

# Jet Stream Smart Switches Datasheet

MODELS: TL-SG2008 V4 / TL-SG2008P V3 / TL-SG2210P V5 / TL-SG2210MP V4 / TL-SG2016P / TL-SG2218 / TL-SG2428P V5 / TL-SL2428P V6



# Overview

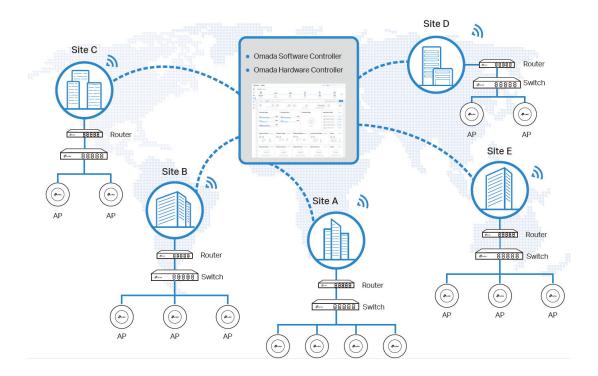
TP-Link's brand new JetStream gigabit smart switches provide huge upgrade comparing with previous versions. The switches can be managed by Omada SDN Controller, which provides professional and reliable one-step solutions. Integrated L2 and L2+ features such as 802.1Q VLAN, QoS, IGMP Snooping and static routing provide cost-effective networking solutions for small and medium-sized businesses without sacrificing enhanced usability and strong performance.

# **Omada Solution**



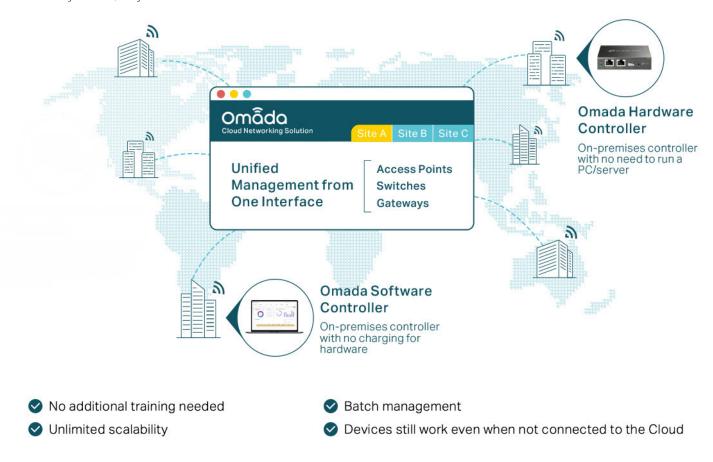
## Software Defined Networking (SDN) with Cloud Access

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.



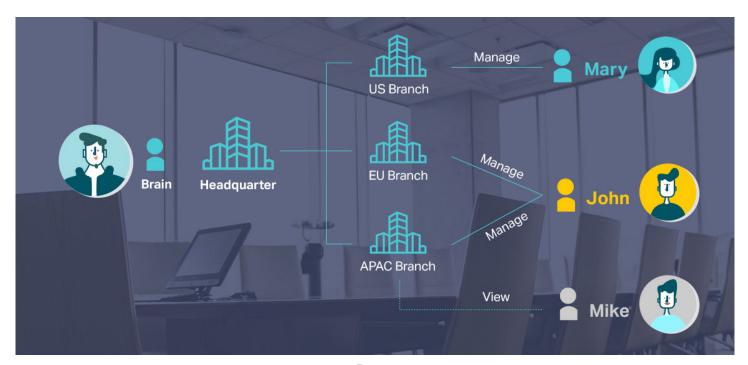
# Hassle-Free Centralized Cloud Management

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



## Assign Different Management Roles

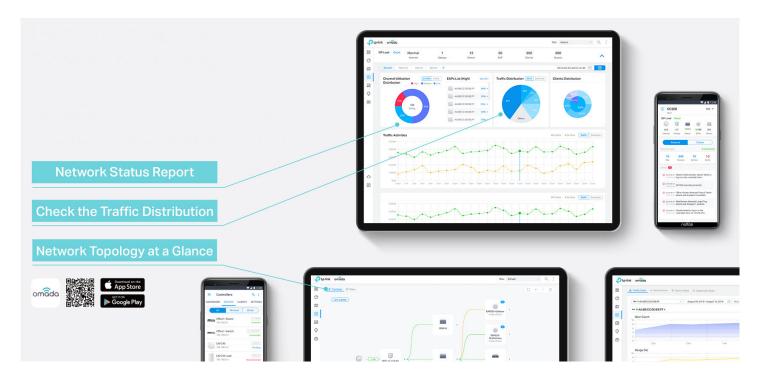
Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.



