tp-link

JetStream

L2+ 10-Gigabit Managed Switch Datasheet

MODELS: TL-SG3210XHP-M2/TL-SG3428X/TL-SG3428XMP

Overview

TP-Link's JetStream 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 10-gigabit ports ensure high-speed data transfer, and their backward compatility with gigabit products reserves room for network upgrades, therefore guarantees stable and long-term usability. 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 function helps 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 JetStream L2+ 10-gigabit 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

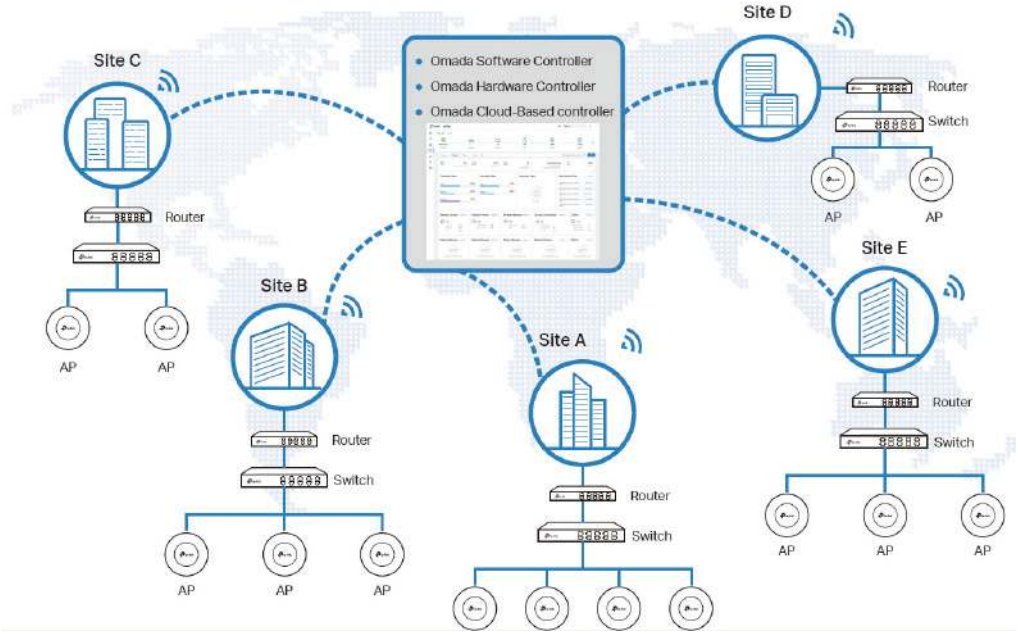
Wireless and Wired Connections

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.



Higher Efficiency

- Centralized Cloud Management
- Zero-Touch Provisioning
- AI-Driven Technology
- Auto Channel Selection and Power Adjustment
- Multi-Tenant Privilege Assignment
- Easy and Intelligent Monitoring

Higher Security

- Separate Management and User Data
- Abundant Security Functions

Higher Reliability

- 99.99% SLA Availability
- Reliable Connections with High-Density Clients

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

Zero-Touch Provisioning for Efficient Deplyment[1]

Omada zero-touch provisioning allows remotely deployment and configuration of multi-site networks, so there's no need to send out an engineer for on-site configuration. The Omada Cloud ensures efficient deployment with lower costs.

1. Zero-Touch Provisioning is supported when using Omada Cloud-Based Controller

AI-Driven Technology for Stronger Performance and Easy Network Maintenance

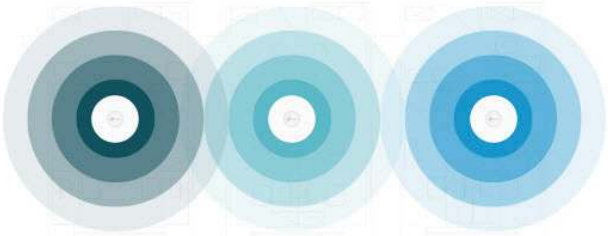
Intelligent Network Analysis, Warning, and Optimization*

