Gigabit L2+ Managed Switch Datasheet

MODELS: SG3210 V3.20 / SG3428 V2.30 / SG3428MP V6.20 / SG3452 V1.20 / SG3452P V3.30



Overview

TP-Link | Omada L2+ managed switches provide high performance, powerful L2 and L2+ features like static routing, enterprise-level QoS, advanced security strategies and a bundle of ISP features. The IP-MAC-Port Binding (IMPB) and Access Control List (ACL) functions protect against broadcast storm, ARP and Denial-of-Service (DoS) attacks, etc. Quality of Service (QoS, L2 to L4) provides enhanced traffic management capabilities to move your data smoother and faster. The OAM and DDM functions help facilitate network management. Moreover, the easy-to-use web management interfaces, along with CLI, SNMP and Dual Image mean faster setup and configuration with less downtime. TP-Link | Omada L2+ managed Switches provide a reliable, secure solution for enterprise, campus and ISP networks.

Omada Solution



Hospitality

High Quality and Full Coverage Wi-Fi



Education

High-Density Wi-Fi



Retail

Social Marketing for O2O



Office

Wireless and Wired Connections

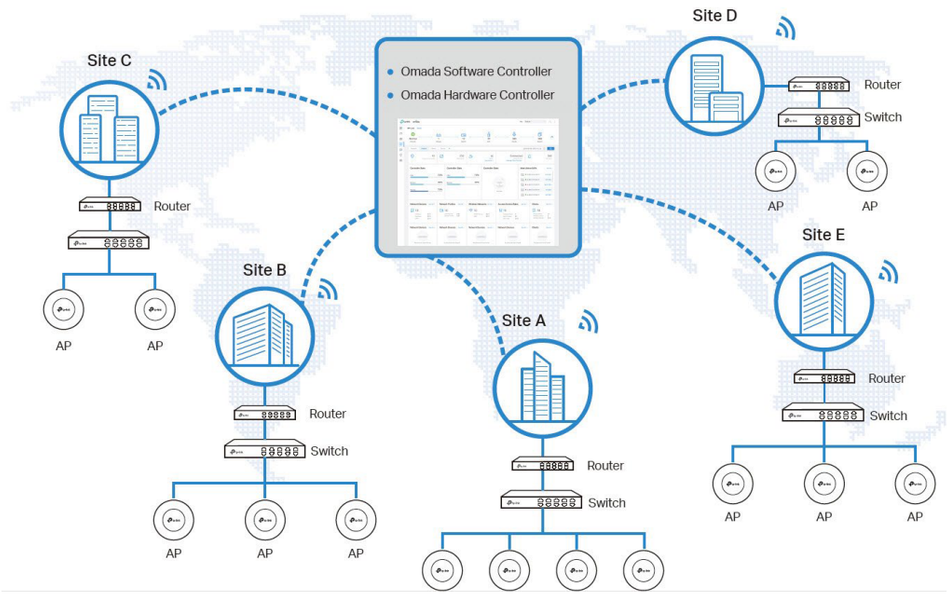


Catering

Full Wi-Fi Coverage in High-Density Environment

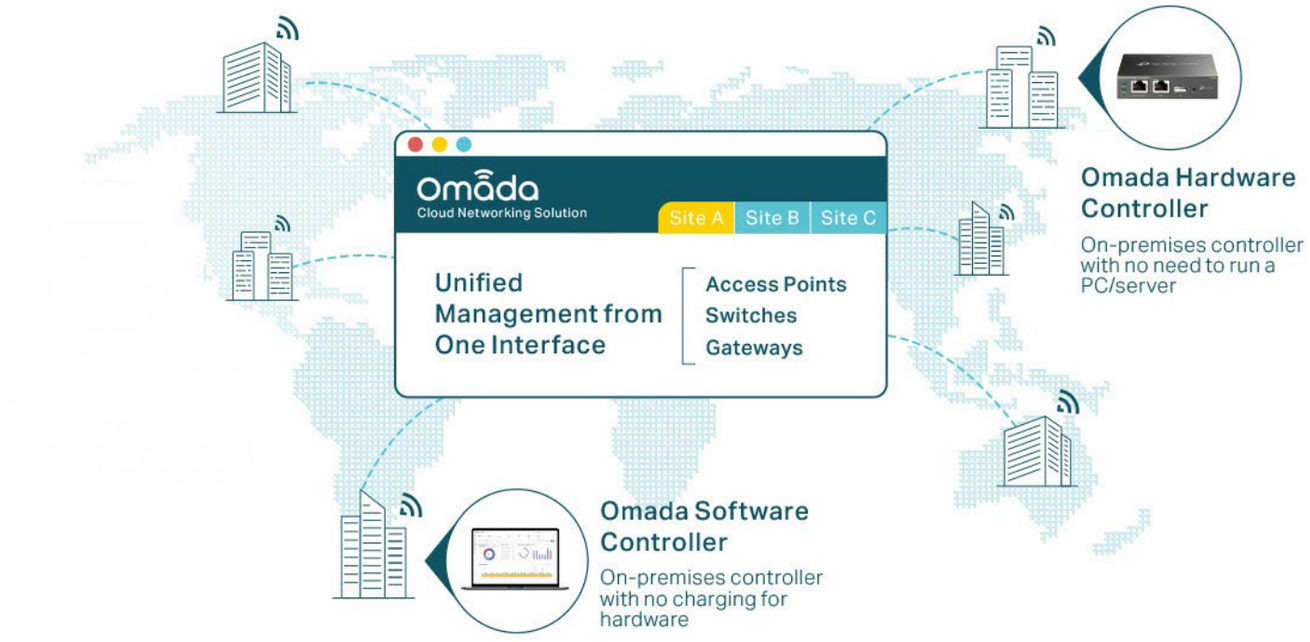
Software Defined Networking (SDN) with Cloud Access

Omada 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. Seamless wireless and wired connections are provided, ideal for use in hospitality, education, retail, offices, and more.



Hassle-Free Centralized Cloud Management

100% centralized cloud management of the whole network from different sites——all controlled from a single interface anywhere, anytime.