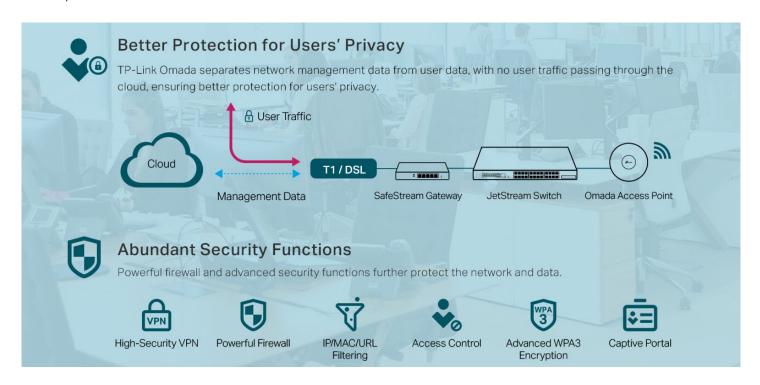


# Easy and Intelligent Network Monitoring

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**

#### Highlights

- Gigabit Ethernet connections on all ports provide full speed of data transferring
- L2+ Feature ——Static Routing, helps route internal traffic for more efficient use of network resources
- Advanced security features include IP-MAC-Port Binding, ACL, Port Security, DoS Defend, Storm Control, DHCP Snooping, 802.1X and Radius Authentication
- L2/L3/L4 QoS and IGMP Snooping optimize voice and video applications
- Comprehensive IPv6 support for management, QoS and ACL
- Web/CLI managed modes, SNMP, RMON and Dual Image bring abundant management features

#### Advanced QoS features

To integrate voice, data and video service on one network, the switch applies rich QoS policies. Administrator can designate the priority of the traffic based on a variety of means including Port Priority, 802.1P Priority and DSCP Priority, to ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN that the switches support, Voice Applications will perform better and smoother.

#### Abundant L2 and L2+ features

TP-Link JetStream smart switches support a complete lineup of L2 features, including IGMP Snooping/ MLD Snooping, 802.1Q/MAC/Protocol VLAN, STP/RSTP/MSTP, Link Aggregation Group (LAG), Port Isolation, Port Mirroring, and 802.3x Flow control function. IGMP Snooping ensures the multicast stream be forwarded intelligently to the appropriate subscribers by the switch, while IGMP Throttling & Filtering restricts each subscriber on a certain level to prevent unauthorized multicast access. Besides, these smart switches also support L2+ features like static routing. It is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic to be more efficient.

## Enterprise Level Management Features

TP-Link JetStream smart switches support multiple user-friendly standard management features such as intuitive web-based Graphical User Interface (GUI), industrially standard Command Line Interface (CLI) and SNMP (v1/v2c/v3). These switches support RMON (Remote Network Monitoring), which enables the switch to be polled for valuable status information and send traps when encountering abnormal events. Also, this series of switches support Dual Image function, which makes there be less 'down-time' when switches are being upgraded/downgraded.

## IPv6 Support

TP-Link JetStream smart switches support comprehensive IPv6 features including IPv6 management, ACL, QoS and MLD Snooping, all of these features help to ensure a smooth migration to IPv6-based network without changing switches in the future.



