Smart Switches Datasheet

MODEL: SG2005P-PD / SG2210XMP-M2

Overview

TP-Link's brand new Omada 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

Hospitality

High Quality and Full Coverage Wi-Fi

Education

High-Density Wi-Fi

Retail

Social Marketing for O2O

Office

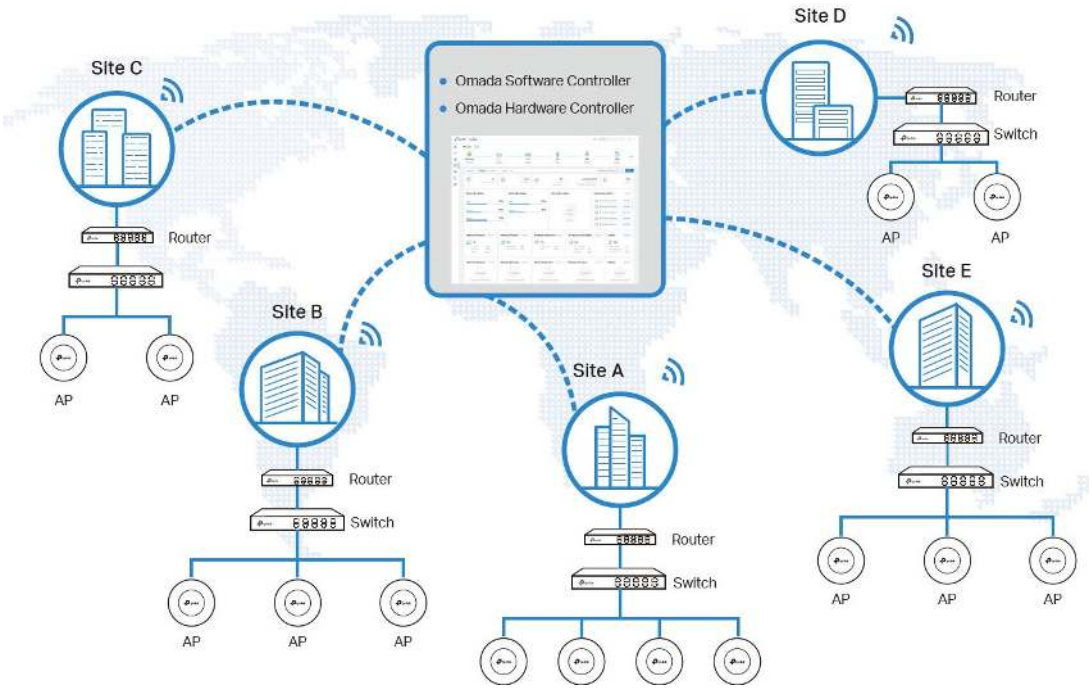
Wireless and Wired Connections

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.



