Omada Lite L3 Managed Switch Datasheet

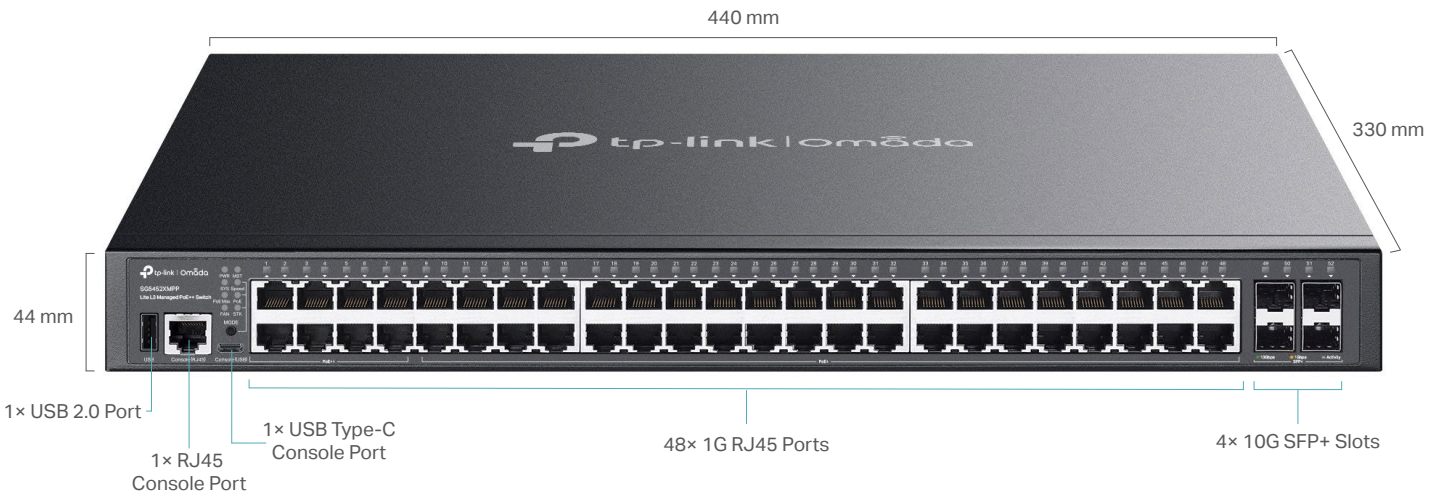
SG5452XMPP

Omada 48-Port Gigabit Stackable Lite L3 Managed PoE++ Switch with 4× 10G Slots

Highlights

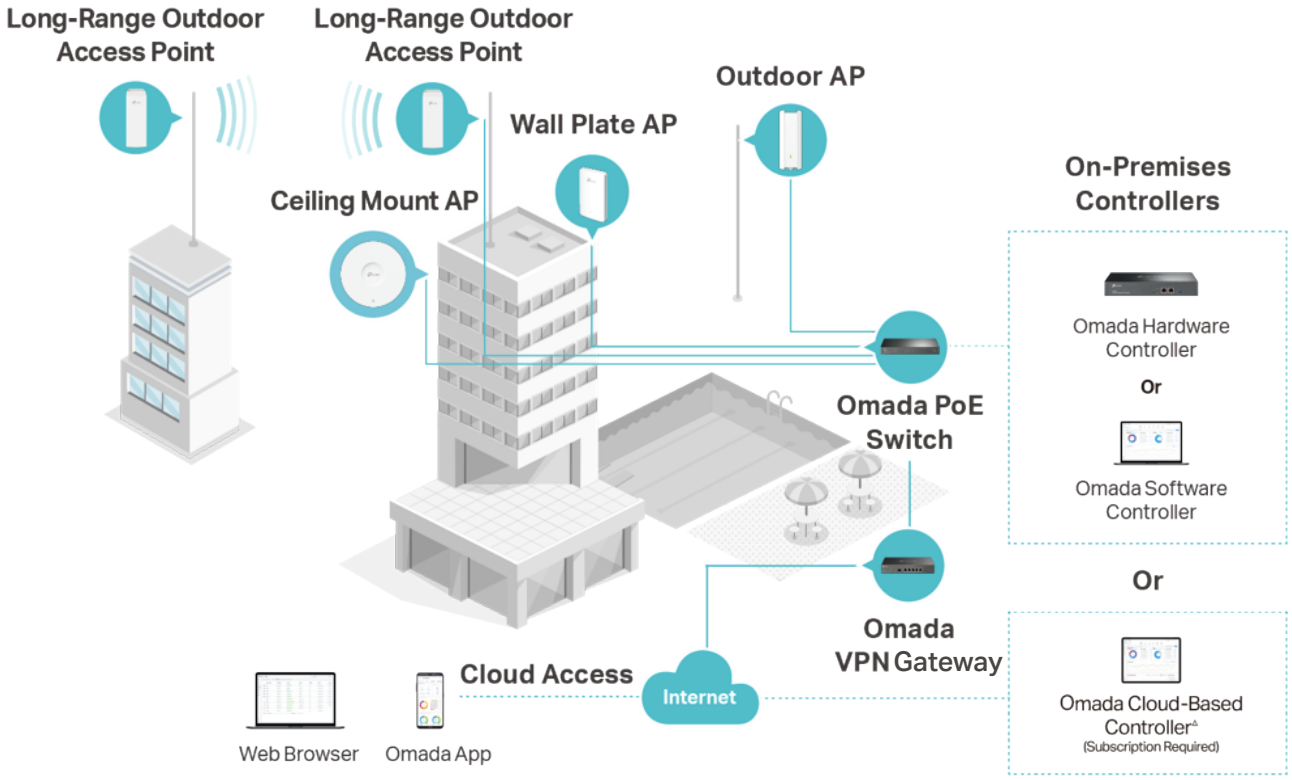
- 8× Gigabit 802.3af/at/bt PoE++ ports (Max 90 W per port)
- 40× Gigabit 802.3af/at PoE+ ports (Max 30 W per port)
- 4× 10 Gbps SFP+ slots
- Up to 770 W total PoE budget △
- Fast PoE and Perpetual PoE
- Physical Stacking up to 4 units for built-in redundancy and performance
- L3 features: RIP, OSPF, Static Routing, and DHCP Server/Relay
- Security Strategies: ACL, Port Security, DoS Defend, 802.1X
- ERPS supports rapid protection and recovery in a ring topology
- Centralized cloud management via the Omada SDN controller
- Standalone management via web, CLI, SNMP, and RMON

Product Pictures



Omada Solution

Omada's Software Defined Networking (SDN) platform integrates network devices, including access points, switches, and gateways, providing 100% centralized cloud management. Omada creates a highly scalable network—all controlled from a single interface.



