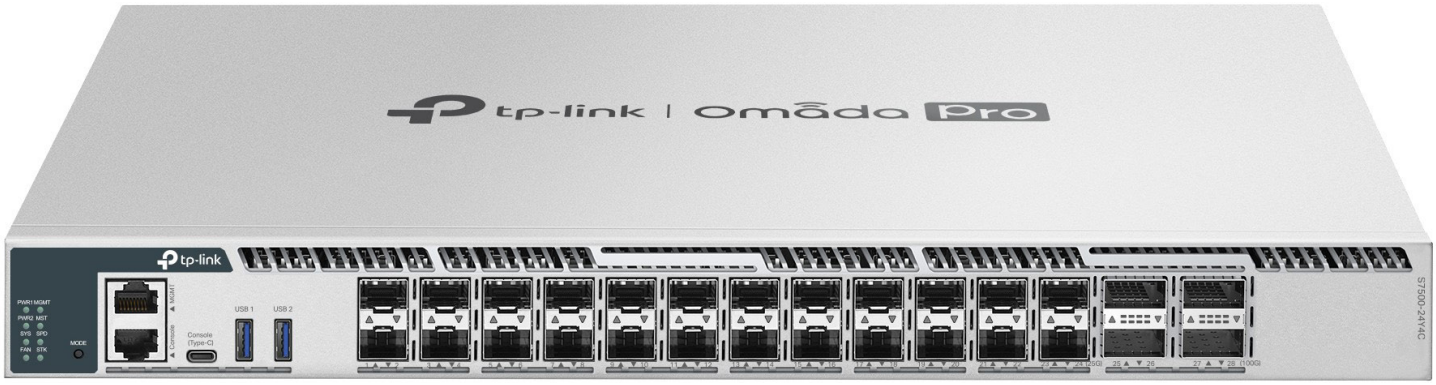
Omada Pro L3 Managed Switch Datasheet

S7500-24Y4C

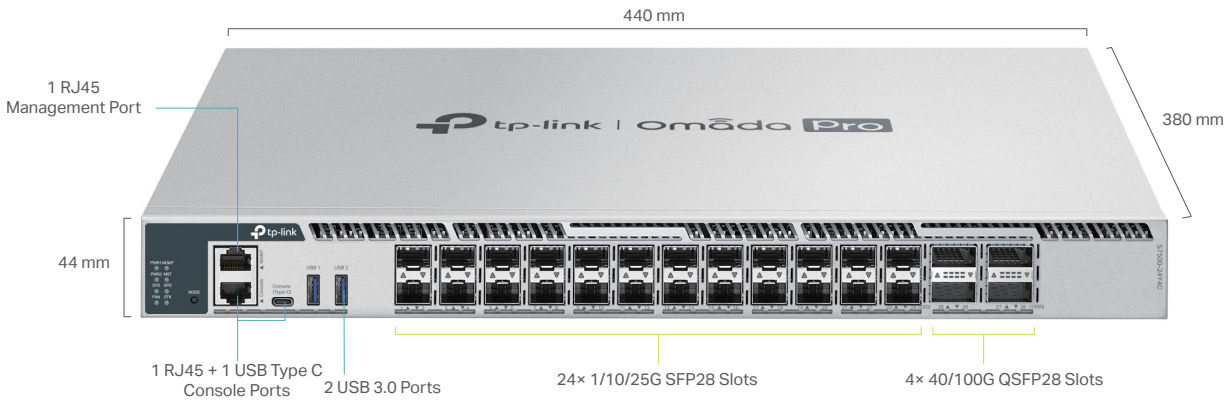
Omada Pro 24-Port 25G Stackable L3 Managed Aggregation/Core Switch with 4 100G Slots



