

# BlueRange Gateway V4 – with KNX and BACnet/IP support

## Datasheet

IoT Edge Computing Device for connecting a BlueRange Bluetooth Low Energy (BLE) mesh infrastructure and KNX or BACnet legacy installations with a BlueRange Server cluster.

Item number: BR-GW-2021-...



## BlueRange Gateway V4 – with KNX and BACnet/IP support

### Overview

- Gateway device between BLE infrastructure and BlueRange server cluster
- Optimized for devices with BlueRange firmware
- Supports KNX gateway connection
- Supports BACnet/IP communication up to 1000 data points
- Conversion of BLE input messages to MQTT output messages
- Power input via Power-over-Ethernet (PoE) or power supply

### Specification, Characteristics

Type	Mesh Gateway
Item number	BR-GW-2021-10003 BR-GW-2021-10004 BR-GW-2021-11003 BR-GW-2021-11004
Power supply	Power-over-Ethernet (PoE) or power supply
Power PoE	802.3af compliant
Input voltage range	8V to 36 V
Processor	NXP i.MX8M Mini, quad-core ARM Cortex-A53, 1.8GHz
RAM size	2 GB LPDDR4
Storage	16 GB eMMC flash, soldered on-board
Connectivity	WLAN 802.11 b/g/n/ac (2,4 + 5,0 GHz), Bluetooth 4.2, BLE, LAN RJ45 Port for 10/100 MBit/s, 3 x USB2.0,
KNX	KNX connection up to 5 KNX gateways *
BACnet	BACnet/IP for up to 1000 data points **
Cooling	Passive cooling, fanless design
Geometry (L/W/H)	112 / 84 / 25 mm
Weight	ca. 450 g
Operating and storage temperature	0 - 60 °C

## Connection

The gateway is connected with a power source via ethernet cable for Power-over-Ethernet (PoE) power supply by the 802.3af standard or via a power supply. Connect the ethernet cable to the ethernet port of the gateway and then to your router.

The gateway is connected to a network via ethernet cable or via WiFi. To connect to a network please ensure that the gateway is able to communicate within this network by checking the “Infrastructure Setup” document for correct ports and IPs. To easily connect and enroll a gateway, use the BlueRange Admin App. There you are able to give network information, such as Static IP, WiFi credentials and Proxy information.

## Functional Description

The BlueRange Gateway is suitable for all kind of IoT installations utilizing Bluetooth Low Energy communication on the one side and connection to the internet on the other.

For most use-cases, we recommend a maximum size of 100 BlueRange mesh devices. However, it is also possible to connect and manage more devices. The more devices there are in a single closed BLE mesh, the higher the latency for a complete penetration of the mesh with information, depending on the number of hops between the BLE nodes or devices.

Depending on the type of different use cases in parallel, the traffic increases depending on the number of parallel use-cases and their data usage. Since the gateway itself is also a mesh participant, it must be within the communication range of at least one mesh node to be able to connect with the mesh.

### **\*KNX**

To use the BlueRange Gateway with a KNX legacy installation you can either connect the BlueRange Gateway with up to five KNX gateways, depending on the number of KNX devices to connect to. Or you can setup a virtual KNX Router as part of your BlueRange server cluster to connect with multiple devices by using only one BlueRange Gateway and one KNX gateway, as long as the KNX gateway can handle the network traffic.

### **\*\*BACnet/IP**

BACnet/IP is based on TCP/IP broadcast communication.

Therefore the BlueRange Gateway can connect to all other BACnet devices, which are in the same network. The (sub-)network boundaries are set due to the broadcast address, where the BlueRange Gateway has to have the same one as all other devices.

Communication between multiple subnetworks, based on BACnet/IP Broadcast Management Device (BBMD), isn't supported out-of-the-box, but can be enabled with external BBMD hardware.

## Order Information

Four different variants are available.

Item number	PoE	BACnet
BR-GW-2021-10003	-	-
BR-GW-2021-10004	x	-
BR-GW-2021-11003	-	x
BR-GW-2021-11004	x	x

In standard application used for BlueRange installations of BLE mesh infrastructure and comes with BlueRange OS and Firmware.



Non-PoE versions are delivered with a power supply.

One year legal warranty.

No cables included.

**To enable the BlueRange Gateway to communicate with the mesh network a BlueRange USB Dongle is necessary.**

## Signs and certificates

	<p>WEEE directive 2012/19/EU Do not dispose of with household waste!</p>
	<p>CE certification - Conformité Européenne Declaration in accordance with EU Regulation 765/2008 that the product complies with the applicable requirements laid down in the Community harmonisation legislation on its affixing.</p>

## Further information and tools

Please find our documentation on how to set up and enroll a BlueRange BLE mesh infrastructure at [bluerange.io/developer](https://bluerange.io/developer).

## Link to the BlueRange Admin App:



<https://apps.apple.com/de/app/bluerange-admin-app/id1474619288>

## Contact:

**Technical question:**

[info@bluerange.io](mailto:info@bluerange.io)

**Inquiries:**

[sales@bluerange.io](mailto:sales@bluerange.io)

**General information on BlueRange**

[www.bluerange.io](https://www.bluerange.io)

## Disclaimer

Subject to change without notice. All data without guarantee.

The data sheet refers to the current factory setting.

Interoperability in installations with other devices must be checked in advance for compatibility.