Use RFXCOM in Home Assistant

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1. MQTT is preferred with the RFX-433EMC

The RFX-433EMC has the possibility to use MQTT on WiFi.
The RFX MQTT protocol supports Auto Discovery and supports almost all new protocols.

See the RFX MQTT User Guide for details.

2. RFXCOM integration in Home Assistant.

RFXCOM has an out-of-the-box Integration for Home Assistant.
The RFXCOM integration is used to receive remotes, sensors and control devices but the integration does not support all protocols.
How to control a device which is not implemented in the RFXCOM integration is explained in this document.

Home Assistant will detect the RFXCOM integration automatically. If not, add it manually:
Go to Settings -> Devices -> Select Add Integration -> Search for RFXCOM -> Add.

In RFXmngr select the protocols you need to receive.
Click Set mode and Save Settings.
Note: Transmit protocols do not need to be enabled as these are always enabled.

In the RFXCOM Integration, click on Configure:

- Check the Add automatically tick box,
- Do not select any protocols.
- Do not enter an Event code,
- Click the X to close the window.

After all sensors are detected in Home Assistant, uncheck the Add automatically tick box.
Home Assistant is now able to send out commands via the RFXCOM Transceiver.

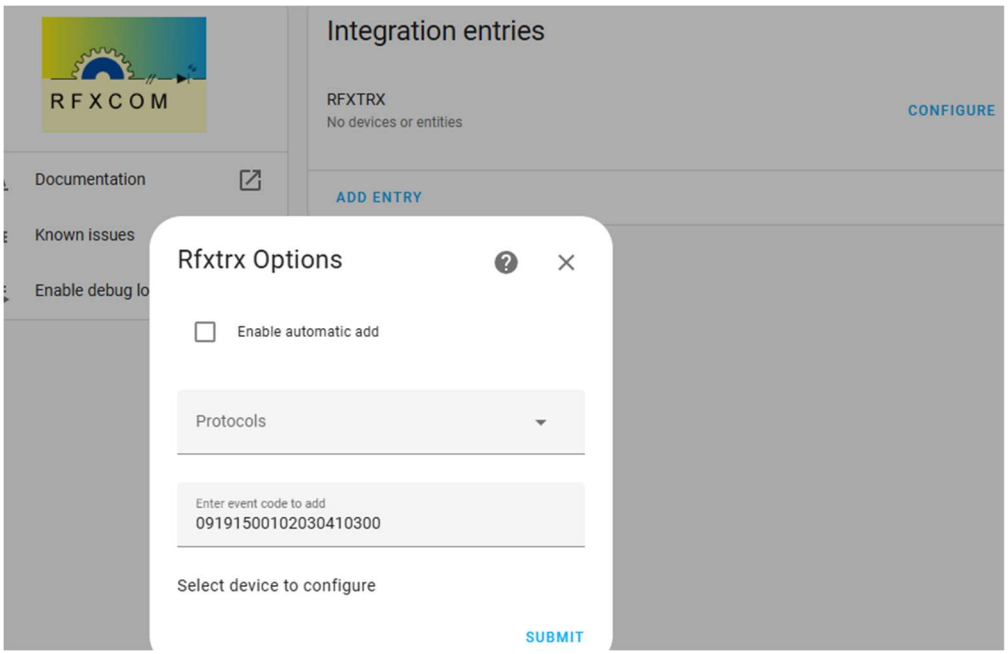
3. RFX433 Bi-directional blinds motors

It is possible to control the bi-directional Brel, Dooya, Motionblinds, mhz.de, Gaviota Elite and other Dooya compatible bi-directional motors with the RFX433XL and RFX-433EMC.
Note: the DD27xx remotes are not received because they use a different secret code.

3.1. Pair the motor using Home Assistant

Before you can use commands to control the motor you have to pair the RFX as an additional remote with the motor. This “remote”-code is only stored in the motor.
See the user guide of the motor how to add an additional remote in the motor.
(Note that the limits must be set before you can add an additional remote)
If the motor is already paired with an RFX it is not necessary to pair again with Home Assistant but start using up/down commands.

Use the BlindsT21 in Home Assistant.
Transmit a pair command in the RFXCOM integration.
Click Configure and enter the Confirm/Pair Event code.
The command will be transmitted, and the Blinds device with buttons is created in Home Assistant.



3.1. Get the HA Event code using RFXmngr

```
================================================
25-1-2025 01:33:39:518= Blinds command: 09 19 15 10 10 20 30 01 03 00
HA code:09191510102030010300
================================================
Packettype    = BLINDS1
subtype       = T21 DDxxxx bi-directional
Sequence nbr  = 16
id1-4         = 1020300 decimal:16909056
Unit          = 1
Command       = Confirm/Pair
Signal level  = +10 dBm
```

3.2. Packet format for transmit commands

You can use a random ID (00 00 00 0 – FF FF FF F) and Unit (0 – F)

Example: Confirm/Pair with ID 10 20 30 4 Unit 1

```
09191500 10 20 30 41 03 00
-------- -- -- -- -- -- --
|        |  |  |  || |  |= always 00
|        |  |  |  || |==== command
|        |  |  |  ||====== unit code 0 to F
|        |  |  |  |======= ID4 0 to F (ID 0000001 to FFFFFFF)
|        |  |  |========== ID3 00 to FF
|        |  |============= ID2 00 to FF
|        |================ ID1 00 to FF
|========================= header always 09191500
```

Control commands:

Up	0x00
Down	0x01
Stop	0x02
P2 (confirm/pair)	0x03

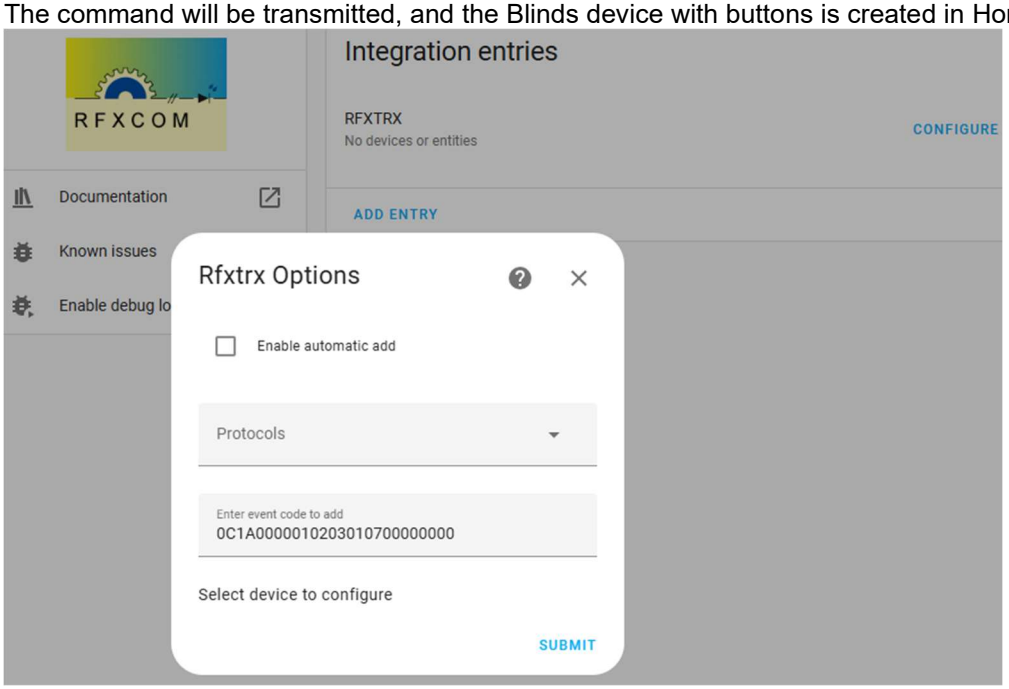
4. RFX433 Somfy RTS, ASA

It is possible to control up to 40 Somfy RTS or ASA motors with the RFXtrx433E, RFXtrx433XL, RFX433XL, RFX-433 and RFX-433EMC.
Receive of the remotes is not very useful as it requires a dedicated receive frequency of 433.42MHz so that normal 433.92MHz sensors are not received anymore. Do not use the same ID-Unit code with the RFX to control the motors because it will disturb the rolling code and the remote will become useless.