Highlights

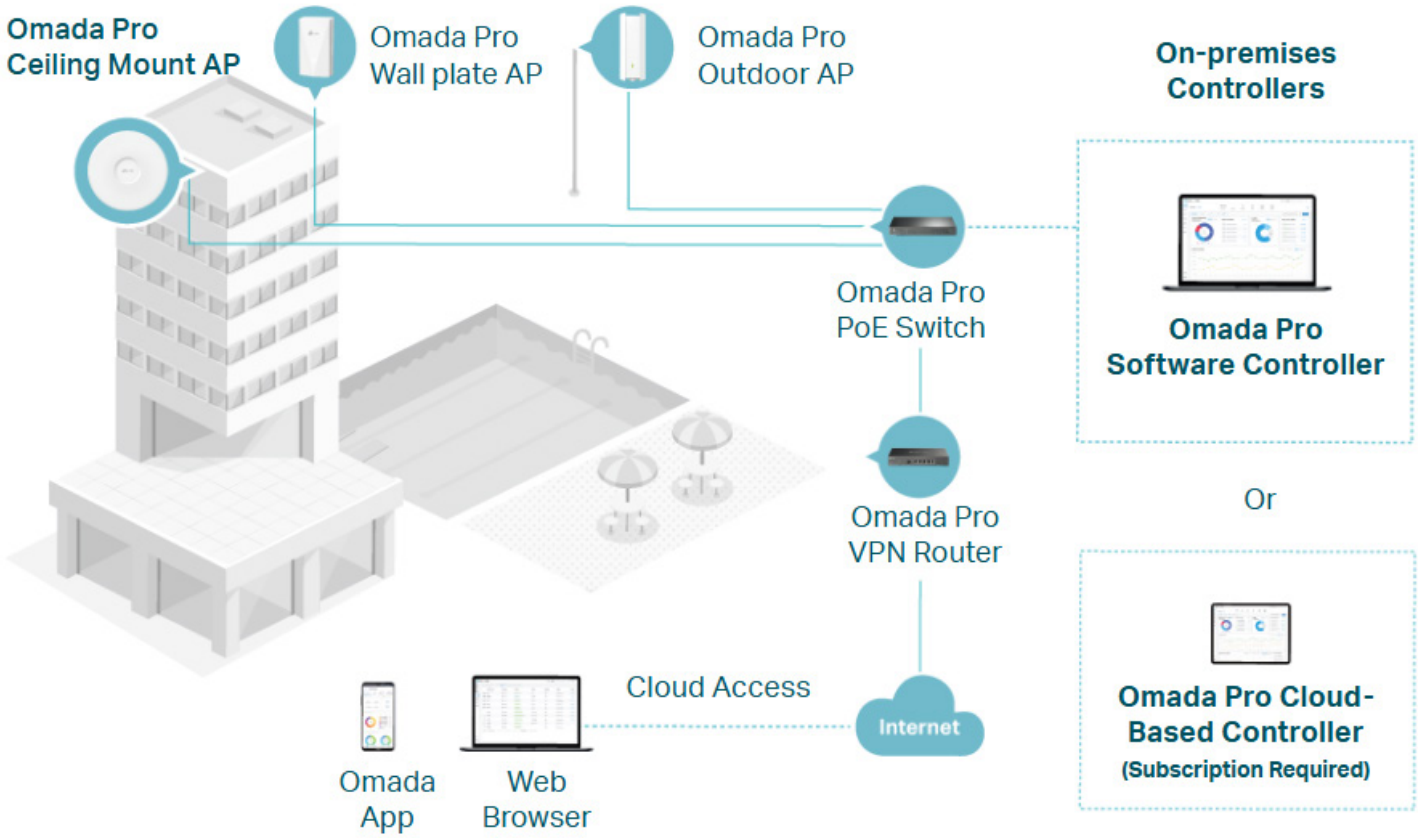
- 24× 1/10/25G SFP28 Slots and 4× 40/100G QSFP28 Slots
- Physical stacking for built-in redundancy and performance
- M-LAG improves link reliability from the card level to the device level.
- L3 Features: OSPF, BGP, IS-IS, VRRP, VRF, PIM-SM/PIM-DM/PIM-SSM, ECMP, PBR
- Security Strategies: Secure Boot, RADSEC, IMPB, SFTP, 802.1X, Port Security
- Highly available with two field-replaceable power supplies, VRRP, ERPS, and BFD
- Easy O&M: NETCONF, Configuration Rollback, Hot Patching, RSPAN, and PTPv2
- Centralized cloud management via the web or the Omada app†

Product Pictures



Omada Pro Solution

Omada Pro is an intelligent cloud solution for enterprise networking, offering enterprise-grade product line designed to meet the high-capacity, security, and management needs of various industries, such as MDUs, hospitality, K-12 education, public works, and more.



