

# **Jet**Stream

# 10-Gigabit L2+ Managed Switch Datasheet

MODELS: TL-SX3008F / TL-SX3016F / TL-SX3206HPP / TL-SG3210XHP-M2 V2 / TL-SG3428X / TL-SG3428XMP V2.20 / TL-SG3428XF / TL-SG3452X / TL-SG3452XP V2



## 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.

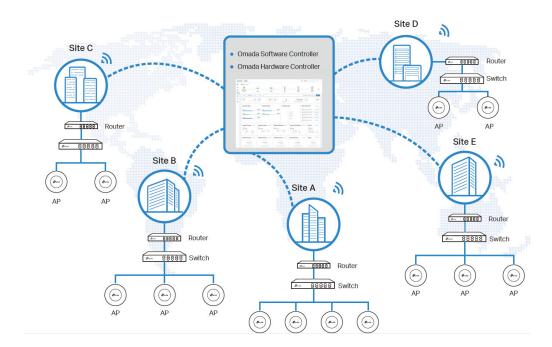


## **Omada Solution**



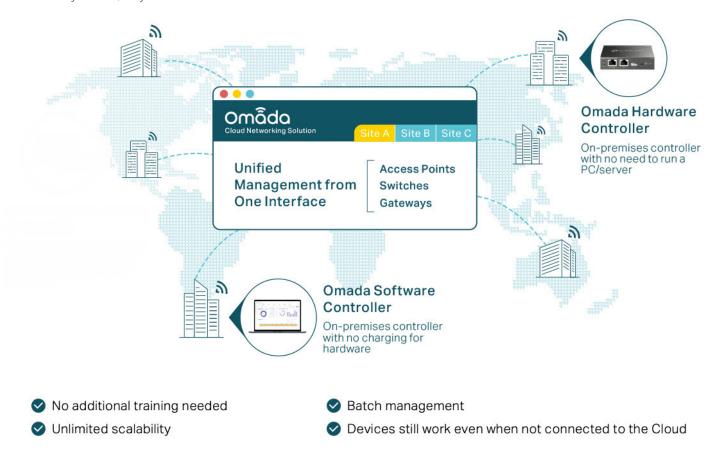
### Software Defined Networking (SDN) with Cloud Access

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.



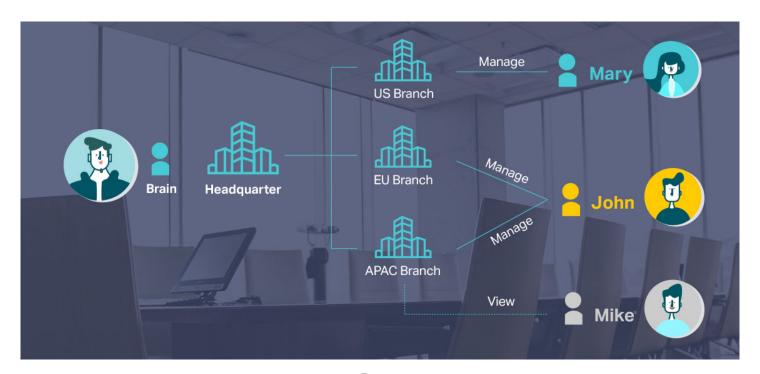
### Hassle-Free Centralized Cloud Management

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



### Assign Different Management Roles

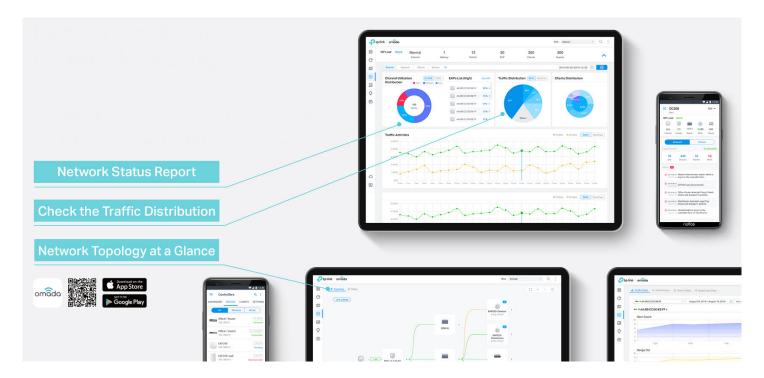
Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.



