

HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

HYTRONIK®
SENSORS & LIGHTING CONTROL



Benefits

Compact: 35 mm DIN-rail design for installation in control panels and distribution boards.

Interoperable: Connects Koolmesh BLE Mesh lighting networks with BACnet/IP and Modbus TCP systems.

Maintainable: App commissioning, local Web management and OTA firmware maintenance simplify deployment and support.

Applications

New-build and retrofit BMS integration

Commercial and smart-building projects

Floor-, zone- and area-based lighting integration



Check out the complete system solution on the website:

<https://www.hytronik.com>

Product Description

HBGW04/R is a multi-protocol BMS gateway that connects Koolmesh BLE Mesh lighting systems with BACnet/IP and Modbus TCP building management systems, with an additional locally managed MQTT Broker. It converts lighting devices, sensors, zones and scenes into accessible BMS data points, including lighting status, occupancy, daylight levels and device status, enabling centralized monitoring, control and energy management. By translating Koolmesh lighting data into standard BACnet objects and other supported protocol formats, the gateway enables seamless integration and data exchange with HVAC, energy management and other building systems. Local Web configuration, App-based commissioning and OTA firmware updates simplify system deployment, configuration and ongoing

Functions and Features



Koolmesh Commissioning
(See Bluetooth control features below)



BACnet/IP Integration



Modbus TCP Integration



Local MQTT Broker



Web Management
& OTA Maintenance



BTL certification
preparation in progress

Properties

- Multi-protocol Integration: Supports BACnet/IP and Modbus TCP for local BMS integration, with an additional locally managed MQTT Broker.
- BLE Mesh Gateway: Connects a commissioned Koolmesh BLE Mesh lighting network to third-party BMS platforms.
- Local MQTT Broker: Provides a locally managed MQTT Broker for authorised clients on the building LAN. Koolmesh lighting and sensor data are not published through MQTT in the current version.
- BMS Data Mapping: Converts supported lighting, occupancy, daylight, energy and device-status information into BMS-readable points.

Specifications

System Architecture	
Product Type	Multi-protocol BLE Mesh BMS Gateway
Processing Platform	ARM Linux-based gateway platform 64-bit Linux OS
Operating System	64-bit Linux OS
Deployment	Local on-premise deployment

Communication Interfaces	
BLE Interface	Bluetooth Mesh
BACnet/IP	Device discovery, object read/write
Modbus TCP	Project-specific register mapping and CSV point-list export
MQTT	Local MQTT Broker management
Network	Ethernet / Wi-Fi
Web Interface	Local browser-based configuration, monitoring and diagnostics
App Configuration	Koolmesh App commissioning via Bluetooth

Capacity and Performance	
Koolmesh Network Capacity*	Up to 200 lighting devices + 200 sensors per gateway
BACnet Objects	Up to 8,192 objects

*Actual project capacity depends on the number of data points, polling frequency, network traffic and required update rate. One Koolmesh network can be connected to each gateway.

HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

Power and Wireless

Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth transmit power	19.5±1 dBm
Bluetooth range*	Up to 50 m in open space
Bluetooth system	Koolmesh Bluetooth Mesh
Power supply	USB-C: 5 VDC, 3 A

*Actual range depends on the installation environment, building structure, obstacles and radio interference.

Environmental and Mechanical

Ambient temperature	0°C - +50°C
Storage temperature	-10°C - +60°C
Humidity	20% - 80%
IP rating	IP20

Standards & Compliance

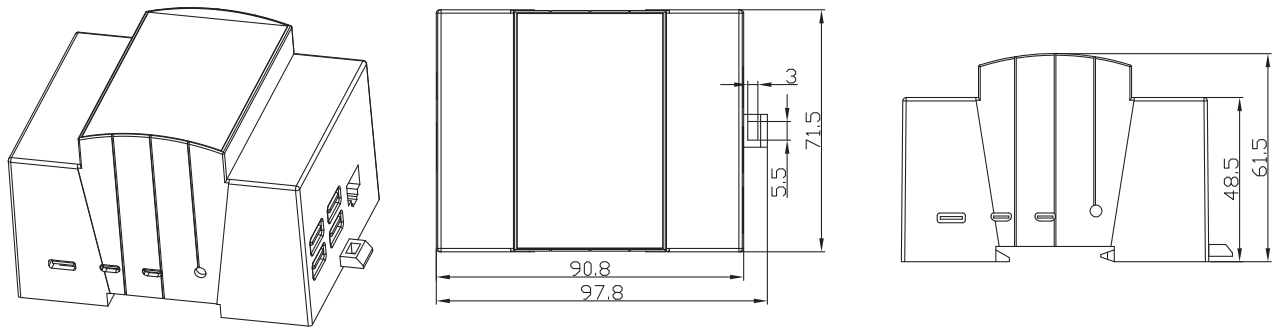
EMC	
LVD	
RED	
Certification	CB, CE, EMC, RED, RCM, BTL

