Omada by tp-link

Datasheet

5GHz 867Mbps Indoor/Outdoor Wireless Sector Bridge

Omada Scalable Central Hub for Long-Range Indoor/Outdoor Connectivity

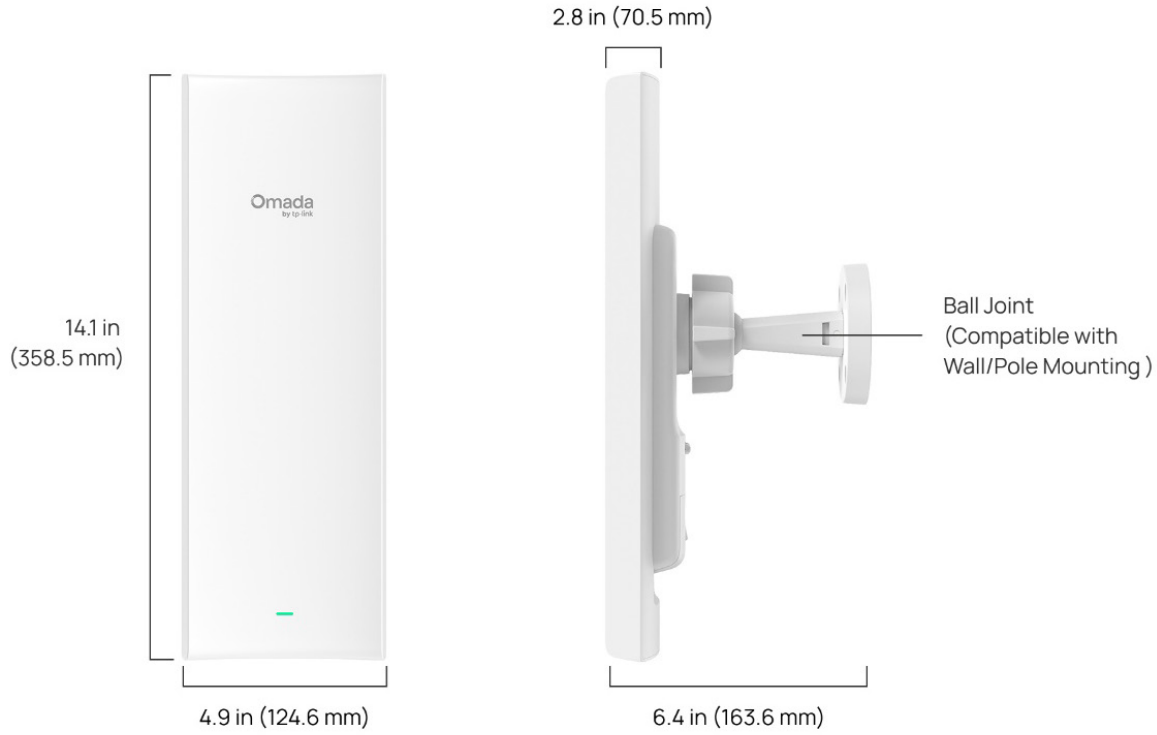
Model: Sector Bridge 5

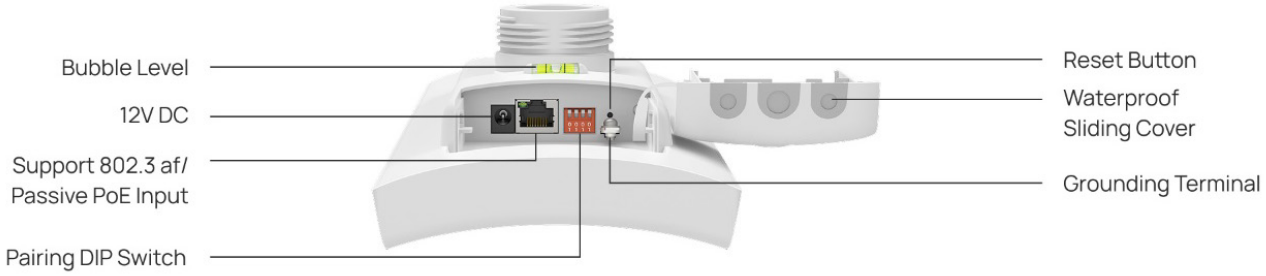
Product Overview

The Omada 5 GHz 867 Mbps Wireless Sector Bridge 5 operates as the core scalable hub for demanding point-to-multipoint bridge networks. Designed for seamless integration with Flex Bridge 5 endpoints, it delivers optimized, long-range performance. Even in the toughest outdoor settings, such as remote mining sites or isolated islands, it consistently delivers robust point-to-multipoint connectivity essential for continuous operations.

- **Supports up to 32 Flex Bridges via TDMA:** Enables scalable multipoint networks across multiple buildings or remote endpoints.*
- **120° Wide Beamwidth for Multipoint Hub Deployment:** Deliver extensive, high-quality wireless coverage for wide-area deployments.
- **3.1 mi (5 km) Long-Range 5 GHz Connectivity:** Delivers dependable 867 Mbps speeds via powerful 16 dBi dual-polarized directional antennas.‡
- **DIP Switches for Simple Pairing:** Reduces configuration and deployment complexity.
- **Designed for Outdoor Durability & Reliability:** Features an IP66 weatherproof enclosure, 6kV lightning protection, and an operating range of -40 °C to +70 °C.**
- **Easy & Versatile Installation:** Supports wall or pole installations, with a built-in bubble level and an ball-joint mount for accurate adjustment.
- **App-Guided Alignment:** Visual alignment guidance and instant speed testing simplify long-distance setups and verify performance.
- **Flexible Power Supply:** Supports 802.3at/af PoE, Passive PoE (24V passive PoE adapter included), and 12V DC.
- **Remote Monitoring & Management:** Standalone mode or Omada SDN mode enables remote centralized management via Web UI or app.†

