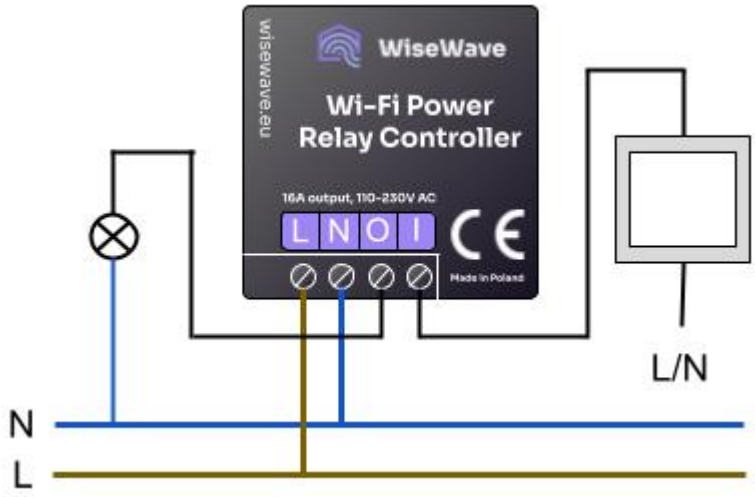
Wi-Fi Power Relay Controller

Description

Wi-Fi Power Relay Controller is an intelligent switch, allowing to control a device and measure its power usage. You can control it using WiseWave app as well as via input marked with `I`, which controls `O` output.

Schematics



Technical Specification

Description	Value
Input voltage	110 - 230 VAC
Power consumption	<1W
Number of outputs	1
Type of output	Relay
Max. output current	16 A
Output voltage	Same as input voltage (110 - 230 VAC)
Number of inputs	1
Type of input	Bistable (ON/OFF) / Monostable (like doorbell)
Control signal	L or N
Wi-Fi	802.11 b/g/n (2.4 GHz)
Installation method	flush-mounted box
Length	41.8 mm
Width	41.8 mm
Height	25.5 mm

WiseWave App - *Your Control Centre*

WiseWave app allows you to control WiseWave devices using your smartphone.

We designed our system with speed and security as our priority.

Inside your home network, the application enables quick and direct control of your devices.

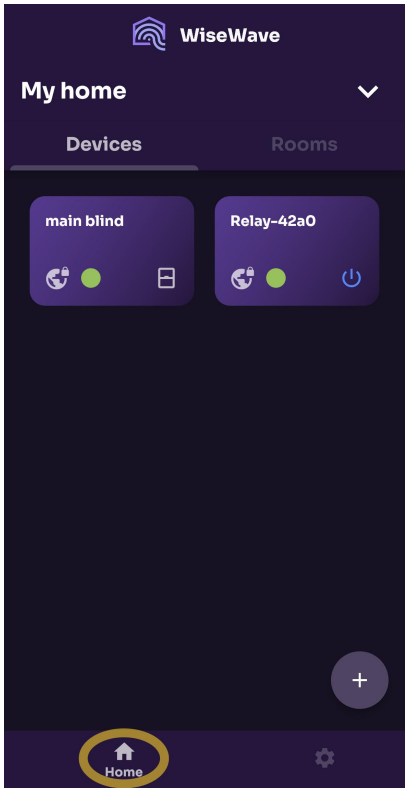
WiseWave app ensures secure encrypted communication via the Internet. During devices' loading animation, the app instantiates secure connection.

> To control your devices via the Internet (from outside your local network) you need to create an account. To learn more, go to Account and Sharing.

Main Screen

On the main screen you can see

- home selection dropdown menu
- two tabs:
    - tab on the left-hand side shows all devices in selected home,
    - tab on the right-hand side shows defined rooms (groups of devices).

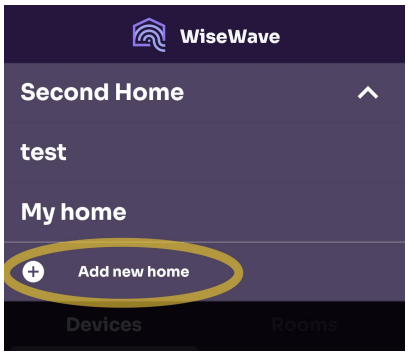


You can group devices into rooms and control all of them with one press of a button.

