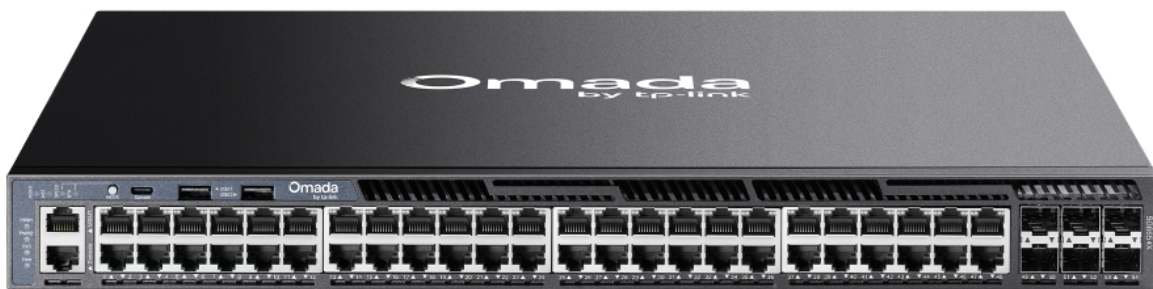


Omada Switch | Datasheet

SG6654X

Omada Campus 48-Port Gigabit Stackable L3 Managed Switch with 6× 10G Slots

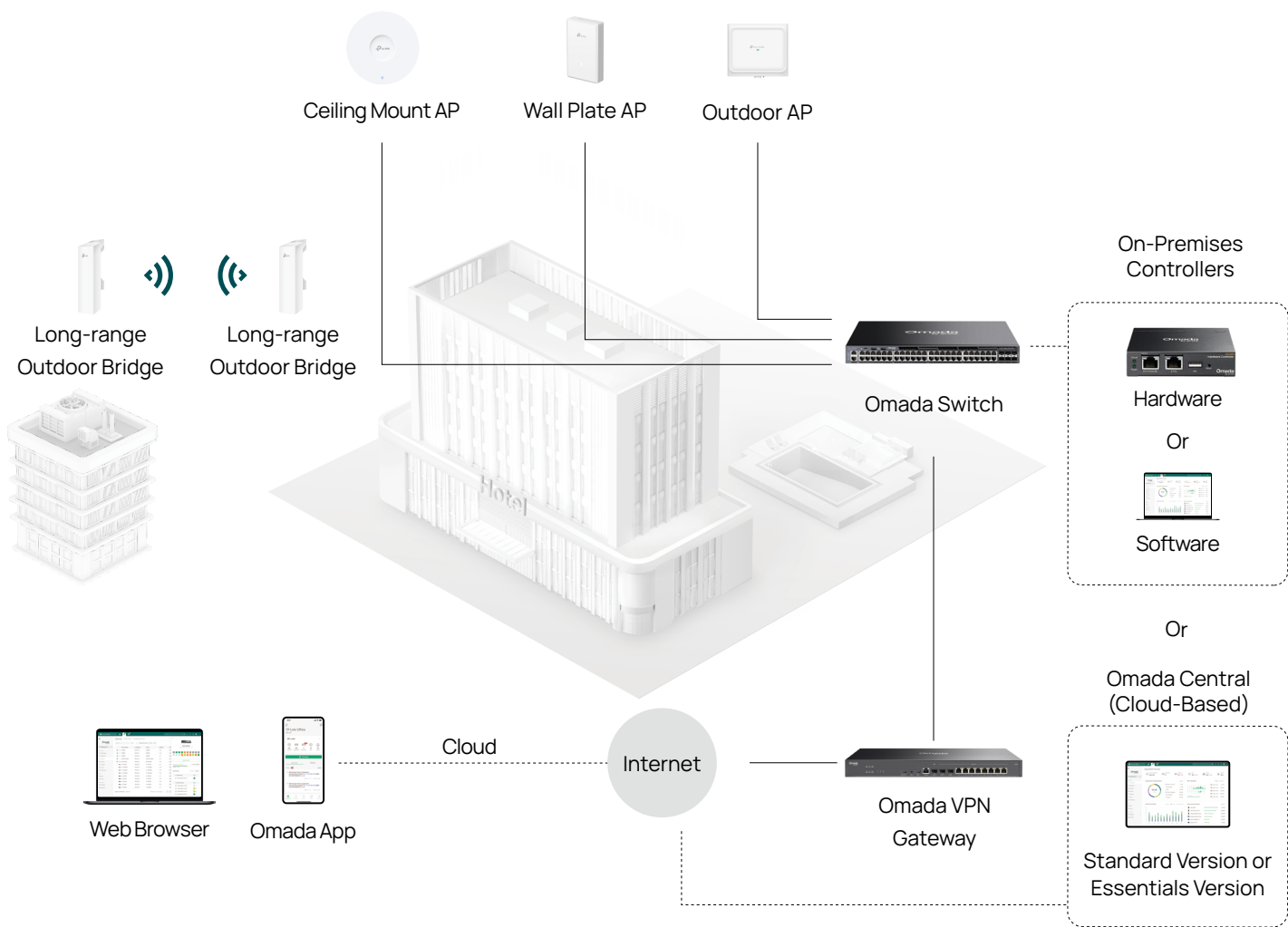


Highlights

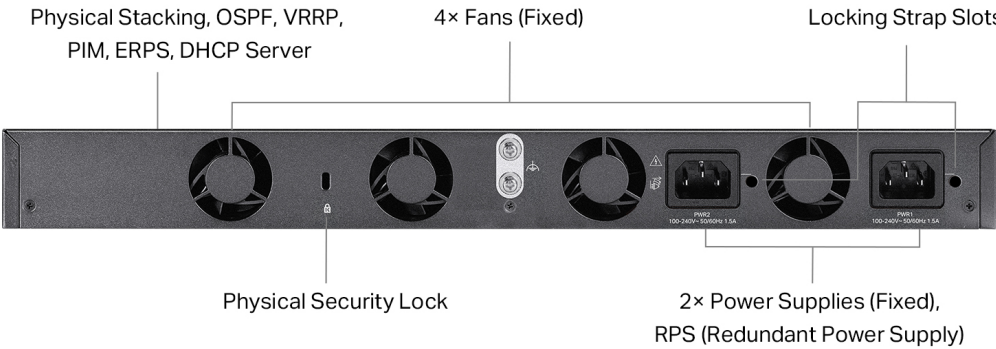
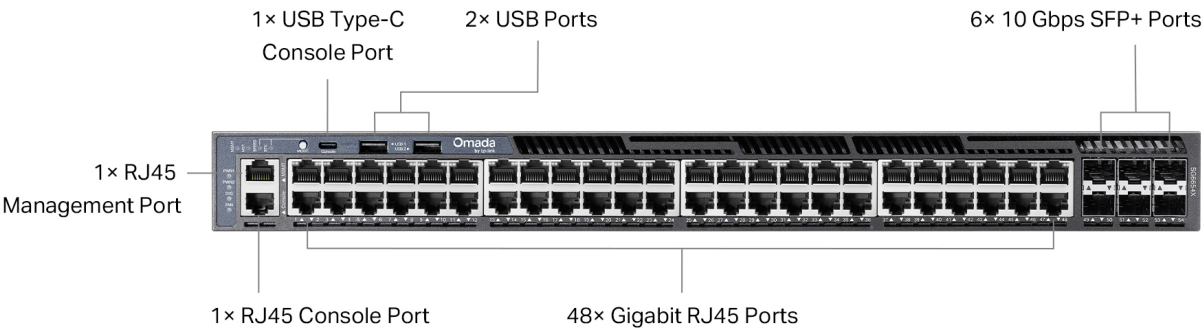
- 48× Gigabit RJ45 ports and 6× 10 Gbps SFP+ slots
- 216 Gbps switching capacity per unit
- Physical Stacking up to 8 units for built-in redundancy and performance**
- L3 features: RIP, OSPF, ECMP, VRRP, PIM-DM, PIM-SM, and DHCP Server/Relay
- Security Strategies: ACL, Port Security, DoS Defend, 802.1X
- Highly Available with two internal fixed power supplies, VRRP, and ERPS
- Centralized cloud management via Omada SDN controller
- Standalone management via web, CLI, SNMP, and RMON

