



⚡ REDUXI CONTROLLER · KNOWLEDGE BASE

## Reduxi with Daikin Altherma 3

Save up to 30% on energy costs: control the SG-ready contacts of your Daikin Altherma 3 heat pump via the Reduxi Gateway and align it with fluctuating energy prices.

🔧 Daikin Altherma 3 · Reduxi Controller · Reduxi Gateway    🌐 SG-ready contacts via 2 gateway relays

📄 SG-ready contacts X5M: 5, 6 and 9, 10



*Daikin Altherma 3 H MT F (ETVZ12E6V)*

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## 1 Prepare the connection

### 1.1 Technical documentation

The documentation of the Daikin Altherma 3 heat pump is on the Daikin product page:

[https://www.daikin.co.uk/en\\_gb/products/product.html/ETVZ12E6V.html](https://www.daikin.co.uk/en_gb/products/product.html/ETVZ12E6V.html)

- [Daikin Altherma 3 H MT F \(ETVZ12E6V\): product page](#) – Product information and document downloads
- [Installation manual \(English, PDF\)](#) – For ETVZ12E6V and ETVZ12E9W
- [Installer reference guide \(English, PDF\)](#) – Wiring and settings of the unit

### 1.2 Required components

Two Reduxi components connect the Reduxi Controller to the Daikin Altherma 3 heat pump:

- ☐ Reduxi Controller
- ☐ Reduxi Gateway device with 3x (30:1A) current sensors (CTs)
- ☐ UTP cable, only for the wired connection (LAN) of the gateway
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

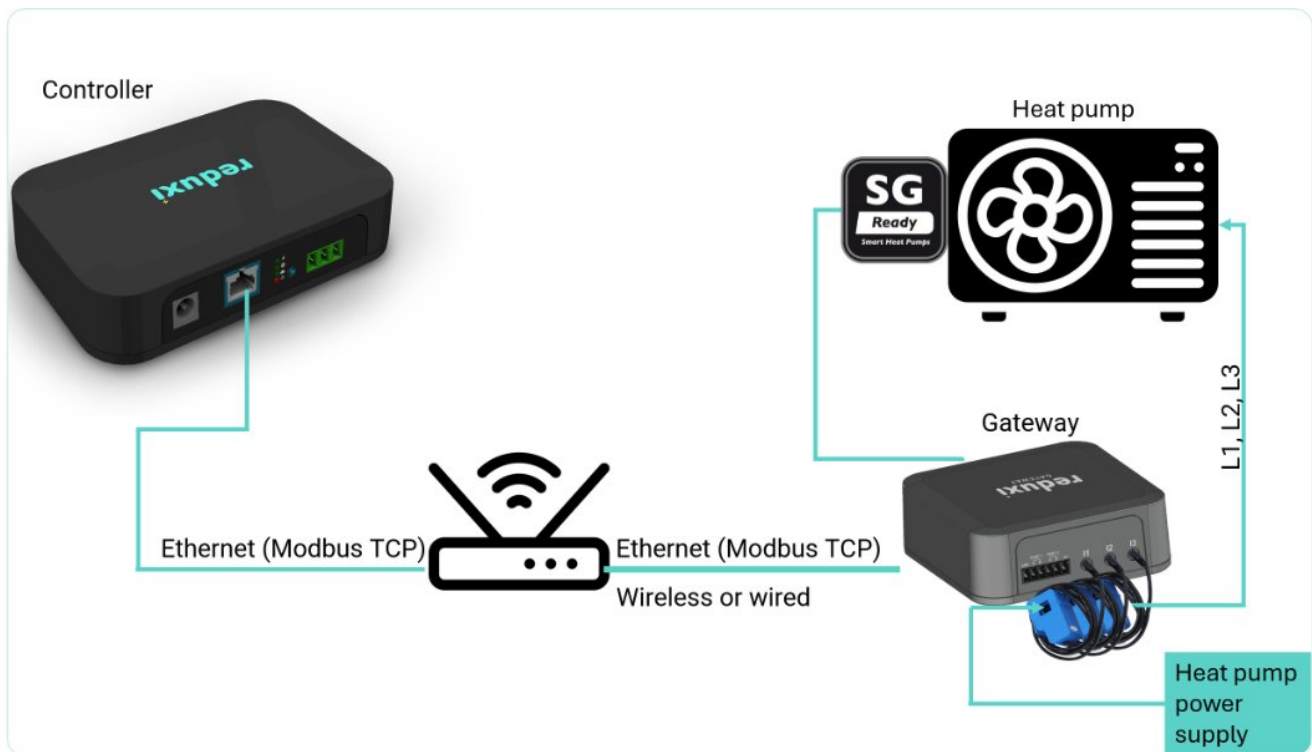
First add the Reduxi Gateway device to the Reduxi Controller. The gateway then controls the operating modes of the heat pump. The connection is wireless (WLAN) or wired via a UTP cable (LAN). More about this: [Gateway to Controller connection](#).