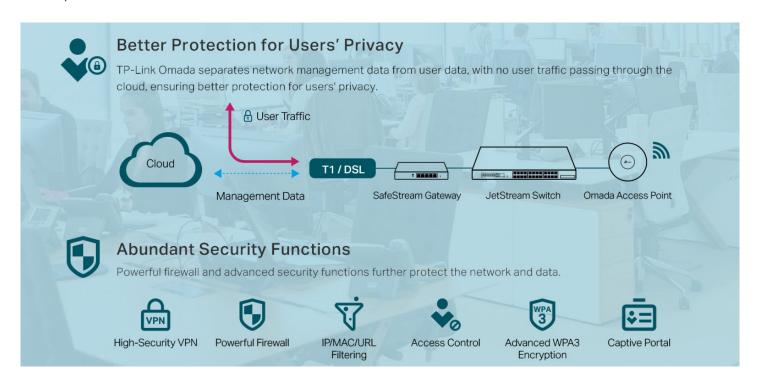


## Easy and Intelligent Network Monitoring

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 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

Product Picture		Post IIII → E □ HIHINIHH	
	Model	TL-SX3008F	TL-SX3016F
	Interface	8 10GE SFP+ Slots	16 10GE SFP+ Slots
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port	
General	Flash	32 MB	
	DRAM	256 MB	
	Port Standard	IEEE 802.3z: 1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	
	Switching Capacity	160 Gbps	320 Gbps
	Packet Forwarding Rate	119.04 Mpps	238.08 Mpps
	MAC Address Table	32K	
	Packet Buffer	16 Mbit	24 Mbit
Performance	Transmission Method	Store and Forward	
	Number of IP Interfaces	16	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
	Dual Redundant Power Supply	-	2 Fixed AC Power Supply
	Power Supply	100-240 V AC~50/60 Hz	
	Max Power Consumption	15.46 W (220 V/50 Hz)	32.74 W (220 V/50 Hz)
	Max Heat Dissipation	52.75 BTU/hr (220 V/50 Hz)	111.71 BTU/hr (220 V/50 Hz)
5	Standby Power Consumption	5.91 W (110 V/60 Hz)	13.33 W (110 V/60 Hz)
Physical & Environment	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)
	Fan Quantity	Fanless	1
	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 F	eatures & Performar	nce		
Pro	oduct Picture	Poposa	Posts comment of the	
	Model	TL-SX3206HPP	TL-SG3210XHP-M2 V2	
	Interface	4 100M/1000M/2.5G/5G/10Gbps RJ45 Ports 2 10GE SFP+ Slots	8 100/1000Mbps/2.5Gbps RJ45 Ports 2 10GE SFP+ Slots	
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port		
	Flash	32 MB		
	DRAM	256 MB	128 MB	
General	Port Standard	IEEE 802.3u:100BASE-X Fast Ethernet IEEE 802.3ab:1000BASE-T Gigabit Ethernet IEEE 802.3bz: 2.5GBASE-T Ethernet IEEE 802.3an:10GBASE-T Ethernet IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	IEEE 802.3u:100BASE-X Fast Ethernet IEEE 802.3ab:1000BASE-T Gigabit Ethernet IEEE 802.3bz:2.5GBASE-T Ethernet IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	
	PoE Standard	802.3af/at/bt	802.3af/at	
PoE	PoE Ports	4, up to 60 W	8, up to 30 W	
	PoE Power Budget	200 W	240 W	
	Switching Capacity	120 Gbps	80 Gbps	
	Packet Forwarding Rate	89.28 Mpps	59.52 Mpps	
	MAC Address Table	32 K	16 K	
Performance	Transmission Method	Store and Forward		
. Gridiniano	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	244.90 W (110V/60Hz) (with 200 W PD connected)	292.0 W (110V/60Hz) (with 240 W PD connected)	
	Max Heat Dissipation	835.67 BTU/hr (110 V/60 Hz) (with 200 W PD connected)	996.35 BTU/hr (110 V/60 Hz) (with 240 W PD connected)	
	Standby Power Consumption	13.52 W (110 V/60 Hz)	17.6 W (110V/60 Hz)	
Physical &	Dimensions (W x D x H)	11.6×7.1×1.7 in (294×180×44 mm)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	
Environmet	Fan Quantity	2		
	Installation	Rack Mountable / Desktop	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 F	eatures & Performar	nce		
Product Picture		Post and the second sec	Process Control Contro	
	Model	TL-SG3428X	TL-SG3428XMP V2.20	
	Interface	24 10/100/1000Mbps RJ45 Ports 4 10GE 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) IEEE 802.3ae: 10 Gigabit Ethernet over fiber		
	PoE Standard	-	802.3af/at	
PoE	PoE Ports	-	24, up to 30W	
	PoE Power Budget	-	384 W	
	Switching Capacity	128 Gbps		
	Packet Forwarding Rate	95.23 Mpps		
	MAC Address Table	16K		
	Transmission Method	Store and Forward		
Performance	Packet Buffer	12 Mbit		
	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	23.6 W (110W60Hz)	477.6 W (110V/60Hz) (with 384 W PD connected)	
	Max Heat Dissipation	80.52 BTU/hr (110 V/60 Hz)	1629.57 BTU/hr (110 V/60 Hz) (with 384 W PD connected)	
	Standby Power Consumption	8.67 W (110 V/60 Hz)	17.4 W (110V/60 Hz)	
Physical &	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)	
Environmet	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			
Pro	oduct Picture		
Model		TL-SG3428XF	
	Interface	20 Gigabit SFP Slots 4 Gigabit RJ45/SFP Combo Ports 4 10GE 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) IEEE 802.3ae: 10 Gigabit Ethernet over fiber	
	PoE Standard	-	
PoE	PoE Ports	-	
	PoE Power Budget	-	
	Switching Capacity	128 Gbps	
	Packet Forwarding Rate	95.23 Mpps	
	MAC Address Table	16K	
	Transmission Method	Store and Forward	
Performance	Packet Buffer	12 Mbit	
	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	35.7 W (110V/60Hz)	
	Max Heat Dissipation	121.81 BTU/hr (110 V/60 Hz)	
	Standby Power Consumption	17.6 W (110 V/60 Hz)	
Physical &	Dimensions (W x D x H)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)	
Environmet	Fan Quantity	1	
	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 F	eatures & Performar	nce		
Product Picture			5 <del></del>	
	Model	TL-SG3452X	TL-SG3452XP V2.0	
	Interface	48 10/100/1000Mbps RJ45 Ports 4 10GE SFP+ Slots		
	Console	1 RJ45 Console Port, 1 Micro-USB Console Port		
	Flash	32 MB		
General	DRAM	512 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) IEEE 802.3ae: 10 Gigabit Ethernet over fiber		
	PoE Standard	-	802.3af/at	
PoE	PoE Ports	-	48, up to 30 W	
	PoE Power Budget	-	500 W	
	Switching Capacity	176 Gbps		
	Packet Forwarding Rate	130.94 Mpps		
	MAC Address Table	16 K		
	Transmission Method	Store and Forward		
Performance	Packet Buffer	12 Mbit		
	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	32.72 W (110V/60Hz)	648.20 W (110V/60Hz) (with 500 W PD connected)	
	Max Heat Dissipation	111.65 BTU/hr (110 V/60 Hz)	2211.85 BTU/hr (110 V/60 Hz) (with 500 W PD connected)	
	Standby Power Consumption	13.38 W (110 V/60 HZ)	30.39 W (110 V/60 Hz)	
Physical &	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)	
Environmet	Fan Quantity	-	3	
	Installation	Rack Mountable		
	Operating Temperature	0 °C to 45 °C (32 °F to 113 °F)	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		



