control Type - Port Based - MAC Based • Auth Method: PAP/EAP-MD5/EAP-TLS/EAP-TTLS/EAP-PEAP	• Radius Authentication • Radius Accounting • Radius Server Load Balancing • RADSEC • Guest VLAN • VLAN Assignment • MAB
	AAA		
	ACL	• Time-Range - Time Slice - Week Time-Range - Absolute Time-Range - Holiday • MAC ACL • IP ACL • Combined ACL • IPv6 ACL • Rule Operation - Permit - Deny • Policy Action - Mirror - Rate Limit - Redirect - QoS Remark • Binding - Port Binding - VLAN Binding	• Default Template - IPv4 ACL Rules: 1700 entries - IPv6 ACL Rules: 0 entries - MAC ACL Rules: 1700 entries - Combined ACL Rules: 1700 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 0 entries - MAC ACL Rules: 1600 entries - Combined ACL Rules: 1600 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 350 entries - MAC ACL Rules: 1400 entries - Combined ACL Rules: 0 entries • Extacl - IPv4 ACL Rules: 2200 entries - IPv6 ACL Rules: 1100 entries - MAC ACL Rules: 2200 entries - Combined ACL Rules: 2200 entries • Omada - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 350 entries - MAC ACL Rules: 0 entries - Combined ACL Rules: 1400 entries
	Secure Boot		
Virtualization	IP Tunnel	• IPv6 over IPv4 • IPv6 over IPv4 GRE	• IPv4 over IPv4 GRE • Tunnel entries: 100

Software Features[Δ]

Model		S7500-32C
Maintenance	System Monitor	• CPU Monitor • Memory Monitor
	sFlow	
	OAM	• EFM - Link Monitoring - Remote Failure Indication Config - Statistics
	DLDP	
	SNMP	• SNMP Version: v1/v2c/v3 • SNMP Config - Global Config - SNMP View - SNMP Group - SNMP User - SNMP Community • Notification - Trap: IPv4/IPv6 - Inform: IPv4/IPv6 • RMON v1 • Public MIBs • Private MIBs
	NETCONF	
	DHCP Auto Install	
	Log	• Display/Filtering • Severity Level • Save to Flash • Remote Host • Backup Log
	Network Diagnostics	• Ping • IPv6 Ping • Tracert • IPv6 Tracert
Others	Index	
	Show running config	• Use the show running config command to view device's running status via telnet. • Configuration File: Import/Export/Edit
Omada SDN Controller	Omada Pro SDN controller	

Ordering Information

Host Switch	
Model	Description
S7500-32C	Omada Campus 32-Port 100G Stackable L3 Managed Core Switch

Power Supply Module	
Model	Description
PSM550-AC	Omada 550W AC Power Supply Module

QSFP28 Module	
Model	Description
TL-SM7110-SR	40GBase-SR QSFP+ MPO Transceiver
SM9110-SR4	Omada 100GBASE-SR4 QSFP28 Transceiver

Direct Attach Cable	
Model	Description
SM9220-1M	Omada 1 Meter 100G QSFP28 Direct Attach Cable

†These functions require the use of the Omada Pro SDN Controller. Zero-Touch Provisioning requires the use of the Omada Pro Cloud-Based Controller.

△Some features are available only after upgrading to the latest software version.

The model featured in this guide may be unavailable in your country or region. Visit Omada website for local sales information: https://www.omadanetworks.com/.