The gateway measures the current of each phase of the heat pump with the 3x (30:1A) current sensors (CTs). Its two relay outputs send the signals to the SG-ready contacts and set the operating mode of the heat pump.

## 2 Connect the Reduxi Gateway and the heat pump

### 2.1 Overview of the connection

The picture shows the entire connection from the Reduxi Controller to the heat pump.



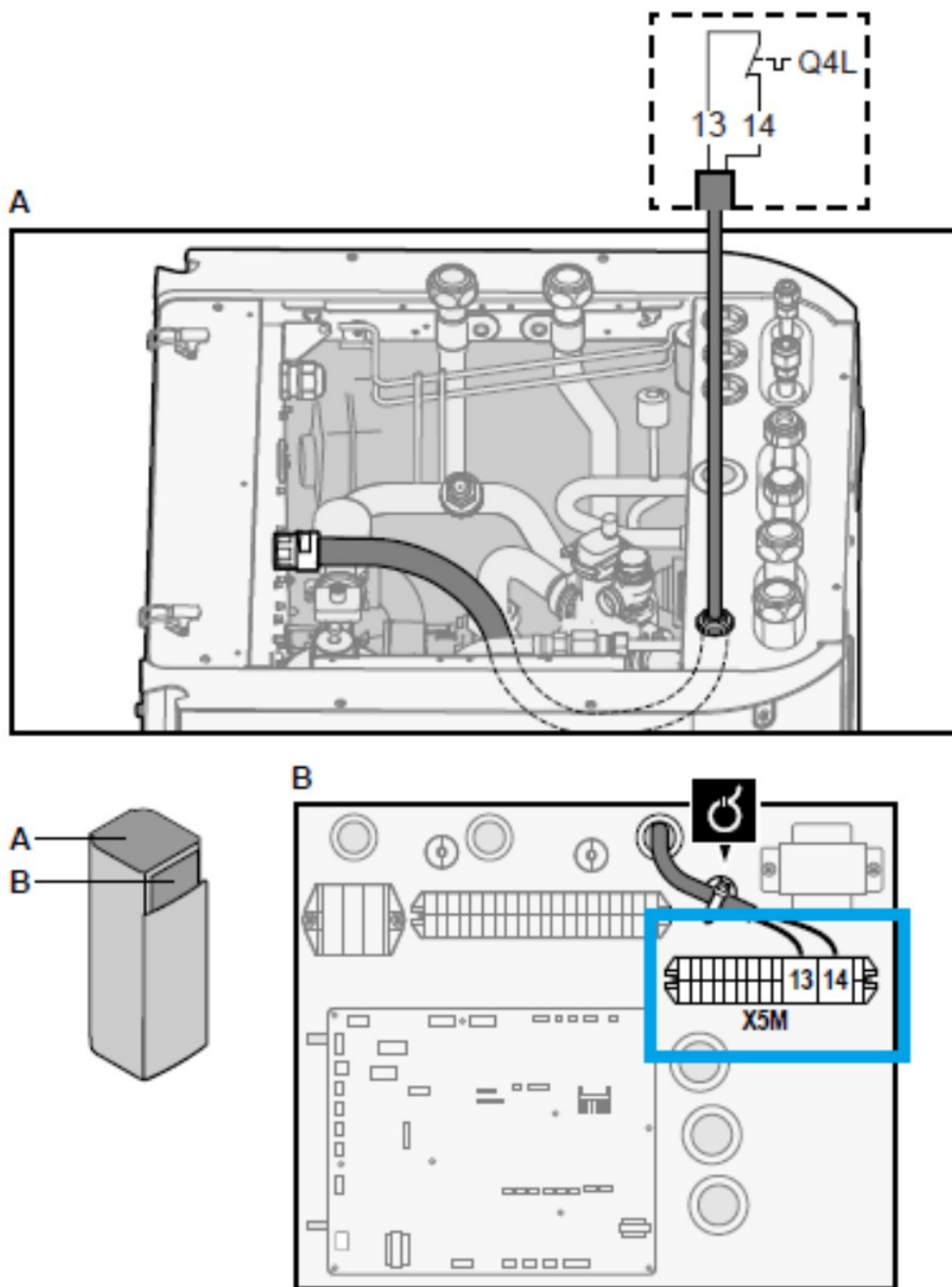
Connection from the Reduxi Controller to the heat pump

