Omada Gateway | Datasheet

ER7412-M2

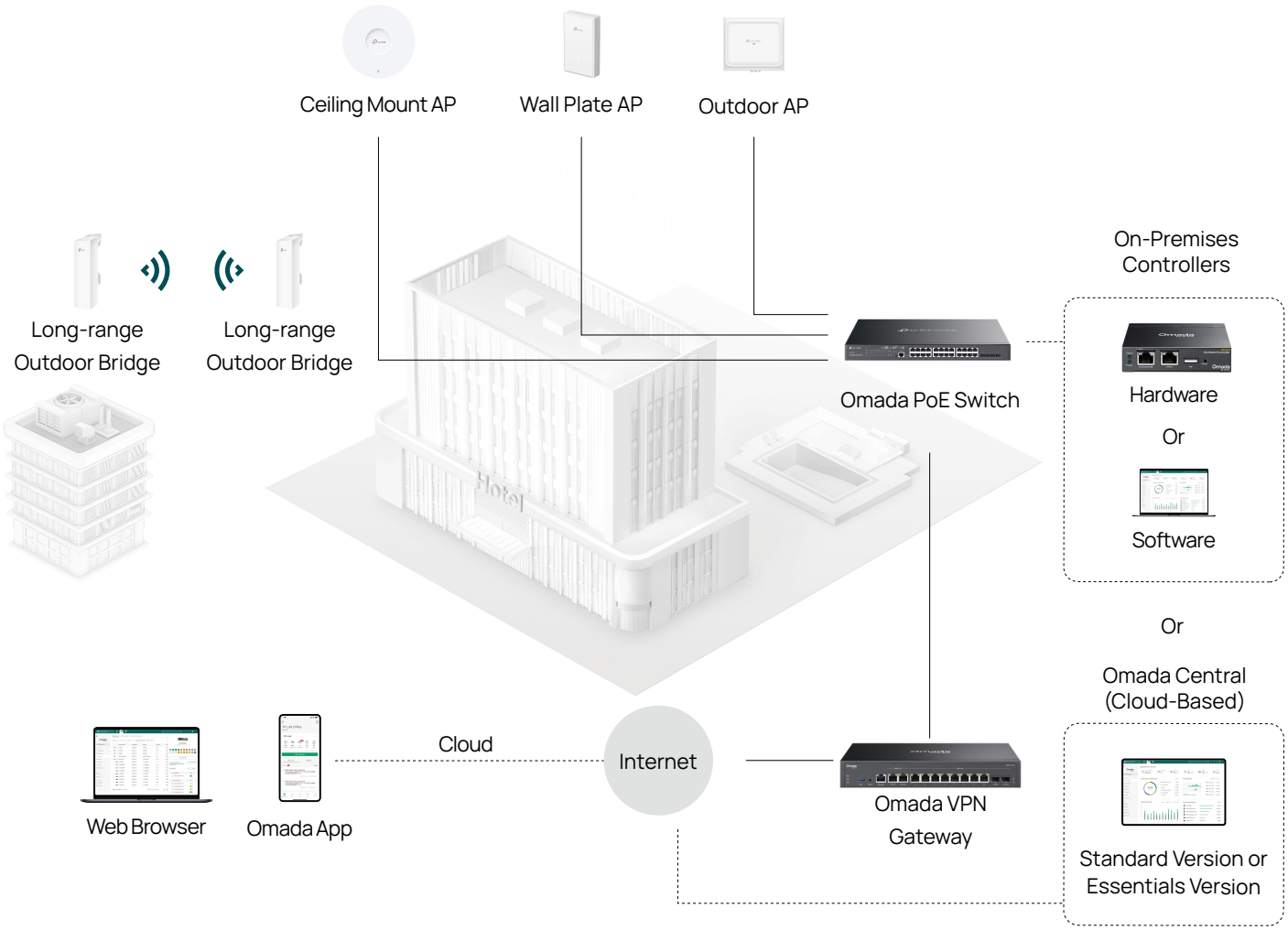
Omada Multi-Gigabit VPN Gateway



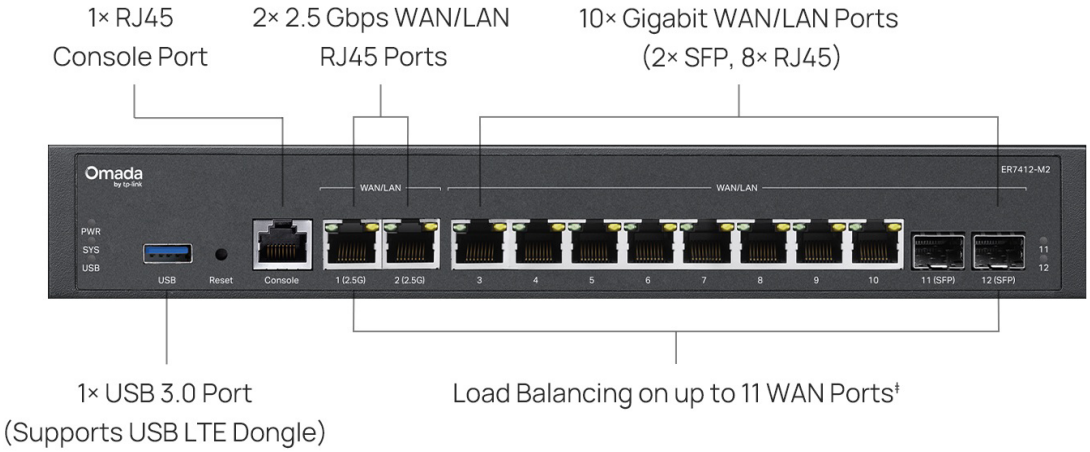
Highlights

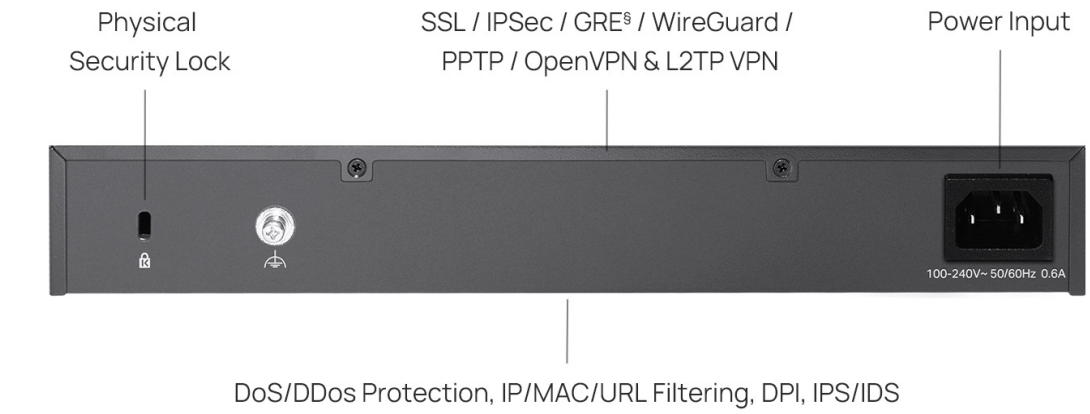
- Quad-core @2.0GHz CPU
- 2× 2.5G RJ45 WAN/LAN ports
- 10× Gigabit WAN/LAN Ports (2× SFP, 8× RJ45)
- 1× USB 3.0 Port (Supports USB storage, and LTE backup with LTE dongle)
- Load Balancing on up to 11 WAN ports increases the utilization rate of multi-line broadband
- High-security SSL/IPSec/GRE/WireGuard/PPTP/L2TP VPN & OpenVPN
- Centralized cloud management via the web or the Omada app
- DoS/DDoS protection, IP/MAC/URL filtering, DPI, and IPS/IDS for enhanced security

Omada Solution



Product Pictures







§These functions are supported only in Standalone Mode.
‡At least one WAN/LAN port needs to function as a LAN port.

