

# Omada Switch | Datasheet

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## SG3218XP-M2

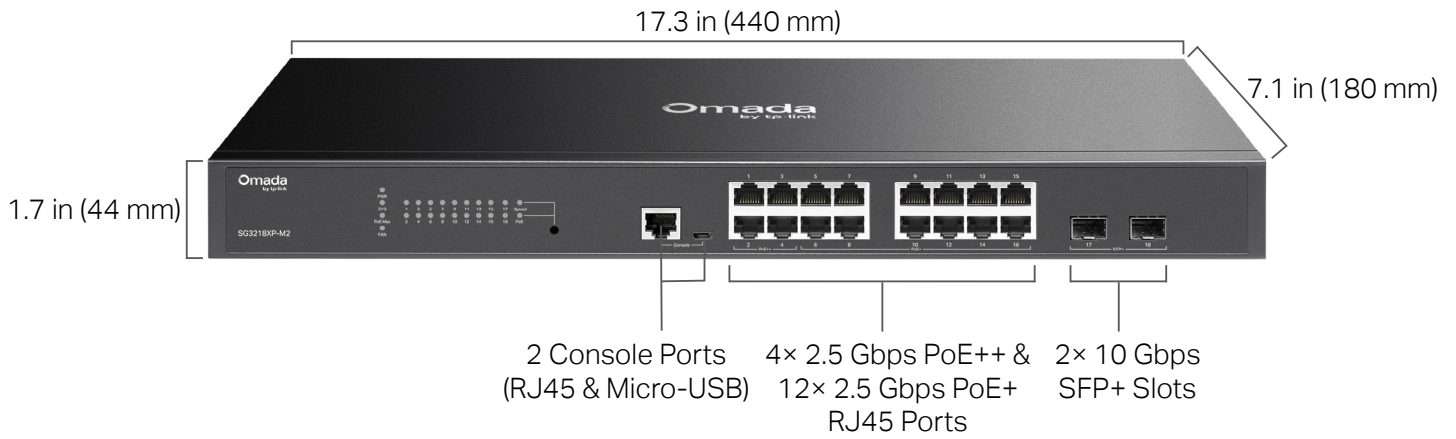
Omada Access Pro 16-Port 2.5G and 2-Port 10GE SFP+ Switch with 4-Port PoE++ & 12-Port PoE+



