

HBGW02

Bluetooth Mesh Gateway | Ethernet or Wi-Fi 2.4GHz | Wall/Flat Surface Mounting

HYTRONIK®
SENSORS & LIGHTING CONTROL



Benefits

Design: Compact saving installation space

Scalable: Supporting up to 200 Bluetooth devices for network expansion

Efficient: Enabling PoE power and remote data management

Applications

Commercial & Office Lighting

Industrial & Warehouse Logistics

All types of applications

Check out the complete system solution on the website:

<https://www.hytronik.com>



Product Description

HBGW02 is a Bluetooth Mesh gateway featuring frequency-hopping Bluetooth technology for stable one-to-many connections, reducing disconnections in typical applications. It supports up to 200 Bluetooth nodes and provides connectivity via Ethernet or 2.4 GHz Wi-Fi. The gateway can be powered conventionally or via PoE, enabling remote monitoring, control, and data collection for easier network management and maintenance. Its compact design and versatile connectivity make it ideal for smart lighting systems.

Functions and Features



Koolmesh
(See bluetooth control
features below)

Specifications

System Capacity

Capacity and performance	Up to approximately 200 Bluetooth mesh devices per gateway (The higher requirement for network traffic, the smaller of a network must be) One network per gateway.
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Electrical Data

Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth transmit power	19.5±1 dBm
Bluetooth range	10-30m
Bluetooth system	Koolmesh
Operating voltage	DC5V/2A

Technical

Ambient temperature	-25°C - 60°C
Storage temperature	-35°C - +60°C
Humidity	20% - 80%
IP rate	IP20
Insulation	Class II

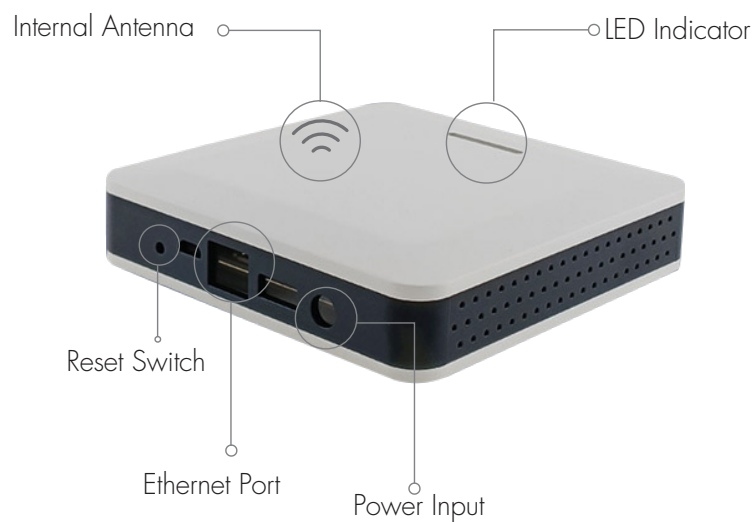
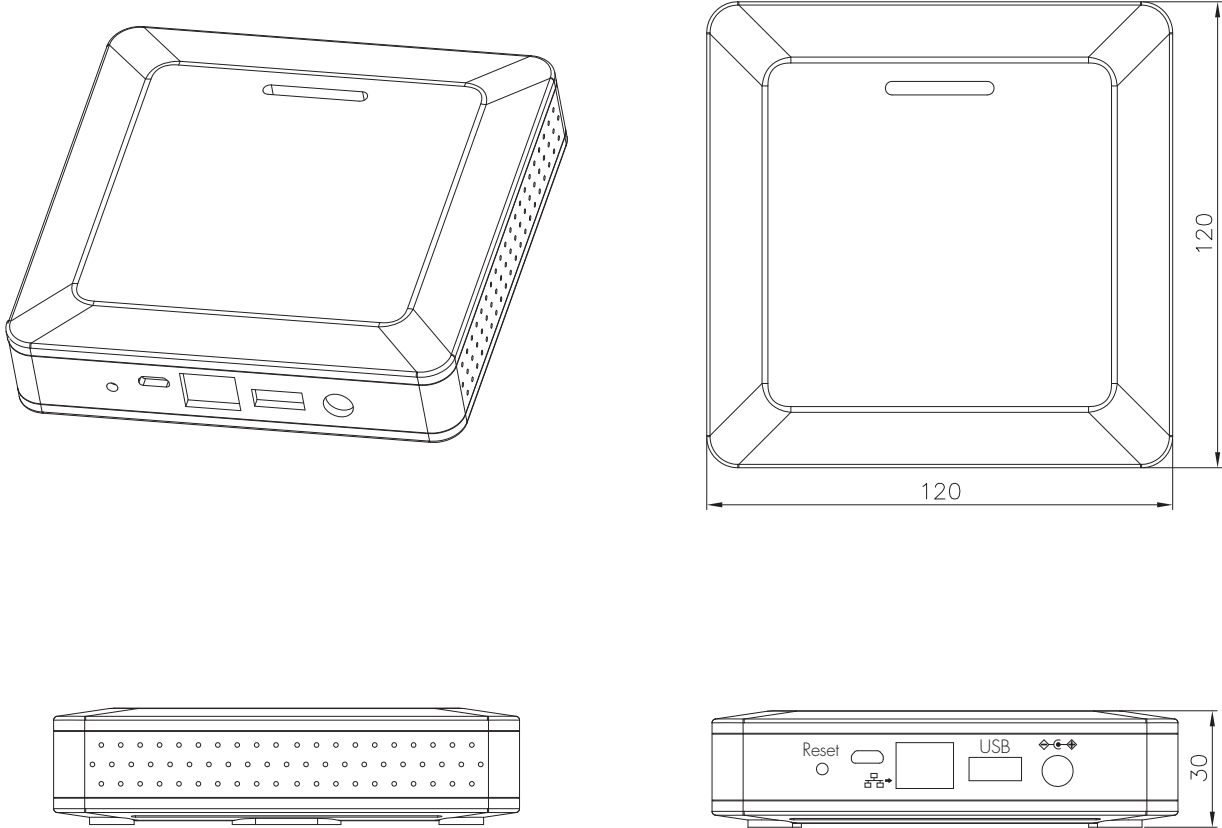
Standards