For further information on how to connect the Reduxi Gateway device, see [How to configure the Reduxi Gateway](#).

### 2.2 Connect the gateway relays to the SG-ready contacts

First find the SG-ready contacts on the circuit board of the heat pump. The picture shows their location on the Daikin Altherma 3 circuit board.

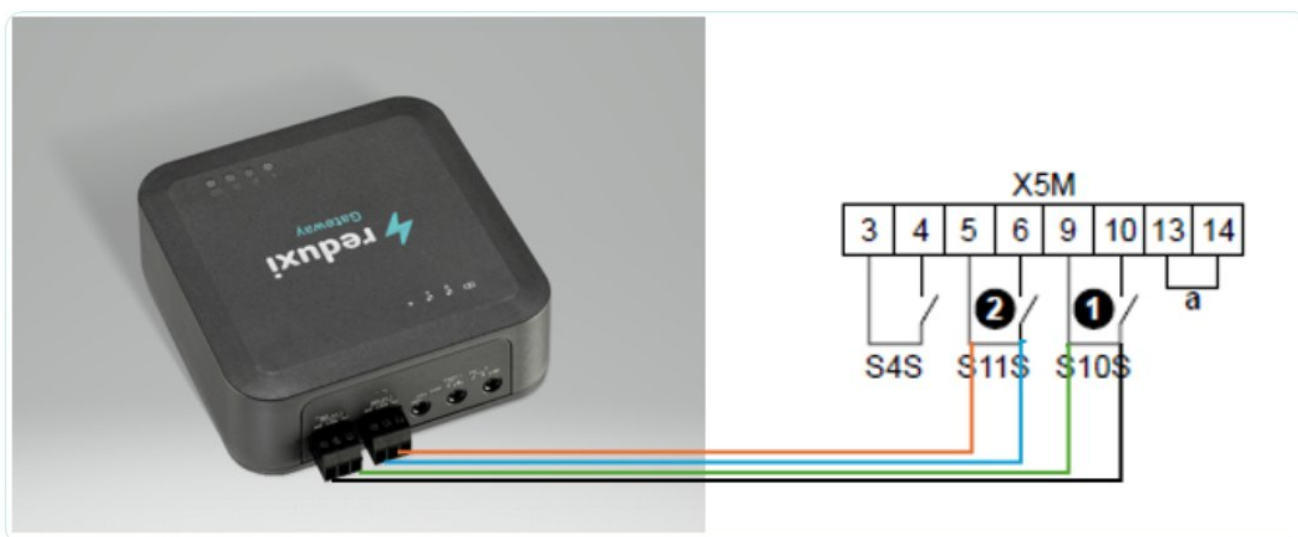
The SG-ready contacts are on connector **X5M, contacts 5, 6 and 9, 10**.



