

Jet Stream L2/L2+ Gigabit Managed Switches Datasheet

MODELS: TL-SG3428 V2.0/TL-SG3428MP V2.0/TL-SG3452/ TL-SG3452P/TL-SG3210



Overview

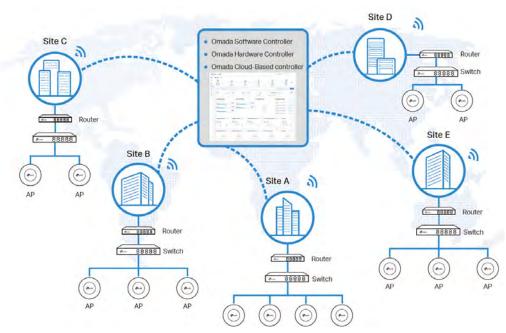
TP-Link's JetStream L2/L2+ managed switches provide high performance, powerful L2 and L2+ features like static routing, enterprise-level QoS, advanced security strategies and a bundle of ISP features. The IP-MAC-Port Binding (IMPB) and Access Control List (ACL) functions protect against broadcast storm, 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 JetStream L2/L2+ managed Switches provide a reliable, secure solution for enterprise, campus and ISP networks.

Omada Solution



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.



Zero-Touch Provisioning for Efficient Deplyment¹

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



Al-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

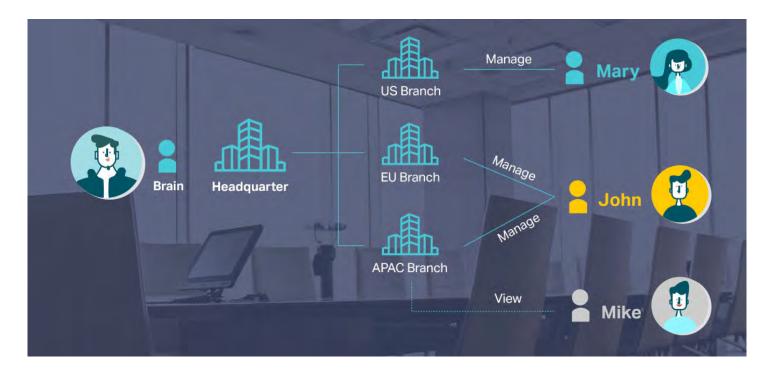
Auto Channel Selection and Power Adjustment

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.



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.

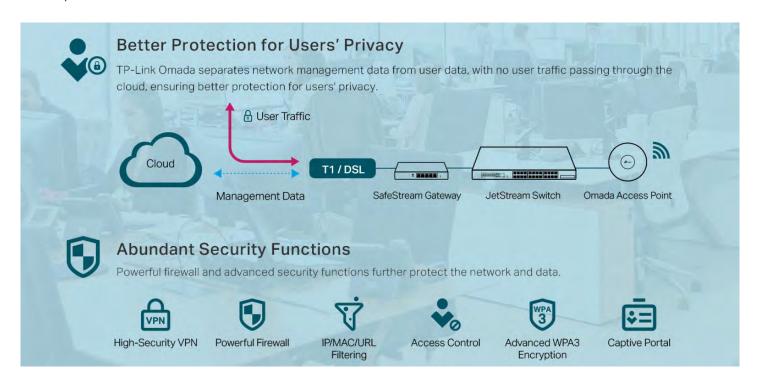


Easy and Intelligent Network Monitoring

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



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/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/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/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/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/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/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 F			
Product Picture			COLUMN TO THE STATE OF THE STAT
Model		TL-SG3428 V2.0	TL-SG3428MP V2.0
	Interface	24 10/100/1000Mbps RJ45 Ports 4 Gigabit SFP Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
	Flash	32 MB	
General	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 Standard	-	802.3af/at
PoE	PoE Ports	-	24, up to 30 W
	PoE Power Budget	-	384 W
	Switching Capacity	56 Gbps	
	Packet Forwarding Rate	41.66 Mpps	
	MAC Address Table	16K	
	Packet Buffer	12 Mbit	
Performance	Transmission Method	Store and Forward	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	19.9 W (220 W50 Hz)	34.4 W (110 W60 Hz) (no PD connected) 465.8 W (110 V/60 Hz) (with 384 W PD connected)
	Max Heat Dissipation	67.73 BTU/hr (220 V/50 Hz)	117.38 BTU/hr (110 V/60 Hz) (no PD connected) 1589.31 BTU/hr (110 V/60 Hz) (with 384 W PD connected)
	Standby Power Consumption	8.4 W (220 V/50 Hz)	20.8 W (110 V/60 Hz)
Physical & Environmet	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	

