

# 802.11ah HaLow Wi-Fi Bridge/Station



## Outstanding Features of PLANET HaLow AP

PLANET HaLow Wireless Access Point combines advanced technology with exceptional versatility, making it the ideal choice for demanding network applications. Its key features include:

- **Flexible Deployment Options:** Supports wireless **AP**, **Station**, and **Gateway** modes to meet various network demands.
- **Extreme Environmental Adaptability:** Operates reliably in temperatures ranging from -20°C to 60°C, ideal for industrial applications.
- **Advanced Data Encryption:** Equipped with WPA3 technology to ensure secure data transmission, suitable for enterprise and public networks.
- **Powerful Centralized Management:** Seamlessly integrates with PLANET NMS-AIoT platform, enabling management of over 3,000 devices for IoT and smart city applications.
- **Reliable IoT Solution:** Delivers high stability and scalability for scenarios like smart cities and industrial automation.

AP mode

Station mode

Gateway mode



Multiple Operation Modes  
HLB-100

## Hardware

- Supports IEEE 802.11ah wireless technology.
- 1 x 10/100 RJ45 port
- 1 x RS485 serial interface
- 1 x pair button
- 1 x reset Button
- 3 x LED indicators for the Strength Signal
- LED indicators for Station, Power and LNK/ACT statuses

## Multiple Operation Modes and Wireless Features

- Multiple operation modes: AP, gateway and station
- Low power wide area network (LPWAN) connectivity
- Supports WPA3 personal encryption.
- Supports up to 1km wireless range.

## Router Features

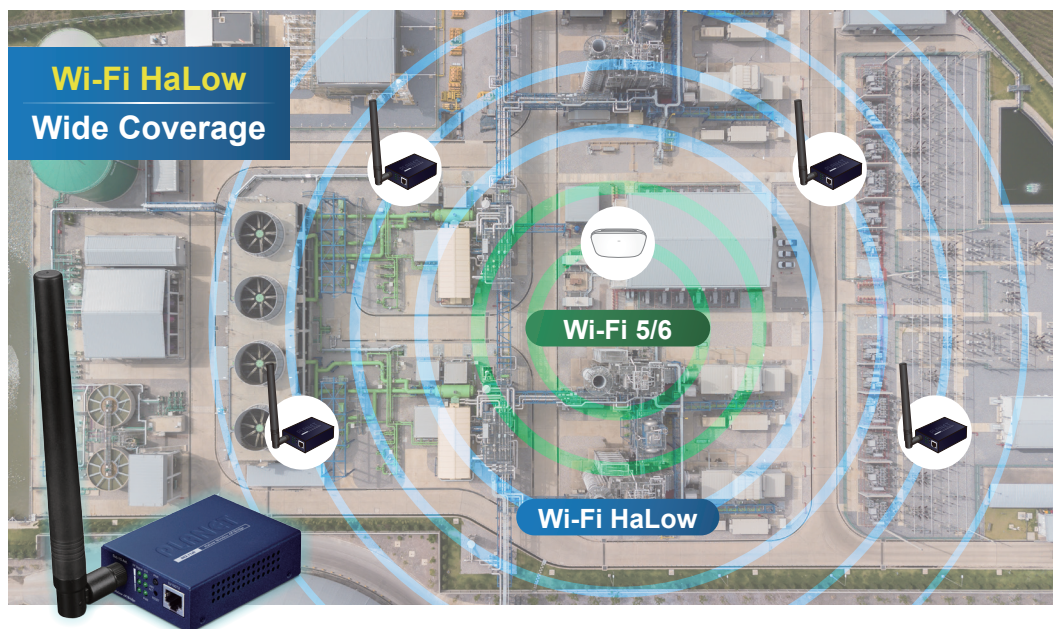
- Bandwidth control per IP address to increase network stability
- Supports NAT Routing, IP Routing or Bridge mode.
- Supports routing / dynamic routing (RIPv1/v2) and VLAN tagging (802.1Q).
- Supports DHCPv6 and DHCP client/server.