- Analyzes potential network problems and sends optimization suggestions for higher network efficiency
- Locates network faults, warns and notify users, and generates solutions to reduce network risk

*Intelligent Network Analysis, Warning, and Optimization are being developed and are scheduled to be released in 2020

Auto Channel Selection and Power Adjustment

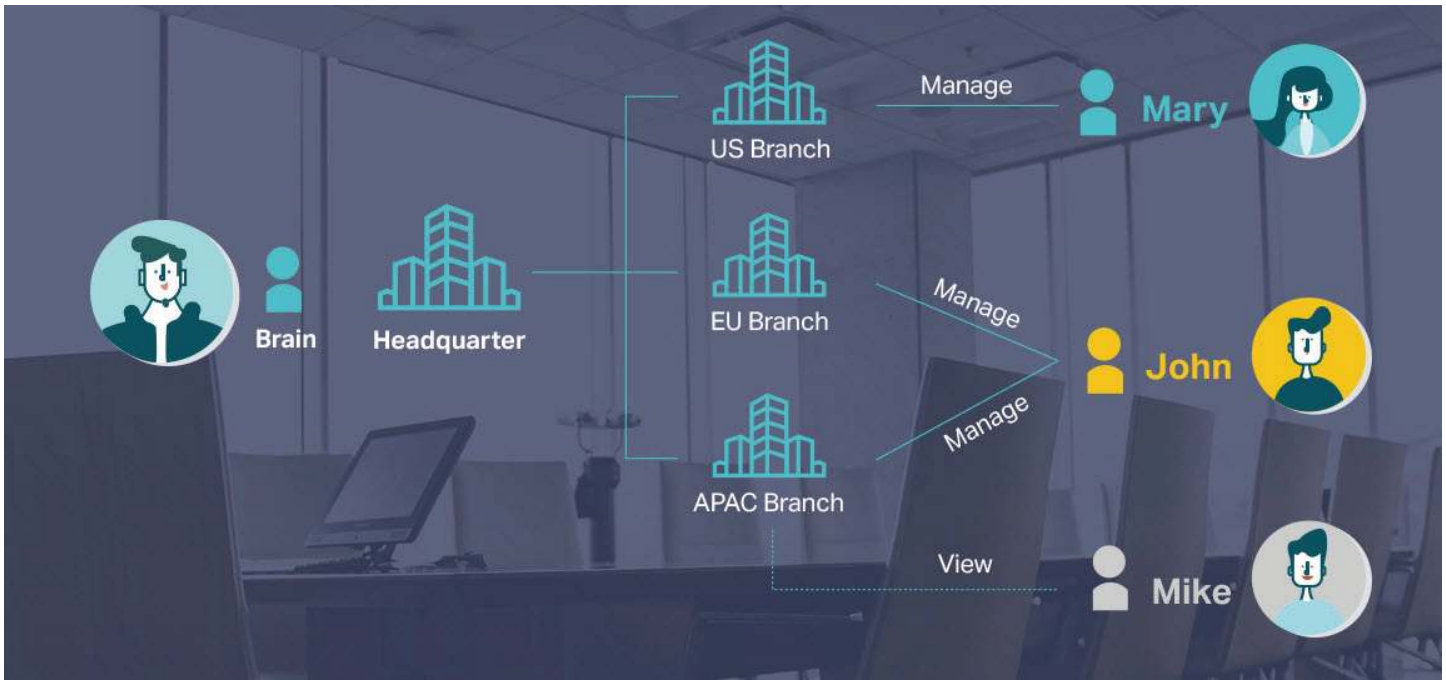
Provides powerful wireless performance while greatly reducing Wi-Fi interference by automatically adjusting the channel settings and transmission power levels of neighboring APs in the same network.