# Specifications

Hardware F	eatures & Perfor	mance				
Prod	luct Picture	Post on the second of the seco	Post 2 22   1   1   1   22	P		
	Model	TL-SG2008 V4	TL-SG2008P V3	TL-SG2210P V5		
	Interface	8 10/100/1000Mbps RJ45 Ports	8 10/100/1000Mbps RJ45 ports	8 10/100/1000Mbps RJ45 Ports 2 Gigabit SFP Slots		
	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) (only for TL-SG2210P)				
	PoE Standard		802.3af/at	802.3af/at		
PoE	PoE Ports		4, up to 30 W	8, up to 30 W		
	PoE Power Budget		62 W	61 W		
	Switching Capacity	16 Gbps	16 Gbps	20 Gbps		
	Packet Forwarding Rate	11.90 Mpps		14.88 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	32 (IPv4, IPv6)				
	Jumbo Frame	9 KB				
	Power Supply	12 VDC/1 A External Adapter or Obtain Power from PoE Source	53.5 VDC/1.31 A External Ada	ipter		
	Max Power Consumption	6.4 W (220 V/50 Hz)	77.3 W (110 V/60 Hz) (with 62 W PD connected)	77.8 W (110 V/60 Hz) (with 61 W PD connected)		
	Max Heat Dissipation	21.84 BTU/hr (220 V/50 Hz)	263.6 BTU/hr (110 V/60 Hz) (with 62 W PD connected)	265.3 BTU/hr (110 V/60 Hz) (with 61 W PD connected)		
	Standby Power Consumption	2.56 W (220 V/50 Hz)	2.8 W (110 V/60 Hz)	4.5 W (110 V/60 Hz)		
Physical & Environment	Dimensions (W x D x H)	8.2 × 4.9 × 1.0 in (209 × 126 × 26 mm)				
ZHVITOHITIGHT	Fan Quantity	Fanless				
	Installation	Desktop/Wall-Mounting				
	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 & Perform	ance				
Product Picture		2		Barri HIII		
	Model	TL-SG2210MP V4	TL-SG2016P	TL-SG2218		
	Interface	8 10/100/1000Mbps RJ45 Ports 2 Gigabit SFP Slots	16 10/100/1000Mbps RJ45 Ports	16 10/100/1000Mbps RJ45 Ports 2 Gigabit SFP Slots		
	Flash	32 MB				
General	DRAM	256 MB				
General	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) For TL-SG2016P: IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet				
	PoE Standard	802.3af/at		-		
PoE	PoE Ports	8, up to 30 W		-		
	PoE Power Budget	150 W	120 W	-		
	Switching Capacity	20 Gbps	32 Gbps	36 Gbps		
	Packet Forwarding Rate	14.88 Mpps	23.81 Mpps	26.78 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	32 (IPv4, IPv6)				
	Jumbo Frame	9 KB				
	Power Supply	100-240V AC, 50/60Hz	53.5VDC/2.43A External Adapter	100-240V AC, 50/60Hz		
	Max Power Consumption	174.2 W (110 V/60 Hz) (with 150 W PD connected)	146.5 W (110V/60Hz) (with 120 W PD connected)	12.3 W (220 V/50 Hz)		
	Max Heat Dissipation	594.46 BTU/hr (110 V/60 Hz) (with 150 W PD connected)	499.98 BTU/hr (110V/60Hz) (with 120 W PD connected)	41.97 BTU/hr (220 V/50 Hz)		
	Standby Power Consumption	8.1 W (110 V/60 Hz)	9.0 W (110V/60Hz)	3.84 W (220 V/50 Hz)		
Physical &	Dimensions (W x D x H)	11.6 x 7.1 x 1.7 in (294 x 180 x 44 mm)	11.3 × 4.4 × 1.0 in (286 × 111.7 × 25.4 mm)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)		
Environment	Fan Quantity	1	Fanless			
	Installation	Rackmount/Desktop	Desktop/Wall-Mounting	Rackmount		
	Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)	0 °C to 40 °C (32 °F to 104 °F)	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-cond	densing			
	Storage Humidity	5% to 90% RH, non-condensing				
	Certification	CE, FCC, RoHS				

