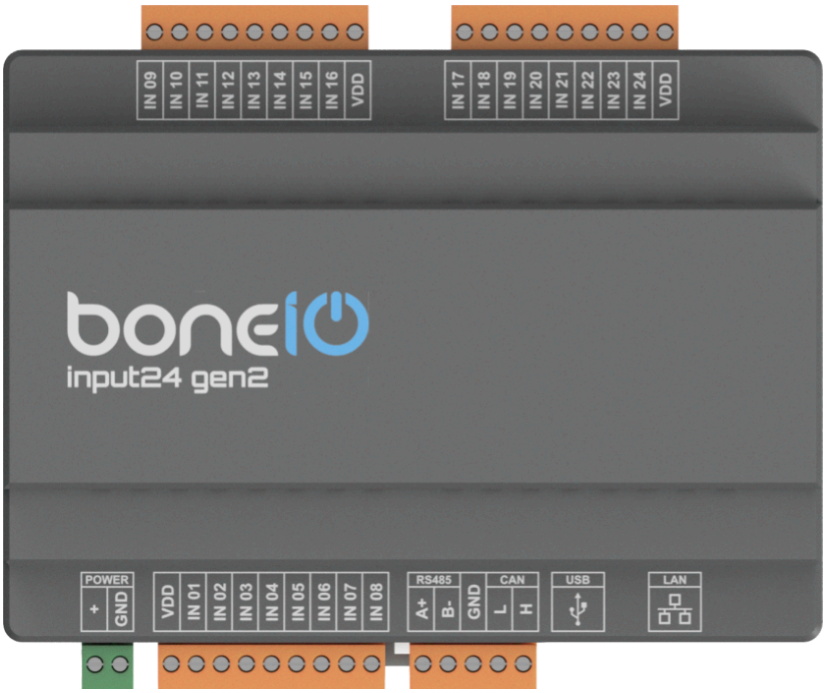
USER MANUAL

boneIO ESP Input24 gen2



ENGLISH VERSION

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

This is an advanced **controller with 24 inputs**, designed for integration with smart home systems, such as Home Assistant, using ESPHome software.

Main Features

- **Power Supply:** The device operates on a DC voltage range of **12-24V DC**.
- **Digital Inputs:** It is equipped with **24 digital inputs**, which can be used to connect switches, motion sensors, or other control signals.
- **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

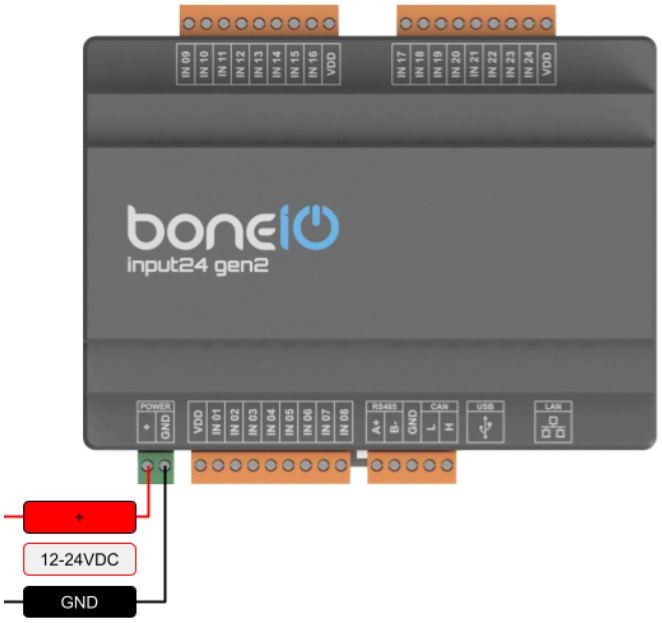
The Input24 is built to work with the **ESPHome** platform, which allows for easy configuration and deep integration with **Home Assistant**. This enables users to create advanced automations, control lighting remotely, and monitor its operation.

Comparison with other boneIO Products

Unlike other **boneIO** modules (such as the 32x10A, Cover, or 24x16A - which are relay controllers designed for switching high-load circuits on and off, or Dimmer, Dimmer Gen 2 which is a specialized device for the smooth control and dimming of low-voltage LED lighting.) The **Input24** is a device dedicated to extending the number of digital inputs in your system.