● Channel 1 ● Channel 11 ● Channel 6

Assign Different Management Roles

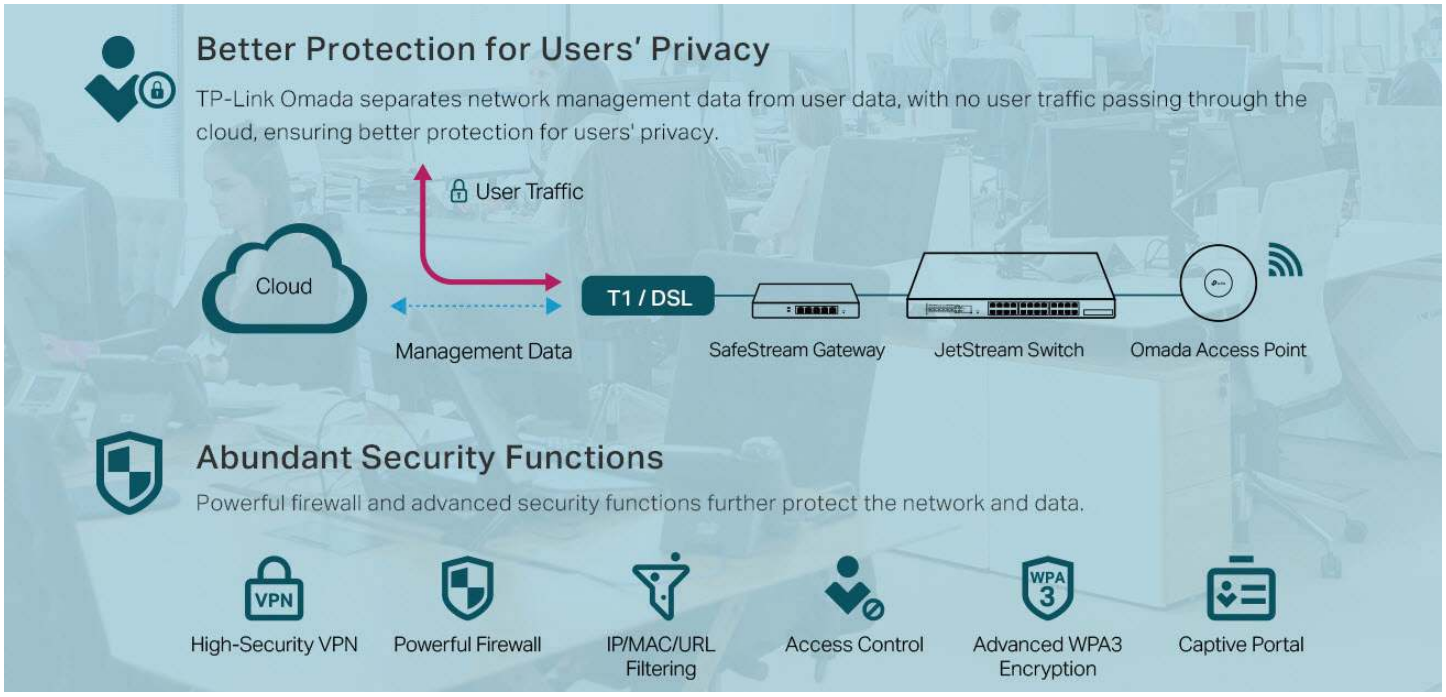
Multi-tenant privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.



