Waterproof Wi-Fi 5 11ac Wireless PTP Bridge

WAC502G-L3/WAC502G-L8

Waterproof WiFi 5 11ac Wireless PTP Bridge with built-in Directional 15/18dbi Antenna

The WAC502G-L3 is a high-performance, long-distance wireless bridge, designed for fast and reliable connectivity. It features high transmit power and a built-in 15dBi high-gain dual polarization antenna, providing a point-to-point transmission distance of up to 3KM. While WAC502G-L8 features a built-in 18dbi high gain antenna of up to 8KM. The WAC502G series equips Qualcomm 802.11ac wave 2 chip for point to point connectivity, supports up to 865Mbps peak rate. With passive 24V PoE power input and a one-key master/slave pairing setting, installation is made simple. The wireless security includes WPA/WPA2 encryption, Virtual AP and wireless user isolation, along with CPE list and ping test tool to check PTP connectivity status. Its compact size, wide operating temperature, IP65 housing and Level 3 ESD/Surge protection (6K contact, 8K air, surge 2K/4K) ensure durability in various environments. It's ideal for lite industrial applications in city surveillance, remote site connectivity and monitoring, factory to factory, roadside and outdoor site installation.

WAC502G-L3 WAC502G-L8

866Mbps Directional 2x15/18dbi Wireless Bridge 3KM/8KM Quick P2P IP65 NAT/ Router

Features & Benefits

High Throughput and Extended Range Wireless Communication

- Powered by Qualcomm Wi-Fi 5 chip, compliant with IEEE 802.11ac 2T2R MU-MIMO, provides high-speed data rate of up to 866Mbps.
- WAC502G-L3 features a built-in 15dbi dual polarization directional antenna, supports up to 3KM Long-distance transmission
- WAC502G-L8 features a built-in dual polarization 18dbi directional antenna, supports up to 8KM Long-distance transmission
- Deliver up to 25±2dbm high transmit power (depends on regional regulations)
- Supports Gigabit Ethernet Port to ensure that Ethernet speed does not bottleneck of WLAN to Ethernet forwarding
- Dual Gigabit Ethernet ports for uplink, while the second port can be used for network extension
- Dual Ethernet wire connection allows to expand the wireless range without bandwidth lost.

Wireless AP Features Summary

- Multi-SSID support: 3 SSIDs, 2 for virtual AP
- Hide SSID for added security
- Wireless Security: Supports Open, WPA, WPA2 PSK (TKIP/AES), WPA2 Enterprise
- Wireless Client Isolation: Improves wireless stability by isolating wireless clients.
- Wi-Fi Time Scheduling: Allows on/off scheduling to save energy.
- Adjustable RF Power: Enables tuning of RF power based on the environment.
- MAC Filtering: Provides control over device access.

Easy Point to Point Wireless Connectivity

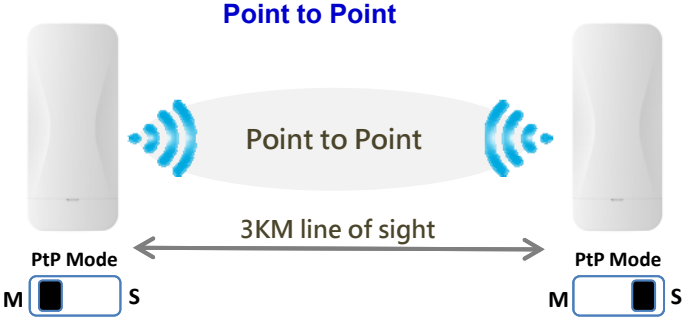
- Working Modes: Supports both Access Point (AP) modes and Repeater mode for CPE
- Simple Operation: A switch button to easily change between AP/Master and CPE/Slave modes, and a reset button for quick point-to-point configurations.
- Reset Button Functions:
  - ◆ P2P Pairing: Press and hold for 2-5 seconds.
  - ◆ Factory Reset: Press and hold for 10 seconds.
- Master AP can auto assign IP address to the connected CPE APs
- Dashboard web GUI for configuration and status monitoring
- Ping Test and traceroute for network diagnostic
- Signal Diagnostic LEDs:
  - ◆ Five LEDs indicate signal quality.
  - ◆ Three LEDs indicates System, LAN and WAN
- Configuration Backup and Restore
- Periodic Reboot: Options for immediate or scheduled reboots.