Home Management

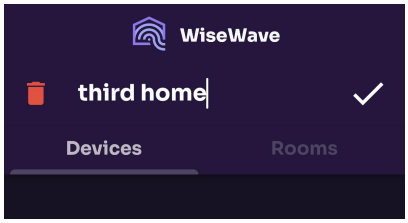
Add a Home

Just after launching the app, it will ask you to name your first home. To add another home, expand the drop-down list and press + **Add new home**.



Edit and Remove Home

- To edit a name of a home, press and hold the name of the home while the drop-down list is collapsed.
- To remove home, press red icon on the left side of home name.



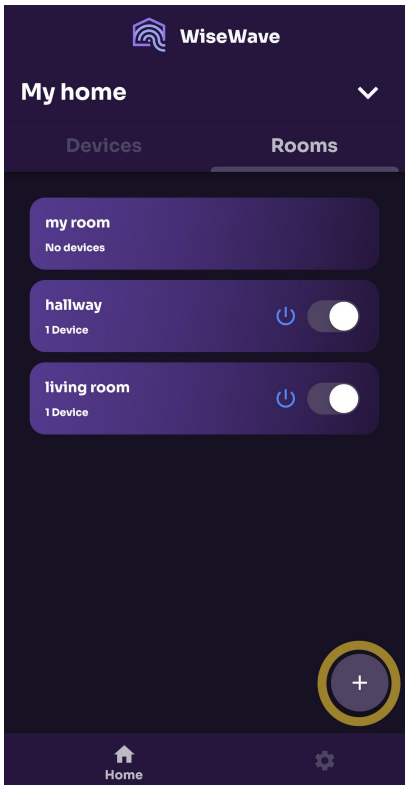
Note: you can only edit or remove homes that you created. You cannot edit home that was shared with you. To leave a home that was shared with you, follow instructions described in
Account and Sharing section.

Room Management

Rooms are used to group your devices together in a house. Adding devices to rooms allows you to control several devices at the same time with one click.

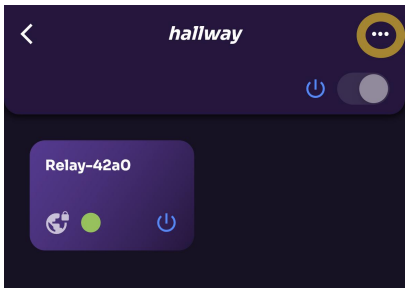
Add a New Room

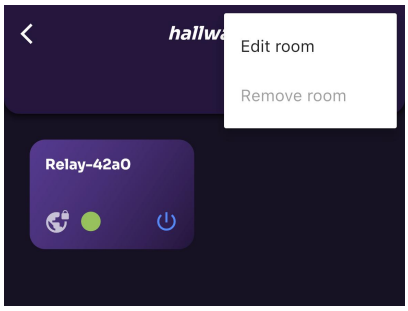
To add a room, go to **Rooms** tab on the main screen and press + button



Edit a Name of a Room and Remove a Room

If you press a card with a room name, you will be presented with a list of devices in the room. You can edit a name or remove the room by pressing ••• more button on the top right of the screen.





Note: you can only remove a room with no devices in it.

Group Control

A ⏻ switch that allows you to control all devices in the room is located under the drop-down menu. This switch is also located on each tile on the list of all rooms. With that, you can control devices in the room without the need to enter the list of devices in the room.

State description explanation of relay devices:

- **On** means that at least one device in the room is turned on.
- **Off** means that all devices in the room are turned off.

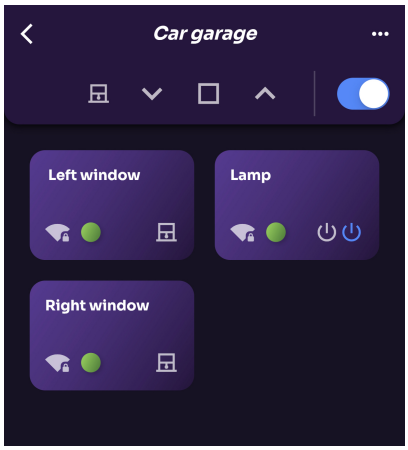
Control explanation of relay devices:

- Switching to **On** turns on all devices.
- Switchig to **OFF** turns off all devices.

