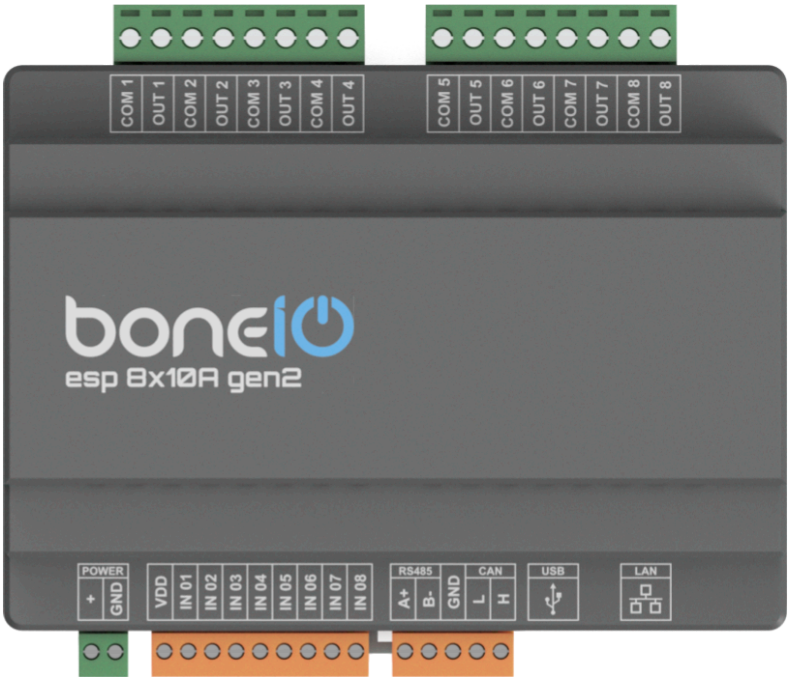
USER MANUAL

boneIO ESP 8x10A gen2



ENGLISH VERSION

boneIO

MADE FOR ESPHome

Home Assistant

READ BEFORE USE

This document contains important technical and safety information about the device, its safety use and installation.

⚠CAUTION

Before beginning the installation, please read this instruction and any other documents accompanying the device carefully and completely. Failure to follow the installation procedures could lead to malfunction, danger to your health and life, violation of the law or refusal of legal and/or commercial guarantee (if any). boneIO is not responsible for any loss or damage in case of incorrect installation or improper operation of this device due to failure of following the user and safety instructions in this guide

⚠CAUTION

Danger of electrocution. Mounting and Installation of the boneIO device to the power grid has to be performed with caution, by a qualified person (electrician).

⚠CAUTION

Danger of electrocution. Every change in the connection of the terminals has to be done after ensuring all local power is powered off/disconnected.

⚠CAUTION

The power supply that powers the boneIO device should be connected by protecting it with a differential switch and a circuit breaker.

Product Information

boneIO ESP gen2 devices are compact smart home controllers. Currently there are 3 variants of boneIO ESP gen2 devices:

- boneIO ESP 8x10A gen2, featuring 8 relays, each with a maximum load of up to 10A,
- boneIO Dimmer gen2, featuring 8 outputs for controlling LED lighting,
- boneIO Input24 gen2, featuring 24 digital inputs.

It is an advanced controller **with 8 inputs and 8 10A relay outputs**, designed for integration with smart home systems, such as Home Assistant, using ESPHome software.

Key Features

- **Power Supply:** The device operates on a DC voltage range of **12-24V DC**.
- **Digital Inputs:** It is equipped with **8 digital inputs**, which can be used to connect switches, motion sensors, or other control signals.
- **Relay Outputs:** 8 relay outputs with a load capacity of up to 10A; each relay has an individual COM terminal.
- **Connectivity:** It has a **10/100Mbps Ethernet port** for stable communication within a local network.
- **USB-C Port:** Used for uploading and updating software.
- **RS485/Modbus Port:** Used for polling sensors that operate with this protocol.
- **CAN Port:** Used for communication in a tree topology with other boneIO devices or for polling sensors operating with a CAN bus compatible protocol.