*BTL certification preparation in progress

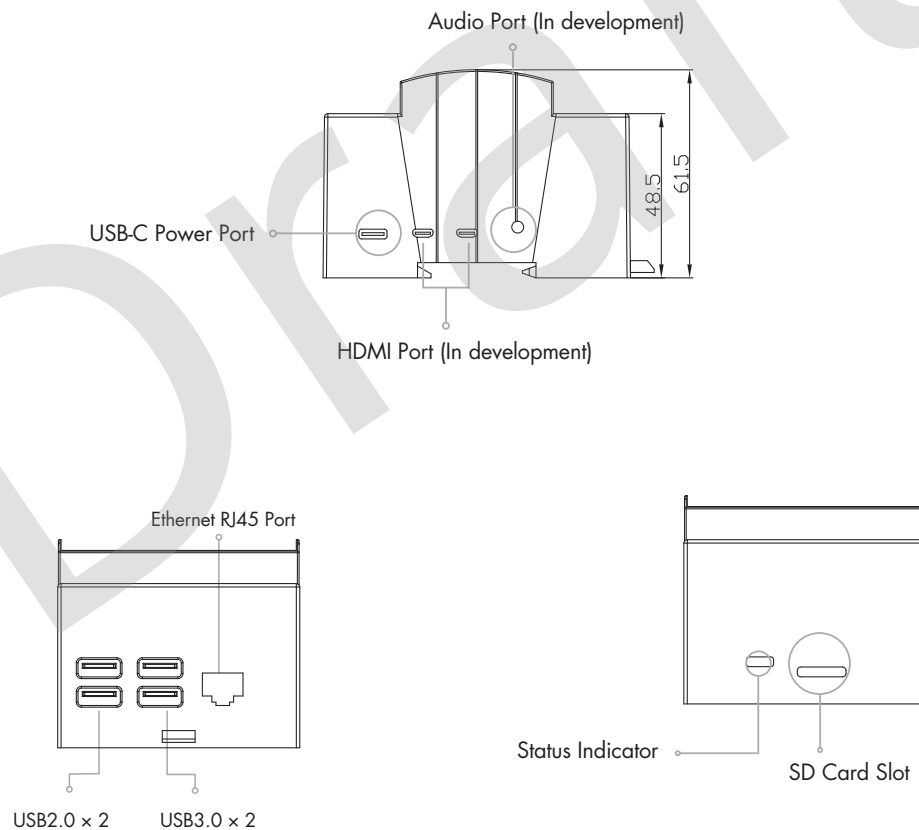
HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

Technical Drawing (Dimensions: mm)



Interface



HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

Installation and Placement



Wall / Flat-surface Mounting

Secure the gateway using the rear mounting points or the supplied mounting accessory.



35 mm DIN-rail Mounting

Clip the gateway securely onto a standard 35 mm DIN rail inside a control panel or distribution board.

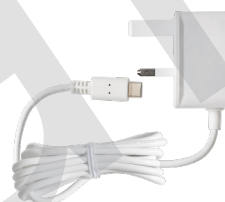
Package Contents and Accessories

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

POE Splitter (not included in the package)

HAPOE/C is a POE Splitter that separates power and data in an Ethernet cable. It enables HBGW04/R 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-c>

HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

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

Device-specific Koolmesh App features

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

Smart Phone to Device Range

1. Phone/Pad to Device Range (Bluetooth Connection)

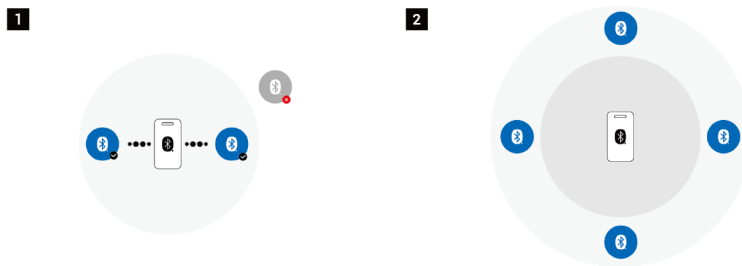
During commissioning, the installer must remain within Bluetooth range of the target device when adding it via the App.

2. Device to Device Range (Mesh Network Communication)

Once commissioned, devices communicate through the wireless mesh network. Users can access and control all devices within the network when connected to any active mesh node.

Note:

- a. Bluetooth range varies by product. Refer to the Specification section for details.
- b. Actual communication range may vary depending on product type, obstacles, environmental conditions, and luminaire construction.