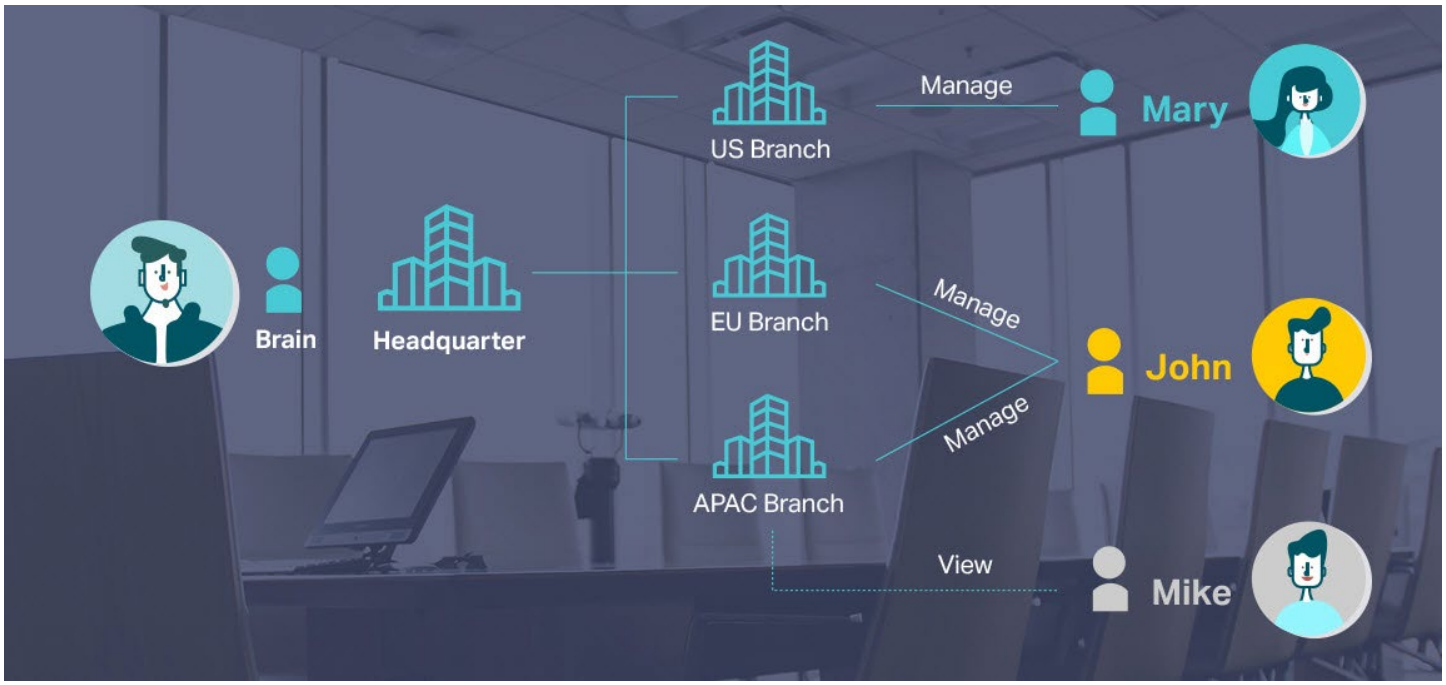
Hassle-Free Centralized Cloud Management

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

Assign Different Management Roles

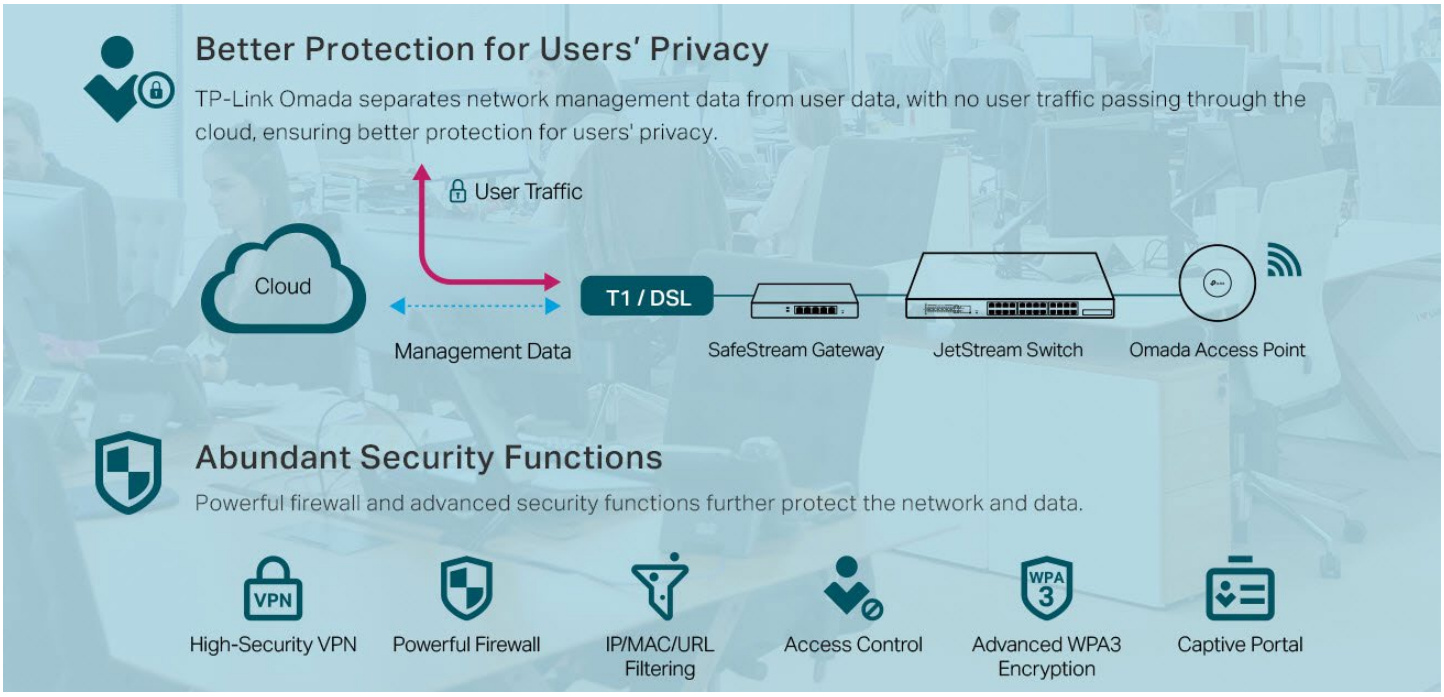
Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.