MDUs | Hospitality | Public Works | Catering | Manufacturing | Retail

Specifications

Hardware Features & Performance

Model		S7500-24Y4C
General	Interface	24× 1/10/25G SFP28 Slots* 4× 40/100G QSFP28 Slots
	Console Ports	1 × RJ45 + 1 × USB Type C
	Management Port	1 × RJ45
	USB Ports	2 × USB 3.0
	Flash	2×4 MB Nor + 8 GB EMMC
	DRAM	8GB DDR4
	Processor	Quad-Core ARM @1.2GHz CPU
Performance	Switching Capacity	2000 Gbps
	Forwarding Bandwidth	1000 Gbps
	Packet Forwarding Rate	810 Mpps
	MAC Address Table	128K
	Packet Buffer	8 MB
	Stacking Port	100G QSFP28 slot (all uplink ports can be used as stacking ports)**
	Stacking Bandwidth	Up to 800 Gbps (4 stacking ports)
	Max Stacking Number	12 in standalone mode, 4 in Omada controller mode
	Compatible Models for Stacking	S7500-24Y4C
	Transmission Method	Store and Forward
	Jumbo Frame	9 KB
Physical & Environmet	Power Supply	100-240 V ~50/60 Hz
	Redundant Power Supply	Max 2 hot swappable power supply module, N+1 redundant (shipping with one PSM550-AC module by default)
	Suitable Power Supply Module	PSM550-AC
	Max Power Consumption	137.63W (220 V/50 Hz)
	Max Heat Dissipation	469.6BTU/hr (220 V/50 Hz)
	Standby Power Consumption	43.72W (220 V/50 Hz)
	Noise	1× PSM550-AC power supply module: Min: 35.6 dBA @ 1m 25 °C Max: 54.2 dBA @ 1m 25 °C
	Fan Quantity	4 hot swappable fan modules, N+1 redundant
	Airflow	Front-to-back
	Surge Protection	Service port: ±6 kV in common mode Power port: ±4 kV in differential mode; ±4 kV in common mode
	ESD Protection	Air: ±15 kV, Contact: ±8 kV
	MTBF	382,117 h @ 25 °C
	Dimensions (W x D x H)	17.3 × 15.0 × 1.7 in (440 × 380 × 44 mm)
	Installation	Rackmount
	Operating Temperature & Altitude	-5 °C to 50 °C (23 °F to 122 °F) @ 300 meters -5 °C to 45 °C (23 °F to 113 °F) @ 2,000 meters -5 °C to 40 °C (23 °F to 104 °F) @ 3,000 meters***
	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

*No more than six 10G RJ45 SFP+ modules are supported. And it is recommended to have one column interval between every two 10G RJ45 SFP+ modules.
**The 100G QSFP28 slots support stacking only through 100G DAC/100G QSFP28 modules rather than 40G DAC/40G QSFP modules.
***The supported altitude is sea level to 5000 m. It should be noted that when the altitude is above 2000 m, for every 220 meters of altitude increase, the maximum operating temperature will drop by 1°C (1.8°F).

Software Features[Δ]