## Easy Deployment and Management

- Supports management by using PLANET NMSViewerPro and CloudViewerPro app.
- Easy discovery by PLANET Smart Discovery
- Self-healing mechanism through system auto reboot setting
- System status monitoring through remote syslog server

### Benefits of HaLow Technology

With its exceptional range and stable transmission, PLANET HaLow Wireless AP is ideal for large-area applications. Whether for smart city deployments, industrial automation, or wide-area surveillance, it ensures reliable connectivity even in challenging environments. Its WPA3 encryption further enhances security, protecting data transmissions from potential breaches and ensuring peace of mind for users.

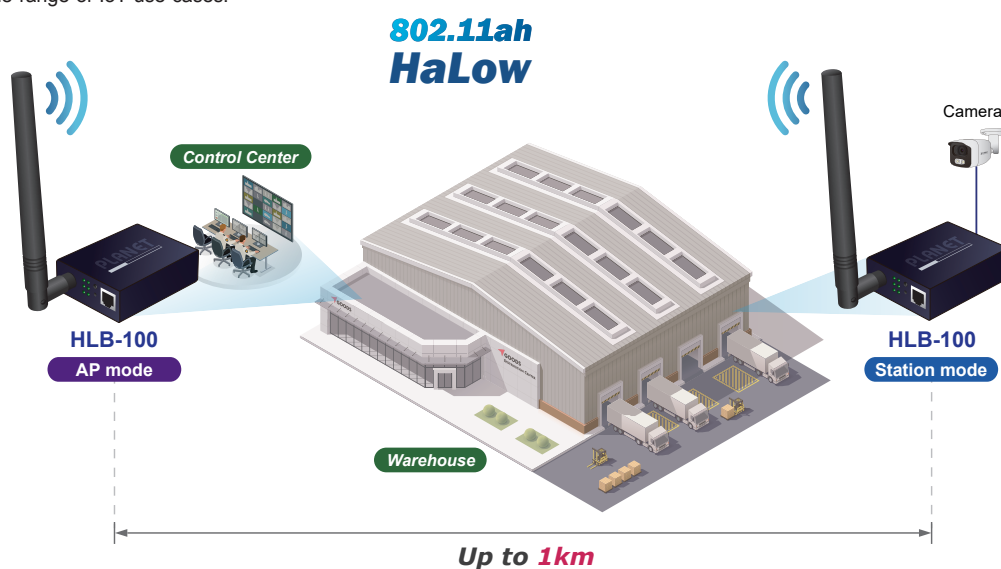


HLB-100

### Long Range, Low Power Solution for IoT Connectivity

PLANET HaLow Wireless AP redefines IoT connectivity with its ultra-long range of up to 1km and energy-efficient design. Operating on low power, it ensures extended device runtime, making it ideal for IoT applications in smart cities, agriculture, and industrial automation.

With support for **AP**, **Station**, and **Gateway** modes, the HaLow AP offers versatile deployment options, while its advanced WPA3 encryption safeguards data transmission across networks. Designed to withstand extreme environments and equipped with wall-mount installation, it delivers reliable, secure, and flexible connectivity for a wide range of IoT use cases.



### Robust and Versatile Design

PLANET HaLow Wireless AP supports wall-mount installation, making it suitable for indoor use. The device's ability to adapt to diverse conditions and environments is further enhanced by its energy-efficient and low-power design, delivering long-lasting performance.