Product Appearance





Feature Descriptions

Scalable Central Hub Supporting up to 32 Flex Bridges*

One Sector Bridge connects up to 32 Flex Bridges, enabling scalable multipoint networks across multiple buildings or remote endpoints. Built-in TDMA technology guarantees collision-free transmission, fair bandwidth allocation, and high efficiency for every node.

120° Wide Beamwidth for Multipoint Hub Deployment

A broad 120° beamwidth allows the Sector Bridge to function as a powerful central hub, providing wide-area coverage for point-to-multipoint wireless deployments.

Flexible, Long-Range Bridge Point (3.1 mi / 5 km, 5 GHz, 867 Mbps)‡

Equipped with 16 dBi dual-polarized directional antennas, it delivers reliable long-distance connectivity at up to 867 Mbps on the 5 GHz band—ideal for extending networks across buildings and remote locations.

DIP Switches for Simple Pairing

Designed as a dedicated main bridge, it pairs seamlessly with Flex Bridge 5 devices by matching DIP switch codes, significantly reducing configuration time and deployment complexity.

Simple Deployment with PoE Support

Supports 802.3at/af PoE and passive PoE, plus a 12V DC input, enabling flexible power options via a PoE switch, the included 24V passive PoE adapter, or solar power.

Outdoor-Ready Design for Extreme Conditions

Sector Bridge 5 supports IP66 weatherproof and 6kV lightning protection to safeguard your network in harsh outdoor environments. Additionally, an extended temperature tolerance of -40 °C to 70 °C makes it ideal for extremely hot and cold environments.**

Wall & Pole-Mounted for Easy & Versatile Installation

Flexible wall and pole mounting with an included built-in bubble level and ball joint for quick angle adjustment and fast deployment in diverse environments.