Hassle-Free Cloud or On-Premises Controllers

Zero-Touch Provisioning (ZTP)†

Multi-Site Cloud Management

Intelligent Monitoring

Specifications

Hardware Features & Performance

Model		SG5452XMPP
General	Interface	48× 10/100/1000 Mbps RJ45 Ports 4× 1/10 Gbps SFP+ Slots*
	Console Ports	1× RJ45 + 1× USB Type-C
	USB Ports	1× USB 2.0
	Flash	1× 4 MB Nor + 1× 512 MB NAND
	DRAM	2 GB DDR4
	Processor	Dual-Core ARM @1.2GHz CPU
PoE	PoE Standard	802.3af/at/bt
	PoE Ports	8 Gigabit PoE++ RJ45 Ports (up to 90 W per Port) 40 Gigabit PoE+ RJ45 Ports (up to 30 W per Port)
	PoE Power Budget	770 W △
Performance	Switching Capacity	176 Gbps
	Forwarding Bandwidth	88 Gbps
	Packet Forwarding Rate	130.94 Mpps
	MAC Address Table	16 K
	Packet Buffer	12 Mbit
	Stacking Port	10G SFP+ slot (uplink ports can be used as stacking ports)
	Stacking Bandwidth	Up to 40 Gbps (max 2 stacking ports)
	Max Stacking Number	4
	Compatible Models for Stacking	SG5428X, SG5428XMPP, SG5452X, SG5452XMPP
	Transmission Method	Store and Forward
	Jumbo Frame	9 KB
Physical & Environmet	Power Supply	100-240 V~ 50/60 Hz
	Max Power Consumption	893.6 W (220V/50Hz) (with 770 W PD connected @ 25 °C) 942.7 W (110V/60Hz) (with 770 W PD connected @ 25 °C)
	Max Heat Dissipation	3047.18 BTU/hr (220V/50Hz) (with 770 W PD connected @ 25 °C) 3214.61 BTU/hr (110V/60Hz) (with 770 W PD connected @ 25 °C)
	Standby Power Consumption	23.7 W (220V/50Hz @ 25 °C) 24.3 W (110V/60Hz @ 25 °C)
	Noise	Min: 43.2 dBA @1m 25 °C Max: 58.5 dBA @1m 25 °C
	Fan Quantity	3
	Airflow	Left-to-right
	Surge Protection	Service port: ±6 kV in common mode Power port: ±6 kV in differential mode; ±6 kV in common mode
	ESD Protection	Air: ±15 kV, Contact: ±8 kV
	MTBF	275,277 h @ 25 °C
	Dimensions (W x D x H)	17.3 × 13.0 × 1.7 in (440 × 330 × 44 mm)
	Installation	Rackmount
	Operating Temperature	-5 °C to 40 °C (23 °F to 104 °F)
	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

*Only one 10G RJ45 SFP+ module (SM5310-T) can be inserted at a time.

Software Features

Model		SG5452XMPP	
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/USB • Firmware Upgrade - Web: HTTP - CLI: TFTP/USB	• System Reboot • System Reset • Boot Config (Dual Image) • Reboot Schedule
	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 4 groups, each group supports a maximum of 2 stackable-ports	• Stackable Devices: up to 4 devices • Stack MAC Address Switching Delay
	SDM Template	• Default Template - IPv4 ACL Rules: 300 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 300 entries - IPv6 ACL Rules: 0 entries - IPv4 Source Guard: 127 entries - IPv6 Source Guard: 0 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 600 entries - IPv6 ACL Rules: 0 entries - IPv4 Source Guard: 127 entries - IPv6 Source Guard: 0 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 0 entries - IPv6 ACL Rules: 250 entries - IPv4 Source Guard: 0 entries - IPv6 Source Guard: 127 entries	• Omada - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 0 entries - Combined ACL Rules: 400 entries - IPv6 ACL Rules: 200 entries - IPv4 Source Guard: 0 entries - IPv6 Source Guard: 0 entries
	Time Range	• Time Range Config	• Holiday Config
	File System	• File Operation • TFTP • USB Storage	

Software Features

Model		SG5452XMPP	
L2 Features	Port	• Port config - 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 - 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 • LACP (802.3ad) • Up to 64 LAGs, up to 8 ports per LAG
	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: 16K entries • IVL/SVL: IVL • Create Static Unicast Address	• Bind Dynamic Address • Create Filtering Address • MAC Notification Settings
	VLAN	• 802.1Q VLAN: 4K VLANs • MAC VLAN: 60 entries • Protocol VLAN - 16 Protocol VLAN Template - 12 Protocol VLAN Group	• QinQ(VLAN VPN): 256 entries • Private VLAN • GVRP
	L2 Multicast	• Max Multicast Groups: 2000 (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 • MVR	• 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
	STP	• STP(802.1d) • RSTP(802.1w) • MSTP(802.1s) • MSTI instances: 16	• 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: 16	
	Virtual MAC		
	Sticky MAC		