EMC	EN55035, EN301489-17
LVD	EN IEC62368, EN 55032
RED	EN 301489-1, EN 30328
Certification	CB, CE, EMC, RED, RCM

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Technical Drawing



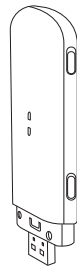
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Compatible Products

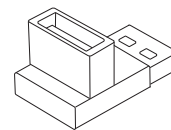
Gateway 2.4G-to-WiFi Internet Access Solution

For projects where wired Ethernet is not available, a user-supplied portable WiFi dongle can be inserted into the USB port, allowing the gateway to access the internet via WiFi.



Portable WiFi Hotspot
(for reference only)

This portable WiFi dongle is not included in the package and must be provided by the customer.



Adapter
(for reference only)

Included in the package.



Physical Drawing
(for reference only)

The adapter must be plugged into the USB port to function properly.

Benefits of using the USB adapter:

- Simple plug-and-play setup for quick, hassle-free internet access
- Compact, slim, and lightweight design for easy deployment in tight spaces
- Enhances installation flexibility and improves airflow for better heat dissipation

*After inserting the device into the USB port, set up Wi-Fi via the Wi-Fi Companion web page. Then connect to Wi-Fi manually in the Koolmesh app under "Network Connection Status."

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Included Accessories

Power Adapter (Included in the package)

Two types of power adapters (UK and EU) are available for the gateway, providing power via the USB-C port.



EU Charger



UK Charger

Compatible Products (for full functionality)

POE Splitter (not included in the package)

HAPOE is a POE Splitter that separates power and data in an Ethernet cable. It enables HBGW02 to obtain power and data via a single Ethernet cable, simplifying installations and eliminating the need for extra power sources.

For more details, please refer to <https://hytronik.com/product/hapoe>



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Connection diagram



PoE Connection: PoE Switch → Standard Ethernet Cable → HAPOE → DC port → Gateway

Commissioning Instructions and Precautions

Gateway connection and device configuration procedure

Step 1: Hardware connection

- Conventional power supply:

Use the DC5V/2A power adapter and connect it to the power input interface of the gateway to power the gateway.

- POE power supply (if required):

