

# Omada Easy Managed Switch | Datasheet

## ES220GMP

Omada 20-Port Gigabit Easy Managed Switch with 16-Port PoE+



## Highlights

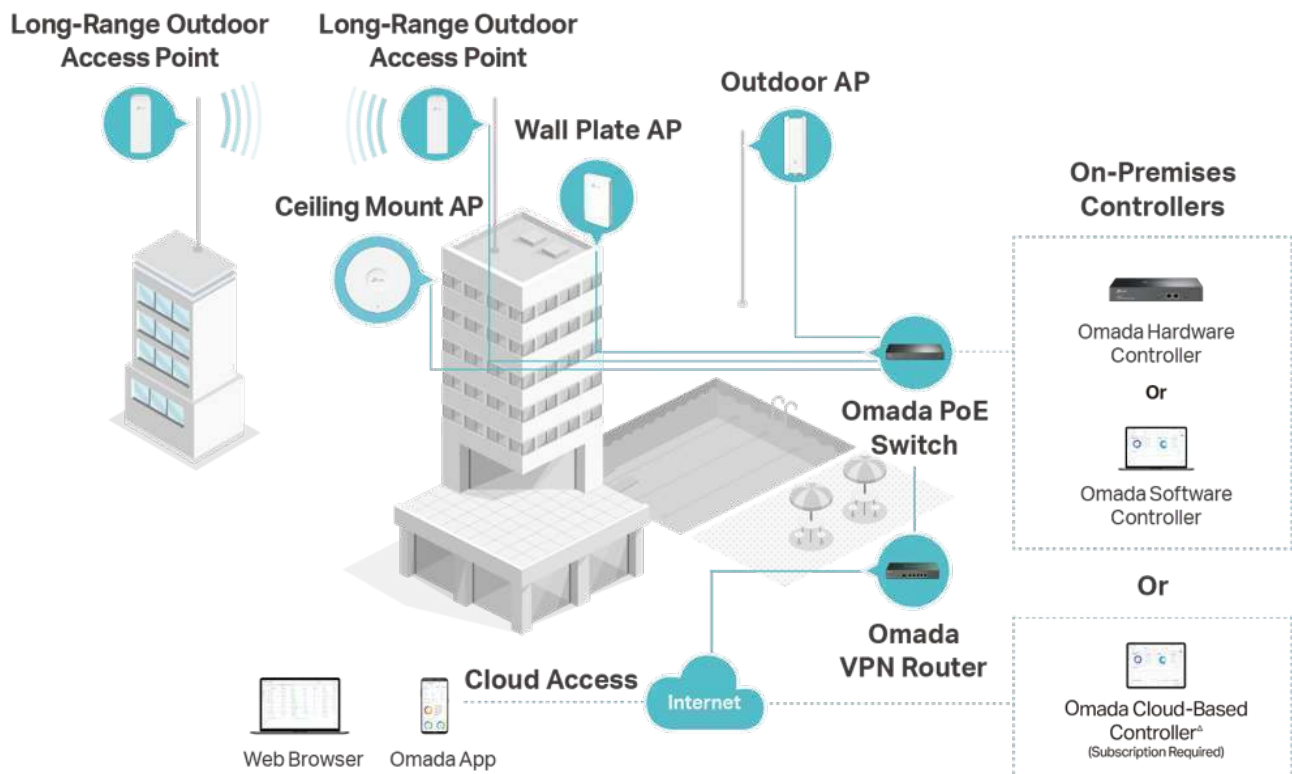
- 16× Gigabit 802.3at/af-compliant PoE+ RJ45 ports
- 2× Gigabit RJ45 port, 2× Gigabit SFP port
- 250W Power Budget, with up to 30W for each PoE port\*
- Easy to Use: Supports plug-and-play for instant connectivity and simple configuration for additional features
- Centralized Cloud Management via the web or the Omada app†
- Up to 250m PoE\*\*, QoS<sup>Δ</sup>, PoE Auto Recovery<sup>‡</sup>, and Port Isolation for reliable surveillance networking
- Automatic Loop Prevention, VLAN, and IGMP Snooping
- Durable metal casing and rack-mountable design

# Product Pictures



## Omada Solution

Omada's 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.