Bluetooth Network Components

 HBGW02 Bluetooth Mesh Gateway Dual-band Wi-Fi wall/flat surface mounting www.hytronik.com/product/HBGW02	 HBGW02/D Bluetooth Mesh Gateway Dual-band Wi-Fi wall/flat surface mounting www.hytronik.com/product/HBGW02/D
 HBGW03/R BACnet Gateway Dual-band Wi-Fi or Ethernet DIN rail/wall/flat surface mounting www.hytronik.com/product/HBGW03-R	 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

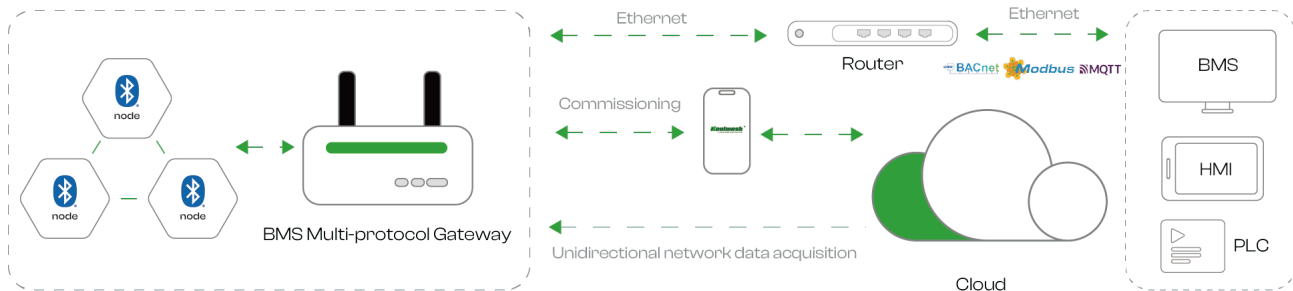
Part II

Commissioning & BMS Integration Guide

Draft

System Architecture

HBGW04/R maps supported Koolmesh entities and device data to BACnet/IP objects and Modbus TCP registers. The MQTT function is a local Broker service and does not publish Koolmesh lighting or sensor data in the current release.



Pre-commissioning Requirements

1. Koolmesh Project Requirements

- The Koolmesh BLE Mesh network must be created and commissioned before BMS integration.
- The gateway must be added to the corresponding Koolmesh project through the Koolmesh App.
- One Koolmesh network can be connected to each gateway.
- The imported project configuration determines the BACnet objects and Modbus registers generated by the gateway.

2. Local Network Requirements

- Ethernet is recommended for BMS commissioning and permanent local integration.
- The gateway and the BACnet or Modbus client must be connected to the same local IP network unless suitable routing and protocol-specific network configuration have been provided.

3. Internet and Cloud Requirements

- Internet access is required for cloud-dependent functions such as project synchronisation and OTA firmware updates.

4. Security Requirements

- Change the Web administrator password immediately after the first login.
- Do not expose the local Web interface, Modbus TCP service or MQTT Broker directly to the public Internet.

5. Project Change Requirements

- After the Koolmesh project structure is changed, re-import or synchronise the project configuration. Export a new BACnet or Modbus point list where applicable. Restart the gateway only when required by the commissioning procedure or Web interface.

HBGW04/R

Multi-protocol BMS Gateway | Ethernet and Wi-Fi | 35 mm DIN-rail Mounting

Initial Commissioning via Koolmesh App

1. Before Powering On

Ensure that the SD card is correctly inserted before connecting the power supply.

2. Power On and Check the Indicators

Connect the power supply. The red LED flashes during startup, and three short beeps indicate that the initial startup sequence has completed.

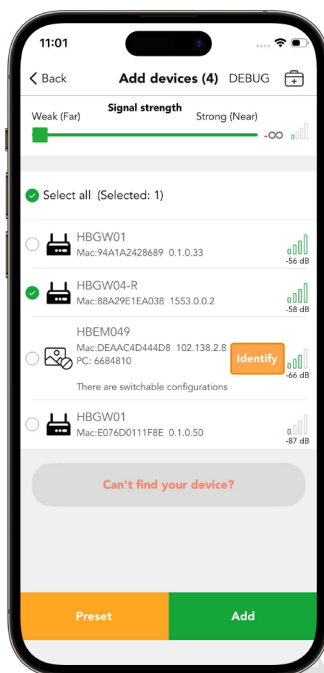
If the green LED remains continuously on, power off the gateway and check that the SD card is correctly installed.

3. Add the Gateway via the Koolmesh App

Open the Koolmesh App and tap the “+” icon.

Select HBGW04/R, tap “Add devices” and assign it to the required installation area.

Once added successfully, the gateway will appear in the Devices list.



Network Configuration

1. Ethernet Connection

Ethernet is recommended for stable BACnet/IP and Modbus TCP integration.

1. Connect the gateway RJ45 port to the local network and power on the gateway.
2. Check the assigned IP address and ensure the commissioning computer is on the same network.
3. Enter the gateway IP address in a browser to access the local Web interface.