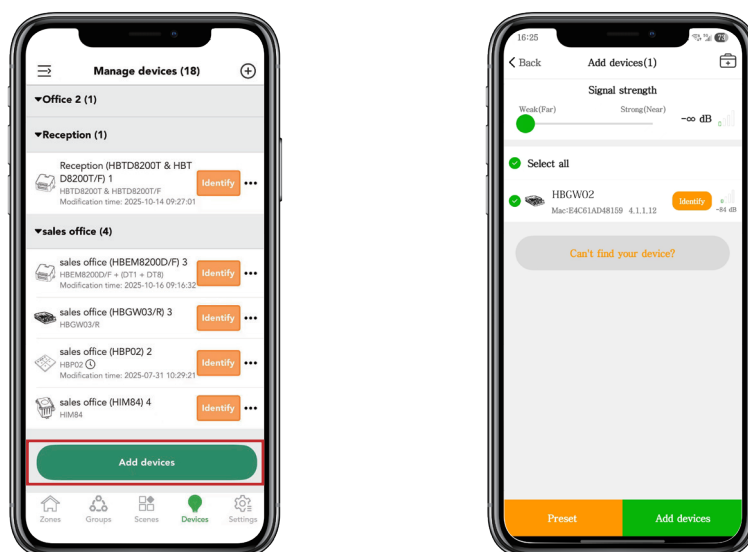
If the POE power supply version is used, purchase a HAPOE (POE Splitter) separately. Connect the Ethernet cable to the HAPOE first, then connect the power cable separated from the HAPOE to the power input port of the gateway, and connect the data transmission cable to the Ethernet port of the gateway. In this way, power and data can be simultaneously transmitted through one Ethernet cable.

Step 2: The device starts

After the power connection is complete, the power indicator (red) lights up. After about 5 seconds, the Bluetooth indicator (blue) and WiFi indicator (green) start flashing. When the WiFi connection is successful, the green indicator remains steady on. When the Bluetooth connection is successful, the blue indicator is on.

Step 3: Connect the device

Mobile device APP connection: Open the APP on a supported mobile device (iOS or Android smartphone, iPad). Enter the APP's Settings menu and click "Search Devices" to search for devices. After finding the gateway device, complete the related configuration. If the device is not found when searching, press and hold the reset switch of the gateway for 5 seconds to reset it. At this time, the Bluetooth and WiFi indicators will alternately flash, indicating that the reset is successful, and then try to search for and add the device again.

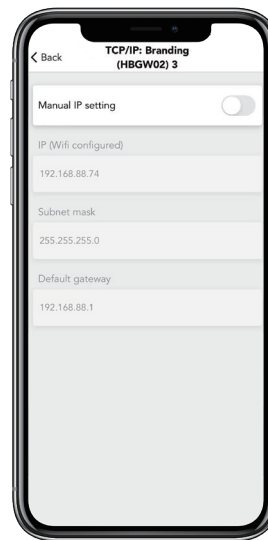
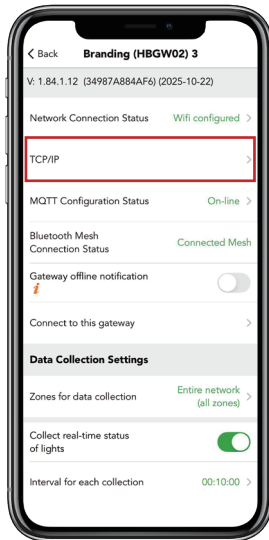


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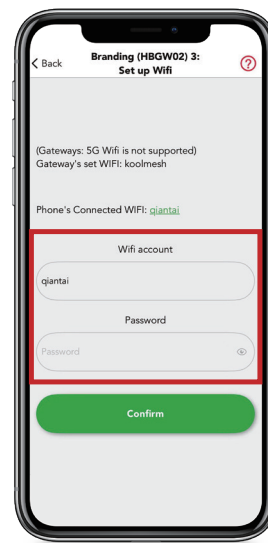
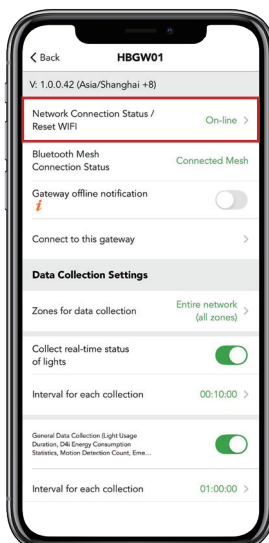
Change the IP address

HBGW02 support both resetting and IP configuration by app.



Change the WIFI network of gateway

Just want to change the WIFI, the location of the gateway has not changed or the WIFI has changed the location of the gateway. In both cases, click "Network Connection Status" and enter the wify account and password to change to wifi.



Safety Precautions

- Use the Gateway only as described in this manual.
- Ensure all parts of the gateway are present, genuine, and free from damage.
- Verify that the power source matches the specifications on the rating plate.
- Do not carry or lift the gateway by its cables.
- Keep the gateway dry; do not expose it to rain, snow, or frost.
- Keep the power sockets clean and free of dust.
- Only authorized service personnel should repair the gateway.