4.1. Pair the motor using Home Assistant

Before you can use commands to control the motor you have to pair the RFX as an additional remote with the motor. This “remote”-code is only stored in the motor.
See the user guide of the motor how to add an additional remote in the motor.
(Note that the limits must be set before you can add an additional remote)
If the motor is already paired with an RFX it is not necessary to pair again with Home Assistant but start using up/down commands.

Transmit a pair command in the RFXCOM integration.
Click Configure and enter:
Confirm/Pair Event code (0C1A000001020301070000000)
Or Stop Event code (0C1A000001020301000000000)
The command will be transmitted, and the Blinds device with buttons is created in Home Assistant.



4.2. Get the HA Event code using RFXmngr

```
==============================================
25-1-2025 01:09:06:819= RFY command: 0C 1A 00 0C 01 02 03 01 07 00 00 00 00
HA code:0C1A000001020301070000000
==============================================
Packettype    = RFY
subtype       = RFY
Sequence nbr  = 0
id1-3         = 010203 decimal:66051
Unit          = 1
Command       = program
rfu1          = 00
rfu2          = 00
rfu3          = 00
Signal level  = +10 dBm
```

4.1. Packet format for transmit commands

```
0C1A 00 00 010203 01 07 00000000
---- -- -- ------ -- -- --------
|    |  |  |      |  |  |= 8 x zero
|    |  |  |      |  |==== command
|    |  |  |      |======= unit code 0 to F
|    |  |  |==============  ID1-3 (00001 to FFFFF)
|    |  |=================  00
|    |====================  00=Somfy RTS, 03=ASA
|========================== header always 0C1A
```

Command	Somfy	ASA
stop	0x00	0x00
up	0x01	0x01
down	0x03	0x03
Program	0x07	0x07
Up < 0.5 seconds (venetian US mode – Open)	0x0F	
Down < 0.5 seconds (venetian US mode – Close)	0x10	
Up > 2 seconds (venetian US mode – change angle +)	0x11	
Down > 2 seconds (venetian US mode – change angle -)	0x12	
Up < 0.5 seconds (venetian European mode – change angle +)	0x0F	
Down < 0.5 seconds (venetian European mode – change angle -)	0x10	
Up > 2 seconds (venetian European mode – Open)	0x11	
Down > 2 seconds (venetian European mode – Close)	0x12	
Enable sun+wind detector	0x13	0x13
Disable sun detector	0x14	0x14
stop + down >2 seconds (Confirm new mode US/EU)	0x15	
up + stop + down		0x15

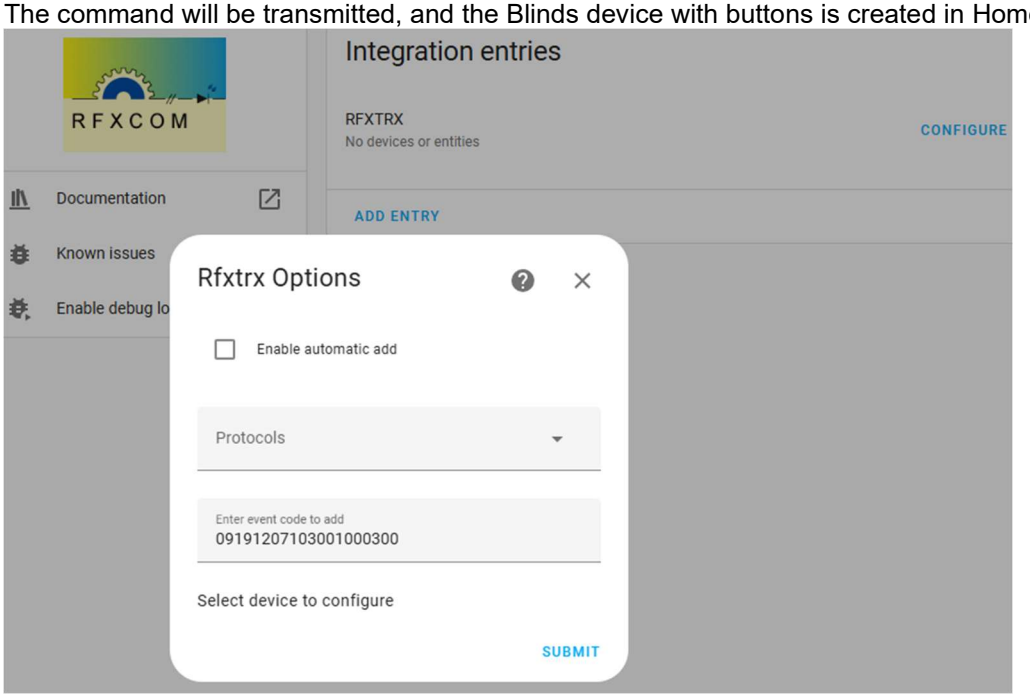
5. RFX433 Cherubini

It is possible to control up to 40 Cherubini motors with the RFX433XL and RFX-433EMC.
Receive of the remotes is not implemented.

5.1. Pair the motor using Home Assistant

Before you can use commands to control the motor you have to pair the RFX as an additional remote with the motor. This “remote”-code is only stored in the motor.
See the user guide of the motor how to add an additional remote in the motor.
If the motor is already paired with an RFX it is not necessary to pair again with Home Assistant but start using up/down commands.

Transmit a pair or open command in the RFXCOM integration.
Click Configure and enter:
Confirm/Pair Event code (0919120710300100030 0)
Or Open Event code (0919120710300100000 0)
The command will be transmitted, and the Blinds device with buttons is created in Home Assistant.



5.2. Get the HA Event code using RFXmngr

```
==============================================
26-1-2025 01:09:54:260= Blinds command: 09 19 12 00 10 30 01 00 03 00
HA code:09191207103001000300
==============================================
Packettype    = BLINDS1
subtype       = T18 Cherubini
Sequence nbr  = 0
id1-3         = 103001 decimal:1060865
Command       = Confirm/Pair
Signal level  = +10 dBm
```

5.3. Packet format for transmit commands

```
09191200 103001 00 03 00
-------- ------ -- -- --
|        |      |  |  |== 00
|        |      |  |===== command
|        |      |======== 00
|        |=============== ID1-3 (103000 to 1030FF)
|======================== header always 091912xx
                           (xx = sequence number 00-FF)
```

open	0x00
close	0x01
stop	0x02
Confirm/Pair	0x03

6. RFX868 Orcon Fan / Ventilation / WTW HRC-EcoMax

With the RFX-868 Transceiver, it's possible to control your Orcon Ventilation System or WTW-system.

In order to do so, you'll need a working 15RF Remote Control to clone the Radio Commands. See Figure 1 below. Optional: Consult the Orcon Manual to (re)add a 15RF Remote Control to the Orcon Unit.

The manual below is tested on a HRC-300 EcoMax and it should also work on other Orcon Systems that use the 15RF Remote Control.