Model		S7500-24Y4C	
System	System Info	• Device Description - Name - Location - System Contact • System Time - Manual - Synchronize with PC's Clock - SNTP Client • DST - Predefined Mode - Recurring Mode - Date Mode	• LED - LED on/off • System IP - Static IP/DHCP/BOOTP • System IPv6 - Link-local Address Config - Global Address Autoconfig via RA Message - Global Address Autoconfig via DHCPv6 Server - Add a Global Address Manually
	User Management	• User Settings • Access Level: 4 levels	• Password Recorvery Settings
	System Tools	• Config Restore/Backup - Web: HTTP - CLI: TFTP/Flash/USB • Firmware Upgrade - Web: HTTP - CLI: TFTP/Flash/USB	• System Reboot • System Reset • Boot Config (Dual Image) • Reboot Schedule • Config Rollback • Hot Patch
	Access Security	• Access Control Config - IP-based - MAC-based - Port-based - IPv6-based • HTTP Config - Enable/Disable - Session Config - Access User Number - Port Setting • SSL Config - SSLv3/TLSv1 Enable/Disable - CipherSuite Config - IPv6 SSL	• SSH Config - Enable/Disable - v2 - Encryption Algorithm - Data Integrity Algorithm - Port Setting - IPv6 SSH • Telnet Config - Enable/Disable - Port Setting - IPv6 Telnet • Console Port - Baud Rate setting
	Stack	• Stack Setting • Stack-port LAG: up to 6 groups, each group supports a maximum of all stackable-ports • Stackable Devices: up to 12 devices	• Stack MAC Address Switching Delay • Multi-active Detection (MAD) • Virtual MAC
	M-LAG	• M-LAG domain configuration • Dual-Active Detection • M-LAG Config Consistency Check	• Peer-link-port LAG: 1 Group, each group supports a maximum of all peerLinkable-ports • M-LAG Member Interface MAC Address Switching Delay
	SDM Template	• Default Template - IPv4 ACL Rules: 2000 entries - MAC ACL Rules: 2000 entries - Combined ACL: 2000 entries - IPv4 Source Guard: 899 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 2000 entries - Combined ACL: 4000 entries - IPv4 Source Guard: 999 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 2200 entries - IPv6 ACL: 24000 entries - IPv6 Source Guard: 749 entries	• Omada - IPv4 ACL Rules: 0 entries - MAC ACL Rules: 0 entries - Combined ACL: 4000 entries - IPv6 ACL: 1700 entries - IPv4 Source Guard: 0 entries • Extra - IPv4 ACL Rules: 2000 entries - MAC ACL Rules: 2000 entries - Combined ACL: 2000 entries - IPv6 ACL: 1000 entries - IPv4 Source Guard: 0 entries
	Time Range	• Time Range Config	• Holiday Config
	PTP	• Profile: IEEE 1588v2 (PTPv2), IEEE 802.1AS	• Clock-type: oc, bc, e2etc, p2ptc
	File System	• File Operation • FTP • SFTP	• SCP • TFTP • USB Storage

Software Features[△]

Model		S7500-24Y4C	
L2 Features	Port	• Auto Negotiation/Auto MDI/MDIX • Port config - Status - Speed and Duplex - Flow Control(802.3x) - Jumbo Frame: 1518-9216 KB • Port Mirror - Ingress (Many to One) - Egress (Many to One) - RSPAN	• Port Security - Learn mode: Dynamic/Static/ Permanent/Sticky - Port Max Learned MAC: 64 - Current Learned Number - Status - Exceed Max Learned Trap • Port Isolation • Loopback Detection - Alert - Port Based - VLAN Based
	DDM		
	LAG	• Hash Algorithm: SRC MAC/DST MAC/SRC MAC + DST MAC/SRC IP/ DST IP/SRC IP + DST IP	• Static LAG: Up to 120 groups, up to 8 ports per group • LACP(802.3ad)
	Traffic Monitor	• TX Packets/Bytes • RX Packets/Bytes • TX Unicast/Multicast/Broadcast • RX Unicast/Multicast/Broadcast	• TX Errors • RX Errors • RX Packet Size Analysis
	MAC Address	• MAC Address Table: 128K entries • IVL/SVL: IVL • Create Static Unicast Address	• Bind Dynamic Address • Create Filtering Address • MAC Notification Settings
	VLAN	• 802.1Q VLAN(802.1q): 4K VLANs • MAC VLAN: 200 entries • Protocol VLAN - 16 Protocol VLAN Template - 12 Protocol VLAN Group	• QinQ(VLAN VPN): 256 entries • Private VLAN • GVRP
	L2 Multicast	• Max Multicast Groups: 4K (IPv4,IPv6) • IGMP Snooping - IGMP V1/V2/V3 - Report Message Suppression - Fast Leave - Unknown Multicast Discard - Static Multicast Groups - IGMP Snooping Querier - IGMP Packet Statistics - IGMP Authentication - Multicast Filtering: 256 profiles and 16 entries per profile - Router Port Setting: Static Router Port/Forbidden Router Port • MVR	• MLD Snooping - MLD V1/V2 - Report Message Suppression - Unknown Multicast Discard - Fast Leave - Static Multicast Groups - MLD Snooping Querier - MLD Packet Statistics - Multicast Filtering: 256 profiles and 16 entries per profile - Router Port Setting: Static Router Port/Forbidden Router Port • Multicast Table - IPv4 Multicast Table - IPv6 Multicast Table
	STP	• STP(802.1d) • RSTP(802.1w) • MSTP(802.1s) • MSTI instances: 64	• STP Security - Loop Protect - Root Protect - TC Protect - BPDU Protect - BPDU Filter
	LLDP (802.1ab)	• Enbale/Disable • Local Info • Neighbor Info • Statistic Info	• LLDP-MED - Local Info - Neighbor Info
	L2PT	• Layer 2 Protocol Tunneling	
	PPPoE ID Insertion	• Circuit-ID Type	• Remote-ID
	ERPS	• Ring: 64	
	Virtual MAC		
	Sticky MAC		