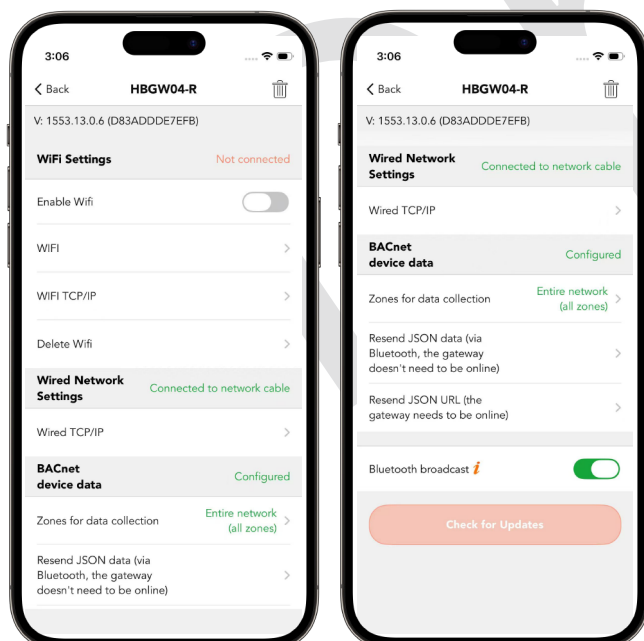
DHCP is enabled by default. A static IP address can be configured if required.



2. Built-in Wi-Fi Connection

1. Open the Koolmesh App, select the HBGW04/R gateway and enter Network Connection Status.
2. Select a secured Wi-Fi network, enter the password and wait until the status shows Connected.
3. Check the assigned IP address and ensure the commissioning computer is connected to the same local network.

Open Wi-Fi and captive-portal networks are not supported. Ethernet is recommended for permanent BMS integration.



Local Web Administration & API Services

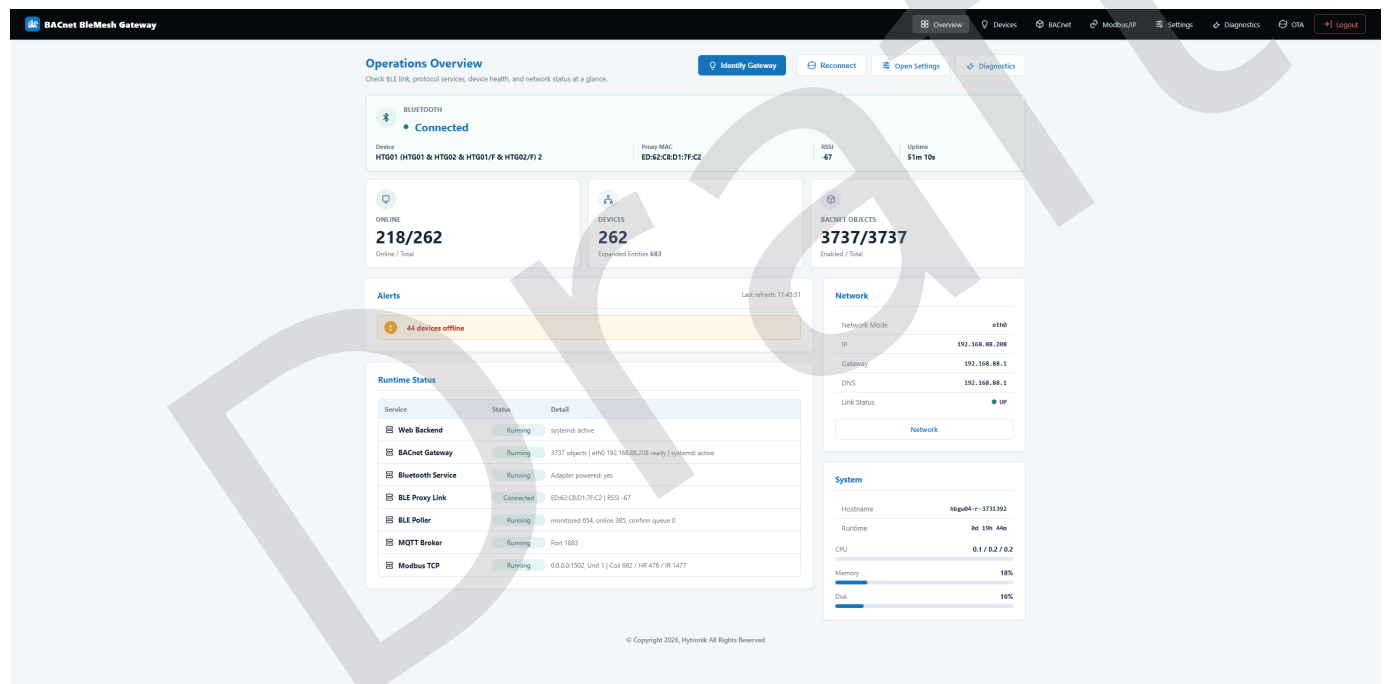
HBGW04/R provides a secure local browser-based Web administration interface for gateway commissioning, configuration, monitoring and maintenance. Browser requests enter through HTTPS 443 and are proxied by Nginx to the local FastAPI backend, which listens only on 127.0.0.1:8000. The Web API supports the gateway administration interface and is not provided as a public third-party integration API.