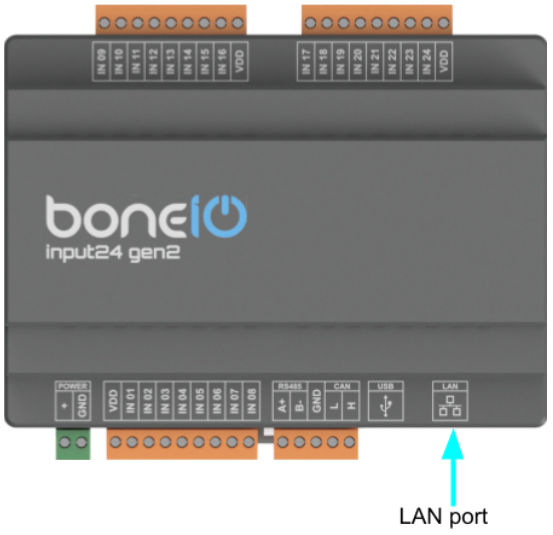
Power up device

To power boneIO up connect power supply **12-24VDC** to **POWER** socket. Look for proper polarity of **+** and **GND**!



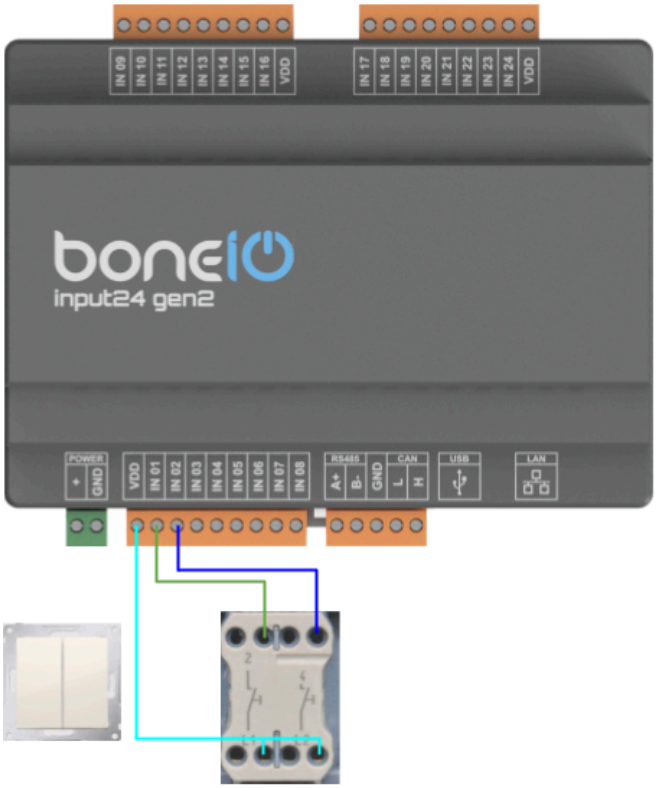
Connecting Ethernet

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-IN24**) is triggered by connecting the **IN** pin to the input labeled **VDD**. More examples of input connections are available at:
**https://boneio.eu/en/docs/esp/products/dimmer/gen2