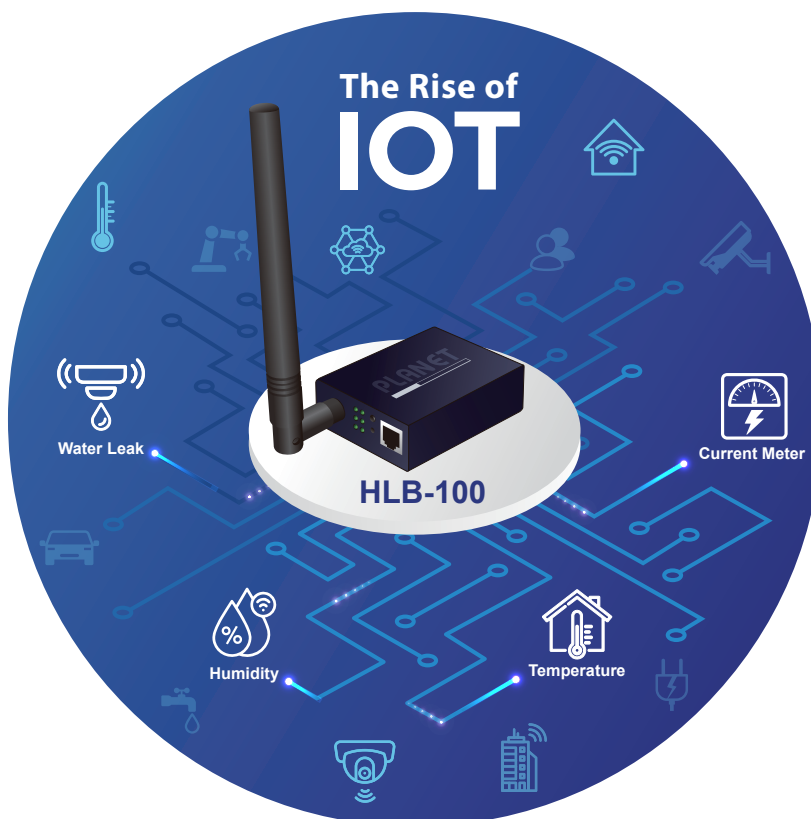
### Enhanced Security with WPA3

By adopting the advanced WPA3 encryption protocol, PLANET HaLow Wireless AP ensures that data remains secure and protected from unauthorized access. This makes it a perfect fit for enterprises and public deployments where security is paramount.

### Seamless Integration with NMS-AIoT for Enhanced IoT Management

PLANET HaLow Wireless AP is fully compatible with PLANET NMS-AIoT platform, enabling centralized management of IoT networks. By integrating with NMS-AIoT, users can monitor and manage over 3,000 sensing devices across wide areas through an intuitive dashboard and map-based interface.

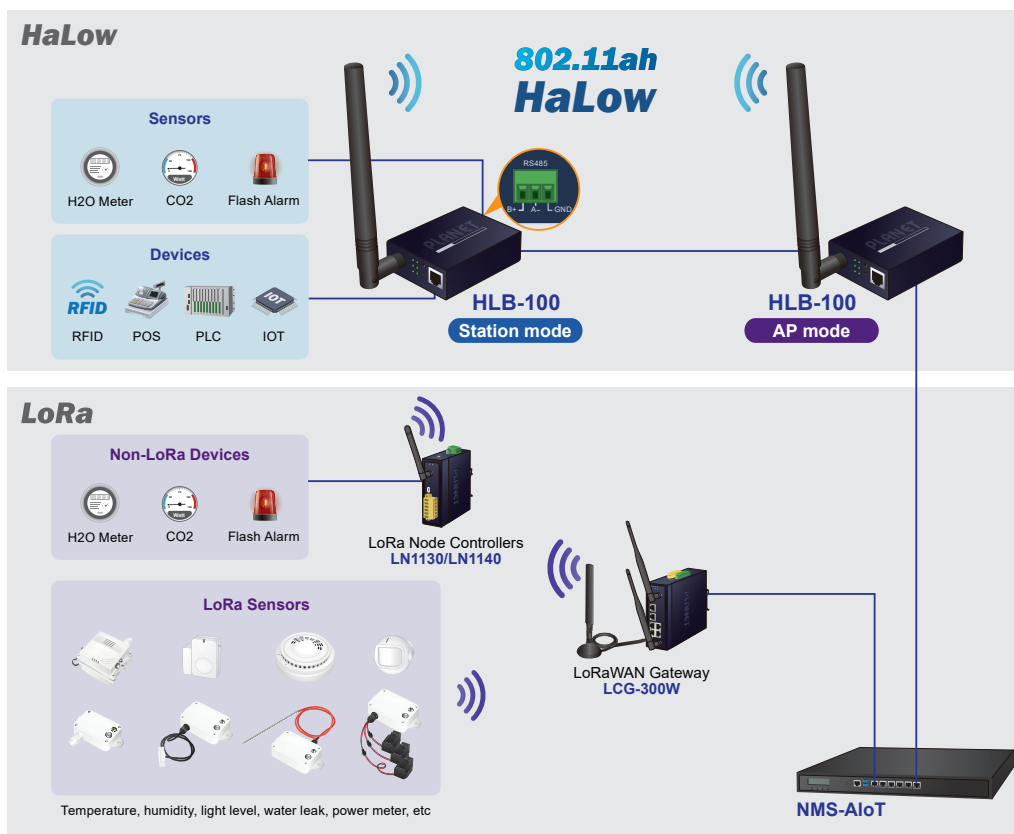
The HaLow AP's long-range capabilities and energy-efficient design perfectly complement NMS-AIoT's AI edge computing, ESG energy management, and cybersecurity features. Together, they provide a robust and scalable solution for enterprises looking to optimize IoT operations with sustainability and security at the forefront.