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Koolmesh - Operating guide

Bluetooth 5.0 SIG Mesh



Smartphone (ios)



Smartphone (Android)



iPad



Web

For additional information, including project and network, device, and scenes, please refer to: <http://faq.koolmesh.com/faq/en/index.html>

Shared Koolmesh App Features

- | | | | |
|--|---|--|--|
| | Quick setup mode & advanced setup mode | | Power-on status (memory against power loss) |
| | Web platform for project deployment & data analysis | | Offline commissioning |
| | Koolmesh Pro iPad for on-site configuration | | Bulk commissioning (copy and paste settings) |
| | Floorplan feature to simplify project planning | | Different permission levels via authority management |
| | One-key device replacement | | Network sharing via QR code or keycode |
| | Device social relations check | | Interoperability with Hytronik Bluetooth product portfolio |
| | Staircase function for quick setup | | Internet-of-Things (IoT) featured |
| | Remote control via Hytronik gateway & touch screen HPAD-TSJASE1 | | Device firmware update over-the-air (OTA) |
| | Heat map | | Alert for excess lux / temperature / humidity via multi-meter HBLM01 |
| | Grouping luminaires via mesh network | | Seamless integration with BMS via Hytronik BMS gateway |
| | Scenes | | Test mesh network connection quality |
| | Schedule | | Compatible with Shelly energy metering |
| | Astro timer (sunrise and sunset) | | Continuous development in progress... |

Device-specific Koolmesh App features

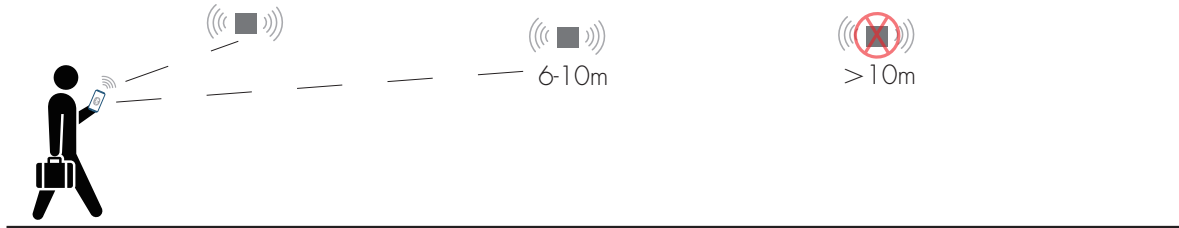
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| | Dynamic daylight harvest auto-configuration | | Displays Luminaire Status & Energy Consumption Data |
| | Troubleshooting & Diagnosis | | Compatible with EnOcean kinetic switches |

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Smart Phone to Device Range

1. The smart device with the installed App typically has a range of 10m, which may vary between devices.
2. During the commissioning process, the installer must be within range of the devices while searching for them to add to the network.
3. Once the devices are added to the network via the App, they will begin communicating within the wireless mesh.
4. After the network is complete, all devices can be accessed from the smart device within a 20m range of a single point.



Bluetooth Network Components



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Bluetooth Mesh Gateway | Dual-band Wi-Fi
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www.hytronik.com/product/HBGW02



HBGW02/D

Bluetooth Mesh Gateway | Dual-band Wi-Fi
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www.hytronik.com/product/HBGW02/D



HBGW03/R

BACnet Gateway | DIN rail/Wall/Flat Surface Mounting
| Remote access/monitoring

www.hytronik.com/product/HBGW02



HBLM01

Multi-meter | Bluetooth & NFC | Lux Measurements

www.hytronik.com/product/HBLM01



HPAD-TSJASE1

Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes

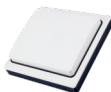
www.hytronik.com/product/HPAD-TSJASE1



HBKS01/W

Bluetooth Kinetic Switch | One-gang | White Color

www.hytronik.com/product/HBKS01-W



HBKS01D/W

Bluetooth Kinetic Switch | Single Rocker | White Color

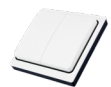
www.hytronik.com/product/HBKS01D-W



HBKS02/W

Bluetooth Kinetic Switch | Two-gang | White Color

www.hytronik.com/product/HBKS02-W



HBKS02D/W

Bluetooth Kinetic Switch | Double Rocker | White Color

www.hytronik.com/product/HBKS02D-W



HBKS03/W

Bluetooth Kinetic Switch | Three-gang | White Color

www.hytronik.com/product/HBKS03-W



Switch (EnOcean) - HBES01/B

Bluetooth Kinetic Switch | Single Rocker | White Color

www.hytronik.com/product/HBES01/B



Switch (EnOcean) - HBES01/W

Bluetooth Kinetic Switch | Three-gang | White Color

www.hytronik.com/product/HBES01/W

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Extension

5-year Warranty



All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. With today's multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own office or authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.

Check out for further explanation of features

<https://hytronik.com/solutions/lighting-control-features>