BlueRange Connect Modbus
Data sheet

BlueRange Connect Modbus adapter for integrating Modbus devices into the BlueRange Mesh infrastructure. The adapter establishes the communication between the Modbus slave device (e.g. ventilation unit) and the BlueRange Mesh. Provides transparent Modbus access using BlueRange Mesh messages.

Product number: BR-MN-U100MOD

BlueRange Connect Modbus

Overview

- Plug-and-play device to connect standard Modbus devices to BlueRange Mesh
- Compatible with most standard RS-485 Modbus RTU devices
- Wide DC voltage supply range
- Supports a variety of baud rates, none or even parity, 1 stop bit
- Power supply via Micro-USB, DB9 male connector or 2-wire screw terminal
- Modbus connection via RS-485 DB9 male connector or provided terminal screw block connector
- Fanless device that can be operated silently
- Full access to all Modbus data points
- Automatic configurable on device polling of up to 20 data points

Specification and Characteristics

Basic	
Product number	BR-MN-U100MOD
Protocol	BlueRange Mesh
Interface	RS-485, DB9 Male
Power supply range	5 – 40 VDC
Serial Port	
Baud Rates	1200, 2400, 4800, 9600, 19200*, 38400, 57600, 115200, 230400 (more on request)
Parity	None / even* (without odd)
Data Bits	8
Stop Bits	1
Radio	
Max. Tx Power	+4 dBm
Rx. Sensitivity	-96 dBm typical
Frequency Range	2.402 to 2.483 GHz
Typical Range	50m (open space)
Other	
Package contents	1x BlueRange Connect Modbus adapter
Geometry (L/W/H)	81.6 / 31.75 / 17 mm
Weight	ca. 40 g
Operating & storage temperature	-40 to +85 °C

* Default settings

RS-485 Modbus Connection

The BlueRange Connect Modbus adapter is connected via serial RS-485 DB9 Male interface to a Modbus device. See the male view of the connector below.
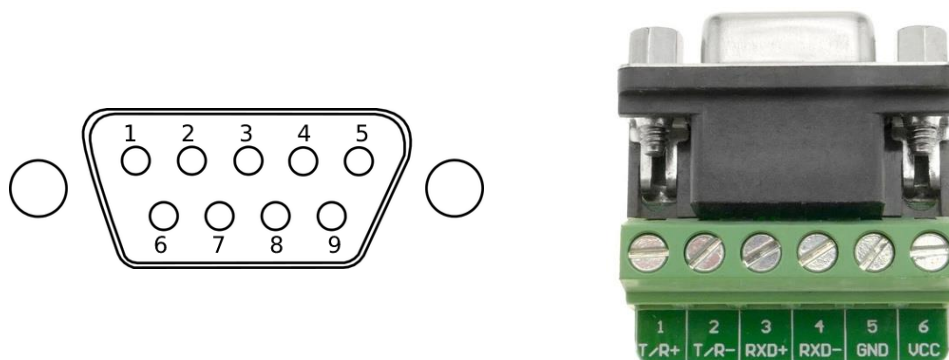
Pin No.	Function
1	A (RX+ aka. T/R+) for Modbus over RS-485
2	B (RX- aka. T/R-) for Modbus over RS-485
5	GND
6 / 9	+5 to max. +40 VDC (choose a single pin)

Important note: No reverse polarity or overvoltage protection available. Make sure that both the voltage and the Modbus connection are wired correctly before applying power to the device. Incorrect connection of the Modbus line can cause irreversible damage to the device.

DIP Switch Settings

DIP Switch settings are not supported in the current firmware version. The datasheet will be updated once support is available.

Functional Description

The BlueRange Connect Modbus is used for various types of IoT installations where BlueRange Mesh components provide or require sensor data to be sent wirelessly between different devices. The adapter allows standard modbus devices to either independently work together and in conjunction with other BlueRange devices such as sensors, a BlueRange Gateway, etc. With the BlueRange Connect Modbus adapter connections of up to 100 Modbus data points are recommended.

Enrollment

To enroll BlueRange Connect Modbus adapter the BlueRange Admin app is used.

Important notes

To prevent restrictions on the transmission frequency, the BlueRange Connect Modbus adapter must not be installed in a steel/sheet metal housing, should not be placed on top of or nearby heating-cooling sails, and should not be operated in a humid and dusty environment.

One year legal warranty.

Signs and certificates

Symbol	Description
♲	WEEE directive 2012/19/EU Do not dispose of with household waste!
CE	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.
FC	FCC certification – Federal Communications Commission The product conforms to the required conditions of the FCC for operation and sale.
(((	NCC certification – National Communications Commission The product complies with the required type approval and certification qualification for controlled telecommunications radio-frequency equipment.
⬡	TELEC certification – Telecom Engineering Center The product complies to the specified radio equipment conforms to the technical standards under the Radio Act of Japan.

Further information and tools

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

Link to the BlueRange Admin app:

Contact:

Technical question:	Inquiries:
info@bluerange.io	sales@bluerange.io

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.