Hassle-Free Cloud or On-Premises Controllers



Multi-Site Cloud Management



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



Intelligent Monitoring

# Specifications

## Hardware Features & Performance

|                        |                           |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                  |                           | ES220GMP                                                                                                                                                                                                                                                                                                                                                                                                              |
| General                | Interface                 | 16× 10/100/1000 Mbps PoE+ RJ45 Ports<br>2× 10/100/1000 Mbps RJ45 Ports<br>2× Gigabit SFP Ports                                                                                                                                                                                                                                                                                                                        |
|                        | Flash                     | 64 Mbit                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Port Standard             | IEEE 802.3i:10BASE-T Ethernet<br>IEEE 802.3u:100BASE-X Fast Ethernet<br>IEEE 802.3ab:1000BASE-T Gigabit Ethernet<br>IEEE 802.3z:1000BASE-X Gigabit Ethernet (Optical Fiber)<br>IEEE 802.3x: Flow Control<br>IEEE 802.1p: Traffic Class Expediting and Dynamic Multicast Filtering<br>IEEE 802.1q: Virtual Bridged Local Area Networks<br>IEEE 802.1ab: Station and Media Access Control Connectivity Discovery (LLDP) |
| PoE                    | PoE Standard              | 802.3af/at                                                                                                                                                                                                                                                                                                                                                                                                            |
|                        | PoE Ports                 | 16, up to 30 W /per port                                                                                                                                                                                                                                                                                                                                                                                              |
|                        | PoE Power Budget          | 250 W                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                        | Fast PoE                  | YES                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Perpetual PoE             | YES                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Performance            | Switching Capacity        | 40 Gbps                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Packet Forwarding Rate    | 29.76 Mpps                                                                                                                                                                                                                                                                                                                                                                                                            |
|                        | MAC Address Table         | 8K                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                        | Packet Buffer             | 4 Mbit                                                                                                                                                                                                                                                                                                                                                                                                                |
|                        | Transmission Method       | Store and Forward                                                                                                                                                                                                                                                                                                                                                                                                     |
|                        | Jumbo Frame               | 15 KB                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Physical & Environment | Power Supply              | 100-240V ~ 50/60Hz                                                                                                                                                                                                                                                                                                                                                                                                    |
|                        | Max Power Consumption     | 289.7 W (110V/60Hz) (with 250 W PD connected)                                                                                                                                                                                                                                                                                                                                                                         |
|                        | Max Heat Dissipation      | 984.88 BTU/hr (110 W/60 Hz) (with 250 W PD connected)                                                                                                                                                                                                                                                                                                                                                                 |
|                        | Standby Power Consumption | 12.2 W (110V/60 Hz)                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Surge Protection          | ±6 KV in common mode for Ethernet Ports<br>±6 KV in differential mode, ±4 KV in common mode for Power Port                                                                                                                                                                                                                                                                                                            |
|                        | ESD Protection            | Air: ±8 kV, Contact: ±4 kV                                                                                                                                                                                                                                                                                                                                                                                            |
|                        | MTBF                      | 310550.7h @ 25°C                                                                                                                                                                                                                                                                                                                                                                                                      |
|                        | Dimensions (W x D x H)    | 17.3×7.1×1.7 in (440×180×44 mm)                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | Fan Quantity              | 2                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                        | Noise                     | Min: 33.4 dBA @ 1m 25 °C<br>Max: 41.5 dBA @ 1m 25 °C                                                                                                                                                                                                                                                                                                                                                                  |
|                        | Installation              | Rackmountable                                                                                                                                                                                                                                                                                                                                                                                                         |
|                        | 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                                                                                                                                                                                                                                                                                                                                                                                                         |

| Software Features |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model             | ES220GMP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SDN Support       | <ul style="list-style-type: none"><li>• Support Hardware Controller, Software Controller, Cloud-Based Controller</li><li>• Automatic Device Discovery</li><li>• Batch Configuration</li><li>• Batch Firmware Upgrading</li><li>• Unified Configuration</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>- Up to 4 aggregation groups and up to 8 ports per group</li></ul></li><li>• Loopback Detection</li><li>• Flow Control<ul style="list-style-type: none"><li>- 802.3x Flow Control</li></ul></li><li>• Mirroring<ul style="list-style-type: none"><li>- Port Mirroring</li><li>- One-to-One</li><li>- Many-to-One</li><li>- Ingress/Egress/Both</li></ul></li><li>• Port Statistics<ul style="list-style-type: none"><li>- Port Mirror Status</li><li>- Traffic Statistics</li></ul></li><li>• 802.1ab LLDP</li></ul> |
| L2 Multicast      | <ul style="list-style-type: none"><li>• IGMP Snooping<ul style="list-style-type: none"><li>- IGMP v1/v2/v3 Snooping</li><li>- Fast Leave</li></ul></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| VLAN              | <ul style="list-style-type: none"><li>• MTU VLAN</li><li>• Port-Based VLAN</li><li>• 802.1Q Tag VLAN<ul style="list-style-type: none"><li>- Max 32 VLAN Groups</li><li>- 4K VID</li></ul></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| QoS               | <ul style="list-style-type: none"><li>• 802.1p DSCP Priority</li><li>• 8 Priority Queues</li><li>• Priority Schedule Mode<ul style="list-style-type: none"><li>- WRR (Weighted Round Robin)</li></ul></li><li>• Queue Weight Config</li><li>• Bandwidth Control<ul style="list-style-type: none"><li>- Port-Based Rating Limit</li></ul></li><li>• Storm Control<ul style="list-style-type: none"><li>- Multiple Control Modes (kbps/pps)</li><li>- Broadcast/Multicast/Unknown-Unicast Control</li></ul></li></ul>                                                                                                                                  |
| Management        | <ul style="list-style-type: none"><li>• Web-based GUI</li><li>• DHCP Client</li><li>• Cable Diagnostics</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

# Ordering Information

## Host Switch

| Model    | Description                                                 |
|----------|-------------------------------------------------------------|
| ES220GMP | Omada 20-Port Gigabit Easy Managed Switch with 16-Port PoE+ |

## 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 Modules

| Model  | Description                |
|--------|----------------------------|
| SM331T | 1000BASE-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 Media Converter, up to 550 m, chassis mountable  |
| MC220L  | Gigabit SFP Media Converter, chassis 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 |

<sup>†</sup>Centralized cloud management 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>This switch supports PoE Auto Recovery under Standalone Mode (managed separately without a controller) and supports manual PoE Recovery under Controller Mode (centrally managed with a controller).

<sup>^</sup>QoS and Priority Mode are supported under Standalone Mode.

\*PoE budget calculations are based on laboratory testing. The actual PoE power budget is not guaranteed and will vary due to client limitations and environmental factors.

\*\*The speed of the ports that support 250m PoE transmission will be downgraded to 10 Mbps. Actual transmission distance may vary depending on the quality of the cables.

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