1. Access & Security Specifications

Item	Specification
Function positioning	Local Web administration, commissioning and gateway maintenance
User interface	Browser-based Web interface
Backend	FastAPI backend, internal only
Access scope	Local LAN
Main functions	Dashboard, device and entity control, BACnet object management, Modbus point-table export, MQTT management, system/network settings, OTA and diagnostics
Third-party public API	Not provided; the local Web API supports the gateway administration interface
Public Internet access	Not permitted
External access	HTTPS
External port	TCP 443
Internal backend	127.0.0.1:8000; not exposed externally
HTTP port 80	Not open
Administrator login	Initial password will require to be changed at first login
Certificate	Device-specific self-signed certificate, automatically maintained for hostname and valid IPv4 changes
Enterprise certificate	Optional administrator import

2. Web Function Summary

Page / Function	Purpose
System Dashboard	View BLE, BACnet, Modbus, MQTT, network, host and system status
Device Control	Control Lights, RGB/RGBW, Zones, Groups, Scenes and Network-level entities
BACnet Objects	View object type, instance, name, current value and enable status; supports global multi-condition search and object names
Modbus/IP	View service state and register mapping; export project-specific reg.csv point lists
System Settings	Configure network, BACnet Location and Foreign Device settings, GATT provisioning, MQTT Broker, authorisation, passwords, BLE polling mode and HTTPS certificate status; view Foreign Device registration results and renewal/retry status.
OTA Update	Check, download and apply OTA updates with staged upgrades, legacy DCC migration, resumable downloads, atomic switching and automatic rollback; view upgrade progress, release notes and version history.
Diagnostics	View service status, analyse BLE Mesh messages and export diagnostics, including source/destination, SEQ, IV Index, Opcode, DSPID and raw PDU data



BACnet, Modbus TCP & MQTT Functional Reference

1. BACnet/IP Integration

HBGW04/R maps luminaires, sensors, Zones, Groups, Scenes and Networks within the Koolmesh BLE Mesh system to BACnet/IP objects, allowing BMS platforms, FIN, YABE and other BACnet clients to discover, read and write the corresponding data points. The physical devices container does not generate BACnet objects itself; objects are created from Light, Lux, Motion, People Count, Scene, Zone, Group and Network entities.

1.1 BACnet/IP Protocol & Interface

Item	Specification
Vendor Name	Hytronik Industrial Limited
Vendor ID	1553
Protocol Revision	23
Device Discovery	Who-Is / I-Am, Who-Has / I-Have
Object Access	ReadProperty, ReadPropertyMultiple, WriteProperty
Device Communication Control	DCC
BACnet/IP Mode	BACnet/IPv4 Normal + Foreign Device Client
BBMD	Not supported as BBMD Server
Routing	Not supported
IPv6	Not supported
BACnet/SC	Not supported
Object Types	Device, Network Port
Max APDU Length	1476
Segmentation	None

1.2 BACnet/IP Feature Summary

Legend: ✓ = Supported — = Not available

Function	Description	Object Type	Light	Sensor	Zone	Group	Scene	Network
ON/OFF Output	Command ON/OFF	BO	✓	—	✓	✓	—	✓
ON/OFF Input	State return ON/OFF	BI	✓	—	✓	✓	—	—
Dimming Output	Command gradation	AO	✓	—	✓	✓	—	✓
Dimming Input	State return dimming level	AI	✓	—	—	—	—	—
CCT Output	Command CCT	AO	✓	—	✓	✓	—	✓
CCT Input	State return CCT	AI	✓	—	—	—	—	—
RGB Output	Command R/G/B channels (0–255)	AO	✓	—	✓	✓	—	✓
White Output	Command white channel (0–100%)	AO	✓	—	✓	✓	—	✓
Presence Input	Presence / occupancy state	AI	✓	—	✓	✓	—	—
Cumulative Energy	Cumulative energy consumption	AI	✓	—	✓	✓	—	✓
Zone / Group Membership	Zone and group names associated with each	STRG	✓	—	—	—	—	—
Return to Automatic Mode	Switch from manual mode to automatic mode	AO	✓	—	✓	✓	—	✓
Light Failure Status	Driver or luminaire failure indication	AI	✓	—	—	—	—	—
Scene Recall	Trigger a stored scene	BO	—	—	—	—	✓	—
Ambient Light Level	Current illuminance	AI	—	✓	—	—	—	—
Motion Count Total	Cumulative number of motion triggers	AI	—	✓	—	—	—	—
Motion Count Delta	Trigger increment between two valid samples	AI	—	✓	—	—	—	—
People Count	Current detected people count	AI	—	✓	—	—	—	—

- HBGW04/R maps Koolmesh BLE Mesh lighting devices, sensors, zones, groups, scenes and network-level controls into standard BACnet/IP objects for integration with third-party Building Management Systems.
- The gateway supports object discovery, status monitoring and control through Binary Input/Output, Analog Input/Output and Character String Value objects.
- Object availability depends on the imported Koolmesh project configuration and the capabilities of the connected lighting devices.
- RGB channels use BACnet Analog Output (AO) values from 0–255; the White channel uses AO values from 0–100%.