Easy and Intelligent Network Monitoring

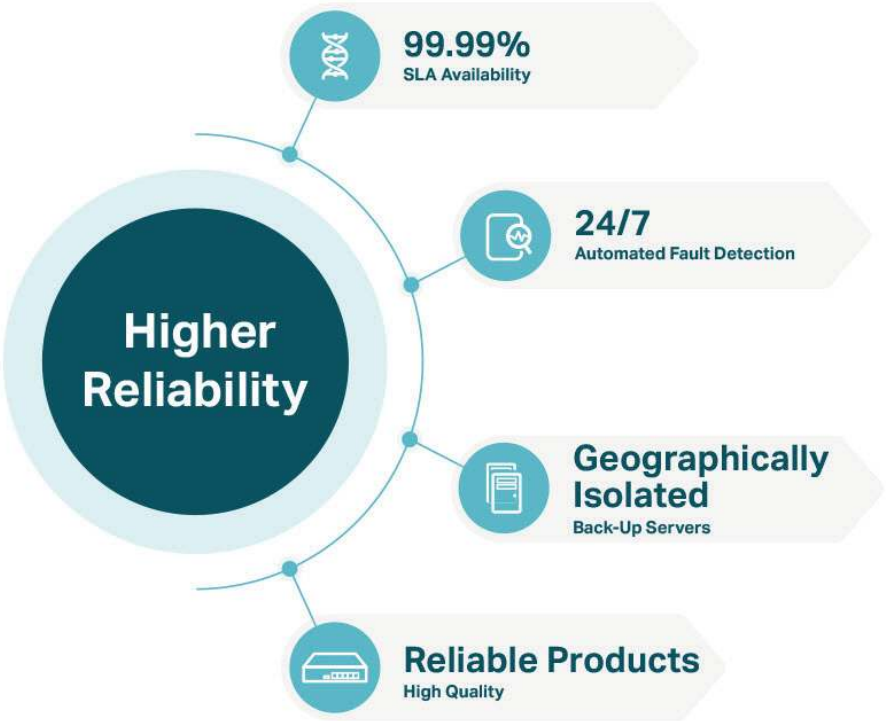
The easy-to-use dashboard makes it easy to see your real-time network status; check network usage and traffic distribution; receive network condition logs, abnormal event warnings, and notifications; or even track key data for better business results. Network topology helps IP admins quickly see and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

Comprehensive Protection for the Whole Network



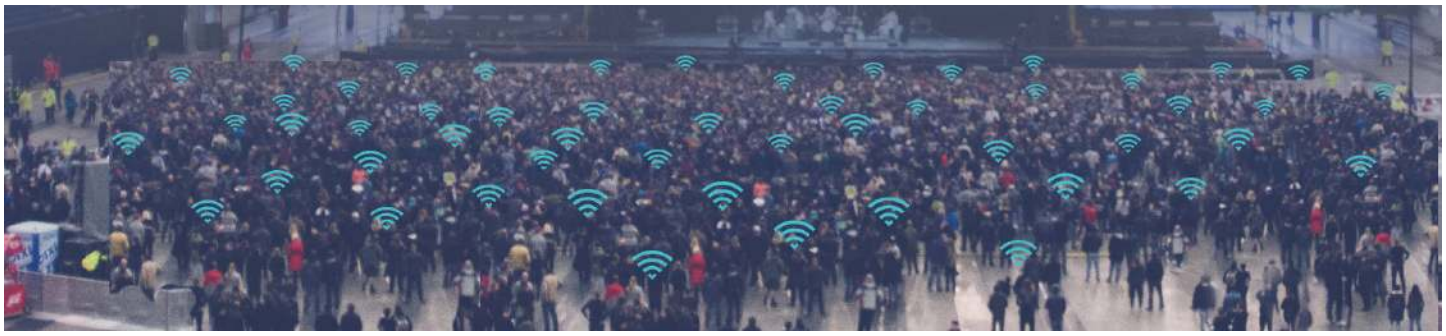
Multiple Factors Guarantee Higher Reliability

Higher reliability of cloud service is guaranteed with 99.99% SLA availability, 24/7 automated fault detection, geographically isolated backup servers, and reliable product quality. Your network functions even if management traffic is interrupted.



Reliable Connections Even with High-Density Clients

Equipped with enterprise chipsets, dedicated antennas, advanced RF functions, auto channel selection, and power adjustment, Omada Wi-Fi 6 and Wi-Fi 5 APs have high concurrency capacities for remarkable performance in high-density environments.