**Physical stacking up to 8 units at standalone mode and 4 units at controller mode

Omada Solution



Product Pictures



Specifications

Hardware Features & Performance		
General	Interface	48× 10/100/1000Mbps RJ45 ports 6× 10G SFP+ Slots*
	Console Ports	1× RJ45 + 1× USB Type C
	Management Port	1× RJ45
	USB Ports	2× USB 2.0
	Flash	2×4 MB Nor + 8GB EMMC
	DRAM	4 GB DDR4
	Processor	Dual-core ARM @1.5GHz CPU
Performance	Switching Capacity	216 Gbps
	Forwarding Bandwidth	108 Gbps
	Packet Forwarding Rate	160.7 Mpps
	MAC Address Table	32 K
	Packet buffer	3MB
	Stacking Port	10G SFP+ slot (all uplink ports can be used as stacking ports)
	Stacking bandwidth	Up to 120 Gbps (6 stack ports)
	Stacking number (max)	8 units at standalone mode and 4 units at controller mode
	Compatible models for stacking	SG6428X, SG6428XHP, SG6654X, SG6654XHP
	Transmission Method	Store and Forward
	Jumbo Frame	9 KB
Physical & Environmet	Power Supply	100-240 V ~50/60 Hz
	Redundant Power Supply (RPS)	2 internal fixed power supply modules
	Max Power Consumption	39.8 W (220 V/50 Hz)
	Max Heat Dissipation	135.81 BTU/hr (220 V/50 Hz)
	Standby Power Consumption	16.2 W (220 V/50 Hz)
	Noise	Min: 14.8 dBA @1m 25 °C Max: 40.7 dBA @1m 25 °C
	Fan Quantity	4 internal fixed fans
	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	547,093 h @ 25 °C
	Dimensions (W x D x H)	17.3 × 15.0 × 1.7 in (440 × 380 × 44 mm)
	Installation	Rackmount
	Operating Temperature	-5 °C to 50 °C (23 °F to 122 °F) @ 300 meters -5 °C to 45 °C (23 °F to 113 °F) @ 2,000 meters -5 °C to 40 °C (23 °F to 104 °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

*No more than two 10G RJ45 SFP+ modules (SM5310-T) are supported, and they can only be inserted into SFP+ slots 49&53.

Software Features		
SDN Support	• Support Omada Controller • Automatic Device Discovery • Batch Configuration • Batch Firmware Upgrading	• Intelligent Network Monitoring • Abnormal Event Warnings • Unified Configuration • Reboot Schedule
Basic Function	• Auto Negotiation/Auto MDI/MDIX • 802.3X Flow Control & Back Pressure	• Auto-Uplink Every Port
Physical Stacking	• Basic Feature - Max Unit Number - Topology - Hot Plug in/out • Global Fabric Config - Unit ID Config - Stack Status/Error-Info - Automatic Stacking	• Fabric Port Config - Port Config - Port Status • Virtual MAC Config
L3 Features	• IP Interfaces: - IPv4: Max 256, IPv6: Max 256 • Static Routing - Max 1,024, IPv6: Max 512 • Host Route Table: Max 6,100 entries • RIP: Version v1/v2, Max 8,190 - RIPvng: Max 4,097 • OSPF: Version v2/v3; v2: Max 8,190, v3: Max 4,097 • VRRP: Version v2/v3, Max 64 groups • ECMP: 256 entries, max 32 ECMP Nexthops per Destination • Policy-based Routing (PBR)	• Static ARP - 512 static entries • Dynamic ARP - 7,680 dynamic entries • Proxy ARP • DHCP Server: - Max 64 IP Pools - Max 8000 Leases - Max 1,000 Manual Binding Entries • DHCP Relay: - Relayed Interface - Relayed VLAN • IPv4/IPv6 dual stack • IGMP - Version: v1/v2/v3 - Max 2048 IGMP Groups • PIM - PIM-DM(v4) - PIM-SM(v4) - PIM-SSM(v4) - Max 1024 Multicast Route Entries
L2 Features	• Link Aggregation - Static link aggregation - 802.3ad LACP - Up to 8 ports per group - Up to 64 LAG Groups • Spanning Tree Protocol - 802.1d STP - 802.1w RSTP - 802.1s MSTP - Up to 16 MSTI instances - STP Security: TC Protect, BPDU Filter, BPDU Protect, Root Protect, Loop Protect • Loopback Detection - Port based - VLAN based • Flow Control - 802.3x Flow Control - HOL Blocking Prevention	• Supports 2,048 IGMP groups • ERPS: Up to 16 ERPS rings • Mirroring - Port Mirroring - CPU Mirroring - One-to-One - Many-to-One - Tx/Rx/Both • RSPAN • Mac Address - MAC Address Table - Static MAC: Max 128 entries - Dynamic MAC Address: Max 32k entries - Filtering MAC Address: Max 128 entries
L2 Multicast	• IGMP Snooping - IGMP v1/v2/v3 Snooping - Fast Leave - IGMP Snooping Querier - IGMP Authentication - L2 Multicast Table - Dynamic Multicast: Max 4,093 entries - Static Multicast: Max 4,093 entries • IGMP Authentication • Static Multicast IP • Multicast VLAN Registration (MVR): - Max 4,093 entries	• MLD Snooping - MLD v1/v2 Snooping - Fast Leave - MLD Snooping Querier - Static Group Config - Limited IP Multicast • Multicast Filtering: 256 profiles and 16 entries per profile
VLAN	• VLAN Group (802.1q VLAN) - Max 4K VLAN Groups • 802.1Q Tagged VLAN • MAC VLAN entries: 200 • Multicast VLAN • Management VLAN • VLAN VPN (QinQ): Max 256 entries • GVRP	• Protocol VLAN (IEEE 802.1v): Protocol Template 16, Protocol VLAN 12 entries • VLAN VPN - VLAN Mapping - VLAN Replace • Voice VLAN • Private VLAN
QoS	• Class of Service - 8 Queues of Priority - Port Priority - IEEE 802.1p Priority - DSCP Priority - Queue Min-Bandwidth - Schedule Mode (SP, WRR, SP+WRR)	• Bandwidth Control - Rate Limit - Storm Control • User-Defined OUI • Smoother Performance • Action for Flows - QoS remark (802.1P Remark, DSCP Remark)