Specifications

Model		ER7412-M2
Hardware	CPU	Quad-core ARMv8
	Standards and Protocols	IEEE 802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3z, IEEE 802.3x, IEEE 802.1q, TCP/IP, DHCP, ICMP, NAT, PPPoE, NTP, HTTP, HTTPS, DNS, IPSec, PPTP, L2TP, OpenVPN, WireGuard VPN, GRE VPN, SNMP, LLDP
	Interface	2× 2.5G RJ45 WAN/LAN Ports, 2× Gigabit SFP WAN/LAN Ports, 8× Gigabit RJ45 WAN/LAN Ports 1× RJ45 Console Port
	USB	1 USB3.0 (supports USB LTE dongle and USB Storage)[1]
	Network Media	10BASE-T: UTP category 3, 4, 5 cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 100BASE-TX: UTP category 5, 5e cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 1000BASE-T: UTP category 5, 5e, 6 cable (Max 100 m) 2500BASE-T: UTP category 5, 5e, 6 cable (Max 100 m)
	Button	Reset button
	Power Supply	100–240 VAC, 50/60 Hz
	Flash	128MB NAND
	DRAM	1GB DDR4
	Max Power Consumption	18.5W (With USB 3.0 connected)
	Surge Protection	4 kV surge protection
	Mounting	Desktop/Rack Mount
	Dimensions (W x D x H)	11.6 × 7.1 × 1.7 in (294 × 180 × 44 mm)
	Net Weight	1.168 Kg
	MTBF	1192088h@25°C 1031636h@40°C
SDN Support	Hardware Controller	Automatic Device Discovery Intelligent Network Monitoring Abnormal Event Warnings Unified Configuration Reboot Schedule Captive Portal Configuration ZTP (Zero-Touch Provisioning)[2]
	Software Controller	
	Cloud-Based Controller	

1. For the complete compatibility list of 4G/3G modem, go to https://www.tp-link.com/en/omada-router/compatibility/
2. Zero-Touch Provisioning is supported only when using Omada Cloud-Based Controller.

Model		ER7412-M2
Performance[1]	Concurrent Session	1,000,000
	New Sessions /Second	7,000
	DPI Throughput	2.2 Gbps
	IPS Throughput	TCP: 2248 Mbps UDP: 2140 Mbps
	Static IP NAT Throughput (Upload / Download)	2345.71 Mbps / 2351.22 Mbps
	DHCP NAT Throughput (Upload / Download)	2353.41 Mbps / 2353.40 Mbps
	PPPoE NAT Throughput (Upload / Download)	2336.52 Mbps / 2336.08 Mbps
	L2TP NAT Throughput (Upload / Download)	1937.53 Mbps / 1761.82 Mbps
	PPTP NAT Throughput (Upload / Download)	1757.54 Mbps / 2011.33 Mbps
	66 Byte Packet forwarding rate (Upload / Download)	Upload: 3,471,591pps Download: 3,475,379pps
	1,518 Byte Packet forwarding rate (Upload / Download)	Upload: 202,652pps Download: 202,652pps
	IPSec VPN Throughput	ESP-SHA1-AES256: 1125.60 Mbps ESP-SHA256-AES256: 1133.1 Mbps ESP-SHA384-AES256: 1126.6 Mbps ESP-SHA512-AES256: 1132.8 Mbps
	GRE	Unencrypted: 2274 Mbps Encrypted: 1192 Mbps
	WireGuard VPN	771.6 Mbps
	SSL VPN	263.1 Mbps
	OpenVPN	UDP: 266.2 Mbps
	L2TP VPN Throughput	Unencrypted: 2724.5 Mbps Encrypted: 1018.4Mbps
	PPTP VPN Throughput	Unencrypted: 3035 Mbps Encrypted: 534.6 Mbps
Basic Functions	WAN Connection Type	Static IP/Dynamic IP PPPoE (supports MRU Configuration) PPTP L2TP Mobile Broadband: 4G/3G modem for backup via USB port
	DHCP	DHCP Server DHCPv6 PD Server (only in Standalone Mode) DHCP Options Customization DHCP Address Reservation Multi-IP Interfaces Multi-Net DHCP WAN DHCP 60
	MAC Clone	Modify WAN/LAN MAC Address[2]

1. Rated specifications are based on test results using specific software version. Device performance may vary as a result of the actual scenario.
2. LAN MAC Address can be modified only in Standalone Mode

