

GET STARTED WITH Ohm On WiFi with Home Assistant

OHMIGO@ohmonwifi is a precision digitally controllable resistor that allows to digitally control and cloud connect any existing analog equipment, using a two-wire thermistor or some other RTD for temperature sensing.

The connection is made via Wifi and the integrated web server. The device can generate a resistance ranging from 68.5 ohms up to 9,000,000 ohms with superior accuracy, better than 1%.

During the first few seconds of operation, an LED indicates that you have connected Rout and GND with the correct polarity - If LED=RED, then switch your connection for best accuracy.



Function-Button

On the front there is a small hole - use a paper clip or similar to press the button:

- One short press checks the connection Rout/GND - LED=GREEN or LED=RED
- Press >10s Ohmigo.ohmonwifi resets to factory settings.

Technical Data

Power Supply:

5 VDC via micro-USB

Power Consumption:

< 100 mA

Output resistance:

68.5 ohm ... 9 000 000 ohm, Error < 1%

WiFi:

2.4 GHz

Size:

L60 x W28 x H20 mm

Terminal

Rout

Ohm output +

GND

Combined earth for ohm output and analog input

Config

Jumper to GND if you want to use analog input.
Ain controls Rout instead of HomeAssistant

Ain

Analog input 0-10V corresponds -30..+70°C or
-50..+50°C as default TYPE





CONFIGURATION

HOME ASSISTANT FIRMWARE

FIRST TIME SETUP

When Ohmonwifi is powered on it exposes a Wi-Fi network with the prefix "OHMIGO" (for example, "OHMIGO-12adfc3211ff").

To configure the device, all you need to do is connect your laptop, tablet, or phone to this Wi-Fi network. After a few seconds, the configuration portal should automatically appear. Please note that some mobile devices may not support captive portals, so you may need to manually navigate to the <http://192.168.4.1> address via your web browser.

CONFIGURATION

To integrate the Ohmonwifi with the local Wi-Fi network and Home Assistant instance, the user needs to provide some basic information in the configuration form. The form is divided into four sections:

Connectivity

- **Device name** - this is the name that will be displayed in the Home Assistant panel.
- **Hostname** - This is the domain name under which the device will be accessible in the local network. For instance, if you set this field to "ohmigo", the device's configuration panel will be accessible via the "ohmigo.local" domain in the local network. You can find more information about this topic here: <https://iotespresso.com/a-beginners-guide-to-mdns-and-dns-sd/>
- **Wi-Fi SSID** - name of the network to which ESP-01 should connect.
- **Wi-Fi Password** - password of the network to which ESP-01 should connect.

Security - You can secure the configuration settings with credentials.

Ohmigo - This is the configuration for Ohmonwifi. You can select the operating mode for the board, which determines the types of controls that will be displayed in the Home Assistant panel.

- If you select the resistance mode, the user will be able to control resistance via the HA panel.
- If you select the temperature mode, the user will be able to input temperature via the HA panel.

Home Assistant - In this section, you need to enter the IP address and connection details of your MQTT broker that you use for Home Assistant.

Accessing configuration panel when device is already configured.

The Ohmonwifi works similarly to routers. Once it's connected to the local network via Wi-Fi, you can access its IP address through a web browser. For example, if your Ohmonwifi has been assigned the IP address "192.168.1.56", you can simply open your web browser and navigate to the address <http://192.168.1.56> to access the configuration panel.

The screenshot shows the OHMIGO configuration interface. At the top, there are navigation arrows, a 'Logga in' button, and a link to 'Avbryt'. The main title is 'OHMIGO'. Below this, there are four sections, each with a blue header bar:

- CONNECTIVITY**: A blue header bar. Below it, a text prompt: "Please provide your Wi-Fi network's credentials and the hostname under which the Ohmigo device will be available on the local network." There are four input fields: 'Device name', 'Hostname', 'Wi-Fi SSID', and 'Wi-Fi password'. A green 'Save & Reboot' button is at the bottom right of this section.
- SECURITY**: A blue header bar. Below it, a text prompt: "You can secure the Ohmigo configuration panel so that only you have access to it." There are two input fields: 'Admin name' and 'Admin password'. A green 'Save & Reboot' button is at the bottom right of this section.
- OHMIGO**: A blue header bar. Below it, a text prompt: "Choose Ohmigo operating mode and type of the sensor you would like to mimic." There are three rows of controls: 'Operating mode' with a dropdown set to 'Resistance', 'Serial number' with a dropdown set to 'Resistance', and 'Firmware' with a dropdown set to 'Temperature'. A green 'Save & Reboot' button is at the bottom right of this section.
- HOME ASSISTANT**: A blue header bar. Below it, a text prompt: "Please provide the credentials for the MQTT server hosted on your Home Assistant instance where the Ohmigo device will be sending information." There are four input fields: 'MQTT address', 'MQTT port' (with the value '1883' visible), 'MQTT username', and 'MQTT password'.

