

BlueRange Gateway V3 – 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-2020-11002



BlueRange Gateway –

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 USB type C 5.1 V / 3 A DC

Specification, Characteristics

Type	Mesh Gateway
Item number	BR-GW-2020-11002
Power supply	Power-over-Ethernet (PoE) or Micro USB type C
Power PoE	5.1 V / 3 A / 802.3af compliant
Power USB type C	5.1 V / 3 A DC
Processor	Broadcom BCM2837B0, Cortex-A53 64-bit SoC @ 1.4 GHz
Memory	1GB LPDDR2 SDRAM, microSD support
Connectivity	WLAN 802.11 b/g/n/ac (2,4 + 5,0 GHz), Bluetooth 4.2, BLE, LAN RJ45 Port for 10/100/1000 MBit/s, MicroSD slot, 4 x USB2.0, 3,5 mm AUX jack, HDMI, Micro USB
KNX	KNX connection up to 5 KNX gateways *
BACnet	BACnet/IP for up to 1000 data points **
Geometry (L/W/H)	100 / 70 / 40 mm
Weight	ca. 162 g
Operating and storage temperature	5 - 50 °C
Protection class	IP20



Connection

The gateway is connected with a power source via ethernet cable for Power-over-Ethernet (PoE) power supply by the 802.3af standard with an input power of 36-56 V and output of 5.1 V or via a USB-C cable, as long as the source delivers 5.1 V / 3 A DC. Connect the ethernet cable to the ethernet port of the gateway and then to your router. Connect the Micro USB type C power cable to the Micro USB type C port of the gateway and then to your power socket / power source.

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 Commissioning App. There you are able to give network information, such as Static IP, WiFi credentials, Proxy information.

The connection to the BLE mesh infrastructure is determined by the enrollment.

Functional Description

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

Standard recommendation for connected BLE devices is 100 pieces. 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 data traffic is according within the mesh and from the gateway into the connected cloud systems or server cluster. 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 a broadcasting 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 could be enabled with external BBMD hardware.

Order Information

BlueRange Gateway – with KNX and BACnet/IP support up to 1000 data points



Item number: BR-GW-2020-11002

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

One year legal warranty.

No cables included.

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>

Related Components

Our BlueRange Gateway is compatible with several **BlueRange Ready** components by other manufacturers. See examples below:

Vossloh-Schwabe Deutschland GmbH – Blu2Light series



All components of the Blu2Light series are fully BlueRange Ready and used to setup lighting installations.

The LiNA configuration and user apps are fully BlueRange integrated and completed

vossloh-schwabe.com/blu2light-indoor

Regent Beleuchtungskörper AG – Lightpad Tuneable series



Regent Lightpad Tuneable office luminaires connect to a BLE mesh via BlueRange Mesh.

These luminaires can be controlled and managed via an App and/or connect to a cloud via a gateway.

regent.ch/lightpad-tunable

Herbert Waldmann GmbH & Co. KG / LIZ – YARA series



The YARA luminaire series luminaires connect to a BLE mesh via BlueRange Mesh.

These luminaires can be controlled and managed via an App and/or connect to a cloud via a gateway.

waldmann.com/yara

Find more **BlueRange Ready** products at:

bluerange.io/components

Further information and tools

Please find our documentation on how to setup and enroll a BlueRange BLE mesh infrastructure at bluerange.io/developer.

Link to the BlueRange Provisioning App:



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General information on BlueRange

www.bluerange.io

Disclaimer

Subject to change without notice. All data without guarantee.

The data sheet refers to the current factory setting.

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