Hardware F	eatures & Perform	ance		
Product Picture		2		
	Model	TL-SG2428P V5	TL-SL2428P V6	
	Interface	24 10/100/1000Mbps RJ45 ports 4 Gigabit SFP Slots	24 10/100 Mbps RJ45 Ports 2 10/100/1000 Mbps RJ45 Ports 2 Combo Gigabit RJ45/SFP Ports	
	Flash	32 MB		
General	DRAM	256 MB		
General	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 802.3i: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	250 W		
	Switching Capacity	56 Gbps	12.8 Gbps	
	Packet Forwarding Rate	41.66 Mpps	9.52 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	32 (IPv4, IPv6)		
	Jumbo Frame	9 KB		
	Power Supply	100-240V AC, 50/60Hz		
	Max Power Consumption	301.1 W (110 V/60 Hz) (with 250 W PD connected)	291.6 W (110 V/60 Hz) (with 250 W PD connected)	
	Max Heat Dissipation	1027.40 BTU/hr (110 V/60 Hz) (with 250 W PD connected)	995.09 BTU/hr (110 V/60 Hz) (with 250 W PD connected)	
	Standby Power Consumption	15.6 W (110V/60 Hz)	13.2 W (110V/60 Hz)	
	Dimensions (W x D x H)	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	
Physical & Environment	Fan Quantity	2		
	Installation	Rackmount		
	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		

Software Features	3	
Model	TL-SG2008 V4 / TL-SG2008P V3/ TL-SG2210P V5 SG2428P V5/ TL-SL2428P V6	/TL-SG2210MP V4 / TL-SG2016P / TL-SG2218 / TL-
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>
L2+ Features	<ul> <li>16 IP Interfaces</li> <li>Support IPv4/IPv6 Interface</li> <li>Static Routing</li> <li>32 IPv4/IPv6 Static Routes</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>	<ul><li>Static ARP</li><li>Proxy ARP</li><li>Gratuitous ARP</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/Protect, Root Protect Loopback Detection	<ul> <li>Flow Control</li> <li>802.3x Flow Control</li> <li>Mirroring</li> <li>Port Mirroring</li> <li>CPU Mirroring</li> <li>One-to-One</li> <li>Many-to-One</li> <li>Flow-Based</li> <li>Ingress/Egress/Both</li> <li>Device Link Detect Protocol (DLDP)</li> <li>802.1ab LLDP/ LLDP-MED</li> </ul>
L2 Multicast	• 511 IPv4, IPv6 shared multicast groups  • IGMP Snooping  - IGMP v1/v2/v3 Snooping  - Fast Leave  - IGMP Snooping Querier  - Static Group Config  • Multicast VLAN Registration (MVR)  • Multicast Filtering	<ul> <li>MLD Snooping <ul> <li>MLD v1/v2 Snooping</li> <li>Fast Leave</li> <li>MLD Snooping Querier</li> <li>Static Group Config</li> </ul> </li> <li>Limited IP Multicast (256 profiles and 16 entries per profile)</li> </ul>
VLAN	<ul><li>VLAN Group</li><li>- Max. 4K VLAN Groups</li><li>802.1Q tag VLAN</li><li>MAC VLAN (12 entries)</li></ul>	<ul><li>Protocol VLAN</li><li>GVRP</li><li>Voice VLAN</li></ul>
QoS	<ul> <li>802.1p CoS/DSCP priority</li> <li>8 priority queues</li> <li>Priority Schedule Mode</li> <li>SP (Strict Priority)</li> <li>WRR (Weighted Round Robin)</li> <li>Queue Weight Config</li> </ul>	<ul> <li>Bandwidth Control</li> <li>Port/Flow based Rating Limit</li> <li>Smoother Performance</li> <li>Storm Control</li> <li>Multiple Control Modes(kbps/ratio)</li> <li>Broadcast/Multicast/Unknown-Unicast Control</li> </ul>