Integration

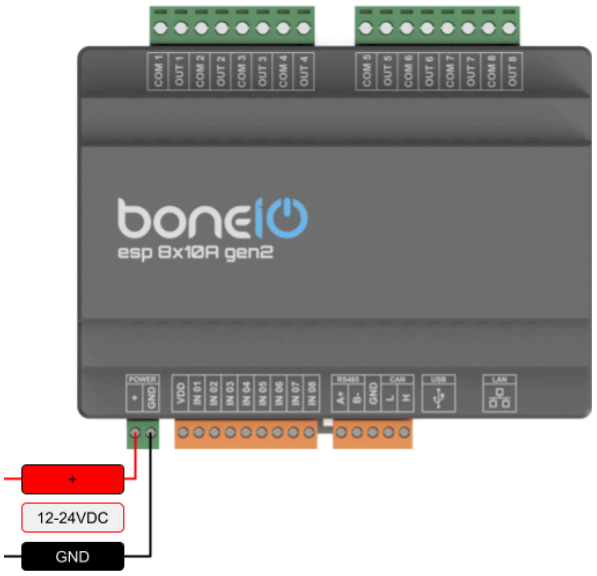
boneIO 8x10A gen2 jest stworzony do pracy z platformą **ESPHome**, co pozwala na łatwą konfigurację i głęboką integrację z **Home Assistant**. Dzięki temu użytkownicy mogą tworzyć zaawansowane automatyzacje, sterować oświetleniem zdalnie i monitorować jego pracę.

Comparison with other boneIO Products

The boneIO 8x10A gen2 is designed to work with the ESPHome platform, which allows for easy configuration and deep integration with Home Assistant. This enables users to create advanced automations, control lighting remotely, and monitor its operation.

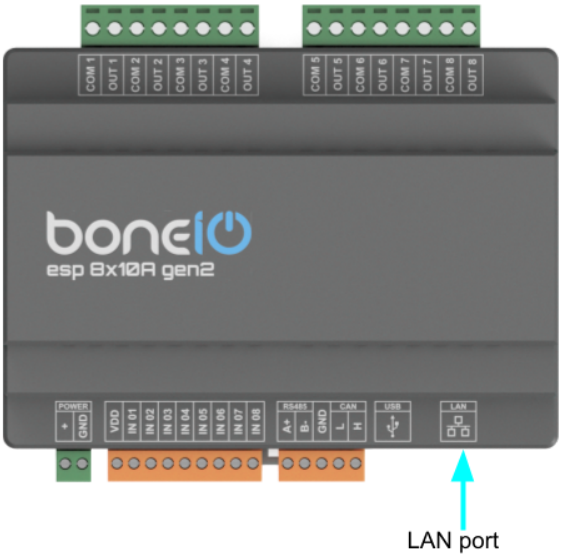
Power up device

To power boneIO up connect power supply 24VDC to POWER socket. Look for proper polarity of + and GND!