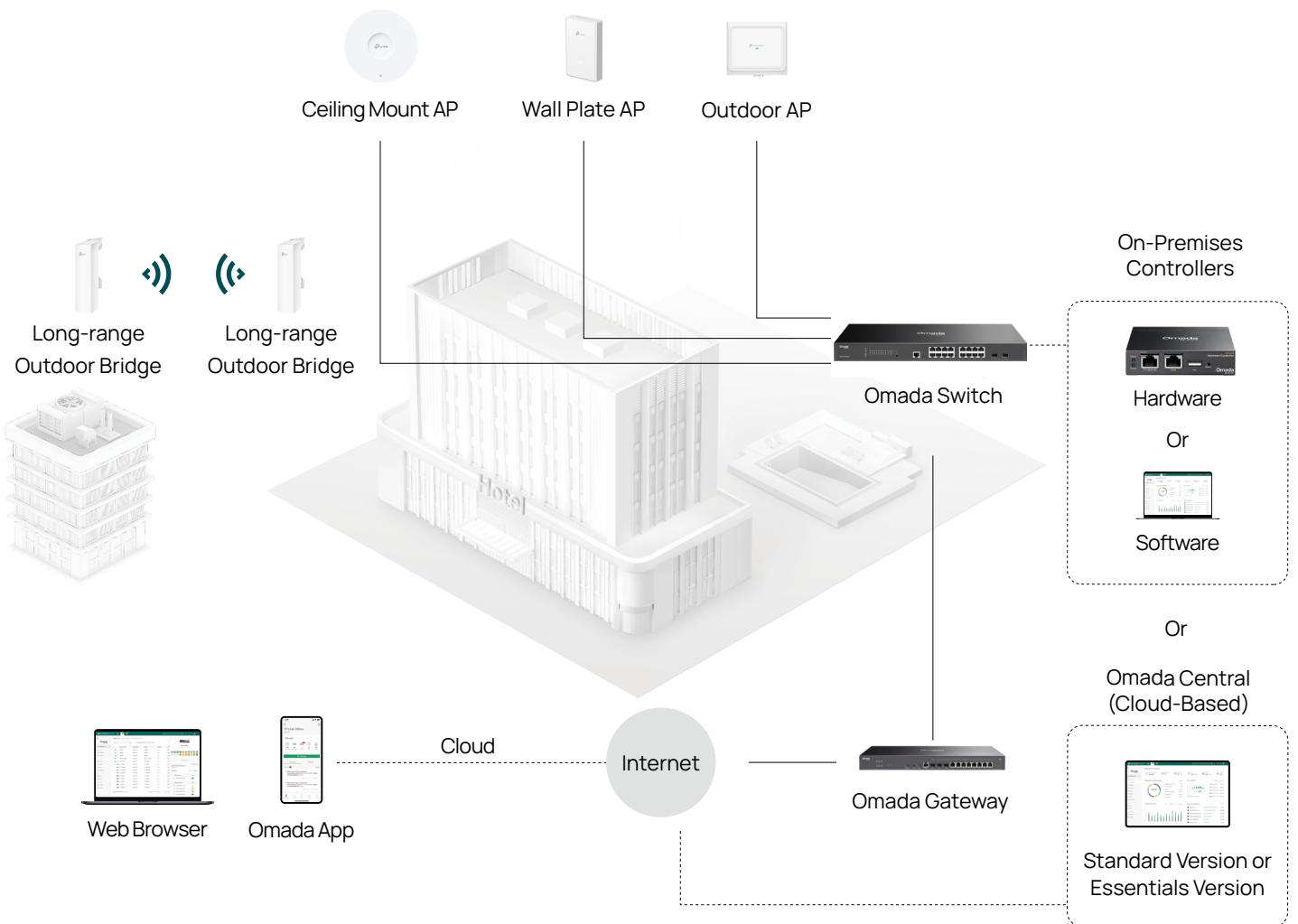
## Highlights

- 4× 2.5 Gbps PoE++ RJ45 ports (up to 90 W per port)
- 12× 2.5 Gbps PoE+ RJ45 ports (up to 30 W per port)
- 2× 10 Gbps SFP+ slots
- 120 Gbps Switching Capacity
- 240 W PoE budget\*
- Centralized cloud management via the web or the Omada app<sup>†</sup>
- Standalone management via web, CLI, SNMP, and RMON
- Static Routing helps route internal traffic for higher efficiency
- VLAN, ACL, QoS, IGMP Snooping, OAM, and DDM
- ERPS supports rapid protection and recovery in a ring topology

# Product Picture



# Omada Solution



 **Hassle-Free Cloud or On-Premises Controllers**

 **Multi-Site Cloud Management**

 **Zero-Touch Provisioning (ZTP)<sup>†</sup>**

 **Intelligent Monitoring**

# Specifications

Hardware Features & Performance			
Model		SG3218XP-M2	
General	Interface	4× 2.5 Gbps PoE++ RJ45 Ports & 12× 2.5 Gbps PoE+ RJ45 Ports, 2× 10Gbps SFP+ Slots**	
	Console Port	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 802.3bz: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/bt, support perpetual PoE and fast PoE	
	PoE Ports	16 (up to 90 W for ports 1-4 and 30 W for ports 5-16)	
	PoE Power Budget	240 W	
Performance	Switching Capacity	120 Gbps	
	Packet Forwarding Rate	89.28 Mpps	
	MAC Address Table	16K	
	Packet Buffer	12 Mbit	
	Transmission Method	Store and Forward	
	Number of IP Interfaces	32	
	Number of Static Routers	48 (IPv4, IPv6)	
	Jumbo Frame	9 KB	
Physical & Environment	Power Supply	100-240 V~ 50/60 Hz	
	Max Power Consumption	291.2 W (110 V/60 Hz @ 25 °C) (with 240 W PD connected) 282.6 W (220 V/50 Hz @ 25 °C) (with 240 W PD connected)	
	Standby Power Consumption	13.1 W max @ 110V/60Hz 25 °C 13.1 W max @ 220V/50Hz 25 °C	
	Max Heat Dissipation	989.94 BTU/hr (110 V/60 Hz @ 25 °C) (with 240 W PD connected) 960.70 BTU/hr (220 V/50 Hz @ 25 °C) (with 240 W PD connected)	
	Fan Quantity	2	
	Noise	Max	32.9 dBA @ 1 m (100% load, 50 °C ambient)
		Typical	Fanless mode (100% system load, 80% PoE load, 25°C ambient)
		Min	Fanless mode (25°C ambient)
	Surge Protection	Service port: ±6 kV in common mode	
	ESD Protection	Air: ±15 kV, Contact: ±8 kV	
	MTBF	322,729 h @ 25 °C	
	Dimensions (W x D x H)	17.3 × 7.1 × 1.7 in (440 × 180 × 44 mm)	
	Net Weight	1.7 kg (3.75 lbs)	
	Installation	Rack Mountable	
	Operating Temperature	-5 °C to 50 °C (23 °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		