SG-ready contacts on the circuit board: X5M, contacts 5, 6 and 9, 10

Connect the relays of the Reduxi Gateway device to the SG-ready contacts of the heat pump:

| REDUXI GATEWAY RELAY CONTACT | HEAT PUMP CONTACT ON X5M | WIRE COLOUR |
|------------------------------|--------------------------|-------------|
| Relay 1, <b>NO</b> contact   | Contact 6                | Blue        |
| Relay 1, <b>COM</b> contact  | Contact 5                | Brown       |
| Relay 2, <b>NO</b> contact   | Contact 10               | Black       |
| Relay 2, <b>COM</b> contact  | Contact 9                | Green       |



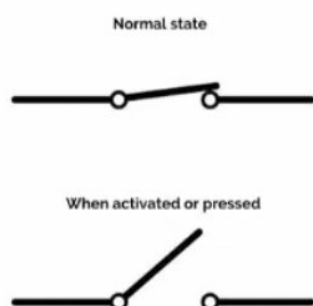
Connection of the relays to the SG-ready contacts



#### Note

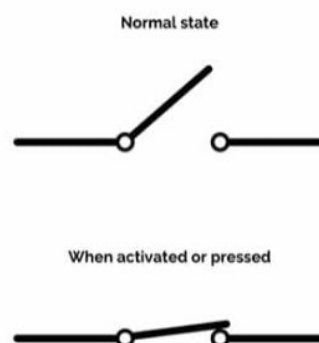
The Reduxi Gateway can use each relay output as permanently closed (**Normally Closed, NC**) or opened (**Normally Opened, NO**). The Daikin Altherma 3 heat pump uses the **NO** contacts.

A normally closed (NC) contact/switch



Normally closed (NC)

A normally open (NO) contact/switch



Normally open (NO)

## 2.3 Connect the current sensors

The current sensors measure the current of the heat pump. They provide the real-time power consumption of the heat pump. The voltage comes from the Reduxi Controller. If it is not available, the default voltage of 230 V is used.

Connect the current sensors (CTs) from the Reduxi Gateway kit to the three inputs, one for each phase, as shown in the picture.



*Current sensor inputs of the Reduxi Gateway*

Each current sensor covers one phase wire (L1, L2, L3) of the heat pump:



*Current sensors on the phase wires*

### 3 Log in to the Reduxi web interface

You can open the Reduxi web interface in two ways:



#### Reduxi app

Via tunnel connection · works from anywhere

REMOTE



#### Web browser

In the local network · via IP address or `reduxi.local`

#### 3.1 Via the Reduxi app

1

#### Open the app and log in

Launch the Reduxi app on your smartphone or tablet and log in with your credentials.

2

## Open Reduxi devices

Tap the menu icon (three lines, top left) and select **Reduxi devices**.