Waterproof, Built-in Antenna for light Industrial Applications

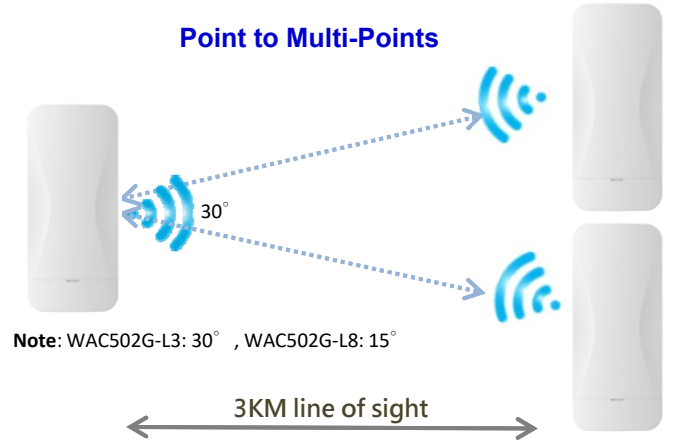
- Easy installation & Simplified Maintenance with the built-in antenna design
- Level 3 ESD/Surge protection (6K contact, 8K air, surge 2K/4K)
- Support passive 24VDC input through Ethernet port
- Support pole-mount and wall-mount
- IP65 Waterproof and -20˚C to 55˚C opeating temperature, providing durable and cost-effective soltion for light industrial and outdoor environments

Features & Benefits

Point to Point



Point to Multi-Points



✓ Point to point and Point to Multiple point

WAC502G supports Point to Point WDS modes. Users can easily configure one as Master (AP mode), and the other as slave (CPE/Repeater) mode for establishing a point to point connection. With **2-Steps Configuration** Design, WAC502G provides a very simple solution for extending wireless range.

Step1: Master and Slave Bridge Configuration

A convenient Switch button allows user to change between AP(Master) and Site(Slave) modes easily. To configure one WAC502G as the Master, simply set the switch button to “M”. For the second WA502G, switch it to “S” to designate it as the salve.

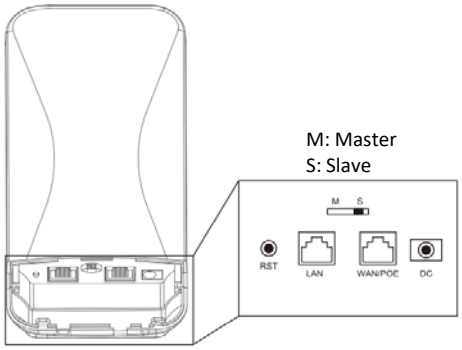
Step 2: One-Key Pairing

There is a reset button design for one-key pairing between the Master and Slave units.
After switching to the Master AP and Slave AP modes, press and hold the reset button for 2-5 seconds, then release it on both devices.