\*\*Only one 10G RJ45 SFP+ module (SM5310-T) can be inserted at a time.

## Software Features<sup>^</sup>

Model	SG3218XP-M2	
SDN Support	<ul style="list-style-type: none"> <li>• Support Omada Hardware Controller, Software Controller</li> <li>• Automatic Device Discovery</li> <li>• Batch Configuration</li> <li>• Batch Firmware Upgrading</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligent Network Monitoring</li> <li>• Abnormal Event Warnings</li> <li>• Unified Configuration</li> <li>• Reboot Schedule</li> </ul>
L3 Features	<ul style="list-style-type: none"> <li>• 32 IPv4/IPv6 Interfaces</li> <li>• Static Routing                             <ul style="list-style-type: none"> <li>- 48 static routes</li> </ul> </li> <li>• Static ARP                             <ul style="list-style-type: none"> <li>- 128 static entries</li> </ul> </li> <li>• 511 ARP Entries</li> <li>• Proxy ARP</li> </ul>	<ul style="list-style-type: none"> <li>• Gratuitous ARP</li> <li>• DHCP Server</li> <li>• DHCP Relay                             <ul style="list-style-type: none"> <li>- DHCP interface relay</li> <li>- DHCP VLAN relay</li> </ul> </li> <li>• DHCP L2 Relay</li> </ul>
L2 Features	<ul style="list-style-type: none"> <li>• Link Aggregation                             <ul style="list-style-type: none"> <li>- Static link aggregation</li> <li>- 802.3ad LACP</li> <li>- Up to 8 aggregation groups and up to 8 ports per group</li> </ul> </li> <li>• Spanning Tree Protocol                             <ul style="list-style-type: none"> <li>- 802.1d STP</li> <li>- 802.1w RSTP</li> <li>- 802.1s MSTP</li> <li>- STP Security: TC Protect, BPDU Filter, BPDU Protect, Root Protect, Loop Protect</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Loopback Detection                             <ul style="list-style-type: none"> <li>- Port based</li> <li>- VLAN based</li> </ul> </li> <li>• Flow Control                             <ul style="list-style-type: none"> <li>- 802.3x Flow Control</li> <li>- HOL Blocking Prevention</li> </ul> </li> <li>• Mirroring                             <ul style="list-style-type: none"> <li>- Port Mirroring</li> <li>- CPU Mirroring</li> <li>- One-to-One</li> <li>- Many-to-One</li> <li>- Tx/Rx/Both</li> </ul> </li> </ul>
L2 Multicast	<ul style="list-style-type: none"> <li>• Supports 511 (IPv4, IPv6) IGMP groups</li> <li>• IGMP Snooping                             <ul style="list-style-type: none"> <li>- IGMP v1/v2/v3 Snooping</li> <li>- Fast Leave</li> <li>- IGMP Snooping Querier</li> <li>- IGMP Authentication</li> </ul> </li> <li>• IGMP Authentication</li> <li>• MVR</li> </ul>	<ul style="list-style-type: none"> <li>• Multicast Listener Discovery (MLD) Snooping                             <ul style="list-style-type: none"> <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> </ul> </li> <li>• Multicast Filtering: 256 profiles and 16 entries per profile</li> </ul>
VLAN	<ul style="list-style-type: none"> <li>• VLAN Group                             <ul style="list-style-type: none"> <li>- Max 4K VLAN Groups</li> </ul> </li> <li>• 802.1Q Tagged VLAN</li> <li>• MAC VLAN: 60 Entries</li> <li>• Protocol VLAN (IEEE 802.1v): Protocol Template 16, Protocol VLAN 12</li> </ul>	<ul style="list-style-type: none"> <li>• Private VLAN</li> <li>• GVRP</li> <li>• VLAN VPN (QinQ)                             <ul style="list-style-type: none"> <li>- Port-Based QinQ</li> <li>- Selective QinQ</li> </ul> </li> <li>• Voice VLAN</li> </ul>
QoS	<ul style="list-style-type: none"> <li>• 8 priority queues</li> <li>• 802.1p CoS/DSCP priority</li> <li>• Queue scheduling                             <ul style="list-style-type: none"> <li>- Strict Priority (SP)</li> <li>- Weighted Round Robin (WRR)</li> <li>- SP+WRR</li> </ul> </li> <li>• Bandwidth Control                             <ul style="list-style-type: none"> <li>- Port/Flow based Rating Limiting</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Smoother Performance</li> <li>• Action for Flows                             <ul style="list-style-type: none"> <li>- Mirror (to supported interface)</li> <li>- Redirect (to supported interface)</li> <li>- Rate Limit</li> <li>- QoS Remark</li> </ul> </li> </ul>
ACL	<ul style="list-style-type: none"> <li>• MAC ACL                             <ul style="list-style-type: none"> <li>- Source MAC</li> <li>- Destination MAC</li> <li>- VLAN ID</li> <li>- User Priority</li> <li>- Ether Type</li> </ul> </li> <li>• IP ACL                             <ul style="list-style-type: none"> <li>- Source IP</li> <li>- Destination IP</li> <li>- Fragment</li> <li>- IP Protocol</li> <li>- TCP Flag</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- TCP/UDP Port</li> <li>- DSCP/IP TOS</li> <li>- User Priority</li> <li>• Combined ACL</li> <li>• IPv6 ACL</li> <li>• Policy                             <ul style="list-style-type: none"> <li>- Mirroring</li> <li>- Redirect</li> <li>- Rate Limit</li> <li>- QoS Remark</li> </ul> </li> <li>• ACL apply to Port/VLAN</li> <li>• Time-based ACL</li> </ul>