App-Guided Alignment for Optimal Performance

Simplifies bridge alignment with real-time signal strength visualization in the Omada app. Ideal for long-distance deployments, it helps ensure precise alignment and stable connectivity. Installers can quickly verify setup, test throughput, and troubleshoot connections for optimal performance.

Remote Monitoring & Management

Supports standalone mode, allowing for easy on-site setup via the Omada app—no internet required. For additional flexibility, switch to Omada SDN to enable cloud management via the Omada app or web portal for seamless control and monitoring from anywhere.

Specifications

Hardware Specifications

Item	Description	
Wi-Fi Standards	5 GHz: IEEE 802.11a/n/ac 2.4 GHz: IEEE 802.11b/g/n (Device Management Only)	
Transmission Distance	5km	
802.11ac	Spatial Streams	• 5 GHz: 2×2 Downlink MIMO with 2 spatial streams
	Frequency Bands	5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM Note: Country-Specific Restriction Apply
	Bandwidth	5 GHz: 20 MHz/40 MHz/80 MHz
	Wireless Data Rate	• 5 GHz: 6.5 Mbps to 867 Mbps (MCS0-MCS9, NSS=1 to 2, VHT20/40/80)
	Radio Technology	OFDM (Orthogonal Frequency-Division Multiplexing)
	Modulation Type	256-QAM. 64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	• A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx • A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx
802.11n	Spatial Streams	• 2.4 GHz: 1 spatial stream (Device Management Only) • 5 GHz: 2×2 MIMO with 2 spatial streams
	Frequency Bands	2.400 to 2.4835 GHz ISM (Device Management Only) 5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM Note: Country-Specific Restriction Apply
	Bandwidth	20 MHz/40 MHz
	Wireless Data Rate	• 2.4 GHz: 6.5Mbps to 150 Mbps (MCS0-MCS7, NSS=1, HT20/40) (Device Management Only) • 5 GHz: 6.5Mbps to 300 Mbps (MCS0-MCS7, NSS=1 to 2, HT20/40)
	Radio Technology	OFDM (Orthogonal Frequency-Division Multiplexing)
	Modulation Type	64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	• A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx • A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx

Item	Description	
Antenna	Wi-Fi	• 2.4 GHz: 1 × 4 dBi (peak gain), internal omnidirectional antennas (Device Management Only) • 5 GHz: 2 × 16 dBi (peak gain), internal directional antennas Beamwidth: Horizontal 120°, Vertical 13° Note: The gains above are the single-antenna peak gains.
Interfaces	• 1 x DC power interface: 12VDC • 1 x 10M/100M/1000M Gigabit Ethernet Port (RJ45); PoE in • 1 x 4 Paring Code Switch; Toggle the Pairing Code switches to set the same pairing code (e.g., 0101). • 1 x Grounding Terminal;	
Memory	• Flash: 128Mbit • DRAM: 1024Mbit	
Button	1 × Reset button: Press the button for longer than 5 seconds to make the device restore to factory settings.	
Indicator	1 x system LED: • On: Working normally/Initializing • Off: Working abnormally/Power off/LED is turned off. • Flash: • Flashes twice: Initialization is complete. • Flashes quickly: The AP is resetting, or the Omada Controller is locating the device • Flashes once per second: The AP is upgrading. 1 × LAN LED: On: The port is connected but not active. Flash: The port is connected and active. Off: The port is not connected.	
Reliability	MTBF (Mean Time between Failure)	NA
Power Supply	Input	• DC: 12V/1A (Supported Voltage Range: 12V±10%) • 24V Passive PoE • 802.3af
	Output	/
Power Consumption	• Max with DC: 9W • Max with PoE: 10.5W • Standby with DC: 3.75W • Standby with PoE: 4.98W Note: Actual power consumption may vary depending on the AP usage.	
Surge/Lightning Protection	Ethernet Ports: ±6 kV	
ESD/EMP Protection	• Air discharge: ±8 kV • Contact discharge: ±4 kV Note: ESD/EMP Protection means Electrostatic Discharge/Electromagnetic Pulse Protection independently.	