Figure 1: Orcon 15RF Remote Control

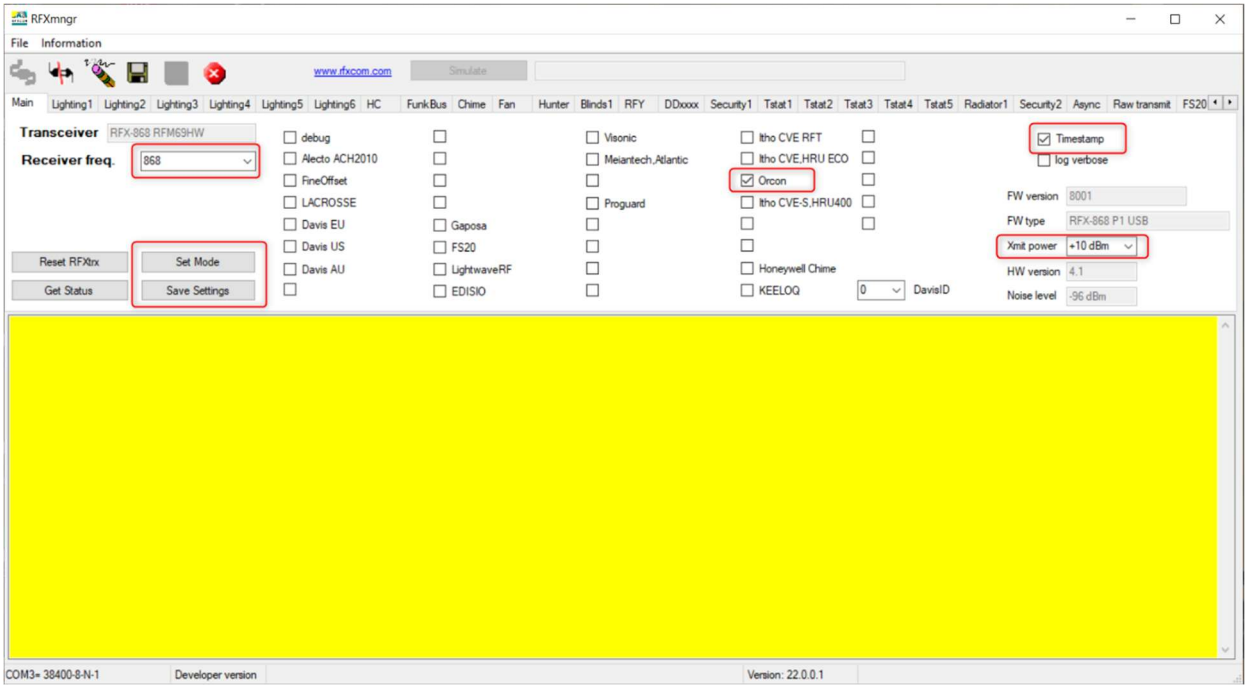
6.1. Setup RFXmngr for ORCON

The 15RF Remote Control sends out different codes for each of the 6 buttons. The Timer Button has different codes for pressing it once, quickly twice or quickly three times. The codes include the Remote ID (15RF) as well as the Destination ID (Orcon Ventilation Unit). You'll receive the codes using RFXmngr.

Install the RFXmngr (MS Windows only) and start the program. Connect the RFX-868 Transceiver with the supplied USB-cable to your computer running RFXmngr. Configure RFXmngr as follows:

1. Select TAB Main:
   - Set the Reveiver freq. to: 868
   - Check the box: Orcon
   - Check the box: Timestamp
   - Set Xmit power to: +10dBm
2. Select the Set Mode-button
3. Select the SAVE-button. RFXmngr will save the configuration in the RFX-868 Transceiver.

This is supported by the RFX868XL, RFXusb-RFX868, RFX868XL and RFX-868.



6.2. Get the ORCON 15RF Remote Control codes

In RFXmngr, first clear the logscreen. Then press a button on the 15RF Remote Control and check if it displays into the yellow logscreen. Repeat for the other buttons. Beware: the Timer-button has 3 functions: 1 press = 15 minutes, 2 quick presses = 30 minutes, 3 quick presses = 60 minutes.

In the logscreen you should find received information for all commands: Low, Medium, High, Timer 15 minutes, Timer 30 minutes, Timer 60 minutes, Auto and Away (this Away is/could be presented as UNKNOWN). You can save this logfile (or copy the contents to another document).

Example of a received Orcon remote “High” command (Button with number 3):

```
25-1-2025 11:09:49:641= 11170C0A764077037082347D000000000000
Packettype     = FAN2
subtype        =
Orcon Sequence nbr
= 10
ID             = 764077 decimal:7749788 ← 764077 is the Remote ID (15RF)
Destination ID= 82347D
decimal:8533117
Command        = High
Signal level   = 7  -64dBm
```

Tip: For use in Home Assistant, prepare a list of all Packets (commands) you would like to use:

Low	
Medium	
High	11170C0A764077037082347D000000000000
Timer 15 minutes	
Etcetera …	

6.3. Packet format for transmit commands

```
 11170C0x 764077 03 00 82347D 000000000000
---------- ------ -- -- ------ ------------
 |         |      |  |  |      |= 12 x zero
 |         |      |  |  |======== destination ID
 |         |      |  |=========== 2 x zero
 |         |      |============== control command
 |         |=====================  remote ID
 |=============================== header 11170C0x
```

Beware: the **x** is different for each command, like a checksum.

Control commands:

Low	01
Medium	02
High	03
Timer 15 minutes	04
Timer 30 minutes	05
Timer 60 minutes	06
Auto	07
Away	08

6.4. Testing from RFXmngr

To test the correct communication between RFXmngr and Orcon Ventilation Unit:

1. Select TAB Fan:
   - Set the Type: Orcon
   - Set the ID (= Remote ID): i.e. 764077
   - Set the Destination ID: i.e. 82347D
   - Set the command: Try the different options low, medium, timer etc.
2. Select the Transmit-button. The Ventilation Unit should respond.

6.5. RFXCOM-Integration in Home Assistant

RFXCOM has an out-of-the-box Integration for Home Assistant.

To control the Orcon Ventilation Unit from Home Assistant, connect the RFX-868 to a USB-port on your Home Assistant device. The RFX-868 should have been configured for ORCON according to the instruction in 3.1 above. It was tested with an out-of-the-box Home Assistant Green.

Home Assistant will detect the RFXCOM integration automatically. If not, add it manually:

Go to Settings -> Devices -> Select Add Integration -> Search for RFXCOM -> Add.

In the RFXCOM Integration, click on Configure:

- Uncheck the Add automatically tickbox;
- Do not select any protocols;
- Do not enter an Eventcode;
- Click the X to close the window.

Home Assistant is now able to send out commands via the RFX-868 Transceiver.

6.6. Basics: rfxtrx.send command

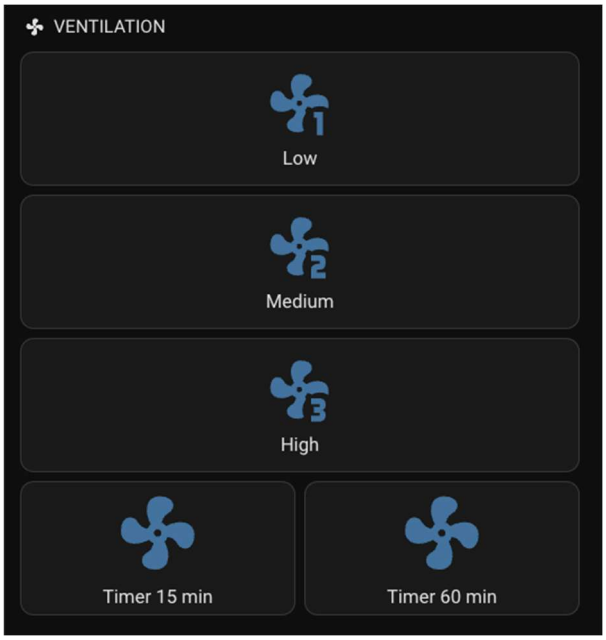
In basic, the Home Assistant YAML Actions-command is used to transmit the commands with Home Assistant.

```
YAML-Example:

actions:
  - action: rfxtrx.send
    data:
      event: 11170C04764077030082347D000000000000
```