Software Features		
ACL	• MAC ACL - Source MAC - Destination MAC - VLAN ID - User Priority - Ether Type • IP ACL -Source IP - Destination IP - Fragment - IP Protocol - TCP Flag - TCP/UDP Port - DSCP/IP TOS • Combined ACL • IPv6 ACL • Policy - Mirroring - Redirect - Rate Limit - QoS Remark • ACL apply to Port/VLAN • Time-based ACL	- default template: - IPv4 ACL Rules: 300 entries - MAC ACL Rules: 300 entries - Combined ACL: 300 entries - IPv4 Source Guard: 299 entries - IPv4 access template: - IPv6 ACL Rules: 0 entries - MAC ACL Rules: 300 entries - Combined ACL: 500 entries - IPv4 Source Guard: 499 entries - IPv6 access template: - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 200 entries - IPv6 ACL: 250 entries - IPv6 Source Guard: 249 entries - omada template: - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 0 entries - Combined ACL: 600 entries - IPv4 Source Guard: 0 entries
Security	• Port Isolation • CPU-Deffend • Dynamic ARP Inspection (DAI) • DoS Defend • IP-MAC-Port Binding -1,024 Entries - DHCP Snooping - ARP Inspection - IPv4 Source Guard • IPv6-MAC -Port Binding -1,024 Entries - DHCPv6 Snooping - ND Detection - ND Snooping - IPv6 Source Guard • DHCP Filter • Static/Dynamic Port Security - Up to 64 MAC addresses per port	• Broadcast/Multicast/Unknown-unicast Storm Control - kbps/ratio control mode • 802.1X - Port base authentication - Mac base authentication - VLAN Assignment - MAB - Guest VLAN - Support RADIUS authentication and accountability • AAA (including TACACS+) • Secure web management through HTTPS with SSLv3/TLS 1.2 • Secure Command Line Interface (CLI) management with SSHv2 • IP/Port/MAC based access control
ISP Features	• 802.3ah Ethernet Link OAM • L2PT (Layer 2 Protocol Tunneling) • PPPoE ID Insertion	• Device Link Detect Protocol (DLDP) • sFlow • DDM
Management	• Web-based GUI • Web-Based HTTP or HTTPS • TFTP/TFTPV6 • FTP/FTPV6 • File System • Debug • CLI - Console - Telnet - Telnetv6 • SNMP - v1/v2c/v3 - SNMP Trap - SNMP Inform - RMON (1, 2, 3, 9 groups) • Link Layer Discovery Protocol (LLDP) • VCT (Virtual Cable Test) • System IP - Static IP - DHCP Client - BOOTP Client • 802.1ab LLDP/LLDP-MED • DHCP Auto Install	• Maintenance - CPU/Memory Monitor - System Log - Cable Test - Ping/Tracert - Pingv6 - ICMP/ICMP v6 • Time Setting - NTP - DST • System Tools - Dual Image - Config Restore/Backup - Firmware Upgrade - System Reboot/Reset • User Management - User Settings - Access Level - Password Recorvery Settings • SDM Template • IEEE 802.3az Energy Efficient Ethernet (EEE)
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

Ordering Information

Host Switch	
Model	Description
SG6654X	Omada Campus 48-Port Gigabit Stackable L3 Managed Switch with 6× 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

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
MC200L	Gigabit SFP slot supporting mini-GBIC modules, chassis mountable
MC1400	14-slot power supply chassis for TP-LINK MC Series Media Converter, 19-inch rack-mountable