3

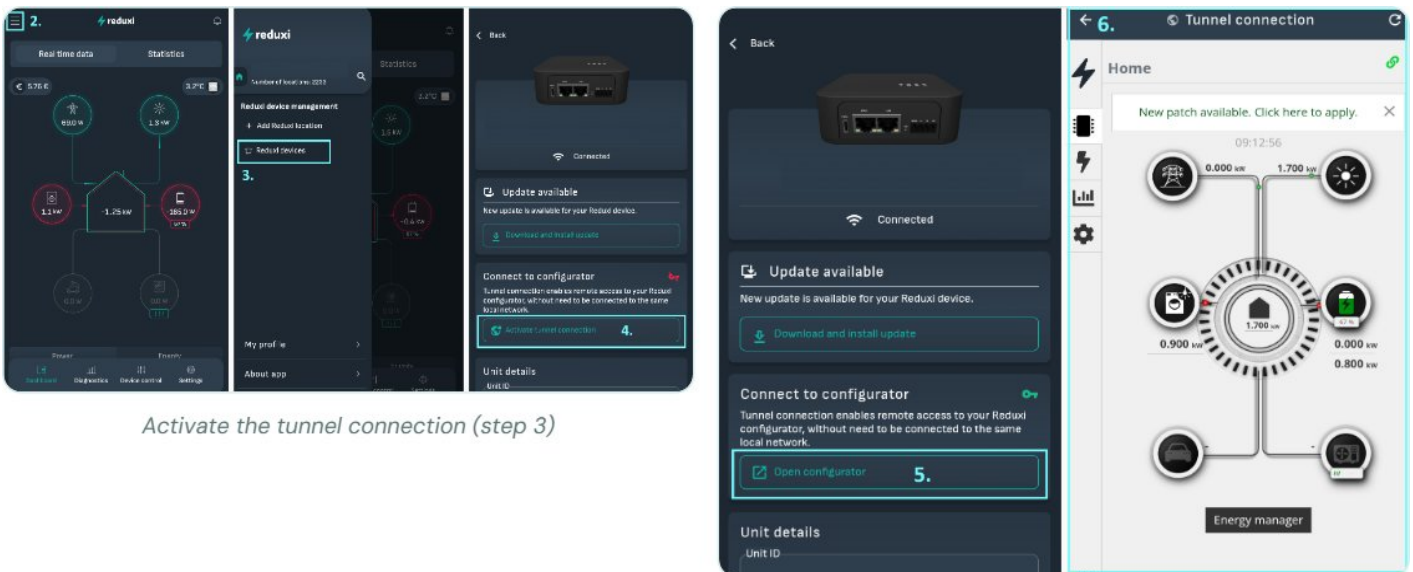
## Activate the tunnel connection

Switch on the tunnel connection and wait a moment until it is active.

4

## Open the configurator

Tap **Open configurator**. The Reduxi web interface opens.



Activate the tunnel connection (step 3)

Open configurator (step 4)

## 3.2 Via a web browser

1

## Open the login page

On a device in the same network, open a web browser and enter the controller's IP address or **`http://reduxi.local`**. You can find the controller's IP address in your router's device list or in the Reduxi app under **Reduxi devices**.

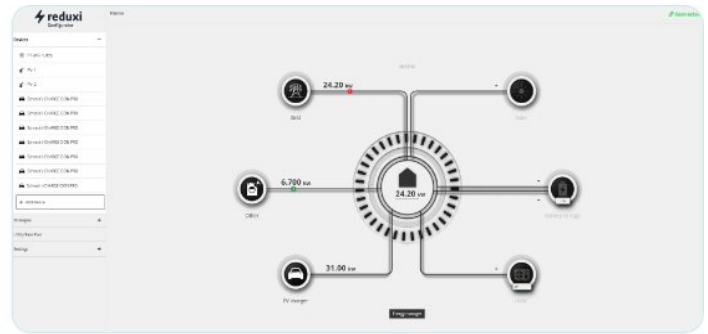
2

## Log in

Username: **admin** · Password: **admin** (factory default)



Reduxi Controller login screen



Controller web interface after login

## 4 Add the heat pump to Reduxi

Use these steps to add a new heat pump or to edit an existing one.

### 4.1 Basic settings

Log in locally to the [Reduxi Configurator](#) on the controller (see [Point 3](#)) and press the **Add device** button.

# reduxi<sup>⚡</sup>

## CONFIGURATOR

Devices



Strategies



+ Add device

+ Add strategy

Settings

Profile

*The **Add device** button*

In the first step (basic settings), select the basic parameters of the device:

- Device type: **HVAC**
- Type: **Reduxi Meter**
- Name: a name of your choice, for example **Daikin Altherma 3 HP**

*Basic settings: device type, type and name*

After you have entered everything, press **Next**.

## 4.2 Communication settings

The communication channel has three parts.

**Part 1: connection between the Reduxi Gateway and the Reduxi Controller.** Complete the fields as shown in the image. They are populated automatically.

*Part 1: gateway connection*

**Part 2: current sensors of the Reduxi Gateway.** Select **Auto detect from gateway** for all current sensors.

CT-L1  
Auto detect 1 on gateway  
Current transformer

CT-L2  
Auto detect 1 on gateway  
Current transformer

CT-L3  
Auto detect 1 on gateway  
Current transformer

### Part 2: current sensors

**Part 3: signals of the gateway relays.** The relay states set the SG-ready mode of the heat pump:

| Smart Grid contact |   | Smart Grid operation mode |
|--------------------|---|---------------------------|
| 1                  | 2 |                           |
| 0                  | 0 | Free running              |
| 0                  | 1 | Forced off                |
| 1                  | 0 | Recommended on            |
| 1                  | 1 | Forced on                 |

Logic of the SG-ready signal combinations

| MODE                 | RELAY 1     | RELAY 2     |
|----------------------|-------------|-------------|
| ON (free running)    | Opened (NO) | Opened (NO) |
| OFF (forced OFF)     | Opened (NO) | Closed (NC) |
| ECO (recommended on) | Closed (NC) | Opened (NO) |
| BOOST (forced ON)    | Closed (NC) | Closed (NC) |