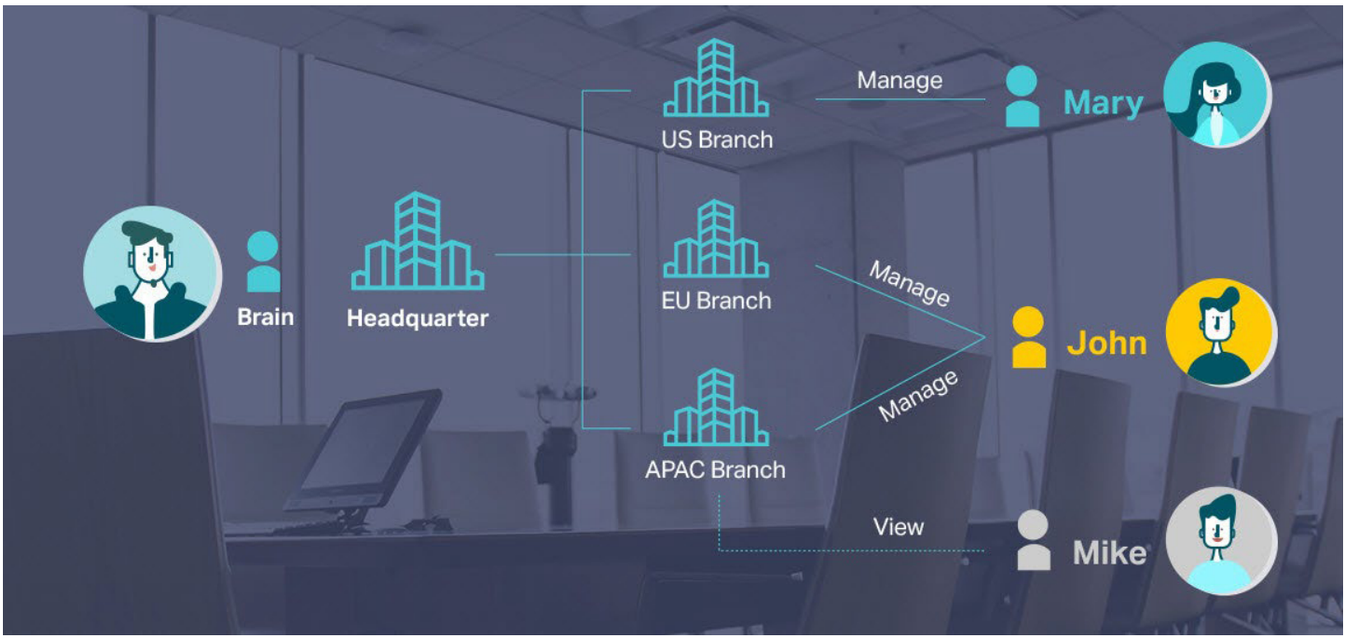


- No additional training needed
- Unlimited scalability
- Batch management
- Devices still work even when not connected to the Cloud

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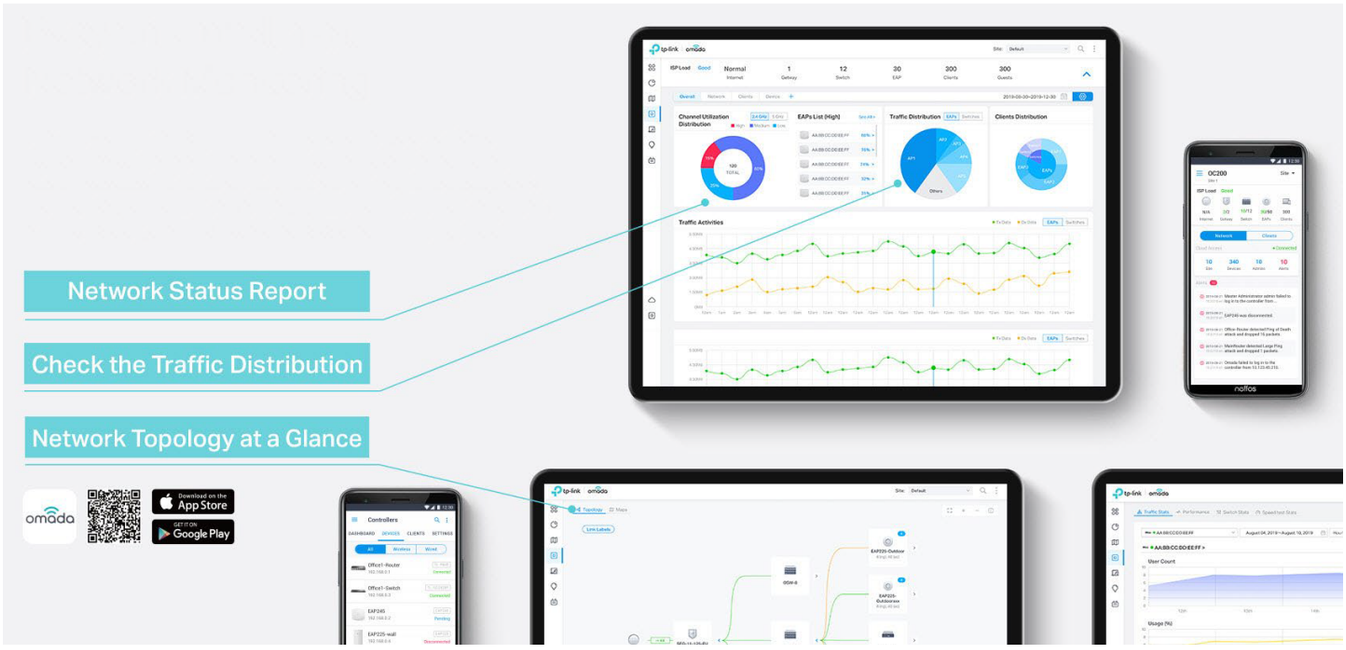
Assign Different Management Roles

Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.