## Applications

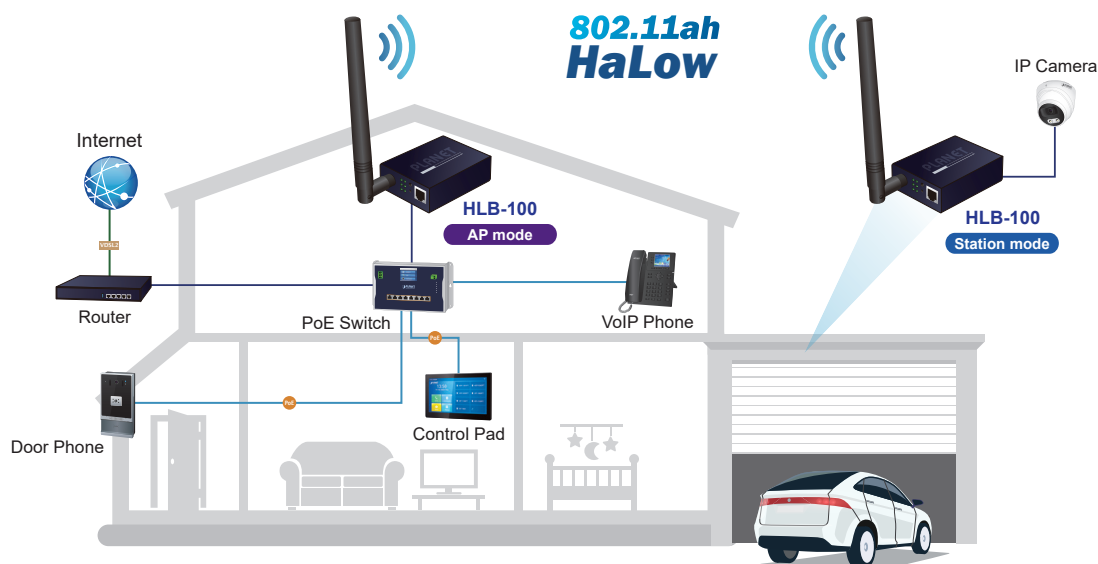
### Seamless Integration of HaLow AP with NMS-AIoT for Efficient IoT Management

The HaLow AP (HLB-100) combined with the NMS-AIoT management platform offers a powerful, long-range IoT deployment solution. Supporting up to 1km wireless coverage, the HLB-100 connects various IoT devices to centralize data monitoring and management. By linking HaLow AP to the NMS-AIoT platform through its Ethernet port, businesses can streamline real-time device status updates, alerts, and analytics within one comprehensive interface. This setup is ideal for smart buildings, industrial automation, and energy management, providing robust control over IoT deployments.