Item	Description	
Tx Power	Maximum transmit power	CE (EIRP) • 5 GHz: 23 dBm in U-NII-1, 23 dBm in U-NII-2A, 30 dBm in U-NII-2C FCC (Conducted Power) • 5 GHz: 23 dBm in U-NII-1, 25 dBm in U-NII-3 Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.
	Minimum transmit power	CE (EIRP) • 5 GHz: 6 dBm in U-NII-1, 6 dBm in U-NII-2A, 6 dBm in U-NII-2C, 6 dBm in U-NII-3 FCC (Conducted Power) • 5 GHz: 4 dBm in U-NII-1, 4dBm in U-NII-3 Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.
	Adjustable power increment	1 dB
Environment	Temperature	• Operating: -40℃ to +70℃ (-40℉ to +158℉) • Storage: -40℃ to +70℃ (-40℉ to +158℉)
	Humidity	• Operating: 10% to 90% (non-condensing) • Storage: 5% to 90% (non-condensing)
	Altitude	• Storage: up to + 2000 m (6561feet) • Operating: up to + 2000 m (6561feet)
	Windproof	/
	Weatherproof Enclosure	IP66
Unit	Dimensions (W×D×H)	• Main Unit: 14.1 ×4.9 × 2.8 in (358.5x124.6x70.5 mm) • Shipping Unit: 6.7×4.72×15.55in (170 × 120 × 395 mm)
	Weight	• Main Unit: 0.69kg (1.52 lbs) • Mounting Unit: 0.115 kg (0.25 lbs) • Shipping Unit: 1.45 kg (3.2 lbs)
	Mounting	• Pole Mount (Kits included) • Wall Mount (Kits included)

Software Specifications

Item	Description	
Wireless Functions	Maximum number of associated STAs	8
	Guest Network	No
	ACS (Automatic Channel Selection)	Yes
	Airtime Fairness	No
	TDMA	Yes
	Speed Test	Yes
	PtP	Yes
	PtMP(max)	32
	Channel Optimization	Yes
	Antenna Alignment	Yes
	802.11 Rate Control	No
	Rogue AP Detection	Yes
	WLAN Optimization	No
	Lock to AP	No
	Rate Limit	• Client Rate Limit
	Load Balance	No
	MLO	No
	Multicast/Broadcast Management	• Multicast/Broadcast Rate Limit
Security and Authentication	ACL	
	• None • WPA/WPA2	
	Radius Accounting	
	EAP Types	• EAP-TLS • EAP-TTLS • EAP-PEAP • EAP-CHAP • EAP-SIM • EAP-AKA • EAP-GTC • EAP-FAST • EAP-PEAP • EAP-MD5 • EAP-MSCHAPv2 • PEAPv0

Item	Description	
		• PEAPv1
Management methods	Omada Controller	• Omada Controller V6.2 and above • Omada Essential V6.2 and above
	App	Omada App V5.1 and above
	Standalone Management	Yes
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
Operating Modes	AP	Yes
	Repeater	No
	Mesh	No
System Feature	System Log	Yes
	Reboot Schedule	Yes
	WLAN Schedule	No
	NTP (Network Time Protocol)	Yes
	Email Alerts	Yes
	Firmware Upgrade	Yes
	Restore & Backup	Yes
	LED Control	Yes
Network Features	VLAN	• SSID VLAN • Management VLAN
	Static IP / DHCP Client	Yes
	IPv4	Yes
	LLDP (Link Layer Discovery Protocol)	Yes
	mDNS	Yes
	Tools	• Ping / Traceroute • Packet Capture • Terminal