Software Features

Model		SG5452XMPP	
L3 Features	IPv4 Interfaces: 128 (shared with IPv6 Interfaces) IPv6 Interfaces: 128 (shared with IPv4 Interfaces)		
	IPv4 Static Routes: 512 (shared with IPv6 Static Routes) IPv6 Static Routes: 128 (shared with IPv4 Static Routes)		
	IPv4 Host Routes: 1024 (shared with IPv4 Host Routes) IPv6 Host Routes: 890 (shared with IPv4 Host Routes)		
	IPv4 Network Routes: 1796 (shared with IPv6 Network Routes) IPv6 Network Routes: 450 (shared with IPv4 Network Routes)		
	IPv4/IPv6 dual stack		
	ARP	• Static ARP: 512 • Dynamic ARP: 2000	
	ND: 3600		
	DHCP	• DHCP Server - IP Pools: 64 - Max Leases: 8000 - Manual Binding Entries: 1000 - Exclude IP range Entries: 100	• DHCP Relay • DHCP L2 Relay • DHCPv6 Relay • DHCPv6 L2 Relay
	OSPF	• OSPFv2 - OSPF Process: 4	• OSPFv3 - OSPFv3 Instance: 1
	RIP	• RIPv1/v2	• RIPng
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	

Software Features

Model		SG5452XMPP	
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 • ARP Detect	• 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: 127 - IPv4 SDM Template: 127 - IPv6 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: 127	• 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: 300 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 300 entries - IPv6 ACL Rules: 0 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 600 entries - IPv6 ACL Rules: 0 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 600 entries - Combined ACL Rules: 0 entries - IPv6 ACL Rules: 250 entries • Omada - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 0 entries - Combined ACL Rules: 400 entries - IPv6 ACL Rules: 200 entries

Software Features

Model		SG5452XMPP
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
	MIBs	• MIB II (RFC1213) • Interface MIB (RFC2233) • Ethernet Interface MIB (RFC1643) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • RMON MIB (RFC2819) • RADIUS Accounting Client MIB (RFC2620) • RADIUS Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support TP-Link Private MIB
	IEEE 802.3az Energy Efficient Ethernet (EEE)	
	DHCP Auto Install	
	Log	• Display/Filtering • Severity Level • Save to Flash • Remote Host • Backup Log
	Device Diagnostics	• Cable Test
	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 SDN controller	

Ordering Information

Host Switch

Model	Description
SG5452XMPP	Omada 48-Port Gigabit Stackable Lite L3 Managed PoE++ Switch with 4× 10G Slots

SFP/SFP+ Modules

Model	Description
SM311LS	Gigabit SFP module, Single-mode, LC interface, Up to 20km distance
SM311LM	Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance
SM321A	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 20 km
SM321A-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 2 km
SM321B	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 20 km
SM321B-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 2 km
SM5110-LR	10GBase-LR SFP+ LC Transceiver, single-mode, LC connector, 1310nm, 10 km
SM5110-SR	10GBase-SR SFP+ LC Transceiver, multi-mode, LC connector, 850nm, 300 m
SM5110LSA-10	10GBase-BX WDM Bi-Directional SFP+ Module, single-mode, LC connector, TX: 1330 nm/RX: 1270 nm, 10 km
SM5110LSB-10	10GBase-BX WDM Bi-Directional SFP+ Module, single-mode, LC connector, TX: 1270 nm/RX: 1330 nm, 10 km

RJ45 SFP/SFP+ Modules

Model	Description
SM331T	1000BASE-T RJ45 SFP Module
SM5310-T	10GBASE-T RJ45 SFP+ Module

MC Series Media Converter

Model	Description
MC210CS	Gigabit Single-Mode Media Converter, up to 20 km, chassis mountable
MC200CM	Gigabit multi-mode SC SFP Transceiver, up to 550 m, chassis mountable
MC220L	Gigabit SFP slot supporting mini-GBIC modules, chassis mountable
MC420L	10G SFP+ slot supporting mini-GBIC modules, chassis mountable

Direct Attach Cable

Model	Description
SM5220-1M	1 Meter 10G SFP+ Direct Attach Cable
SM5220-3M	3 Meters 10G SFP+ Direct Attach Cable

△PoE budget calculations are based on laboratory testing. The actual PoE power budget is not guaranteed and will vary due to client limitations and environmental factors.

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

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