State description of shutter controllers:

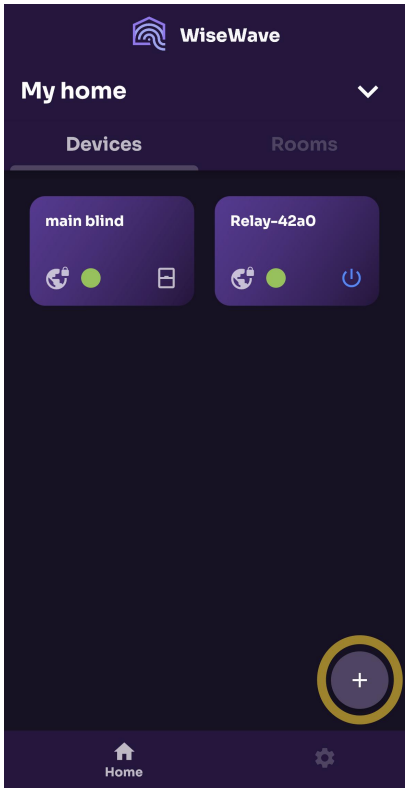
- ▬ means that at least one shutter in room is closed.
- ▬ means that at least one shutter is partially opened.
- ▬ means that every roller shutter in the room is opened.

When there is at least one roller shutter controller in the room, the application allows for separate group control of roller shutters.


Car garage
Left window
Lamp
Right window

Pairing

To pair a device, press + in **Devices** tab on the main screen.



Note: to find your devices, you need to first connect them to your Wi-Fi network, see Device management

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The WiseWave app will search for unpaired devices in your local Wi-Fi network and show them on a list. Searching process may take a couple of seconds.

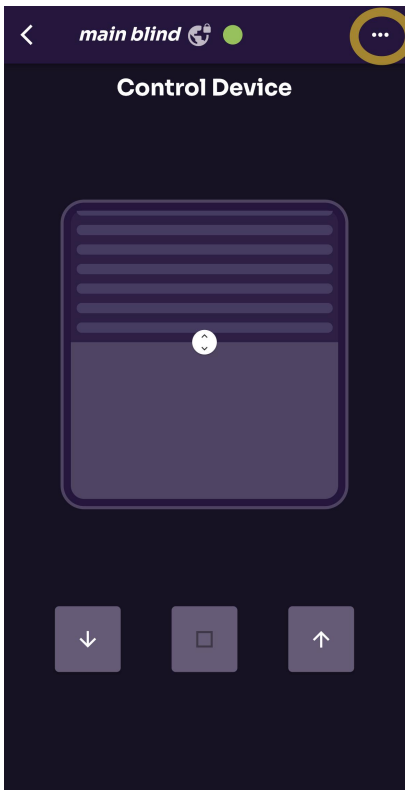
Select a device you want to pair. Pairing process may take a couple of seconds.

During pairing, WiseWave app sets up a location and timezone on the module. These are required for scheduling feature to work correctly. To know more, go to Schedule.

Note: To pair a device you need to have an internet connection.

Control Screen

If you press on the device tile, you will be taken to the device control screen.



By pressing on a ••• more button on the top right you can access:

- schedule management,
- device settings management,
- device unpair,
- device removal.

Schedule

The module allows you to set up 10 scheduled automatic events. Depending on the type of the device, you can set up:

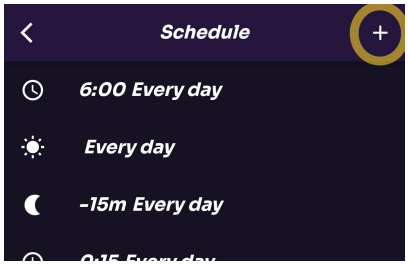
- turning a switch on or off (for Switch),
- position a shutter in a certain position (for Shutter).

Schedule can be set on repeat on a given day or a couple of days in a week.

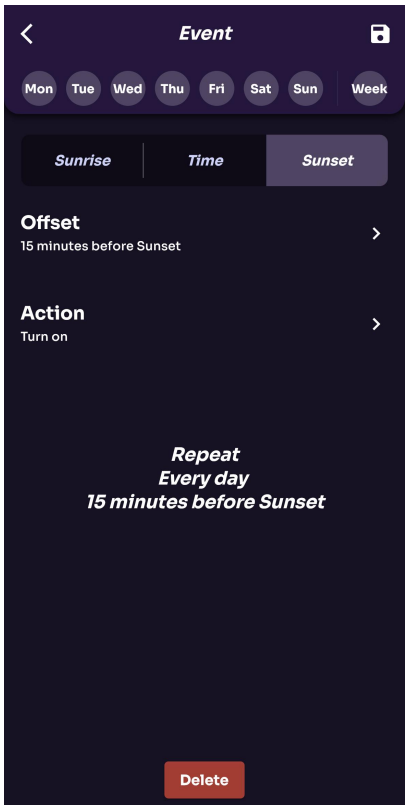
You can also set the task to execute on sunrise or sunset at your location. You can also adjust the time of the event (e.g. 15 minutes before the sunrise).