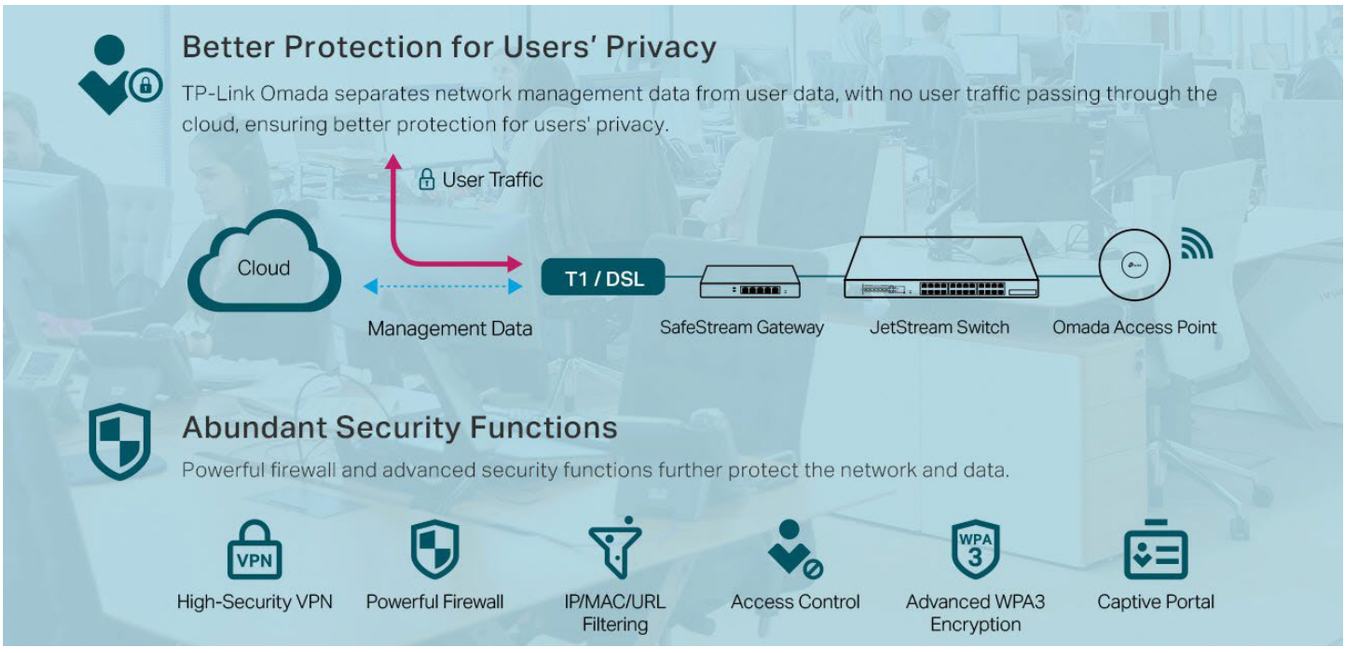


Easy and Intelligent Network Monitoring

The easy-to-use dashboard makes it easy to see your real-time network status; check network usage and traffic distribution; receive network condition logs, abnormal event warnings, and notifications; or even track key data for better business results. Network topology helps IP admins quickly see and troubleshoot connection at a glance.



Comprehensive Protection for the Whole Network



Switch Product Features

Networking Security

The TP-Link | Omada L2+ managed switches provide IP-MAC-Port Binding, Port Security, Storm control and DHCP Snooping which protect against broadcast storms, ARP attacks, etc. It integrates some typical DoS attacks to select. You can protect these attacks more easily ever than before. In addition, the Access Control Lists (ACL, L2 to L4) feature restricts access to sensitive network resources by denying packets based on source and destination MAC address, IP address, TCP/UDP ports and even VLAN ID. Moreover, the switch supports 802.1X authentication, which is used in conjunction with a RADIUS/TACACS+ server to require some authentication information before access to the network is allowed.

Advanced QoS features

To integrate voice, data and video service on one traffic based on a variety of means including IP or MAC address, TCP or UDP port number, etc. to ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN the switch supporting, the voice applications will operate with much smoother performance.