Standards Compliance and Certifications

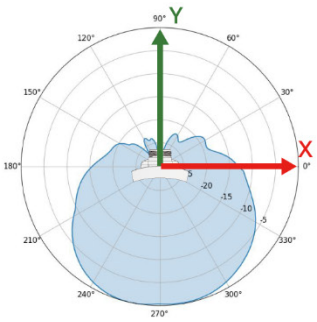
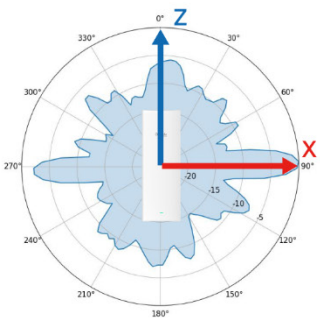
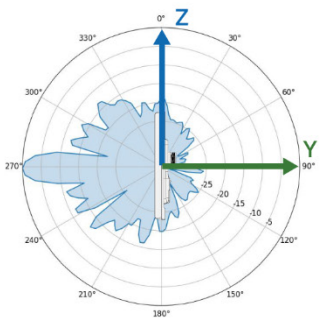
Item	Category	Description
Standards Compliance	IEEE Standards	• IEEE 802.11a/n/ac • IEEE 802.1q • IEEE 802.3at • IEEE 802.3ab • IEEE 802.3x
	Radio Standards	• RSS-247, RSS-Gen • ETSI EN 300 328, EN 301 893, EN 62311& EN 50665 • LP0002 • FCC Part 15E, FCC Part 15C
	EMC Standards	• EN 55032 • EN 55035 • ICES-003 • EN 301489-1 • EN 301489-17 • FCC Part 15B • CNS 15936 • VCCI-CISPR 32
	Safety Standards	• EN IEC 62368-1 • IEC 60950-22 • CNS15598-1
	RoHS	• Directive 2011/65/EU, Directive (EU) 2015/863 • EN IEC 63000: 2018
	Others	• Equipment Radio Regulations: 2008 (including amendments)
Certifications	• FCC/IC/NCC/BSMI/CE/JRF/VCCI/ISED	

RF Performance

Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	EU/US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
2.4 GHz (Device Management Only)	802.11n, HT20	MCS0	17/17	-90
		MCS7	13/13	-72
	802.11n, HT40	MCS0	17/17	-86
		MCS7	13/13	-70
5 GHz	802.11a	6M	16/22	-94
		54M	16/21	-78
	802.11ac, VHT20	MCS0	16/22	-94
		MCS8	16/18.5	-71
	802.11ac, VHT40	MCS0	16/22	-90.5
		MCS9	16/17.5	-66.5
	802.11ac, VHT80	MCS0	16/20	-87.5
		MCS9	16/17.5	-62.5

Antenna Radiation Patterns

5 GHz

XY Plane	XZ Plane	YZ Plane
		

Package Contents

Item	Quantity
Sector Bridge 5	1
Passive PoE Adapter	1
Power Cord	1
Mounting Kit	1
Installation Guide	1

Support Services

We are committed to providing you with comprehensive and reliable support services to ensure seamless experience with Omada products.

- Contact Support: https://support.omadanetworks.com/#contact-us
- Warranty Services: https://www.omadanetworks.com/support/replacement-warranty/

Revision History

Version	Date	Description
V1.0	2026-10-16	Initial release.

Note: Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects, and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead, and 3) client limitations, including rated performance, location, connection, quality, and client condition.

*This capacity is achievable only when used with Flex Bridge 5. The stated value is based on laboratory testing. Actual capacity may vary due to installation conditions, mounting location, network traffic, radio frequency interference (RFI), and other factors.

‡The advertised coverage is calculated based on laboratory testing. Actual coverage is not guaranteed and will vary as a result of the performance of the equipped antennas, client limitations, and environmental factors.

**Protection against lightning and electro-static discharge may be achieved through proper product setup, grounding, and cable shielding. Refer to the instruction manual and consult an IT professional to assist with setting up this product.

†These functions require the use of an Omada controller.

Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: **https://www.omadanetworks.com**. Specifications are subject to change without notice.

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