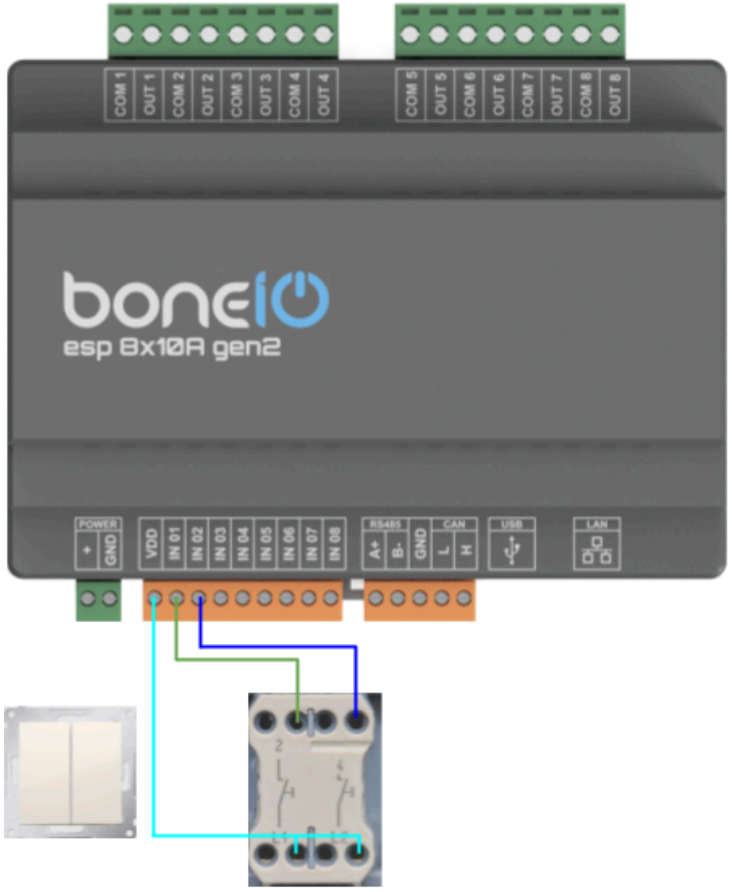
Connecting Ethernet

Connect Ethernet cable to **LAN port.**
By default IP address would be obtained via DHCP.



Connecting Inputs

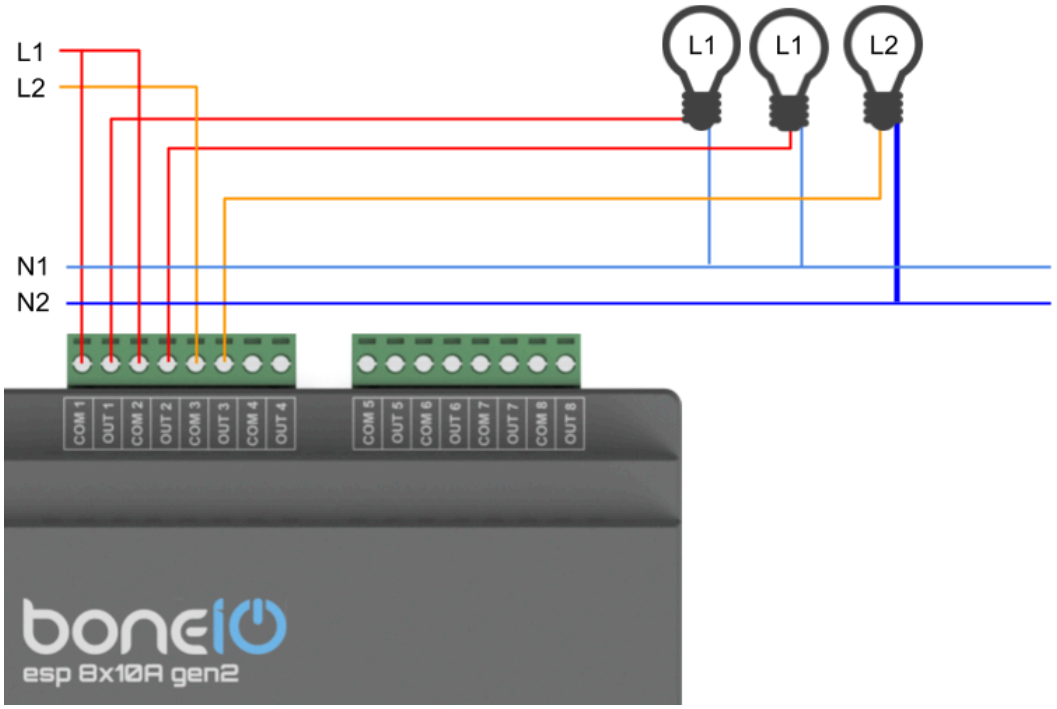
The inputs can be controlled by a positive voltage or by ground. The user selects the control type using the "Inputs" switch, which is located behind the front flap in the bottom-left corner of the device. An input (**IN01-IN08**) is triggered by connecting the IN pin to the input labeled VDD. More examples of input connections are available at:
**https://boneio.eu/pl/docs/esp/products/dimmer/gen2



Podłączenie przycisku monostabilnego.