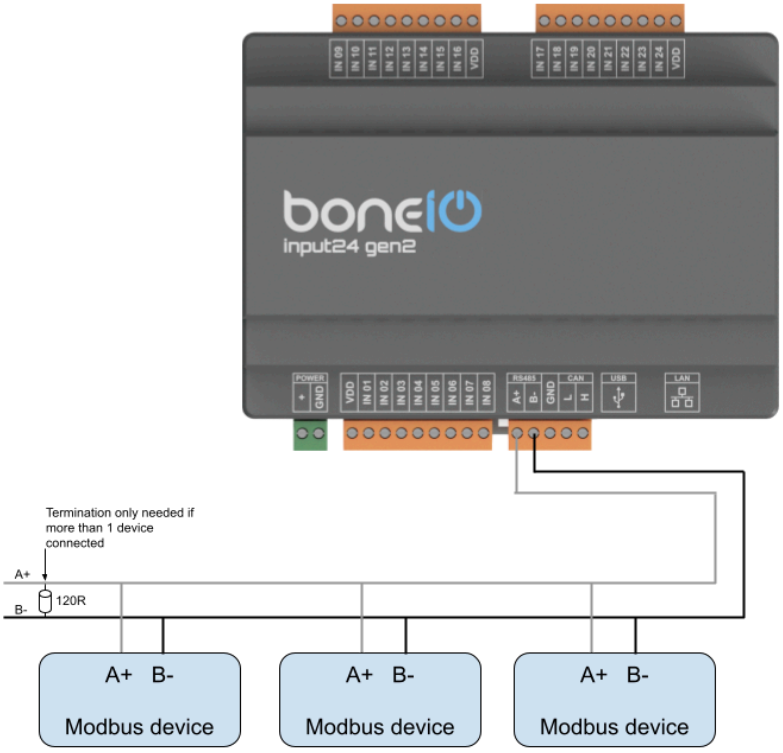
Connecting push button.

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.

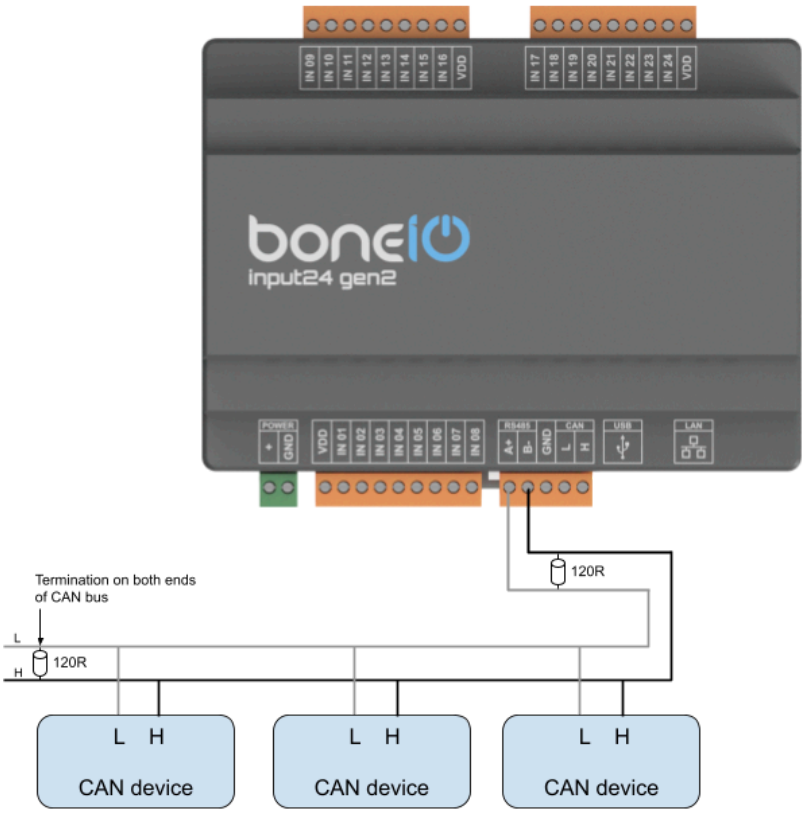
For further configuration, check the online instructions on our website, the ESPHome documentation, and the manual of the connected device.

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 Input24 gen2 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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Rozbudowana instrukcja krok po kroku znajduje się na stronie:
**https://boneio.eu/en/docs/esp/products/dimmer/gen2

Technical data

Power supply	12-24VDC Device should be powered up from single power supply.
Power consumption	2W
Number of digital inputs	24
Inputs voltage	Same as power supply
External interfaces	Modbus RS485, CAN
Communication	Ethernet 10/100Mbit CAN USB-C (instalacja oprogramowania)
Dimensions	126 mm x 91 mm x 57 mm (WxHxL) (bez wtyczek) 126 mm x 108 mm x 57 mm (WxHxL) (z wtyczkami) 7DIN
Weight	230g

RoHS COMPLIANT

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

Made in Poland
boneIO Sp. z o.o.
Aleja Tadeusza Kościuszki 101,
90-441 Łódź, Polska