1.3 BACnet Object Capacity & Instance Allocation

Item	Current Design Specification
Single-gateway design capacity	Approximately 200 Lights + 200 sensors
BACnet object table	Up to 8,192 dynamic application objects, excluding system-level Device and Network Port objects
Instance allocation	22-bit instance space: 5-bit entity type + 11-bit entity index + 6-bit object offset
Entity allocation	Up to 2,048 entities per current entity type
Object slots	Up to 64 object slots per entity
Capacity statement	Final project capacity is subject to target hardware, BLE Mesh conditions and site validation

*Compatibility Note: Upgrading from firmware 01_b1 to 0006 changes BACnet Object Instance IDs. YABE, FIN and third-party BMS platforms must clear previously cached objects and perform a new object discovery. Existing Object ID point lists should also be updated.

1.4 BACnet Object Type Reference

Abbreviation	BACnet Object Type	Use in HBGW04/R
AI	Analog Input	Numeric read-only status
AO	Analog Output	Numeric writable control
BI	Binary Input	Binary read-only status
BO	Binary Output	Binary writable control / trigger
STRG	Character String Value	Read-only text information
DEV	Device Object	BACnet device identification and system information
NP	Network Port Object	BACnet/IP network interface status and configuration

*Note: Device Object and Network Port Object are system-level BACnet objects and are not included in the dynamic application object capacity.

1.5 Functional Notes for the Specification

- ON/OFF: ON/OFF command uses BO objects; actual switch status is returned through BI objects.
- Dimming: Light brightness feedback is available as AI. Zone, Group and Network currently provide dimming command objects but no aggregated brightness feedback object.
- CCT: Light CCT feedback is available as AI. Zone, Group and Network currently provide CCT command objects but no aggregated CCT feedback object.
- Presence: Light presence is exposed as AI. Zone and Group presence is aggregated from member lights: if any member reports presence, the aggregate value is 1.
- Energy: Light energy is cumulative kWh. For D4i luminaires, IEC 62386-252 Bank 202 incremental energy can be accumulated after the first valid read establishes a baseline. Zone, Group and Network values are calculated by summing member Light energy values.
- Motion: HBGW04/R exposes motion trigger counts, not a three-second binary motion pulse. Motion Count Total and Motion Count Delta are intended for monitoring and trend collection.
- People Count: People Count is exposed as an AI read object when a People Count sensor is present in the imported project configuration.
- Scene: Scene Recall is a write-trigger object. Its Present_Value does not indicate the currently active scene.
- Failure: The current Light fail_state object is an AI value: 0 = no reported failure, 1 = driver or luminaire failure reported.
- Network: The current Network template provides ON/OFF, dimming, CCT, cumulative energy and return-to-auto functions. It does not currently provide network-level ON/OFF feedback or presence feedback.

2. Modbus TCP Integration

- HBGW04/R provides a Modbus TCP server interface for integration with third-party building management and control systems.
- Control and status points are generated automatically from the imported Koolmesh project configuration.
- Writable commands are exposed through Coils or Holding Registers depending on the data type, while read-only status values are exposed through Input Registers.
- A project-specific register list can be exported from the gateway Web interface for commissioning and integration.

2.3 Communication Specifications

Item	Specification
Protocol	Modbus TCP
Device role	Modbus TCP Server
Network interface	Ethernet / Wi-Fi on the local LAN
Listening address	0.0.0.0 (all active network interfaces)
Service status	Enabled by default; not configurable through the Web interface
TCP port	1502
Unit ID	1
Coils	FC01 Read Coils; FC05 Write Single Coil; FC15 Write Multiple Coils
Holding Registers	FC03 Read Holding Registers; FC06 Write Single Register; FC16 Write Multiple Registers
Input Registers	FC04 Read Input Registers
16-bit data	uint16, one register
32-bit data	uint32, two registers, high word first
Register generation	Automatically generated from the imported Koolmesh project configuration
Point list export	Project-specific reg.csv export from the gateway Web interface
Address spaces	Coils, Holding Registers and Input Registers use independent 0–65535 address spaces.
Entity allocation	Up to 2,048 entities per current business type
Address validation	Address allocation is validated independently within each register area to prevent address conflicts.