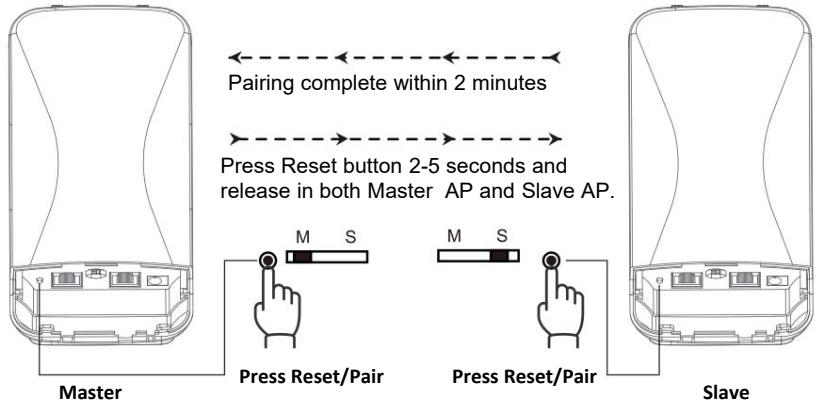
After switching M/S mode to Master AP and Slave AP, then press Reset button 2-5 seconds and release in both Master AP and Slave AP. The 2 wireless bridge will automatically pair within 2 minutes. Then the point to point connection is built.

To connect additional Slave APs in point to multiple point configuration, repeat the above operation to pair more Slave APs. The Master and new Slave APs will pair within 2 minutes.

Step 1: Master and Slave Select



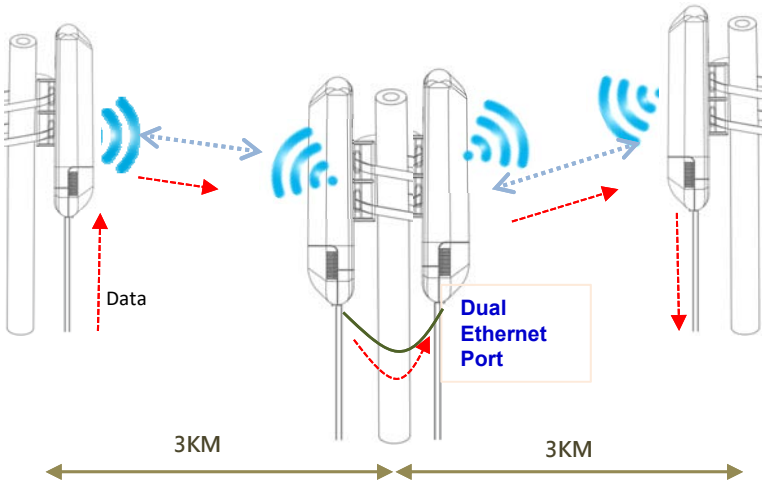
Step 2: One-Key Pairing



✓ Long Range Wireless Connectivity without bandwidth lost

The WAC502G is equipped with two Ethernet ports, which can be used in Bridge modes. When two APs are connected through Ethernet ports, it means there is no loss of bandwidth due to wireless data transmission, and the bandwidth remains the same when transferring data from one pair of APs to the opposite side.

When you need to transmit data across multiple sites to achieve longer distances, this is an ideal method for achieving high-bandwidth wireless backhaul. In comparison to MESH or Repeater modes, those modes share bandwidth at each hop, resulting in significantly lower bandwidth after 3-4 hops.



Interfaces

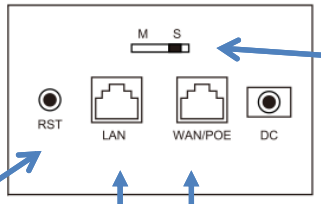
WAC502G-L3

Built-in Ant.
- WAC502G-L3: 15dbi Directional Ant.