Connecting Outputs

Each COM input has a corresponding **OUT** output. The **COM** port is the source signal input (usually the phase wire L). To connect an outlet/light to the **OUT 01** output, connect the L supply to the **COM1** port. Connect the load (e.g., a light bulb) to the OUT 01 output. Connection examples along with sample ESPHome code for this and other devices are available on the project's website. The diagram below shows how to connect 3 light bulbs on 2 different phases.

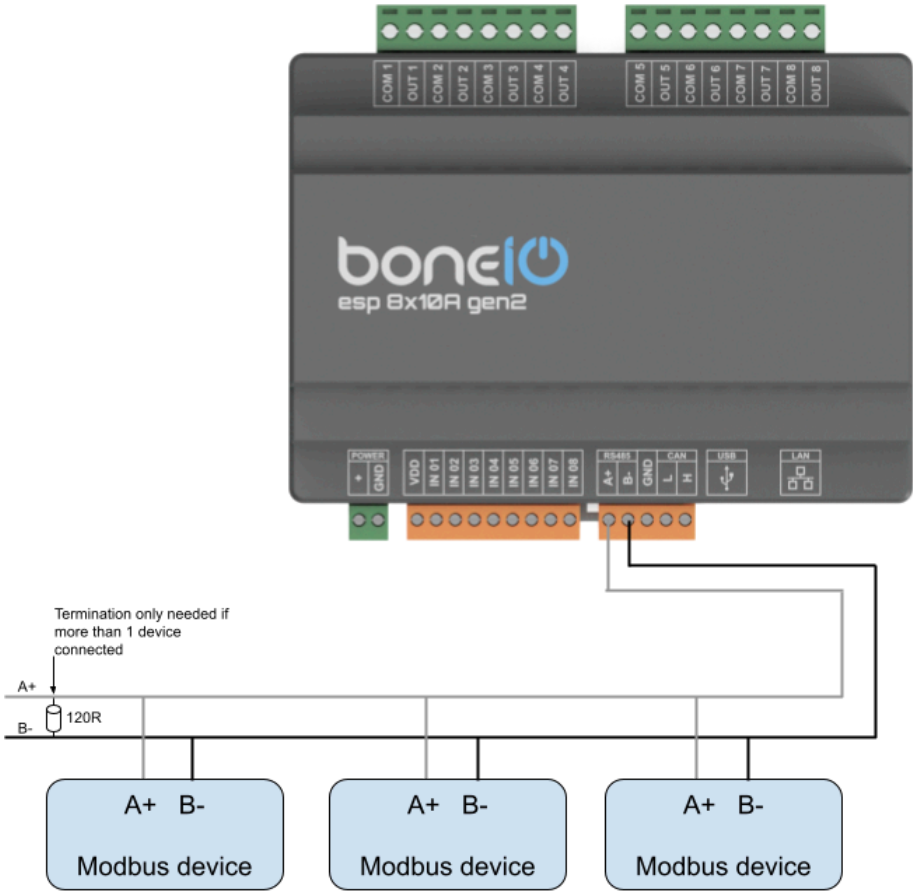


Connecting RS485

To connect an RS485/Modbus device, connect the **A+** and **B-** terminals on the boneIO and on the device being read. Most devices do not require a **GND** (ground) connection.