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/ Multi-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 Omada 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 Omada 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 Omada 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 Features & Performance

Product Picture		
Model		SG2005P-PD
General	Interface	5 10/100/1000Mbps RJ45 Ports
	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;
PoE	PoE Standard	802.3af/at/bt PoE in for port 5 802.3af/at PoE out for port 1-4
	PoE Power Budget	64 W when powered by 802.3bt Type 4 (90 W) 44 W when powered by 802.3bt Type 3 (60 W) 19 W when powered by 802.3at 6 W when powered by 802.3af
Performance	Switching Capacity	10 Gbps
	Packet Forwarding Rate	7.44 Mpps
	MAC Address Table	8K
	Packet Buffer	4.1 Mbit
	Transmission Method	Store and Forward
	Number of IP Interfaces	16
	Number of Static Routers	32 (IPv4, IPv6)
	Jumbo Frame	9 KB
Physical & Environment	Power Supply	Obtain Power from 802.3af/at/bt PoE Source
	Max Power Consumption	71.5 W (when powered by 802.3bt Type 4 (90 W))
	Max Heat Dissipation	243.99 BTU/hr (when powered by 802.3bt Type 4 (90 W))
	Standby Power Consumption	6.7 W
	Dimensions (W x D x H)	6.7 × 3.9 × 1.5 in (170 × 100 × 38.5 mm)
	IP Rating	IP55
	Surge Protection	4 kV
	Fan Quantity	Fanless
	Installation	Pole-Mounting/Wall-Mounting
	Operating Temperature	-40 to 60 °C (-40 to 140 °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		SG2210XMP-M2
General	Interface	8 100/1000Mbps/2.5Gbps RJ45 Ports 2 10GE SFP+ Slots
	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 802.3bz:2.5GBASE-T Ethernet IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical fiber) IEEE 802.3ae: 10 Gigabit Ethernet over fiber
PoE	PoE Standard	802.3af/at
	PoE Ports	8, up to 30 W
	PoE Power Budget	160 W
Performance	Switching Capacity	80 Gbps
	Packet Forwarding Rate	59.52 Mpps
	MAC Address Table	16K
	Packet Buffer	12 Mbit
	Transmission Method	Store and Forward
	Number of IP Interfaces	32
	Number of Static Routers	32 (IPv4, IPv6)
	Jumbo Frame	9 KB
Physical & Environment	Power Supply	53.5VDC/3.37A Power Adapter
	Max Power Consumption	180.1 W (110V/60Hz) (with 160 W PD connected)
	Max Heat Dissipation	614.58 BTU/hr (110V/60Hz) (with 160 W PD connected)
	Standby Power Consumption	13.3 W
	Dimensions (W x D x H)	8.9 × 5.2 × 1.4 in (226 × 131 × 35 mm)
	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