Abundant L2 and L2+ features

The L2+ managed switches support a complete lineup of L2 features, including 802.1Q VLAN, Port Mirroring, STP/RSTP/MSTP, Link Aggregation Control Protocol and 802.3x Flow Control function. Any more, the switch provides advanced features for network maintenance. Such as Loopback Detection, Cable Diagnostics and IGMP Snooping. IGMP snooping ensures the switch intelligently forward the multicast stream only to the appropriate subscribers while IGMP throttling & filtering restrict each subscriber on a port level to prevent unauthorized multicast access. Moreover, L2+ managed switches support L2+ feature-static routing, which is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic for more efficient use.

ISP Features

The L2+ managed switches support a bundle of ISP features such as 802.3ah OAM, DDM, sFlow, QinQ, L2PT PPPoE ID Insertion, IGMP authentication etc. 802.3ah OAM and Device Link Detection Protocol (DLDP) functions improve monitor and troubleshoot Ethernet networks, help facilitate network management. DDM(Digital Diagnostic Monitoring) function helps view the status of SFP modules inserting to the Switch and to configure alarm settings, warning settings, temperature threshold settings, voltage threshold settings, bias current threshold settings, TX power threshold settings, and Rx power threshold settings.

Enterprise Level Management Features

TP-Link's new Omada L2+ managed switches are easy to use and manage. It supports various user-friendly standard management features, such as intuitive web-based Graphical User Interface (GUI), industry-standard Command Line Interface (CLI), SNMP (v1/v2c/v3), and RMON. This allows the switch to provide valuable status information and send reports on abnormal events. It also supports Dual Image and Dual Configuration to provide improved reliability and network uptime.

IPv6 Support

The L2+ managed switches support various IPv6 functions such as Dual IPv4/IPv6 Stack, MLD Snooping, IPv6 ACL, DHCPv6 Snooping, IPv6 Interface, Path Maximum Transmission Unit (PMTU) Discovery and IPv6 Neighbor Discovery, which guarantees your network is ready for the Next Generation Network (NGN) without upgrading your network equipment.

Specifications

Hardware Features & Performance

Product Picture		
Model		SG3210 V3.20
General	Interface	8 10/100/1000Mbps RJ45 Ports 2 Gigabit SFP Slots
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port
	Flash	32 MB
	DRAM	256 MB
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet; IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber)
PoE	PoE Standard	-
	PoE Ports	-
	PoE Power Budget	-
Performance	Switching Capacity	20 Gbps
	Packet Forwarding Rate	14.89 Mpps
	MAC Address Table	8K
	Packet Buffer	4.1 Mbit
	Transmission Method	Store and Forward
	Number of IP Interfaces	16
	Number of Static Routers	48 (IPv4, IPv6)
	Jumbo Frame	9 KB
Physical & Environment	Power Supply	100-240 V AC~50/60 Hz
	Max Power Consumption	6.84 W (220 V/50 Hz)
	Max Heat Dissipation	23.33 BTU/hr (220 V/50 Hz)
	Standby Power Consumption	1.91 W (220 V/50 Hz)
	Dimensions (W x D x H)	11.6 × 7.1 × 1.7 in (294 × 180 × 44 mm)
	Fan Quantity	Fanless
	Installation	Rack Mountable
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °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

Hardware Features & Performance

Product Picture			
Model		SG3428 V2.30	SG3428MP V6.20
General	Interface	24 10/100/1000Mbps RJ45 Ports 4 Gigabit SFP Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
	Flash	32 MB	
	DRAM	256 MB	
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet; IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber)	
PoE	PoE Standard	-	802.3af/at
	PoE Ports	-	24, up to 30 W
	PoE Power Budget	-	384 W
Performance	Switching Capacity	56 Gbps	
	Packet Forwarding Rate	41.66 Mpps	
	MAC Address Table	16K	
	Packet Buffer	12 Mbit	
	Transmission Method	Store and Forward	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
Physical & Environment	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	20.6 W (220 V/50 Hz)	480.1 W (110 V/60 Hz) (with 384 W PD connected)
	Max Heat Dissipation	70.30 BTU/hr (220 V/50 Hz)	1637.14 BTU/hr (110 V/60 Hz) (with 384 W PD connected)
	Standby Power Consumption	10.3 W (220 V/50 Hz)	15.7 W (110V/60 Hz)
	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	17.3 × 13.0 × 1.7 in (440 × 330 × 44 mm)
	Fan Quantity	Fanless	2
	Installation	Rack Mountable	
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °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	