Pole-mount

Open the Cover

Interfaces inside



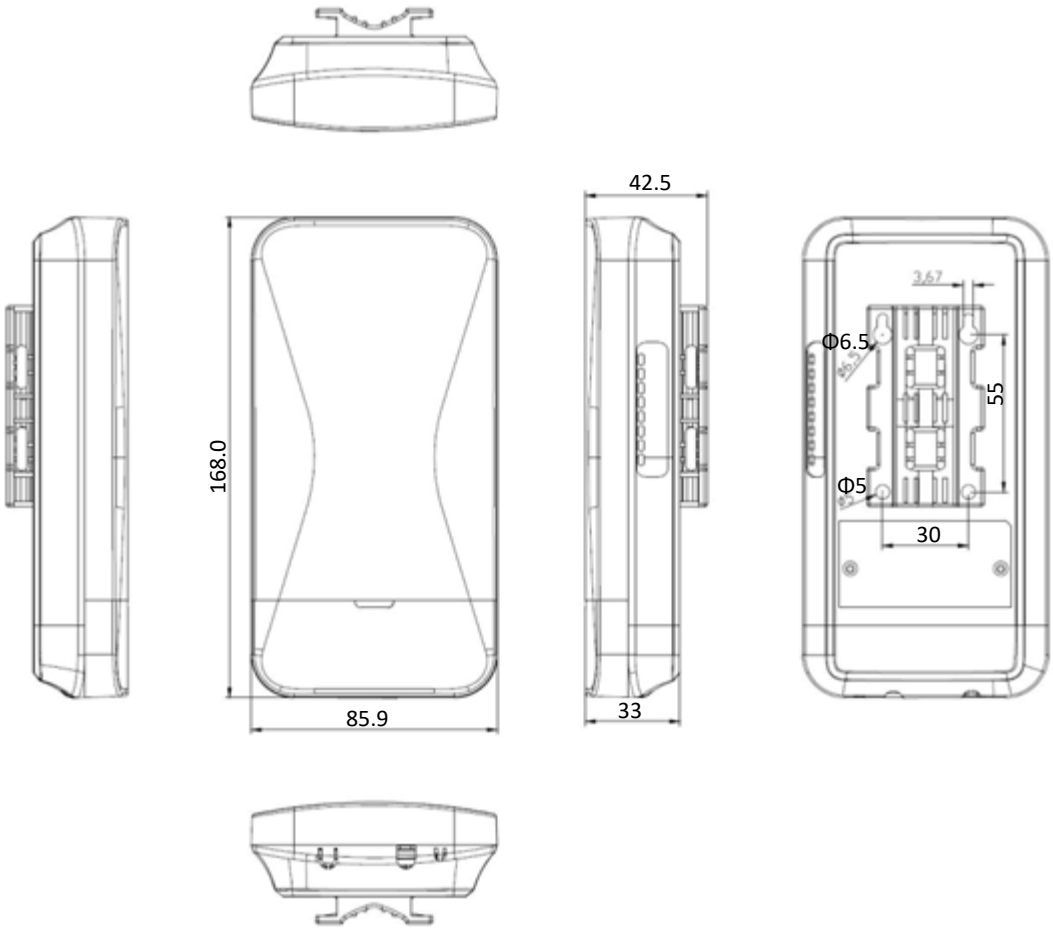
PTP Mode
- Master
- Slave

Reset
2-5s pairing
>10s Factory Default

GbE LAN
- 10/100/1000M RJ45

GbE WAN/PD Input
- 24V Passive PoE Ethernet
- 10/100/1000M RJ45
- WAN/LAN configurable