## Software Features<sup>^</sup>

Model	SG3218XP-M2	
Security	<ul style="list-style-type: none"> <li>• IP-MAC-Port Binding                             <ul style="list-style-type: none"> <li>- 512 Entries</li> <li>- DHCP Snooping</li> <li>- Dynamic ARP Inspection (DAI)</li> <li>- IPv4 Source Guard: 100 Entries</li> </ul> </li> <li>• IPv6-MAC-Port Binding                             <ul style="list-style-type: none"> <li>- 512 Entries</li> <li>- DHCPv6 Snooping</li> <li>- ND Detection</li> <li>- ND Snooping</li> <li>- IPv6 Source Guard: 100 Entries</li> </ul> </li> <li>• DoS Defend</li> <li>• DHCP Filter</li> <li>• Static/Dynamic Port Security                             <ul style="list-style-type: none"> <li>- Up to 64 MAC addresses per port</li> </ul> </li> <li>• Broadcast/Multicast/Unicast Storm Control                             <ul style="list-style-type: none"> <li>- kbps/ratio/pps control mode</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 802.1X                             <ul style="list-style-type: none"> <li>- Port base authentication</li> <li>- Mac base authentication</li> <li>- VLAN Assignment</li> <li>- MAB</li> <li>- Guest VLAN</li> <li>- Support RADIUS authentication and accountability</li> </ul> </li> <li>• Authentication, Authorization, Accounting (AAA) (including TACACS+)</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>
ISP Features	<ul style="list-style-type: none"> <li>• 802.3ah Ethernet Link Operation Administration and Maintenance (OAM)</li> <li>• Layer 2 Protocol Tunneling (L2PT)</li> <li>• Digital Diagnostic Monitoring (DDM)</li> </ul>	<ul style="list-style-type: none"> <li>• Device Link Detect Protocol (DLDP)</li> <li>• PPPoE ID Insertion</li> <li>• sFlow</li> <li>• ERPS</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Web-based GUI</li> <li>• Command Line Interface (CLI) through consoleport, telnet</li> <li>• SNMPv1/v2c/v3                             <ul style="list-style-type: none"> <li>- Trap/Inform</li> <li>- RMON (1, 2, 3, 9 groups)</li> </ul> </li> <li>• SDM Template</li> <li>• DHCP/BOOTP Client</li> <li>• 802.1ab LLDP/LLDP-MED</li> <li>• DHCP Auto Install</li> </ul>	<ul style="list-style-type: none"> <li>• Dual Image, Dual Configuration</li> <li>• CPU Monitoring</li> <li>• Cable Diagnostics</li> <li>• IEEE 802.3az Energy Efficient Ethernet (EEE)</li> <li>• Password Recovery</li> <li>• SNMP</li> <li>• System Log</li> <li>• Dying Gasp</li> <li>• ONVIF</li> </ul>
IPv6 Support	<ul style="list-style-type: none"> <li>• IPv4/IPv6 dual stack</li> <li>• MLD Snooping</li> <li>• IPv6 ACL</li> <li>• IPv6 Interface</li> <li>• Static IPv6 Routing</li> <li>• IPv6 neighbor discovery (ND)</li> <li>• Path maximum transmission unit (MTU) discovery</li> <li>• Internet Control Message Protocol (ICMP) version 6</li> <li>• TCPv6/UDPv6</li> </ul>	<ul style="list-style-type: none"> <li>• IPv6 applications                             <ul style="list-style-type: none"> <li>- DHCPv6 Client</li> <li>- Ping6</li> <li>- Tracert6</li> <li>- Telnet (v6)</li> <li>- IPv6 SNMP</li> <li>- IPv6 SSH</li> <li>- IPv6 SSL</li> <li>- Http/Https</li> <li>- IPv6 TFTP</li> </ul> </li> </ul>
MIBs	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• RMON2 MIB (RFC2021)</li> <li>• RADIUS Accounting Client MIB (RFC2620)</li> <li>• RADIUS Authentication Client MIB (RFC2618)</li> <li>• Remote Ping, Traceroute MIB (RFC2925)</li> <li>• Support TP-Link Private MIB</li> </ul>