Software Features[△]

Model		S7500-24Y4C	
L3 Features	L3 INTERFACE: 4094 (IPv4,IPv6)		
	STATIC ROUTE: 2048 IPv4, 1024 IPv6		
	IPv4 Host Router entries + IPv6 Host Router entries: 15300		
	IPv4 Network Routes: 102400 (shared with IPv6 Network Routes) IPv6 Network Routes: 51200 (shared with IPv4 Network Routes)		
	ECMP	• ECMP entries: 256 • MAX-PATH: 32	
	ARP	• Static ARP: 1024 • Dynamic ARP: 24576	
	ND: 24576		
	DHCP	• DHCP Server - IP Pools: 64 - Max Leases: 8000 - Manual Binding Entries: 1000 - Exclude IP range Entries: 100	• DHCP Relay • DHCP L2 Relay • DHCPv6 Relay • DHCPv6 L2 Relay
	VRRP	• VRRP V2/V3 • VRRP Instance: 64 • VRRP Virtual IP: 32 per instance	
	OSPF	• OSPFv2 - OSPF Process: 16 - Graceful Restart - OSPFv2 BFD	• OSPFv3 - OSPFv3 Instance: 1 - OSPFv3 BFD
	RIP	• RIPv1/v2	• RIPng
	VRF	• VRF Instance: 1024	
	IS-IS	• IS-ISv4 • IS-ISv6 • IS-IS BFD	• IS-IS Instance: 16 • IS-IS Graceful Restart
	BGP	• BGPv4	• BGP Graceful Restart
	PIM	• PIM-DM (IPv4) • PIM-SM (IPv4) • PIM-SSM (IPv4)	• IPv4 Multicast Route entries: 1024
	IGMP	• Version: v1/v2/v3	• IGMP Groups: 2048
	BFD	• Template Numbers: 16	• Session Numbers: 8
	PBR		
	uRPF		
QoS	Class of Service	• Priority Queues: 8 Queues • Port Priority • 802.1P Priority • DSCP/ToS Priority	• Priority Schedule Mode: SP/WRR per Queue • Queue Weight Config: For WRR/ SP+WRR Mode
	Bandwidth Control	• Rate Limit - Ingress Rate Limit - Egress Rate Limit - Rate Limit Grade: 64kbps	• Storm Control - Control Mode: kbps/ratio - Broadcast - Multicast - Unknown Unicast
	Voice VLAN	• Supported OUI Numbers: 64	
	WRED	• WRED profile: 16	

Software Features[Δ]