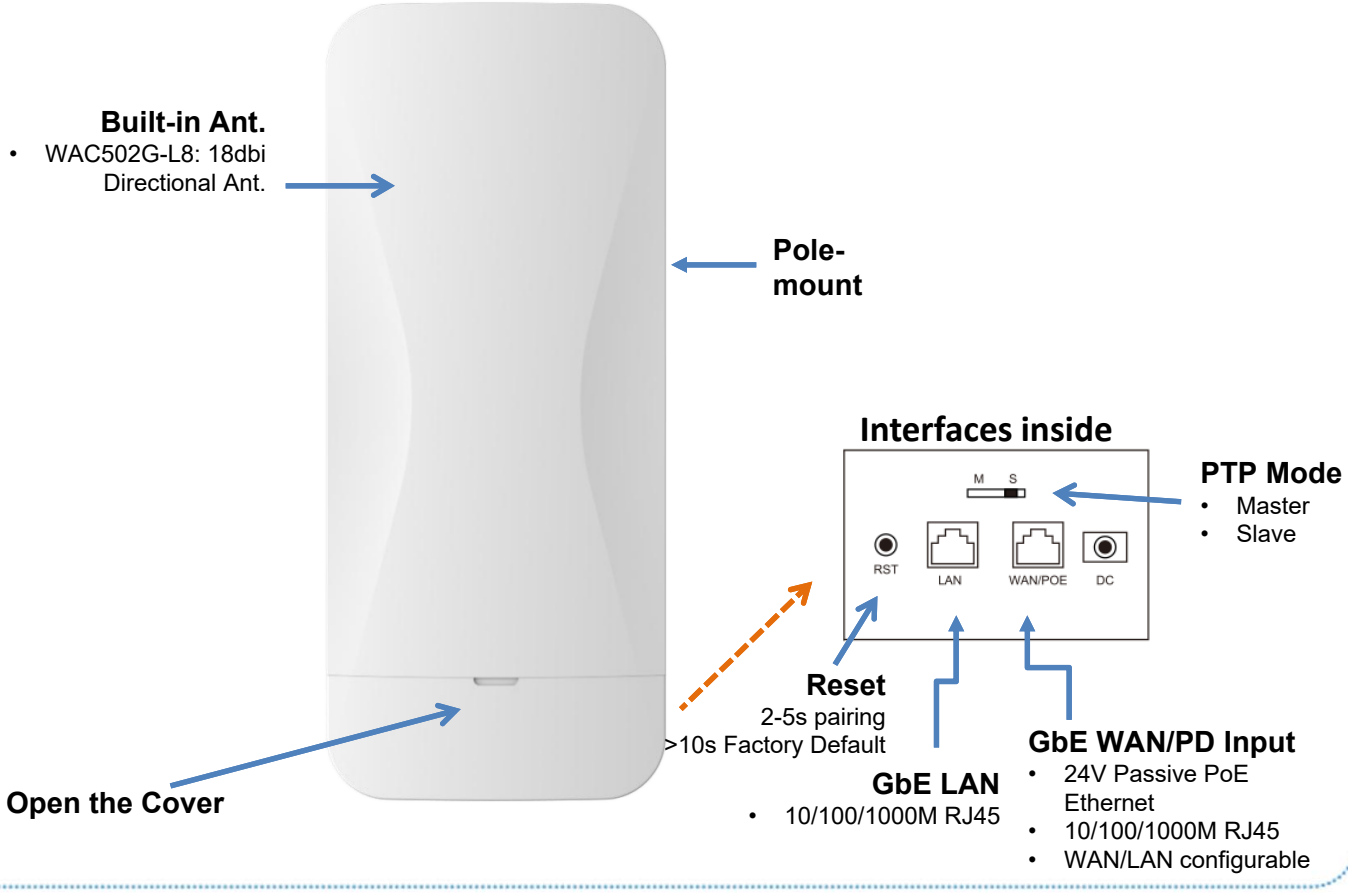
Dimensions