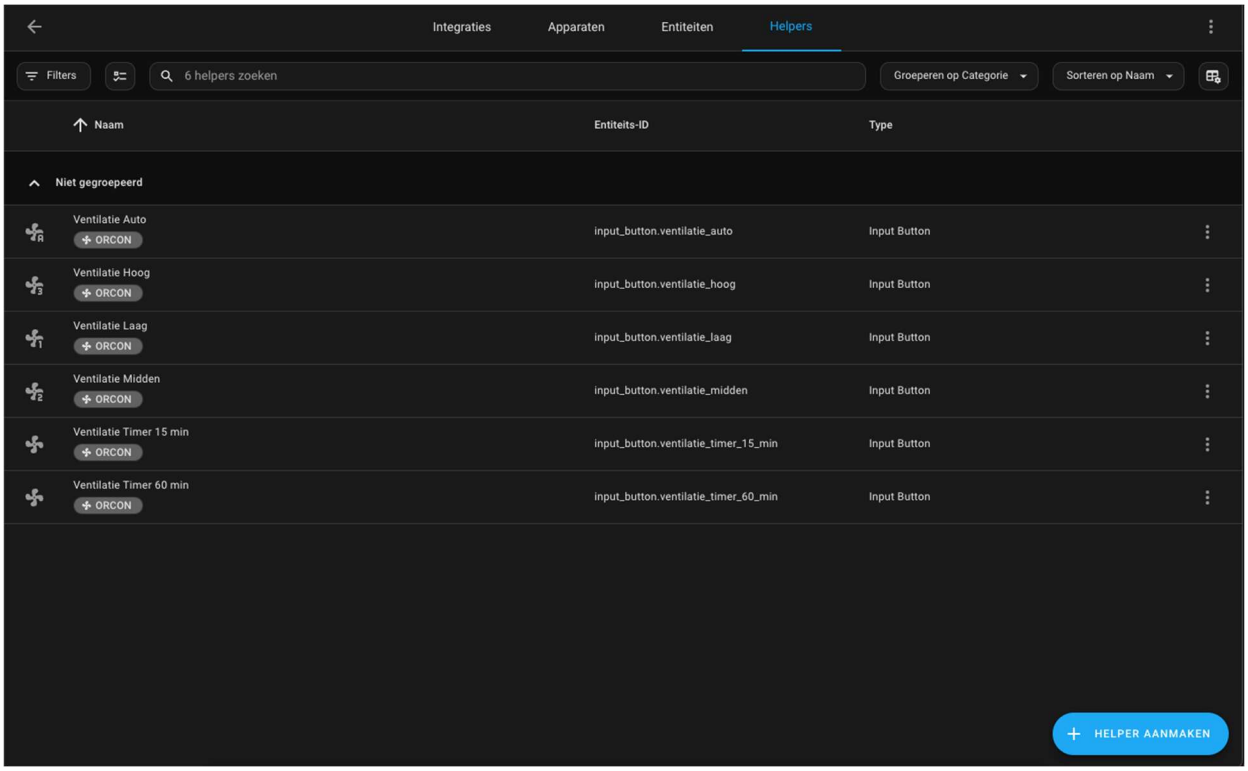
6.7. Buttons in a Home Assistant Dashboard

By adding a few buttons to a Dashboard, you can easily control your Orcon Ventilation Unit from Home Assistant and could look like the example below:



To get this working, do the following:

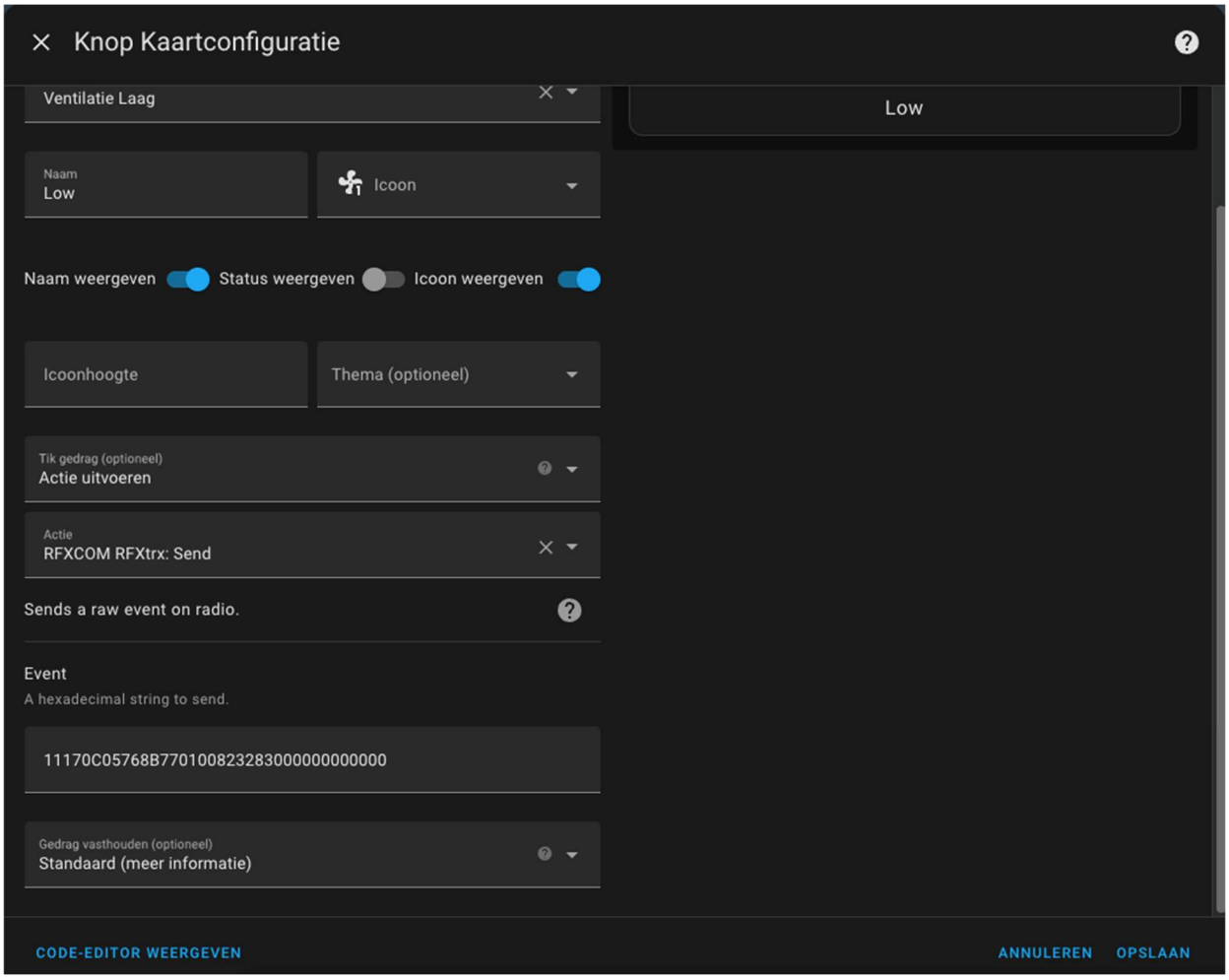
1. Add HELPERS for each command you would like to add to Home Assistant:



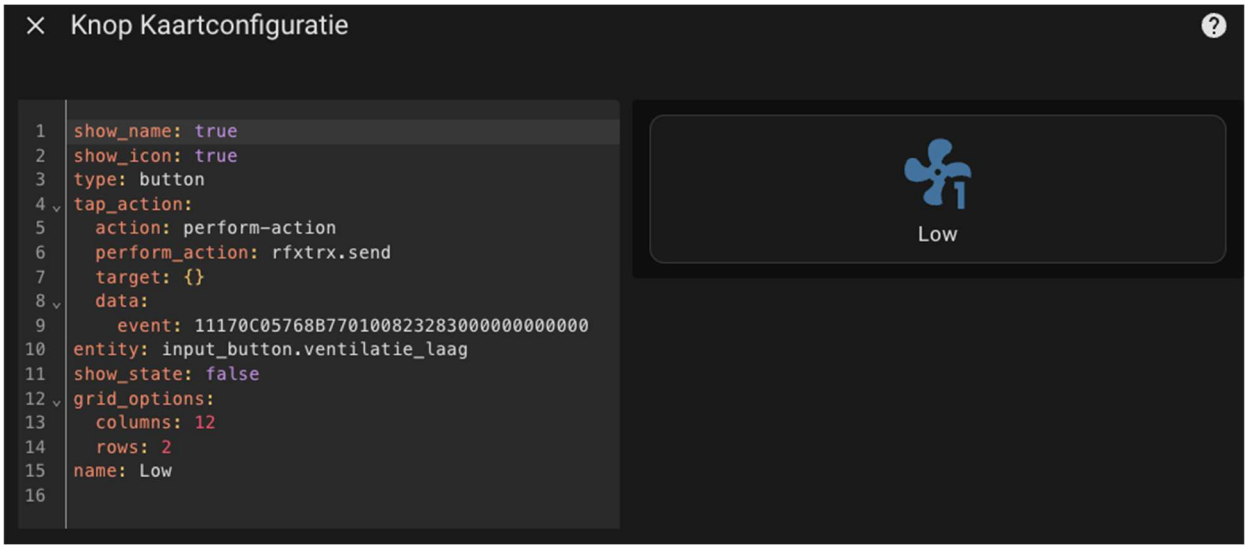
2. Edit the Dashboard where you would like to add these Control Buttons:

- Select the Dashboard or create a new one.
- Select the Edit-button (top right).
- Select the [+] Icon in the desired Section
- Search for Button in the 'Per Card-selection'. The Card will open (with a random Entity).
- Type the desired and corresponding HELPER as Entity
- Select the desired Icon (tip: search for Fan)
- Behaviour: select ACTION
- Action: type rfxsend and select 'RFXCOM RFXtrx: Send'
- As EVENT, copy the COMMAND that you harvested with RFXmngr (see section 3.2)
- Click SAVE. The button should appear. Save the Dashboard.
- Click the newly made button on the Dashboard. The LED on the RFX-868 Transceiver should blink Red and then Green as the Command is being sent.

The editor for the Button looks like the figure below.
Beware that in this figure, the Event-code is not corresponding with the examples above. In your situation however that should definitely be the case.



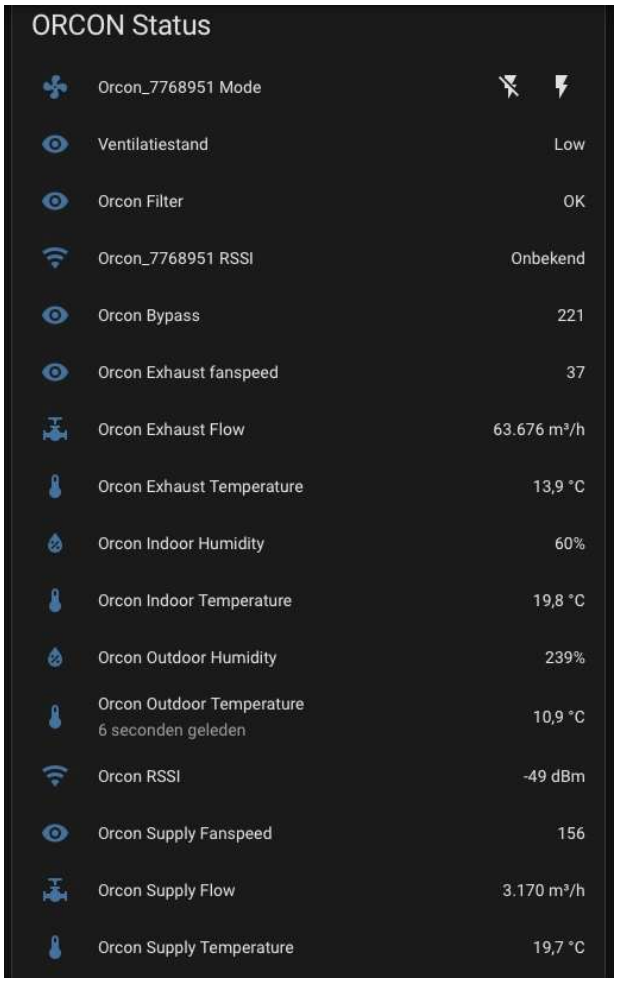
The YAML-code in the Code-editor for the ‘Low’ – button is as follows:

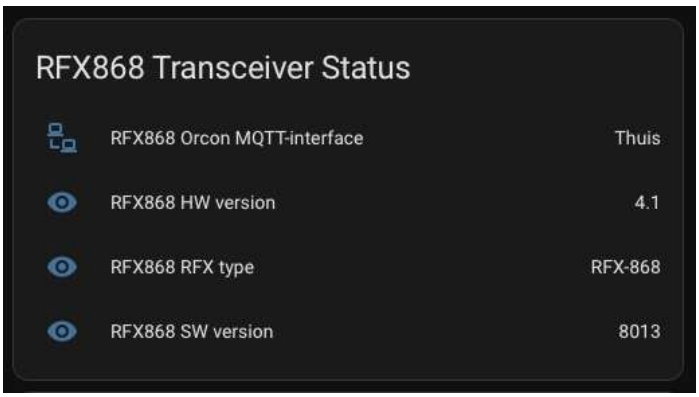


6.8. RFXCOM over MQTT in Home Assistant

A second way to Control the Orcon fan is to use MQTT. It was tested on a Orcon WTW EcoMax fan.

Over MQTT, you will receive a lot more information from the fan like Mode, Fanspeed, Filter replacement, Temperature, Humidity etcetera. You will also be able to see the RFX-868 transceiver status. See both examples’ below:



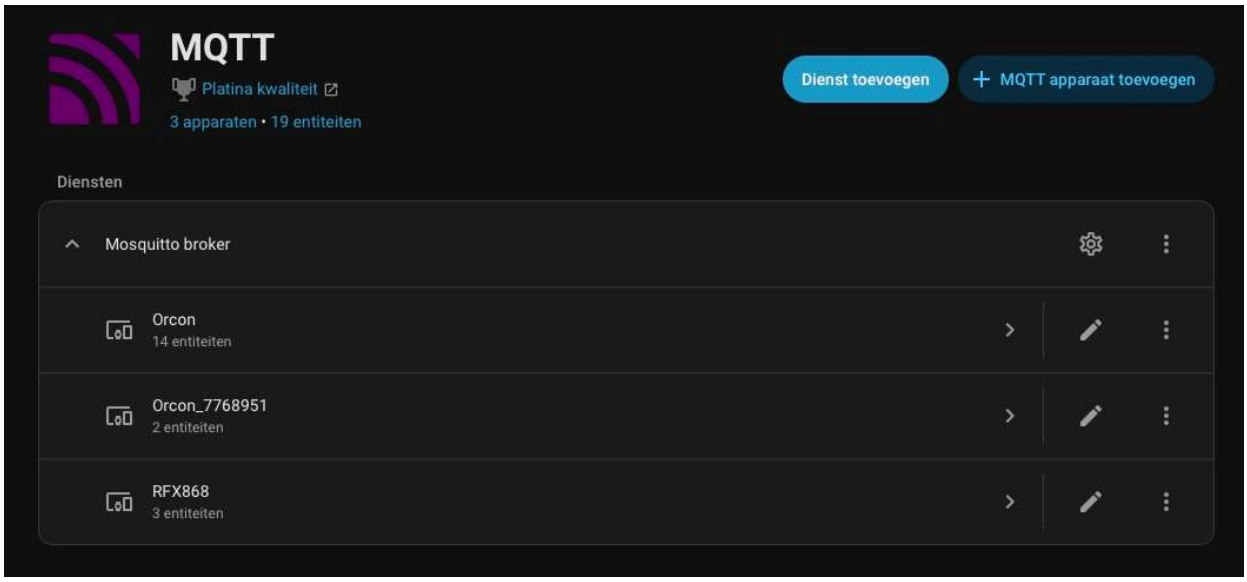


6.9. Setting up the RFX-868 Transceiver for MQTT

Tot setup the RFX-868 transceiver for MQTT, take the following steps:

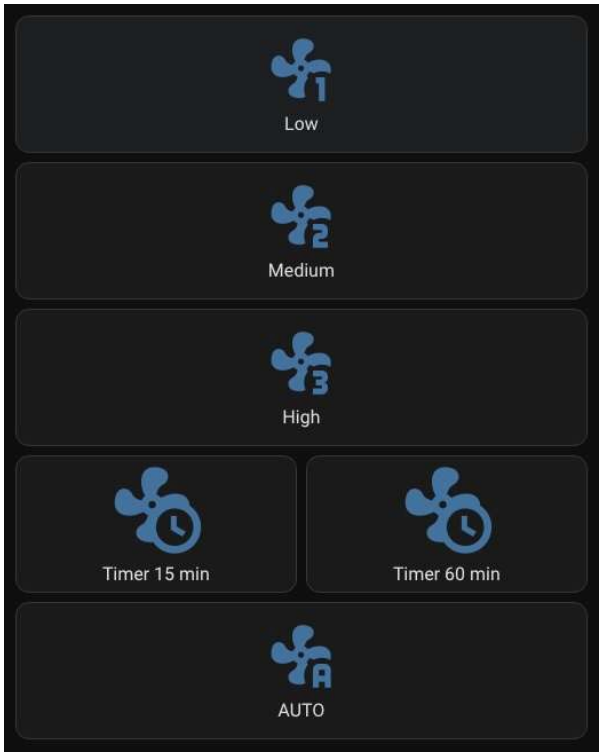
- In Home Assistant, install the Add On ‘Mosquitto Broker’ and create a User like ‘mqtt-user’. Only local access is necessary. Add the MQTT-service in ‘Devices and Services’. Please refer to many YouTube videos about this topic;
- Flash the RFX-868 with the latest MQTT-software, using the USB-connection and the esp.huhn.me website. For detailed instructions please see the RFX-868 manual. After reboot, the RFX-868 will create a WiFi-network called ‘ RFXCOM WiFi Manager;
- From your computer of smartphone, connect to this temporary WiFi-network. See the RFX-868 manual for the login-details. After successful login, enter your own WiFi-network details. The RFX-868 will restart and should logon to your WiFi-network;
- From your own network, go to the IP-address of the RFX-868 transceiver. You’ll land on a webserver and should configure the MQTT-details using the User ‘mqtt-user’ and password. Select ORCON and press Save.
- Add the Orcon device in Home Assistant:
    - Press a button on the Orcon RF15 remote.
    - Or, enter the Decimal FanID on the web page and press Save. The RFX-868 should connect to the MQTT-integration in Home Assistant. For the FanID, please refer to Chapter 3.2 ‘Get the RF15 Remote codes ‘.

The MQTT-integration should look similar like the figure below:



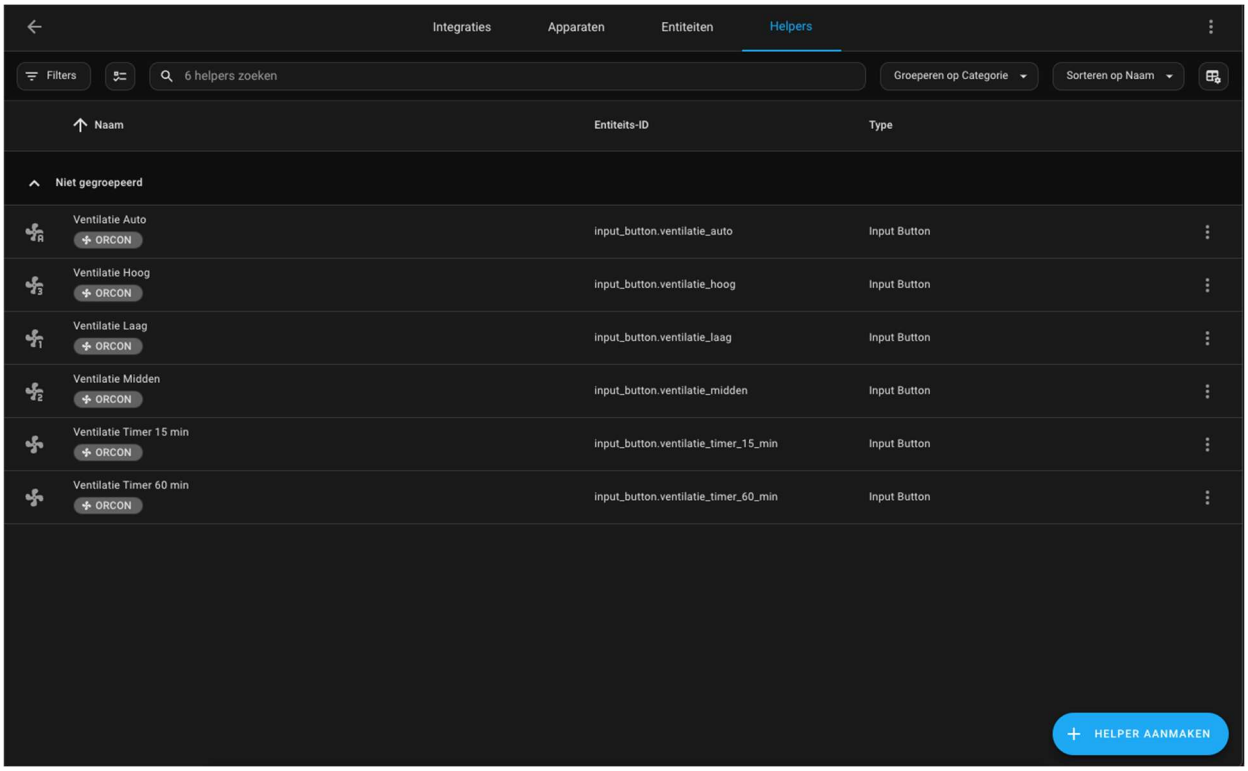
6.10. Buttons in a Home Assistant Dashboard (MQTT)

By adding a few buttons to a Dashboard, you can easily control your Orcon Ventilation Unit from Home Assistant and could look like the example below:



To get this working, do the following:

3. Add HELPERS for each command you would like to add to Home Assistant:

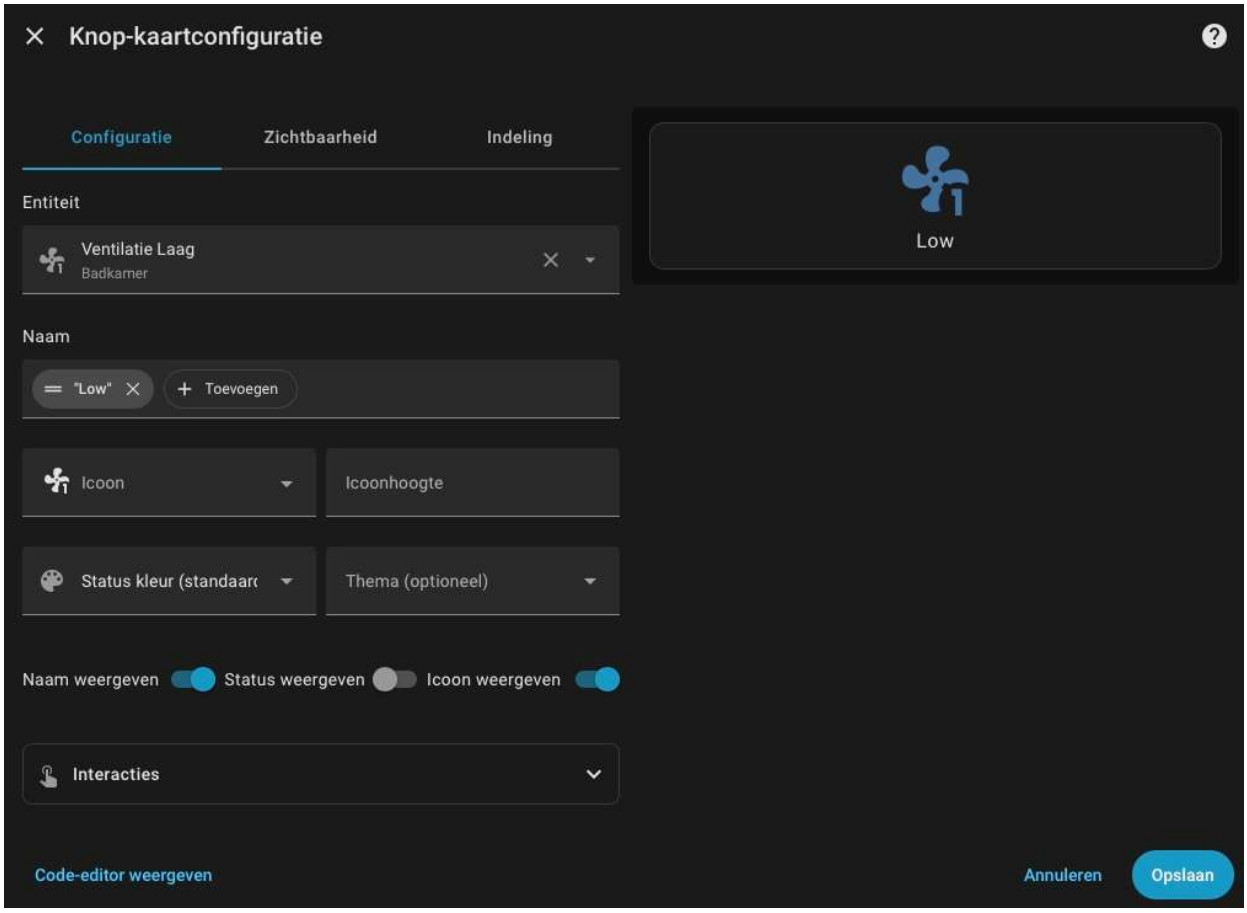


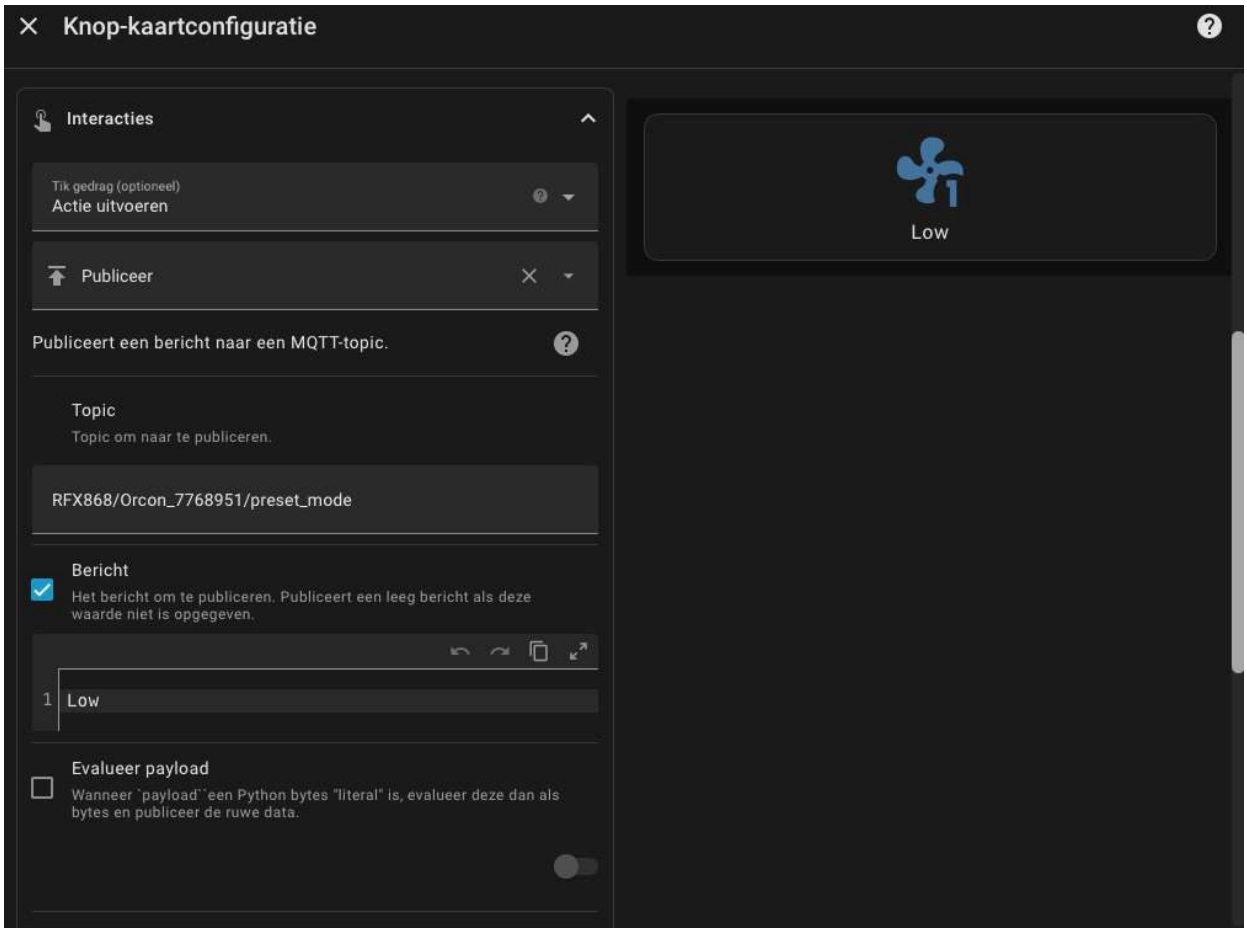
Edit the Dashboard where you would like to add these Control Buttons:

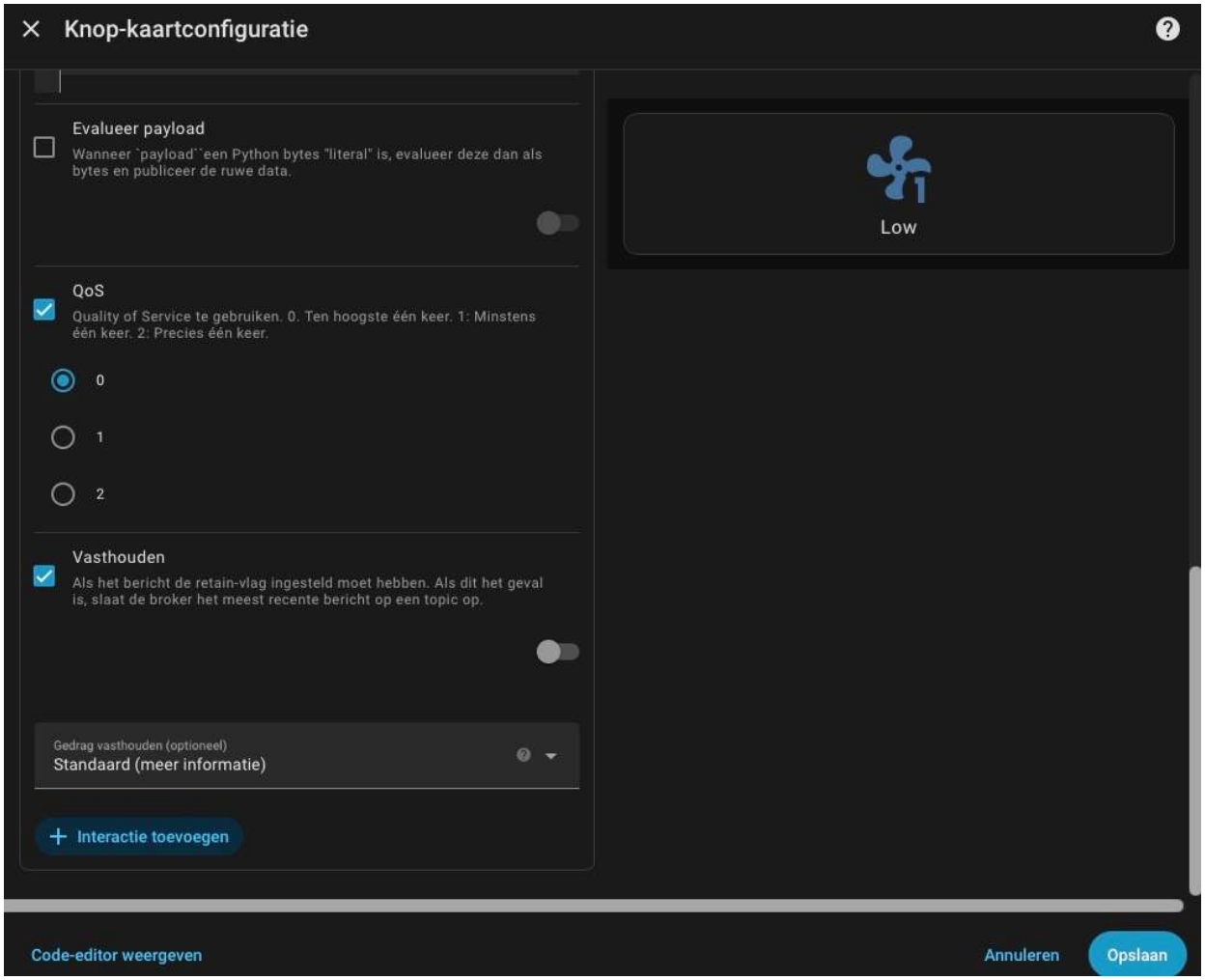
- Select the Dashboard or create a new one.
- Select the Edit-button (top right);
- Select the [+] Icon in the desired Section.
- Search for Button in the 'Per Card-selection'. The Card will open (with a random Entity);
- Type the desired and corresponding HELPER as Entity.
- Select the desired Icon (tip: search for Fan);
- Behaviour: select ACTION.
- Action: Publish.
- Topic: RFX868/Orcon_7768951/preset_mode → Type YOUR Decimal FanID
- Payload (= message): Low.
- Click SAVE. The button should appear. Save the Dashboard.
- Click the newly made button on the Dashboard. The LED on the RFX-868 Transceiver should blink Red and then Green as the Command is being sent.