Hardware Features & Performance

Product Picture			
Model		SG3452 V1.20	SG3452P V3.30
General	Interface	48 10/100/1000Mbps RJ45 Ports, 4 Gigabit SFP Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
	Flash	32 MB	
	DRAM	256 MB	
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet; IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber)	
PoE	PoE Standard	-	802.3af/at
	PoE Ports	-	48, up to 30 W
	PoE Power Budget	-	384 W
Performance	Switching Capacity	104 Gbps	
	Packet Forwarding Rate	77.38 Mpps	
	MAC Address Table	16K	
	Packet Buffer	12 Mbit	
	Transmission Method	Store and Forward	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
Physical & Environment	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	34.86 W (220 V/50 Hz)	464.2 W (110 V/60 Hz) (with 384 W PD connected)
	Max Heat Dissipation	118.94 BTU/hr (220 V/50 Hz)	1584.08 BTU/hr (110 V/60 Hz) (with 384 W PD connected)
	Standby Power Consumption	11.65 W (220 V/50 Hz)	27.9 W (110V/60 Hz)
	Dimensions (W x D x H)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)	17.3 × 13.0 × 1.7 in (440 × 330 × 44 mm)
	Fan Quantity	Fanless	3
	Installation	Rack Mountable	
	Operating Temperature	0 °C to 40 °C (32 °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	

Software Features

Model	SG3210 V3.20 / SG3428 V2.30 / SG3428MP V6.20 / SG3452 V1.20 / SG3452P V3.30
SDN Support	• Support Omada Hardware Controller (OC200/ OC300), Software Controller • Automatic Device Discovery • Batch Con iguration • Batch Firmware Upgrading • Intelligent Network Monitoring • Abnormal Event Warnings • Unified Configuration • Reboot Schedule
L3 Features	• 16 IPv4/IPv6 Interfaces • Static Routing - 48 static routes • Static ARP - 128 static entries • 316 ARP Entries (512 ARP Entries for SG3428 & SG3428MP) • Support DNS name resolution • Proxy ARP • Gratuitous ARP • DHCP Server • DHCP Relay - DHCP interface relay - DHCP VLAN relay • DHCP L2 Relay
L2 Features	• Link Aggregation - Static link aggregation - 802.3ad LACP - Up to 8 aggregation groups and up to 8 ports per group • Spanning Tree Protocol - 802.1d STP - 802.1w RSTP - 802.1s MSTP - STP Security: TC Protect, BPDU Filter, BPDU Protect, Root Protect, Loop Protect - Root Guard functionality • Loopback Detection - Port based - VLAN based • Flow Control - 802.3x Flow Control - HOL Blocking Prevention • Mirroring - Port Mirroring - CPU Mirroring - One-to-One - Many-to-One - Tx/Rx/Both
L2 Multicast	• Supports 511 (IPv4, IPv6) IGMP groups • IGMP Snooping - IGMP v1/v2/v3 Snooping - Fast Leave - IGMP Snooping Querier - IGMP Authentication • IGMP Authentication • MVR • 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 - Max 4K VLAN Groups • 802.1Q Tagged VLAN • MAC VLAN: - 12 Entries for SG3210 - 30 Entries for SG3428 & SG3428MP - 48 Entries for SG3452 & SG3452P • Protocol VLAN: Protocol Template 16, Protocol VLAN 16 • Private VLAN • GVRP • VLAN VPN (QinQ) - Port-Based QinQ - Selective QinQ • Voice VLAN
QoS	• 8 priority queues • 802.1p CoS/DSCP priority • Queue scheduling - SP (Strict Priority) - WRR (Weighted Round Robin) - SP+WRR • Bandwidth Control - Port/Flow based Rating Limiting • Smoother Performance • Action for Flows - Mirror (to supported interface) - Redirect (to supported interface) - Rate Limit - QoS Remark
RFC Support	1350, 2460, 3315, 3596, 3176, 2819, 1492, 2138, 2866, 1098.