Product Picture				
Model		TL-SG3452	TL-SG3452P	
	Interface	48 10/100/1000Mbps RJ45 Ports, 4 Gigabit SFP Slots		
General	Console	1 RJ45 Console Port, 1 Micro-USB Console Port		
G 0110101	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 Standard	-	802.3af/at	
PoE	PoE Ports	-	48, up to 30 W	
	PoE Power Budget	-	384 W	
	Switching Capacity	104 Gbps		
	Packet Forwarding Rate	77.38 Mpps		
	MAC Address Table	16K		
	Packet Buffer	12 Mbit		
Performance	Transmission Method	Store and Forward		
	Number of IP Interfaces	16		
	Number of Static Routers	48 (IPv4, IPv6)		
	Jumbo Frame	9 KB		
	Power Supply	100-240 V AC~50/60 Hz		
	Max Power Consumption	34.86 W (220 V/50 Hz)	52.53 W (110 V/60 Hz) (no PD connected) 485.4 W (110 V/60 Hz) (with 384 W PD connected)	
	Max Heat Dissipation	118.94 BTU/hr (220 V/50 Hz)	179.13 BTU/hr (110 V/60 Hz) (no PD connected) 1656.19 BTU/hr (110 V/60 Hz) (with 384 W PD connected)	
Physical &	Standby Power Consumption	11.65 W (220 V/50 Hz)	27.2 W (110 V/60 Hz)	
Environmet	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		

Hardware F	eatures & Performar	nce	
Product Picture		Optofice The second of the sec	
	Model	TL-SG3210	
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 Standard	-	
PoE	PoE Ports	-	
	PoE Power Budget	-	
	Switching Capacity	20 Gbps	
	Packet Forwarding Rate	14.89 Mpps	
	MAC Address Table	8K	
	Packet Buffer	4.1 Mbit	
Performance	Transmission Method	Store and Forward	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	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)	
Physical &	Dimensions (W x D x H)	11.6 × 7.1 × 1.7 in (294 × 180 × 44 mm)	
Environmet	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	

Software Features		
Model	TL-SG3428 V2.0/TL-SG3428MP V2.0/	/TL-SG3452/TL-SG3452P/TL-SG3210
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 316 ARP Entries (512 ARP Entries for TL-SG3428 V2.0 & TL-SG3428MP V2.0) 	 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 511 (IPv4, IPv6) IGMP groups IGMP Snooping IGMP v1/v2/v3 Snooping Fast Leave IGMP Snooping Querier 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 (30 Entries for TL-SG3428 V2.0 & TL-SG3428MP V2.0) 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

Software Feature:	S	
Model	TL-SG3428 V2.0/TL-SG3428MP V2.0/	/TL-SG3452/TL-SG3452P/TL-SG3210
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 	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 TL-SG3452) L2PT (Layer 2 Protocol Tunneling) DDM (for TL-SG3428 V2.0 & TL-SG3428MP V2.0 & TL-SG3210) 	 Device Link Detect Protocol (DLDP) PPPoE ID Insertion sFlow (for TL-SG3428 V2.0 & TL-SG3428MP V2.0)
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
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-SG3428	JetStream 24-Port Gigabit L2+ Managed Switch with 4 SFP Slots
TL-SG3428MP	JetStream 28-Port Gigabit L2+ Managed Switch with 24-Port PoE+
TL-SG3452	JetStream 48-Port Gigabit L2 Managed Switch with 4 SFP Slots
TL-SG3452P	JetStream 52-Port Gigabit L2 Managed Switch with 48-Port PoE+
TL-SG3210	JetStream 8-Port Gigabit L2+ Managed Switch with 2 SFP Slots

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

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	

FC Series Media Converter	
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.

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