oftware Feature	es	
Model		PP / TL-SG3210XHP-M2 V2 / TL-SG3428X / BXF / TL-SG3452X / TL-SG3452XP V2
SDN Support	Support Omada Hardware Controller (OC200/OC300), Software Controller     Automatic Device Discovery     Batch Configuration     Batch Firmware Upgrading	<ul><li>Intelligent Network Monitoring</li><li>Abnormal Event Warnings</li><li>Unified Configuration</li><li>Reboot Schedule</li></ul>
L3 Features	<ul> <li>16 IPv4/IPv6 Interfaces</li> <li>Static Routing</li> <li>48 static routes</li> <li>Static ARP</li> <li>128 static entries</li> <li>512 ARP Entries</li> </ul>	<ul> <li>Proxy ARP</li> <li>Gratuitous ARP</li> <li>DHCP Server</li> <li>DHCP Relay</li> <li>DHCP interface relay</li> <li>DHCP VLAN relay</li> <li>DHCP L2 Relay</li> </ul>
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	<ul> <li>Loopback Detection</li> <li>Port based</li> <li>VLAN based</li> <li>Flow Control</li> <li>802.3x Flow Control</li> <li>HOL Blocking Prevention</li> <li>Mirroring</li> <li>Port Mirroring</li> <li>CPU Mirroring</li> <li>One-to-One</li> <li>Many-to-One</li> <li>Tx/Rx/Both</li> </ul>
L2 Multicast	Supports 1000 (IPv4, IPv6) IGMP groups  IGMP Snooping  IGMP v1/v2/v3 Snooping  Fast Leave  IGMP Snooping Querier  IGMP Authentication  MVR	<ul> <li>MLD Snooping</li> <li>MLD v1/v2 Snooping</li> <li>Fast Leave</li> <li>MLD Snooping Querier</li> <li>Static Group Config</li> <li>Limited IP Multicast</li> <li>Multicast Filtering: 256 profiles and 16 entries per profile</li> </ul>
VLAN	VLAN Group (802.1q VLAN)  Max 4K VLAN Groups  802.1Q Tagged VLAN  MAC VLAN: 30 entries  (10 entries for TL-SG3210XHP-M2)  Protocol VLAN: Protocol Template 16, Protocol VLAN 16  (Protocol Template 16 and Protocol VLAN 12 for TL-SX3008F and TL-SX3016F)	<ul> <li>Private VLAN</li> <li>GVRP</li> <li>VLAN VPN</li> <li>VLAN Mapping</li> <li>VLAN Replace</li> <li>Voice VLAN</li> </ul>
QoS	<ul> <li>8 priority queues</li> <li>802.1p CoS/DSCP priority</li> <li>Queue scheduling <ul> <li>SP (Strict Priority)</li> <li>WRR (Weighted Round Robin)</li> <li>SP+WRR</li> </ul> </li> <li>Bandwidth Control <ul> <li>Port/Flow based Rating Limiting</li> </ul> </li> </ul>	<ul> <li>Smoother Performance</li> <li>Action for Flows</li> <li>QoS remark (802.1P Remark, DSCP Remark)</li> </ul>