Software Feature		/TI CC2210MD\////TI CC2212D/TI CC2242/TI
Model	TL-SG2008 V4 / TL-SG2008P V3/ TL-SG2210P V5 / SG2428P V5/ TL-SL2428P V6	TL-SG22T0MP V47TL-SG20T6P7TL-SG22T87TL
ACL	Support up to 230 entries  Time-Range Time Slice Week Time-Range Absolute Time-Range Holiday  Time-based ACL  MAC ACL Source MAC Destination MAC User Priority Ether Type IP ACL Source IP Destination IP IP Protocol TCP Flag TCP/UDP Source Port DSCP/IP TOS	<ul> <li>IPv6 ACL</li> <li>Combined ACL</li> <li>Rule Operation  - Permit/Deny</li> <li>Policy Action  - Mirror  - Rate Limit  - Redirect  - QoS Remark</li> <li>ACL Rules Binding  - Port Binding  - VLAN Binding</li> <li>Actions for flows  - Mirror (to supported interface)  - Redirect (to supported interface)  - Rate Limit  - QoS Remark</li> </ul>
Security	<ul> <li>AAA</li> <li>802.1X</li> <li>Port based authentication</li> <li>MAC (Host) based authentication</li> <li>Authentication Method includes PAP/EAP-MD5</li> <li>MAB</li> <li>Guest VLAN</li> <li>Support Radius authentication and accountability</li> <li>IP/IPv6-MAC Binding</li> <li>512 Binding Entries</li> <li>DHCP Snooping</li> <li>DHCPv6 Snooping</li> <li>ARP Inspection</li> <li>ND Detection</li> <li>ND Snooping</li> <li>IP Source Guard</li> <li>253 Entries</li> <li>Source IP+Source MAC</li> </ul>	<ul> <li>IPv6 Source Guard</li> <li>183 Entries</li> <li>Source IPv6 Address+Source MAC</li> <li>DoS Defend</li> <li>DHCP Filter</li> <li>Static/Dynamic/Permanent Port Security</li> <li>Up to 64 MAC addresses per port</li> <li>Broadcast/Multicast/Unicast Storm Control</li> <li>kbps/ratio control mode</li> <li>Port Isolation</li> <li>Secure web management through HTTPS with SSLv3/TLS 1.2</li> <li>Secure Command Line Interface (CLI) management with SSHv1/SSHv2</li> <li>IP/Port/MAC based access control</li> </ul>

Software Features	3	
Model	TL-SG2008 V4 / TL-SG2008P V3/ TL-SG2210P V5 SG2428P V5/ TL-SL2428P V6	5/TL-SG2210MP V4/TL-SG2016P/TL-SG2218/TL-
IPv6 Support	IPv6 Static Routing and ACL  IPv6 Dual IPv4/IPv6  IPv6 Interface  Multicast Listener Discovery (MLD) Snooping  IPv6 neighbor discovery (ND)  Path maximum transmission unit (MTU) discovery  Internet Control Message Protocol (ICMP) version  TCPv6/UDPv6  IPv6 applications  DHCPv6 Client  Ping6  Tracert6  Telnet(v6)  IPv6 SNMP  IPv6 SSH  IPv6 SSL  Http/Https  IPv6 TFTP	
Management	Web-based GUI Command Line Interface (CLI) through telnet SNMPv1/v2c/v3 SNMP Trap/Inform RMON (1,2,3,9 groups) SDM Template DHCP/BOOTP Client	<ul> <li>Dual Image, Dual Configuration</li> <li>CPU Monitoring</li> <li>Cable Diagnostics</li> <li>EEE</li> <li>SNTP</li> <li>System Log</li> </ul>
MIBs	MIB II (RFC1213)     Bridge MIB (RFC1493)     P/Q-Bridge MIB (RFC2674)     Radius Accounting Client MIB (RFC2620)	<ul> <li>Radius Authentication Client MIB (RFC2618)</li> <li>Remote Ping, Traceroute MIB (RFC2925)</li> <li>Support TP-Link private MIBs</li> <li>RMON MIB(RFC1757, rmon 1,2,3,9)</li> </ul>

# Ordering Information

Host Switch	
Model	Description
TL-SG2008 V4	JetStream 8-Port Gigabit Smart Switch
TL-SG2008P V3	JetStream 8-Port Gigabit Smart Switch with 4-Port PoE+
TL-SG2210P V5	JetStream 10-Port Gigabit Smart Switch with 8-Port PoE+
TL-SG2210MP V4	JetStream 10-Port Gigabit Smart Switch with 8-Port PoE+
TL-SG2016P	JetStream 16-Port Gigabit Smart Switch with 8-Port PoE+
TL-SG2218	JetStream 16-Port Gigabit Smart Switch with 2 SFP Slots
TL-SG2428P V5	JetStream 28-Port Gigabit Smart Switch with 24-Port PoE+
TL-SL2428P V6	JetStream 24-Port 10/100Mbps + 4-Port Gigabit Smart Switch with 24-Port PoE+

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

RJ45 SFP/SFP+ Modules		
Model	Description	
TL-SM331T	1000BASE-T RJ45 SFP Module	
TL-SM5310-T	10GBASE-T RJ45 SFP+ Module	

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.
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