Software Features

Model	SG3210 V3.20 / SG3428 V2.30 / SG3428MP V6.20 / SG3452 V1.20 / SG3452P V3.30
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 - User Priority • Combined ACL • IPv6 ACL • Policy - Mirroring - Redirect - Rate Limit - QoS Remark • ACL apply to Port/VLAN • Time-based ACL
Security	• IP-MAC-Port Binding -512 Entries - DHCP Snooping - ARP Inspection - IPv4 Source Guard: 100 Entries • IPv6-MAC-Port Binding -512 Entries - DHCPv6 Snooping - ND Detection - ND Snooping - IPv6 Source Guard: 100 Entries • DoS Defend • DHCP Filter • Static/Dynamic Port Security - Up to 64 MAC addresses per port • Support RADIUS Accounting according to RFC 2866 • Broadcast/Multicast/Unicast Storm Control - kbps/ratio/pps control mode • 802.1X - Port base authentication - Mac base authentication - VLAN Assignment - MAB - Guest VLAN - Support RADIUS authentication and accountability • AAA (including TACACS+) • Port Isolation • Secure web management through HTTPS with SSLv3/TLS 1.2 • Secure Command Line Interface (CLI) management with SSHv1/SSHv2 • IP/Port/MAC based access control
ISP Features	• 802.3ah Ethernet Link OAM (except SG3452 V1.20) • L2PT (Layer 2 Protocol Tunneling) • DDM (for SG3210 & SG3428 & SG3428MP) • Device Link Detect Protocol (DLDP) • PPPoE ID Insertion • sFlow (for SG3428 & SG3428MP) • ERPS
Management	• Web-based GUI • Command Line Interface (CLI) through consoleport, telnet • SNMPv1/v2c/v3 - Trap/Inform - RMON (1, 2, 3, 9 groups) • SDM Template • DHCP/BOOTP Client • 802.1ab LLDP/LLDP-MED • DHCP Auto Install • Dual Image, Dual Configuration • CPU Monitoring • Cable Diagnostics • EEE • Password Recovery • SNTP • System Log • TFTP protocol
IPv6 Support	• IPv6 Dual IPv4/IPv6 • Multicast Listener Discovery (MLD) Snooping • IPv6 ACL • IPv6 Interface • Static IPv6 Routing • IPv6 neighbor discovery (ND) • Path maximum transmission unit (MTU) discovery • Internet Control Message Protocol (ICMP) version 6 • TCPv6/UDPv6 • IPv6 applications - DHCPv6 Client - Ping6 - Tracert6 - Telnet (v6) - IPv6 SNMP - IPv6 SSH - IPv6 SSL - Http/Https - IPv6 TFTP • Support NTPv6
MIBs	• MIB II (RFC1213) • Interface MIB (RFC2233) • Ethernet Interface MIB (RFC1643) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • RMON MIB (RFC2819) • RMON2 MIB (RFC2021) • 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
SG3210 V3.20	Omada 8-Port Gigabit L2+ Managed Switch with 2 SFP Slots
SG3428 V2.30	Omada 24-Port Gigabit L2+ Managed Switch with 4 SFP Slots
SG3428MP V6.20	Omada 28-Port Gigabit L2+ Managed Switch with 24-Port PoE+
SG3452 V1.20	Omada 48-Port Gigabit L2+ Managed Switch with 4 SFP Slots
SG3452P V3.30	Omada 52-Port Gigabit L2+ Managed Switch with 48-Port PoE+

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

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

RJ45 SFP Modules	
Model	Description
SM331T	1000BASE-T RJ45 SFP Module

FC Series Media Converter	
Model	Description
FC111A-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable
FC111B-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable
FC311A-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1550nm, RX:1310nm, chassis mountable
FC311B-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1310nm, RX:1550nm, chassis mountable
FC311A-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable
FC311B-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable
FC1400	14-slot power supply chassis for TP-LINK FC Series Media Converter, 19-inch rack-mountable

Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: www.tp-link.com.

PoE budget calculations are based on laboratory testing. Actual PoE power budget is not guaranteed and will vary as a result of client limitations and environmental factors.

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