*Compatibility Note: After upgrading to firmware 0006, the Modbus address mapping is updated to separate Coil, Holding Register and Input Register address spaces. A new project-specific reg.csv file must be exported from the gateway Web interface for commissioning and integration.

2.1 Communication Specifications

Function	Description	Register Area	Data Type	Access
ON/OFF Command	Switch control	Coil	Boolean	Write / Readback
ON/OFF Status	Actual switch state	Input Register	uint16	Read
Dimming Command	Brightness setpoint	Holding Register	uint16	Write / Readback
Dimming Status	Actual brightness	Input Register	uint16	Read
CCT Command	Color temperature setpoint	Holding Register	uint16	Write / Readback
CCT Status	Actual color temperature	Input Register	uint16	Read
Red Command	Red channel setpoint (0-255)	Holding Register	uint16	Write / Readback
Green Command	Green channel setpoint (0-255)	Holding Register	uint16	Write / Readback
Blue Command	Blue channel setpoint (0-255)	Holding Register	uint16	Write / Readback
White Command	White channel setpoint (0-100)	Holding Register	uint16	Write / Readback
Presence	Presence / occupancy status	Input Register	uint16	Read
Ambient Light	Lux value	Input Register	uint16	Read
Motion Count	Cumulative count / sample delta	Input Register	uint32	Read
People Count	Current people count	Input Register	uint16	Read
Cumulative Energy	Accumulated energy	Input Register	uint32	Read
Failure Status	Luminaire or driver failure	Input Register	uint16	Read
Return to Auto	Exit manual override	Coil	Boolean	Write
Scene Recall	Trigger a stored scene	Holding Register	uint16	Write

2.2 Modbus Integration Notes

Topic	Integration Note
Project-specific register map	The product does not use one universal fixed register table for every project. Coil, Holding Register and Input Register addresses are generated independently from the imported project JSON and entity index allocation.
CSV point list	The exported reg.csv file is the definitive commissioning point list for the current project. A new file must be exported after upgrading to firmware 0006, or whenever the project JSON is changed or re-imported. Previous address mappings must not be reused.
Relationship with BACnet	Modbus TCP reuses the same lighting business model and project configuration as BACnet. It does not change BACnet Object IDs and should be treated as a parallel integration interface.
Readback behavior	Writable Coils and Holding Registers support readback where applicable. Trigger-type Coils, such as Return to Auto, automatically reset to 0 after execution.
Refresh behavior	Status values depend on BLE Mesh polling and device feedback. Control commands are prioritised, while low-priority values such as motion counts and energy may update at longer intervals.
Network security	The Modbus service is intended for a controlled local building network. Access should be limited by network segmentation, VLAN or firewall/ACL rules where available.
Address spaces	Coils, Holding Registers and Input Registers use independent 0-65535 address spaces. The same numeric address may therefore exist independently in each register area.

3. Local MQTT Broker Management

- HBGW04/R includes a locally managed MQTT Broker service for authorised MQTT clients on the local network.
- The service can be enabled or disabled through the gateway Web interface and supports username/password authentication, service status monitoring and connected-client visibility.
- The current version provides a local MQTT Broker only and does not publish lighting or sensor data to MQTT.

3.1 MQTT Service Specifications

Item	Specification / Current Boundary
Function positioning	Local MQTT Broker management
Broker implementation	Mosquitto
Transport	MQTT over TCP
TCP port	1883
Default status	Disabled
Authentication	Username and password
Anonymous access	Not allowed; username/password authentication is required
Account model	One shared MQTT account for all clients in the current version
Web management	Enable/disable service, view status, configure credentials and view recent connected clients
Credential storage	Managed through the Mosquitto password file; not stored as clear text in the application database
TLS	Not supported in the current version
WebSocket	Not supported in the current version
Topic ACL	Not supported in the current version
Per-device accounts	Not supported in the current version
Message rules engine	Not included
Cloud IoT platform	Not included
Lighting Topic / payload model	Not applicable in the current version; the gateway does not publish lighting or sensor data to MQTT

3.2 Security Note for User Instructions

- The MQTT Broker is intended for use on a controlled local LAN and should not be exposed directly to the public Internet.
- Change the MQTT password when the service is enabled. Do not publish a fixed default password in the public product specification.
- Because the current version does not provide TLS or Topic ACL, network access should be restricted through VLAN, firewall or ACL controls.
- External MQTT clients, third-party scripts and cloud bridges are outside the HBGW04/R product boundary and must be configured by the system integrator.

Third-party system

***Compatibility Note:** When upgrading from firmware 01_b1 to 0006, BACnet Object Instance IDs will change. Please clear any previously cached BACnet objects in YABE, FIN or the connected BMS, then perform a new object discovery and recommission the points.