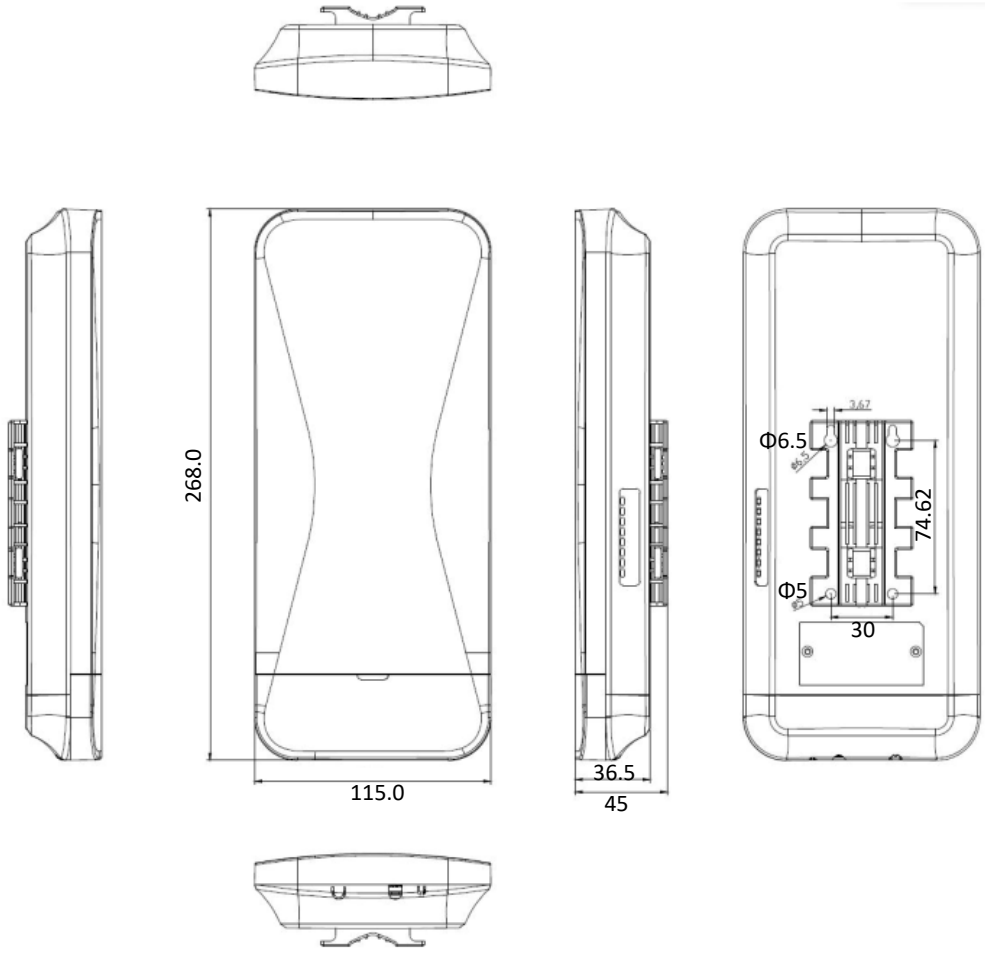
(mm)

Interfaces

WAC502G-L8



Dimensions



(mm)