## Others

Package Content	<ul style="list-style-type: none"> <li>• SG3218XP-M2 Switch</li> <li>• Power Cord</li> <li>• Console Cable</li> <li>• Rackmount Kit</li> <li>• Rubber Feet</li> <li>• Installation Guide</li> </ul>
System Requirements	Microsoft® Windows® 98SE, NT, 2000, XP, Vista™ or Windows 7/8/10/11, MAC® OS, NetWare®, UNIX® or Linux.

# Ordering Information

## Host Switch

Model	Description
SG3218XP-M2	Omada Access Pro 16-Port 2.5G and 2-Port 10GE SFP+ Switch with 4-Port PoE++ & 12-Port PoE+

## SFP/SFP+ Module

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
SM5110LSA-10	10GBase-BX WDM Bi-Directional SFP+ Module, single-mode, LC connector, TX: 1330 nm/RX: 1270 nm, 10 km
SM5110LSB-10	10GBase-BX WDM Bi-Directional SFP+ Module, single-mode, LC connector, TX: 1270 nm/RX: 1330 nm, 10 km

## RJ45 SFP/SFP+ Module

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

## MC Series Media Converter

Model	Description
MC420L	10G Multi-Gigabit SFP+ Media Converter, up to 100 m, chassis mountable
MC220L	Gigabit SFP Media Converter, up to 100 m, chassis mountable
MC210CS	Gigabit Single-Mode Media Converter, up to 20 km, chassis mountable
MC211CS-20	Gigabit WDM Media Converter, up to 20 km, chassis mountable
MC212CS-20	Gigabit WDM Media Converter, up to 20 km, chassis mountable
MC211CS-2	Gigabit WDM Media Converter, up to 2 km, chassis mountable
MC212CS-2	Gigabit WDM Media Converter, up to 2 km, chassis mountable
MC200CM	Gigabit Multi-Mode Media Converter, up to 550 m, chassis mountable

## Direct Attach Cable

Model	Description
SM5220-1M	1 Meter 10G SFP+ Direct Attach Cable
SM5220-3M	3 Meters 10G SFP+ Direct Attach Cable

\*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.

<sup>†</sup>These functions require the use of the Omada SDN Controller. Zero-Touch Provisioning requires the use of the Omada Cloud-Based Controller. Go to the Omada Cloud-Based Controller Product List to find all the models supported by the Omada Cloud-Based Controller.

<sup>‡</sup>Some features are available only after upgrading to the latest software version.

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