Set Scheduled Event

To set up a scheduled event, go to the control screen of selected device, touch ⋮ more button on the top right and select Schedule. You will see a list of scheduled events. To add a schedule, press + add button on the top right.



Set the schedule according to your needs and select action that should take place.



Edit Scheduled Event

To edit the event, select an event on the list and edit a task. Then save by pressing Save icon on the top right.

Delete Scheduled Event

To remove scheduled event, edit a task and then press **Delete** at the bottom of the screen.

Additional Information About the Algorithm of Calculating Sunrises and Sunsets

To calculate sunrise or sunset, the module needs to know the location of your device – that's why WiseWave app asks for access to location services.

Sunrises and sunsets are calculated on device: we do not pass your location to any external services.

There are some limitation to the schedule based on sunrise/sunset

If the calculated date would fall:

- after midnight on the next day, the task will be executed just before midnight on a current day,
- before midnight on the previous day, the task will be executed just after midnight on a current day.

For example: when sunset is at 9:00 PM and the task should be executed 4 h after sunset, so at 1:00 AM on the next day, the task will be executed at 11:59 PM. When sunrise is at 3:30 AM and the task should be executed 4 h before sunrise, so at 11:30 PM on the previous day, the tesk will be executed at 12:01 AM.

Other edge cases include polar nights and days: algorithm takes into account that there might be no sunrise or sunset on particular day.

The on-device algorithm has limited precision: there might be slight differences between calculated dates by the device and by other sources of sunset/sunrise time.

Device Settings

On the device settings screen you can check the following information:

- device type,
- Wi-Fi network parameters.

Depending on the type of device and method of communication with the device you can:

- set name and room of the device,
- set timezone and location,
- set initial state (after power on),
- set type of input (monostable or bistable)
- calibrate shutter.

You can also:

- force update firmware,
- restart the device.

All settings are saved on the device only.

Removing and unpairing a Device

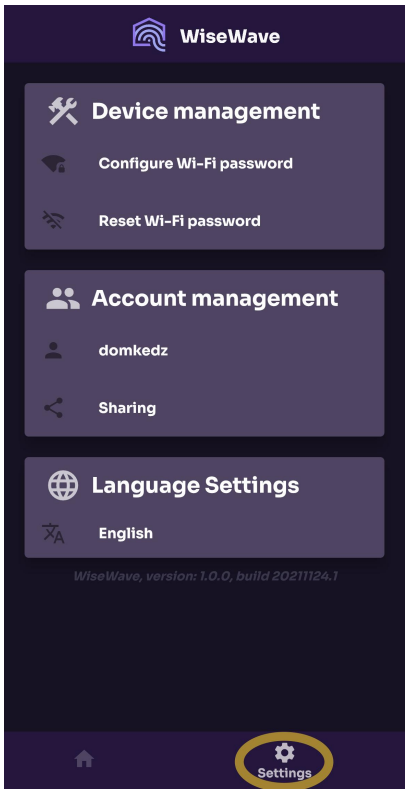
- **Unpair device** will unpair a device. Unpairing will remove the device from the app and revert it to initial settings.
- **Remove device** will remove the device from the app without unpairing (useful in case of troubleshooting).

By using **Remove device**, the device will be removed from the app but will not be unpaired. To add it to the app again, you need to unpair it first, see: Resseting module's Wi-Fi settings and Pairing.

Settings

In Settings, you can find the following sections:

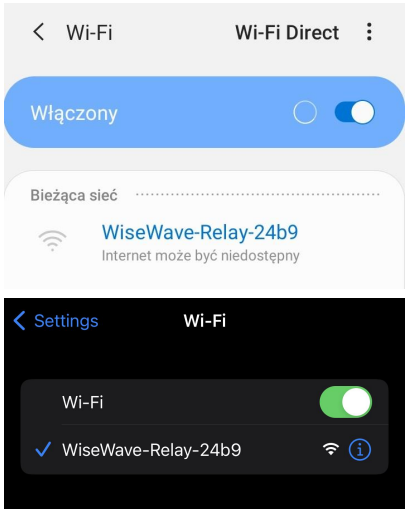
- Device management – which manages devices' Wi-Fi connection,
- Account management – which manages logging in and sharing,
- Language settings