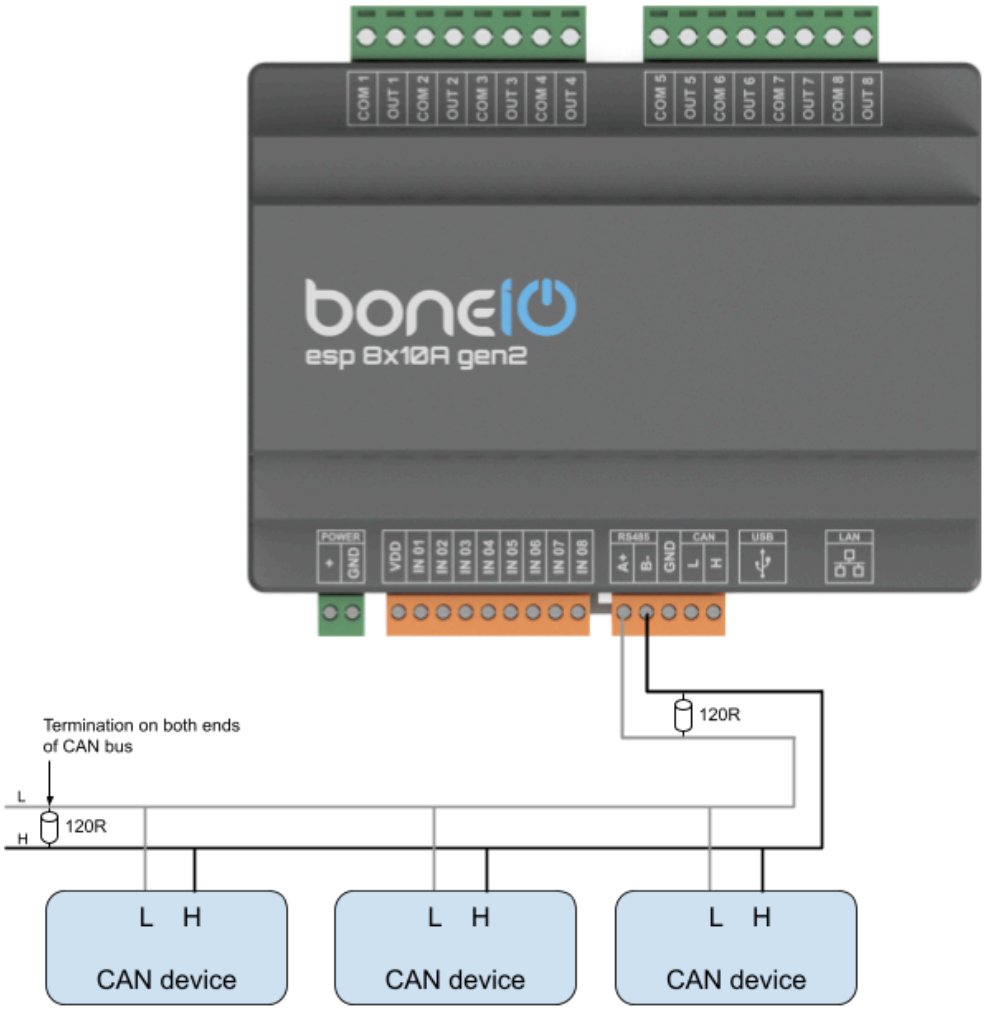
For further configuration, check the online instructions on our website, the ESPHome documentation, and the manual of the connected device.

The maximum cable length is **30m**.



Connecting CAN

To connect a device to the CAN bus, connect the boneIO **CAN H** and **CAN L** terminals to the **CAN H** and **CAN L** terminals on the other device. The maximum cable length is **30m**.



Software installation

boneIO ESP 8x10A is compatible with the "Made for ESPHome" program. It is delivered with ESPHome software pre-installed. By default, the device allows for automatic adoption by the ESPHome add-on and supports auto-discovery by Home Assistant, as long as the network it operates on does not block mDNS packets.

We recommend first adopting the device in the ESPHome add-on, configuring it, and then adding it to Home Assistant. A newer version of the ESPHome software may be available on our website. We encourage you to check the page:

https://boneio.eu/esp

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Extended step by step manual available on our website:
https://boneio.eu/en/docs/esp/products/dimmer/gen2

Technical data

Power supply	12-24VDC Device should be powered up from a single power supply.
Power consumption	2W
Number of digital inputs	8
Number of relay outputs	8
Max output voltage	230VAC 30VDC
Max output current	10A
Inputs voltage	Same as power supply
External interfaces	Modbus RS485, CAN
Communication	Ethernet 10/100Mbit WiFi (with external antenna) USB-C (software update)
Dimensions	126 mm x 91 mm x 57 mm (WxHxL) (without connectors) 126 mm x 108 mm x 57 mm (WxHxL) (with connectors) 7DIN
Weight	230g

RoHS COMPLIANT

Discord support:
https://discord.gg/Hm2CzSjvtu

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