### Reliable Home Surveillance with Long-Range HaLow Connectivity

The HaLow AP (HLB-100) provides a practical solution for extending your home surveillance system's coverage. With its long-range wireless capability of up to 1km, the HLB-100 ensures stable connectivity to security cameras placed across large areas, such as backyards, garages, and driveways. By connecting IP cameras to the HLB-100's Ethernet port, homeowners can enable real-time video monitoring and recording. It delivers reliable performance, ensuring continuous operation for enhanced safety and peace of mind.



## Product Specifications

|  |  |
|--|--|
| Product                                  | HLB-100  |
| <b>Hardware Specifications</b>           |  |
| Interfaces                               | 1 10/100BASE-TX RJ45 port including<br>1 LAN/WAN port<br>Supports WAN mode and LAN mode, configurable via software.  |
| Antenna Connector                        | 1 × 50 Ω SMA Connector (Center Pin: SMA Female)  |
| Serial Interface                         | 1 x RS485 serial interface   |
| Button                                   | 1 x reset button<br>Press over 5 seconds to reset the device to factory default<br>1 x pair button   |
| Dimensions (W x D x H)                   | 94 x 70.3 x 26.2 mm  |
| Weight                                   | 223g   |
| Power Requirements                       | 5V 2A  |
| Power Consumption                        | 2W   |
| Installation                             | Wall-mount   |
| LED Indicators                           | Power, SYS, station, strength signal   |
| <b>Wireless Interface Specifications</b> |  |
| Standard                                 | IEEE 802.11ah (Wi-Fi HaLow)<br>Compliance with regional regulatory requirements (FCC, ETSI)  |
| Band Mode                                | Sub-1 GHz frequency operation  |
| Frequency Range                          | 868 MHz: European Union<br>902–928 MHz: North America  |
| Operating Channels                       | <b>Sub1G:</b><br>1MHz<br>1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51 (Channels)<br>2MHz<br>2,6,10,14,18,22,26,30,34,38,42,46,50 (Channels)<br>4MHz<br>8,16,24,32,40,48 (Channels)<br>8MHz<br>12,28,44 (Channels) |
| <b>Software Features</b>                 |  |
| LAN                                      | Static IP / Dynamic IP   |
| Wireless Mode                            | <ul style="list-style-type: none"> <li>■ Gateway</li> <li>■ Access Point</li> <li>■ Station</li> </ul>   |
| Channel Width                            | 1MHz, 2MHz, 4MHz, 8MHz   |
| Encryption Security                      | WPA3 Personal  |
| Wireless Security                        | Enable/Disable SSID Broadcast  |
| Status Monitoring                        | Device status, wireless client List<br>PLANET Smart Discovery<br>DHCP client table<br>System Log supports remote syslog server   |
| <b>Management</b>                        |  |
| Basic Management Interfaces              | Web browser<br>SNMP v1/v2c<br>PLANET Smart Discovery utility and NMS controller supported  |
| Secure Management Interfaces             | TLSv1.2, SNMP v3   |
| System Log                               | System Event Log   |
| Others                                   | Setup wizard<br>Dashboard<br>System status/service<br>Statistics<br>Connection status<br>Auto reboot/Diagnostics<br>Remote management through PLANET DDNS/Easy DDNS<br>Configuration backup and restore<br>Supports IGMP Proxy.<br>Supports UPnP.<br>Diagnostics       |
| Central Management                       | PLANET NMSViewerPro, PLANET CloudViewerPro   |

**Environment & Certification**

|             |   |
|-------------|---|
| Temperature | Operating: -20~ 60 degrees C<br>Storage: -40 ~ 70 degrees C               |
| Humidity    | Operating: 10 ~ 90% (non-condensing)<br>Storage: 5 ~ 90% (non-condensing) |
| Regulatory  | CE, FCC, RoHS   |

## Ordering Information

|         |                                     |
|---------|-------------------------------------|
| HLB-100 | 802.11ah HaLow Wi-Fi Bridge/Station |
|---------|-------------------------------------|

## Related Wireless Products

|          |  |
|----------|--|
| NMS-AIOT | Universal Network Management AIoT Application Server with LCD & 6 10/100/1000T LAN Ports |
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**HLB-100**