Switch Product Features

Networking Security

The 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+ 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 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		TL-SG3210XHP-M2
General	Interface	8 100/1000Mbps/2.5Gbps RJ45 Ports 2 10GE SFP+ Slots
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port
PoE	PoE Standard	802.3af/at
	PoE Ports	8, up to 30 W
	PoE Power Budget	240 W
Performance	Switching Capacity	80 Gbps
	Packet Forwarding Rate	59.52 Mpps
	MAC Address Table	16K
	Packet Buffer	12 Mbit
	Number of IP Interfaces	16
	Number of Static Routers	48 (IPv4, IPv6)
	Jumbo Frame	9 KB
Physical & Environmet	Power Supply	100-240 V AC~50/60 Hz
	Max Power Consumption	17.24 W (110V/60Hz) (no PD connected) 291.49 W (110V/60Hz) (with 240 W PD connected)
	Max Heat Dissipation	58.82 BTU/h (110 V/60 Hz) (no PD connected) 994.56 BTU/h (110 V/60 Hz) (with 240 W PD connected)
	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)
	Fan Quantity	2
	Installation	Rack Mountable
	Operating Temperature	0 °C to 50 °C (32 °F to 122 °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		TL-SG3428X	TL-SG3428XMP
General	Interface	24 10/100/1000Mbps RJ45 Ports 4 10GE SFP+ Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
PoE	PoE Standard	-	802.3af/at
	PoE Ports	-	24, up to 30W
	PoE Power Budget	-	384 W
Performance	Switching Capacity	128 Gbps	
	Packet Forwarding Rate	95.23 Mpps	
	MAC Address Table	16K	
	Packet Buffer	12 Mbit	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
Physical & Environmet	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	23.6 W (110V/60Hz)	34.4 W (110V/60Hz) (no PD connected) 465.8 W (110V/60Hz) (with 384 W PD connected)
	Max Heat Dissipation	80.52 BTU/h (110 V/60 Hz)	117.38 BTU/h (110 V/60 Hz) (no PD connected) 1589.31 BTU/h (110 V/60 Hz) (with 384 W PD connected)
	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	

Software Features

Model	TL-SG3210XHP-M2/TL-SG3428X/TL-SG3428XMP	
SDN Support	• Support Omada Hardware Controller (OC200/OC300), Software Controller, Cloud-Based Controller • Automatic Device Discovery • Batch Configuration • Batch Firmware Upgrading	• Intelligent Network Monitoring • Abnormal Event Warnings • Unified Configuration • Reboot Schedule • ZTP (Zero-Touch Provisioning)*
L3 Features	• 16 IPv4/IPv6 Interfaces • Static Routing - 48 static routes • Static ARP - 128 static entries • 512 ARP Entries	• 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	• 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 1000 (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: 30 Entries • 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

* Zero-Touch Provisioning is supported when using Omada Cloud-Based Controller

Software Features

Model	TL-SG3210XHP-M2/TL-SG3428X/TL-SG3428XMP	
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 - IPv6 Source Guard: 100 Entries • DoS Defend • Static/Dynamic Port Security - Up to 64 MAC addresses per port • 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 • L2PT (Layer 2 Protocol Tunneling) • PPPoE ID Insertion	• Device Link Detect Protocol (DLDP) • sFlow
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
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

Software Features

Model	TL-SG3210XHP-M2/TL-SG3428X/TL-SG3428XMP
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
TL-SG3210XHP-M2	JetStream 8-Port 2.5GBASE-T and 2-Port 10GE SFP+ L2+ Managed Switch with 8-Port PoE+
TL-SG3428XMP	JetStream 24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port PoE+
TL-SG3428X	JetStream 24-Port Gigabit L2+ Managed Switch with 4 10GE SFP+ Slots

SFP/SFP+ Modules

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

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
TL-MC1400	14-slot power supply chassis for TP-LINK MC Series Media Converter, 19-inch rack-mountable

SFP/SFP+ Modules

Model	Description
TL-FC111A-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable
TL-FC111B-20	100Mbps Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable
TL-FC311A-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1550nm, RX:1310nm, chassis mountable
TL-FC311B-2	Gigabit Single-Mode WDM Media Converter, up to 2 km, TX:1310nm, RX:1550nm, chassis mountable
TL-FC311A-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1550nm, RX:1310nm, chassis mountable
TL-FC311B-20	Gigabit Single-Mode WDM Media Converter, up to 20 km, TX:1310nm, RX:1550nm, chassis mountable
TL-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.

Specifications are subject to change without notice. All the brands and product names are trademarks or registered trademarks of their respective holders. © 2020 TP-Link