Technology	
Standard	IEEE 802.11ac 5GHz wireless local area network (WLAN), Backward support 802.11n/a Wireless LAN
	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper
Interface	
Ethernet Port	2 x 10/100/1000MBase-T RJ45, Auto Negotiation, Auto-MDI/MDIX, Plug-n-Play, Bridge/Router mode, 1x Passive PoE Input(WAN port) Router Mode: 1xLAN, 1xWAN/PD; AP Mode: 2x LAN(one is PD)
System LED	PWR/SYS Ready, LAN, WAN Signal Strength: 5 levels signal strength
Reset	Start PTP Pairing (2~5 Seconds) / Reset Factory Default Settings (over 10 Seconds)
PTP Switch	Set Master/ Slave working mode for quick PTP connectivity setup Master is for AP, Slave is for CPE
Power Requirement	
Power Input	Ethernet-WAN/PD: 24V Passive PoE Input or DC 12-24V
Power Consumption	Max. 10W full traffic, suggest to reserve 15% tolerance
WLAN Properties	
Standard	IEEE 802.11ac/n/a 5GHz, also known as Wi-Fi 5 802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Frequency	ISM Band, 5GHz: 5.180MHz ~ 5.240MHz, 5.745 ~ 5.825MHz
Operation Channel	Channel Bandwidth: 20MHz, 40MHz 5GHz Non-DFS: Band 1: 36, 40, 44, 48, Band 4: 149,153,157,161,165 5GHz DFS Enable/Disable *5GHz channel and DFS may difference in different countries.
Data Rate	802.11ac 5GHz: MCS0 ~ 9, max. 866Mbps, 802.11n 5GHz: MCS0 ~ 7, max. 300Mbps 802.11a 5GHz: 54Mbps, 6Mbps
MU-MIMO	5GHz 2T2R Downlink & Uplink MU-MIMO
Max. E.I.R.P. (CE)	≤23db, compliant with CE 5GHz Wi-Fi request TX Power: 802.11 ac VHT20 MCS0: 23±2dBm, MCS9:20±2dBm; 802.11n/a: 25±2dBm (depends on regional regulations, check detail TX/RX information in User Manual)
Antenna	WAC502G-L3: Built-in 15dbi Antenna, Polarization: Vertical/Horizontal dual polarization Horizontal beam angle:60°, Vertical beam angle:30° WAC502G-L8: Built-in 18dbi Antenna Polarization: Vertical/Horizontal dual polarization Horizontal beam angle:30°, Vertical beam angle:15°
Software	
Device Management	WebGUI, Dashboard like main page, IPv4/v6 management, Wizard for AP/Repeater mode configuration, GHCP for Auto IP, CPE list and status, Backup/Restore the configuration, Reset to Factory Default, Reboot and Periodic Reboot, Admin Password Modification, Firmware upgrade, multicast/broadcast rate limit
Network Mode	Ethernet Port: Bridge mode, Auto negotiation or manual speed/duplex change Wireless: AP or Repeater mode
Wireless Function	Working mode: Access Point, CPE, Repeater mode WLAN Basic Settings: Hide SSID, Virtual AP, automatic mode/channel selection, RF TX Power adjustment, Max. Station configurable, VLAN ID configuration, coverage threshold configurable, repeater mode status check
Security	WLAN AP Security: Share Key, WPA/WPA2-PSK(Pre-Shared Key), WPA/WPA2 Enterprise Encryption: 64/128-bit WEP(Wired Equivalent Privacy), TKIP(WPA-PSK), AES(WPA2-PSK) MAC Filter, Wireless User Isolation
Time Management	NTP Client, WLAN Time Scheduling
Diagnostic	Ping Test, Traceroute, System Log

Mechanical	
Installation	Wall-/Pole- Mount
Enclosure Material	PC+ABS
Dimension	WAC502-L3: 86 x 168 x 42.5 mm(W x H x D) WAC502-L3: 115 x 268 x 45 mm(W x H x D)
Ingress Protection	IP65
Weight	0.5kg
Environmental	
Operating Temperature & Humidity	-20˚C~55˚C 5%~95% Non- Condensing
Storage Temperature	-40˚C~70˚C
MTBF	>200,000 hours at 40º full cycle
Warranty	1 years
Approval	
CE	CE RED Compliance Safety: IEC/EN 62368-1 EN 301 489-1/17 EN EN 301 893 EN 62311 MPE

Ordering Information

Model Name	Description
WAC502G-L3-EU	Waterproof 5GHz WLAN5 11ac Wireless Bridge, IP65, 15dbi Directional-Ant, GbE 24V PD, EU plug
WAC502G-L3-US	Waterproof 5GHz WLAN5 11ac Wireless Bridge, IP65, 15dbi Directional-Ant, GbE 24V PD, US plug
WAC502G-L8-EU	Waterproof 5GHz WLAN5 11ac Wireless Bridge, IP65, 18dbi Directional-Ant, GbE 24V PD, EU plug
WAC502G-L8-US	Waterproof 5GHz WLAN5 11ac Wireless Bridge, IP65, 18dbi Directional-Ant, GbE 24V PD, US plug
	Package List
	Product Unit (with built-in antenna)
	Quick Installation Guide
	Passive 24V PoE Injector with power code
	2x Nylon tie for Mounting