Device Management

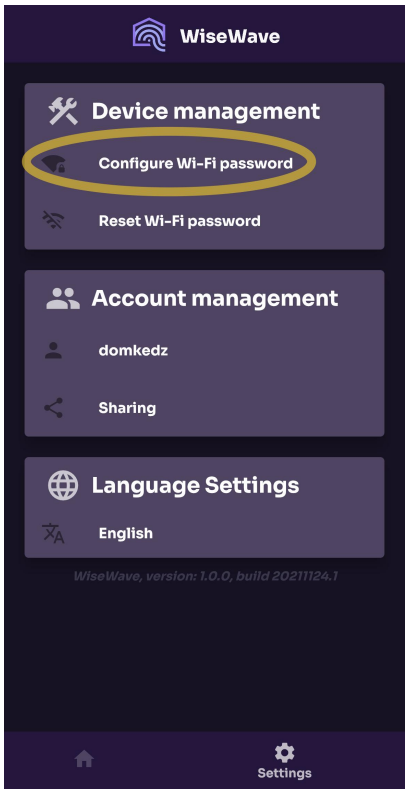
Connecting a Device to the Wi-Fi Network

Once your device is connected to the power source, search for Wi-Fi networks on your smartphone. You should be able to find a network called like so: `WiseWave-(device type)-(number)`. Connect to that network.



> Note: If the network is not visible a few seconds after connecting the device to power, check whether it is connected correctly.

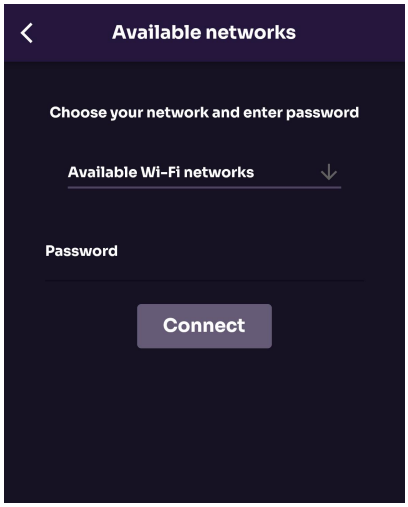
After that go to ⚙ Settings on the bottom of the screen and select **Configure Wi-Fi password**.



Instructions similar to these will appear on the screen. If your smartphone is connected to device's network, press **Scan**.

If you cannot proceed beyond this point, make sure that your phone is connected to the network created by the module, called `WiseWave-(device type)-(number)`.

When the scan is complete, select the name of your home Wi-Fi network from the list and type password. Then press **Connect**.



The module will find 15 Wi-Fi 2.4 GHz networks with the strongest signal.

The module will disconnect with your phone and try to connect to the network you selected. Press **Home** to move to the main screen. In a meantime, your smartphone should

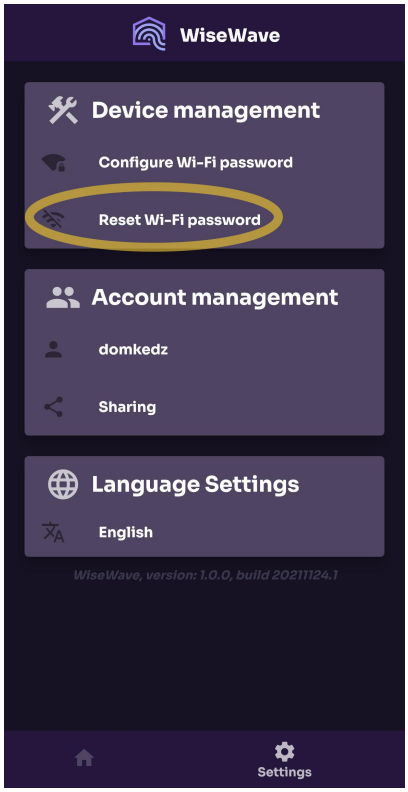
connect back to your home Wi-Fi.

> If provided password is not correct and the module creates `WiseWave-(device type)-(number)` network again, the whole procedure has to be retried.

> After connecting to the Wi-Fi network for the first time, the device has to set itself up. It might take around a minute.

Resetting Module's Wi-Fi Settings

Press **Reset Wi-Fi password**.



You'll be presented with a list of WiseWave devices connected to Wi-Fi you are connected to.

Select the device you want to reset and press **Reset**.

> Note: resetting Wi-Fi settings will not unpair the device.

You can also unpair selected device. This option is helpful when you reinstalled your app. In this case you need to unpair the device, add it to the app and pair again.