The editor for the Button looks like the figure below.

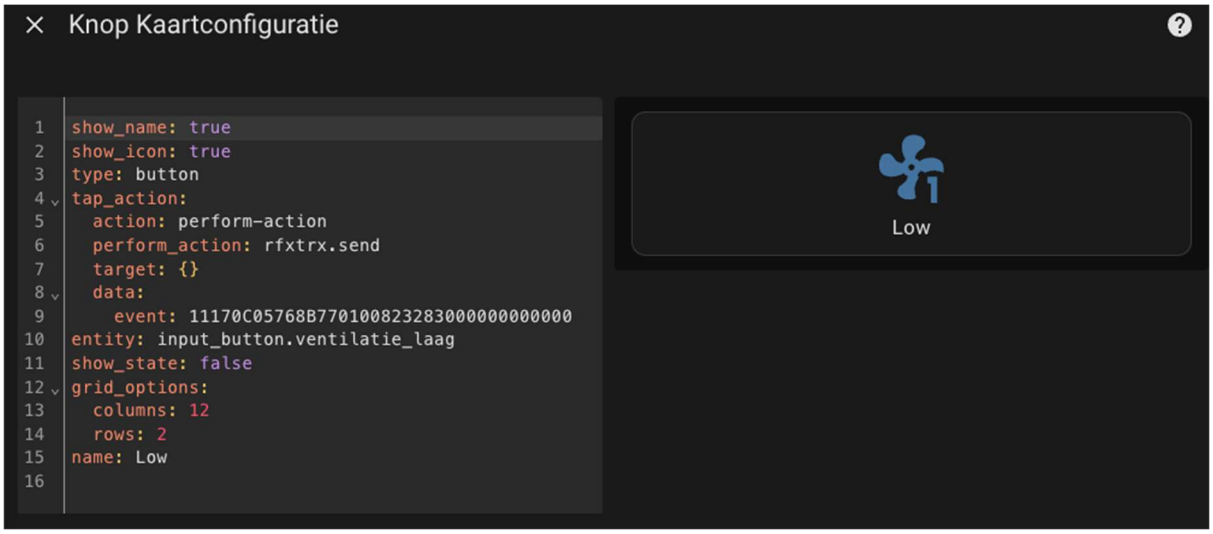
Beware that in this figure, the Event-code is not corresponding with the examples above. In your situation however that should definitely be the case.




Knop-kaartconfiguratie
Interacties
Tik gedrag (optioneel)
Actie uitvoeren
Publiceer
Publiceert een bericht naar een MQTT-topic.
Topic
Topic om naar te publiceren.
RFX868/Orcon_7768951/preset_mode
Bericht
Het bericht om te publiceren. Publiceert een leeg bericht als deze waarde niet is opgegeven.
1 Low
Evalueer payload
Wanneer `payload`een Python bytes "literal" is, evalueer deze dan als bytes en publiceer de ruwe data.
Low

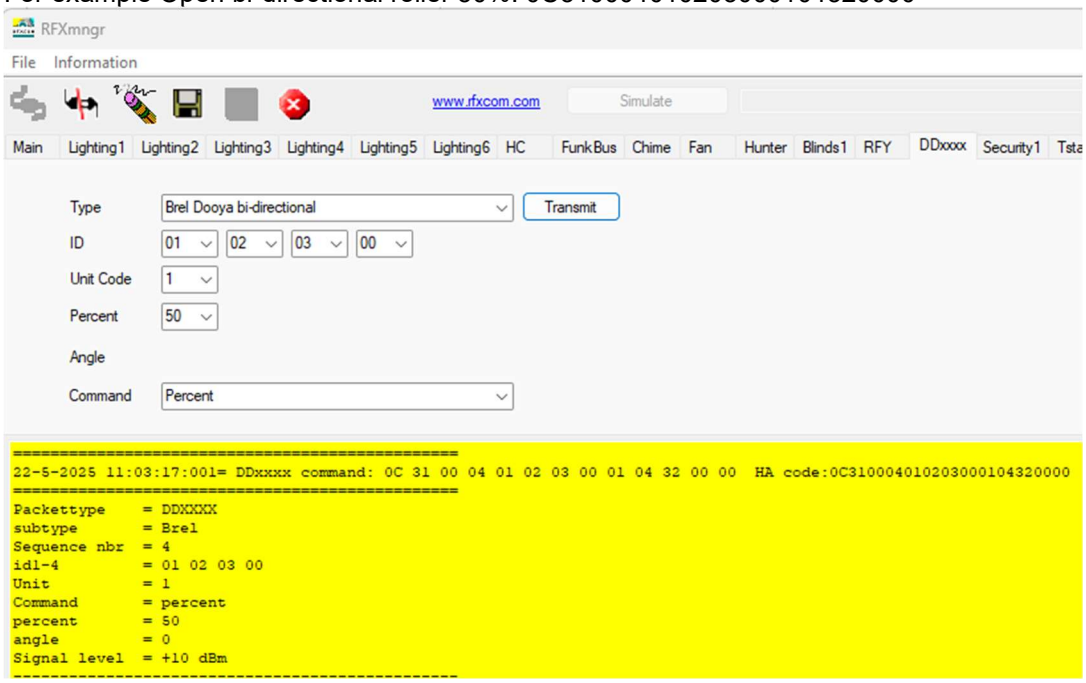

Knop-kaartconfiguratie
Evalueer payload
Wanneer `payload`een Python bytes "literal" is, evalueer deze dan als bytes en publiceer de ruwe data.
Low
QoS
Quality of Service te gebruiken. 0. Ten hoogste één keer. 1: Minstens één keer. 2: Precies één keer.
0
1
2
Vasthouden
Als het bericht de retain-vlag ingesteld moet hebben. Als dit het geval is, slaat de broker het meest recente bericht op een topic op.
Gedrag vasthouden (optioneel)
Standaard (meer informatie)
Interactie toevoegen
Code-editor weergeven
Annuleren
Opslaan

The YAML-code in the Code-editor for the ‘Low’ – button is as follows:



7. Create a script for RFXtrx: Send

- Create a script in: Settings – Automations & Scenes – Scripts – Create new script
- ADD ACTION
- Search action: RFXCOM
- Select: RFXCOM RFXtrx: Send
- Enter the HA Event Code that you have prepared from RFXmngr
  For example Open bi-directional roller 50%: 0C310004010203000104320000



- SAVE SCRIPT: Open 50%
- SAVE

8. Revision history

Version 1.0 – March 17, 2025
Chapter 1 updated.
Version 1.1 – May 23, 2025
Chapter 6, Create a script added
Version 2.0 – October 31, 2025
MQTT added
Version 3.0 –November 29, 2025
Orcon description added (Thanks to Johan Koppens)