Model		ER7412-M2
Basic Functions	IPTV	IGMP v2/v3 Proxy, Custom Mode, Bridge Mode
	IPv6	StaticIP / SLAAC / DHCPv6 / PPPoE / 6to4Tunnel / PassThrough / Non-Address mode
	mDNS Repeater	√
	Quality of Service	√
	Bridge VLAN	√
	LAN DNS	√
	VLAN	802.1Q VLAN
Transmission	Load Balance	Intelligent Load Balance Application Optimized Routing Link Backup (Timing, Failover) Online Detection
	NAT	One-to-One NAT Multi-Net NAT Virtual Server Port Triggering[1] NAT-DMZ FTP/H.323/SIP/IPSec/PPTP ALG UPnP Disable NAT
	Routing	Static Routing Policy Routing RIP[2] OSPF[2]
	Session Limit	IP-based Session Limit
	Bandwidth Control	IP/Port-based Bandwidth Control
VPN	IPSec VPN	150 IPSec VPN Tunnels LAN-to-LAN, Client-to-LAN Main, Aggressive Negotiation Mode DES, 3DES, AES128, AES192, AES256 Encryption Algorithm IPsec Failover IKE v1/v2 MD5, SHA1, SHA2-384 and SHA2-512 Authentication Algorithm NAT Traversal (NAT-T) Dead Peer Detection (DPD) Perfect Forward Secrecy (PFS)
	PPTP VPN	PPTP VPN Server PPTP VPN Client (15)[3] 150 Tunnels PPTP with MPPE Encryption
	L2TP VPN	L2TP VPN Server L2TP VPN Client (15)[3] 150 Tunnels L2TP over IPSec
	OpenVPN	OpenVPN Server OpenVPN Client (11) [3] 121 OpenVPN Tunnels "Certificate + Account" Mode Full Mode

1. Port Triggering is supported only in Standalone Mode.
2. RIP and OSPF are supported only in Standalone Mode.
3. ER7412-M2 can work as a VPN client and can connect with up to 15 PPTP/L2TP VPN servers and 11 OpenVPN servers.

Model		ER7412-M2
VPN	WireGuard VPN	√
	GRE	√ (Only in Standalone Mode)
	SD-WAN	√ (Only in Controller mode)
	SSL VPN	80 Tunnels
Security	Attack Defense	TCP/UDP/ICMP Flood Defense Block TCP Scan (Stealth FIN/Xmas/Null) Block Ping from WAN
	Filtering	Web Group Filtering[1] URL Categories and URLs Filtering Web Security[1]
	DNS Proxy	DNSSEC, DoH, DoT, DNS Override
	ARP Inspection	Sending GARP Packets ARP Scanning[1] IP-MAC Binding ARP Detection
	DPI	Deep Packet Inspection Support 2788 type Applications[2]
	IPS/IDS	Intrusion Detection/Prevention
	Access Control	Source/Destination IP Based ACL Stateful ACL IPv4/IPv6 ACL National Based ACL FQDN
Authentication	Web Authentication	No Authentication Simple Password[3] Hotspot (Local User / Voucher[3] / SMS[3] / Radius[3]) External Radius Server External Portal Server[3] LDAP
Management	Service	Dynamic DNS (Dyndns, No-IP, Peanuthull, Comexe, DDNS Customization)
	Maintenance	Web Management Interface Remote Management Export & Import Configuration SNMP v1/v2c/v3 Diagnostics (Ping & Traceroute) NTP Synchronize[4] Port Mirroring CLI (only in Standalone Mode) Syslog Support
Others	Certification	CE, FCC
	Package Contents	ER7412-M2, Power Cord, Quick Installation Guide, Rackmount Kit, RJ45 Console Cord
	System Requirements	Microsoft Windows 98SE, NT, 2000, XP, Vista™ or Windows 7/8/8.1/10/11 MAC OS, NetWare, UNIX or Linux
	Environment	Operating Temperature: 0 °C to 45 °C (32 °F to 113 °F) Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F) Operating Humidity: 10% to 90% non-condensing Storage Humidity: 5% to 90% non-condensing

1. Web Group Filtering, Web Security, and ARP Scanning are supported only in Standalone Mode.
2. The number of applications that can be identified may vary by the model/firmware version or the DPI signature database. Refer to the management page for the actual count.
3. The following web authentication methods are supported only in Controller Mode: Simple Password, Voucher, SMS, Radius, and External Portal Server.
4. NTP Synchronize is supported only in Standalone Mode.

Ordering Information

Host Switch	
Model	Description
ER7412-M2	Omada Multi-Gigabit VPN Gateway

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

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

* Some models featured in this guide may be unavailable in your country or region. Visit the website for local sales information: www.omadanetworks.com.

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