Software Features

Model	SG2005P-PD / SG2210XMP-M2	
SDN Support	• Support Omada Hardware Controller (OC200/ OC300), Software Controller • Automatic Device Discovery • Batch Configuration • Batch Firmware Upgrading	• Intelligent Network Monitoring • Abnormal Event Warnings • Unified Configuration • Reboot Schedule
L2+ Features	• 16 IP Interfaces (32 for SG2210XMP-M2) - Support IPv4/IPv6 Interface • Static Routing - 32 IPv4/IPv6 Static Routes • DHCP Server • DHCP Relay - DHCP Interface Relay - DHCP VLAN Relay • DHCP L2 Relay	• Static ARP • Proxy ARP • Gratuitous ARP
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	• Flow Control - 802.3x Flow Control • Mirroring - Port Mirroring - CPU Mirroring - One-to-One - Many-to-One - Flow-Based - Ingress/Egress/Both • Device Link Detect Protocol (DLDP) • 802.1ab LLDP/ LLDP-MED
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	• MLD Snooping - MLD v1/v2 Snooping - Fast Leave - MLD Snooping Querier - Static Group Config • Limited IP Multicast (256 profiles and 16 entries per profile)
VLAN	• VLAN Group - Max. 4K VLAN Groups • 802.1Q tag VLAN • MAC VLAN (12 entries)	• Protocol VLAN • GVRP • Voice VLAN
QoS	• 802.1p CoS/DSCP priority • 8 priority queues • Priority Schedule Mode - SP (Strict Priority) - WRR (Weighted Round Robin) • Queue Weight Config	• Bandwidth Control - Port/Flow based Rating Limit • Smoother Performance • Storm Control - Multiple Control Modes(kbps/ratio) - Broadcast/Multicast/Unknown-Unicast Control

Software Features

Model	SG2005P-PD / SG2210XMP-M2	
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 - VLAN ID - User Priority - Ether Type • IP ACL - Source IP - Destination IP - IP Protocol - TCP Flag - TCP/UDP Source Port - TCP/UDP Destination Port - DSCP/IP TOS	• IPv6 ACL • Combined ACL • Rule Operation - Permit/Deny • Policy Action - Mirror - Rate Limit - Redirect - QoS Remark • ACL Rules Binding - Port Binding - VLAN Binding • Actions for flows - Mirror (to supported interface) - Redirect (to supported interface) - Rate Limit - QoS Remark
Security	• AAA • 802.1X - Port based authentication - MAC (Host) based authentication - Authentication Method includes PAP/EAP-MD5 - MAB - Guest VLAN - Support Radius authentication and accountability • IP/IPv6-MAC Binding - 512 Binding Entries - DHCP Snooping - DHCPv6 Snooping - ARP Inspection - ND Detection - ND Snooping • IP Source Guard - 253 Entries - Source IP+Source MAC	• IPv6 Source Guard - 183 Entries - Source IPv6 Address+Source MAC • DoS Defend • DHCP Filter • Static/Dynamic/Permanent Port Security - Up to 64 MAC addresses per port • Broadcast/Multicast/Unicast Storm Control - kbps/ratio control mode • 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

Software Features

Model	SG2005P-PD / SG2210XMP-M2
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 6 • 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 • Dual Image, Dual Configuration • CPU Monitoring • Cable Diagnostics • EEE • SNTP • System Log • DDM (for SG2210XMP-M2)
MIBs	• MIB II (RFC1213) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • Radius Accounting Client MIB (RFC2620) • Radius Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support TP-Link private MIBs • RMON MIB(RFC1757, rmon 1,2,3,9)

Ordering Information

Host Switch

Model	Description
SG2005P-PD	Omada 5-Port Gigabit Smart Switch with 1-Port PoE++ in and 4-Port PoE+ out
SG2210XMP-M2	Omada 8-Port 2.5GBASE-T and 2-Port 10GE SFP+ Smart Switch with 8-Port PoE+

SFP/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
SM5110-LR	10GBase-LR SFP+ LC Transceiver, single-mode, LC connector, 1310nm, 10 km
SM5110-SR	10GBase-SR SFP+ LC Transceiver, multi-mode, LC connector, 850nm, 300 m

RJ45 SFP/SFP+ Modules

Model	Description
SM331T	1000BASE-T RJ45 SFP Module
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
MC1400	14-slot power supply chassis for MC Series Media Converter, 19-inch rack-mountable

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 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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