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Software Features	3	
Model		3206HPP / TL-SG3210XHP-M2 V2 / TL-SG3428X / G3428XF / TL-SG3452X / TL-SG3452XP V2
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
Security	IP-MAC-Port Binding  -512 Entries  - DHCP Snooping  - ARP Inspection  - IPv4 Source Guard  IPv6-MAC  -Port Binding  -512 Entries  - DHCPv6 Snooping  - ND Detection  - ND Snooping  - IPv6 Source Guard  DOS Defend  DHCP Filter  Static/Dynamic Port Security  - Up to 64 MAC addresses per port  Broadcast/Multicast/Unknown-unicast Store Control  - kbps/ratio/pps control mode	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     QinQ	<ul><li>Device Link Detect Protocol (DLDP)</li><li>sFlow</li><li>DDM</li><li>ERPS</li></ul>
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	<ul> <li>DHCP Auto Install</li> <li>Dual Image, Dual Configuration</li> <li>CPU Monitoring</li> <li>Cable Diagnostics</li> <li>EEE*</li> <li>Password Recovery</li> <li>SNTP</li> <li>System Log</li> </ul>

Software Features	3	
Model	TL-SX3008F / TL-SX3016F / TL-SX3206HPP / TL-SG3210XHP-M2 V2 / TL-SG3428X / TL-SG3428XMP V2.20 / TL-SG3428XF / TL-SG3452X / TL-SG3452XP V2	
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	<ul> <li>MIB II (RFC1213)</li> <li>Interface MIB (RFC2233)</li> <li>Ethernet Interface MIB (RFC1643)</li> <li>Bridge MIB (RFC1493)</li> <li>P/Q-Bridge MIB (RFC2674)</li> <li>RMON MIB (RFC2819)</li> </ul>	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-SX3008F	JetStream 8-Port 10GE SFP+ L2+ Managed Switch
TL-SX3016F	JetStream 16-Port 10GE SFP+ L2+ Managed Switch
TL-SX3206HPP	JetStream 6-Port 10GE L2+ Managed Switch with 4-Port PoE++
TL-SG3210XHP-M2 V2	JetStream 8-Port 2.5GBASE-T and 2-Port 10GE SFP+ L2+ Managed Switch with 8-Port PoE+
TL-SG3428X	JetStream 24-Port Gigabit L2+ Managed Switch with 4 10GE SFP+ Slots
TL-SG3428XMP V2.20	JetStream 24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port PoE+
TL-SG3428XF	JetStream 24-Port SFP L2+ Managed Switch with 4 10GE SFP+ Slots
TL-SG3452X	JetStream 48-Port Gigabit L2+ Managed Switch with 4 10GE SFP+ Slots
TL-SG3452XP V2	JetStream 48-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 48-Port PoE+

SFP/SFP+ Modules	3
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

RJ45 SFP/SFP+ Modules		
Model	Description	
TL-SM331T	1000BASE-T RJ45 SFP Module	
TL-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	
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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