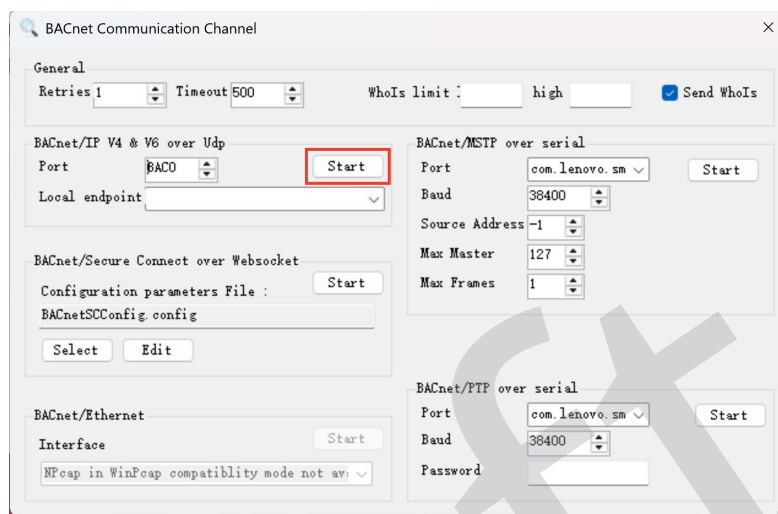
When commissioning the gateway with a third-party BACnet platform (e.g., YABE, FIN or a BMS), please follow the steps below to ensure proper setup and communication:

1. Network Connection

Ensure that the gateway and the computer running the third-party BACnet platform are connected to the same local Ethernet network.

2. System Launch

Open the third-party BACnet platform (e.g., YABE) and click “Start” to begin device discovery.



3. Function Access

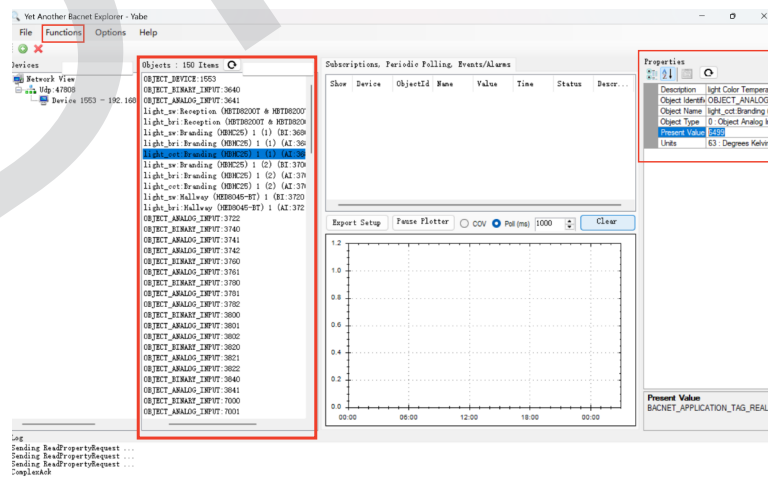
After the interface loads, click “Function” in the upper-left corner, then select “Send Whole” to broadcast a discovery request.

4. Device Display

Discovered BACnet devices on the local network will appear in the list, allowing you to view their objects and available parameters.

5. Parameter Adjustment

Select the device you wish to configure. The panel on the right side of the interface allows you to view and adjust the available parameters.



Commissioning Verification

After commissioning, verify the following:

- The gateway is powered and operating normally.
- Ethernet or Wi-Fi connection is available.
- The local Web interface can be accessed.
- The correct Koolmesh project has been synchronised.
- BACnet/IP or Modbus TCP communication has been tested where applicable.
- Required control and status points are available.
- The Web administrator password has been changed.
- The firmware version and project configuration have been recorded

Installation, BMS configuration, network security and project handover must be completed by the appointed installer or system integrator.

Safety Precautions

- Use the BACnet 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.

Legal Notice & Disclaimer

This document and its contents (the “Content”) are the intellectual property of Hytronik Optoelectronics. All trademarks, product names, and markings are the property of their respective owners. No part of this document may be copied, reproduced, or translated without prior written permission. Removal or alteration of copyright, trademark, or other proprietary notices is prohibited.

The information in this document is provided “AS-IS”. Hytronik makes no express or implied warranties regarding accuracy, completeness, merchantability, fitness for a particular purpose, or non-infringement. Users assume all responsibility for safe handling, installation, and use.

To the maximum extent permitted by law, Hytronik is not liable for any direct, indirect, incidental, special, punitive, or consequential damages, including loss of profits, revenues, or data, even if advised of the possibility of such damages. The total liability shall not exceed the purchase price of the relevant products.

Parameters may change over time and should be verified by the user’s technical experts before use. No license, express or implied, to any intellectual property rights is granted. Hytronik reserves the right to modify the content, products, or services at any time without notice.

Check out for further explanation of features

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