Model		S7500-24Y4C	
Network Security	IP-MAC Binding	• Binding entries: 1024 entries • Manual Binding	• ARP Scanning • DHCP Snooping
	IPv6-MAC Binding	• Binding entries: 1024 entries • Manual Binding	• DHCPv6 Snooping • ND Snooping
	ARP Inspection	• ARP Detect entries: 1024 entries • ARP Detect	• ARP Defend • ARP Statistics
	ND Detection	• ND Detection entries: 1024 entries • ND Detect	• ND Statistics
	IP Source Guard	• IP Source Guard entries - Default SDM Template: 899 - IPv4 SDM Template: 999 - IPv6 SDM Template: 0	• Security Type - Source IP - Source IP + Source MAC
	IPv6 Source Guard	• IPv6 Source Guard entries - Default SDM Template: 0 - IPv4 SDM Template: 0 - IPv6 SDM Template: 749	• Security Type - Source IPv6 - Source IPv6 + Source MAC
	RA Guard: 30 entries		
	DoS Defend	• Scan SYNFIN • Xmascan • NULL Scan	• SYN sPort less 1024 • Ping Flooding • SYN/SYN-ACK Flooding
	DHCP Filter	• DHCPv4 Filter - Legal Server entries: 200	• DHCPv6 Filter - Legal Server entries: 200
	802.1x	• Control Type - Port Based - MAC Based • Auth Method: PAP/EAP-MD5/EAP-TLS/EAP-TTLS/EAP-PEAP	• Radius Authentication • Radius Accounting • Radius Server Load Balancing • RADSEC • Guest VLAN
	AAA		
	ACL	• Time-Range - Time Slice - Week Time-Range - Absolute Time-Range - Holiday • MAC ACL - Source MAC - Destination MAC - VLAN ID - EtherType - User Priority • IP ACL - Source IP - Destination IP - IP Protocol - TCP Flag - TCP/UDP Source Port - TCP/UDP Destination Port - DSCP/IP ToS • Combined ACL • IPv6 ACL • Rule Operation - Permit - Deny • Policy Action - Mirror - Rate Limit - Redirect - QoS Remark • Binding - Port Binding - VLAN Binding	• Default Template - IPv4 ACL Rules: 2000 entries - IPv6 ACL Rules: 0 entries - MAC ACL Rules: 2000 entries - Combined ACL: 2000 entries • IPv4 Access - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 0 entries - MAC ACL Rules: 2000 entries - Combined ACL: 4000 entries • IPv6 Access - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 2400 entries - MAC ACL Rules: 2200 entries - Combined ACL: 0 entries • Omada - IPv4 ACL Rules: 0 entries - IPv6 ACL Rules: 1700 entries - MAC ACL Rules: 0 entries - Combined ACL: 4000 entries • Extra - IPv4 ACL Rules: 2000 entries - MAC ACL Rules: 2000 entries - Combined ACL: 2000 entries - IPv6 ACL Rules: 1000 entries - IPv4 Source Guard: 0 entries
	Secure Boot		
Virtualization	IP Tunnel	• IPv6 over IPv4 • IPv6 over IPv4 GRE	• IPv4 over IPv4 GRE • Tunnel entries: 100

Software Features[△]

Model		S7500-24Y4C	
Maintenance	System Monitor	• CPU Monitor • Memory Monitor	
	sFlow		
	OAM	• EFM - Link Monitoring - Remote Failure Indication Config - Statistics	
	DLDP		
	SNMP	• SNMP Version: v1/v2c/v3 • SNMP Config - Global Config - SNMP View - SNMP Group - SNMP User - SNMP Community	• Notification - Trap: IPv4/IPv6 - Inform: IPv4/IPv6 • RMON v1 • Public MIBs • Private MIBs
	MIBs	• MIB II (RFC1213) • Interface MIB (RFC2233) • Ethernet Interface MIB (RFC1643) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • RMON MIB (RFC2819)	• RADIUS Accounting Client MIB (RFC2620) • RADIUS Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support TP-Link Private MIB
	NETCONF		
	DHCP Auto Install		
	Log	• Display/Filtering • Severity Level • Save to Flash	• Remote Host • Backup Log
	Network Diagnostics	• Ping • IPv6 Ping	• Tracert • IPv6 Tracert
Others	Index		
	Show running config	• Use the show running config command to view device's running status via telnet. • Configuration File: Import/Export/Edit	
Omada SDN Controller	√		

Ordering Information

Host Switch

Model	Description
S7500-24Y4C	Omada Pro 24-Port 25G Stackable L3 Managed Aggregation/Core Switch with 4 100G Slots

Power Supply Module

Model	Description
PSM550-AC	550 W AC Power Supply Module

SFP/SFP+/SFP28/QSFP28 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
SM6110-LR	25GBase-LR SFP28 LC Transceiver, single-mode, LC connector, 1310nm, 10 km
SM6110-SR	25GBase-SR SFP28 LC Transceiver, multi-mode, LC connector, 850nm, 300 m
SM9110-SR4	100GBASE-SR4 QSFP28 Transceiver

Direct Attach Cable

Model	Description
SM5220-1M	1 Meter 10G SFP+ Direct Attach Cable
SM5220-3M	3 Meters 10G SFP+ Direct Attach Cable
SM6220-1M	1 Meter 25G SFP28 Direct Attach Cable
SM9220-1M	1 Meter 100G QSFP28 Direct Attach Cable

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 TP-LINK MC Series Media Converter, 19-inch rack-mountable

†These functions require the use of the Omada Pro SDN Controller. Zero-Touch Provisioning requires the use of the Omada Pro Cloud-Based Controller.

[Δ]Some features are available only after upgrading to the latest software version.

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