Complete configuration of the relay signals in the Reduxi Configurator:

**Off - relay 1**  
 Off  
 Setpoint of the relay 1 when heat pump setpoint is off

**Off - relay 2**  
 On  
 Setpoint of the relay 2 when heat pump setpoint is off

**ECO - relay 1**  
 Off  
 Setpoint of the relay 1 when heat pump setpoint is ECO

**ECO - relay 2**  
 Off  
 Setpoint of the relay 2 when heat pump setpoint is ECO

**ON - relay 1**  
 On  
 Setpoint of the relay 1 when heat pump setpoint is ON

**ON - relay 2**  
 Off  
 Setpoint of the relay 2 when heat pump setpoint is ON

**BOOST - relay 1**  
 On  
 Setpoint of the relay 1 when heat pump setpoint is BOOST

**BOOST - relay 2**  
 On  
 Setpoint of the relay 2 when heat pump setpoint is BOOST

Complete relay signal configuration

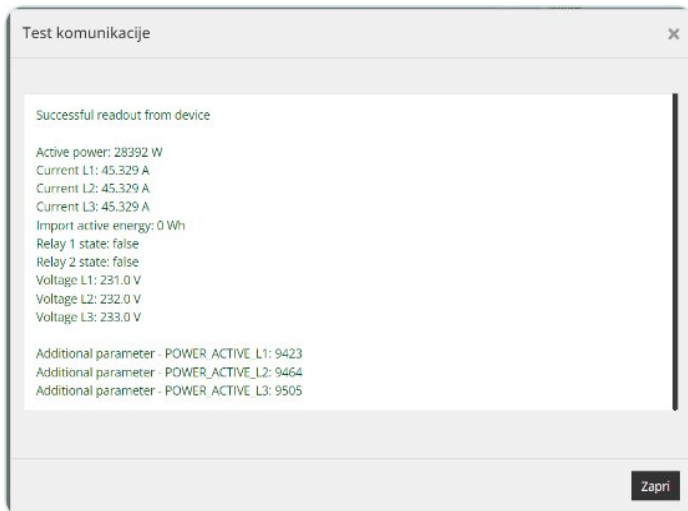
### 4.3 Test communication

Click **Test communication** at the lower right, below the communication parameters. It reads the device once and saves nothing.

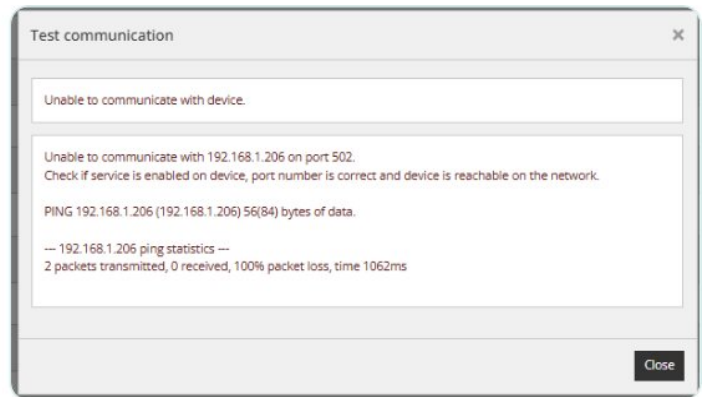
Back Test communication Next

The **Test communication** button

The test returns one of two results:



1. Communication works properly



2. Communication does not work properly

## 4.4 Advanced settings

The advanced settings are optional. They depend on the location where the Reduxi Controller is installed.

1 Basic settings 2 Communication channel 3 Advanced settings

Advanced settings

Do you want to set data saving interval?  
☒ No Default: 1 min

Do you want to set reading delay?  
☒ No Default: 1000 ms

Do you want to set writing delay?  
☒ No Default: 1000 ms

Do you want to set power generation limits and capabilities?  
☒ No

Do you want to set power consumption limits and capabilities?  
☒ No

Do you want to limit communication with the device to read-only?  
☒ No Default: No

Do you want to invert direction for energy import and export?  
☒ No Default: No

Do you want to exclude device from summary?  
☒ No Default: No

L1 is connected to main feed L2 is connected to main feed L3 is connected to main feed

L1 L2 L3

Back Done

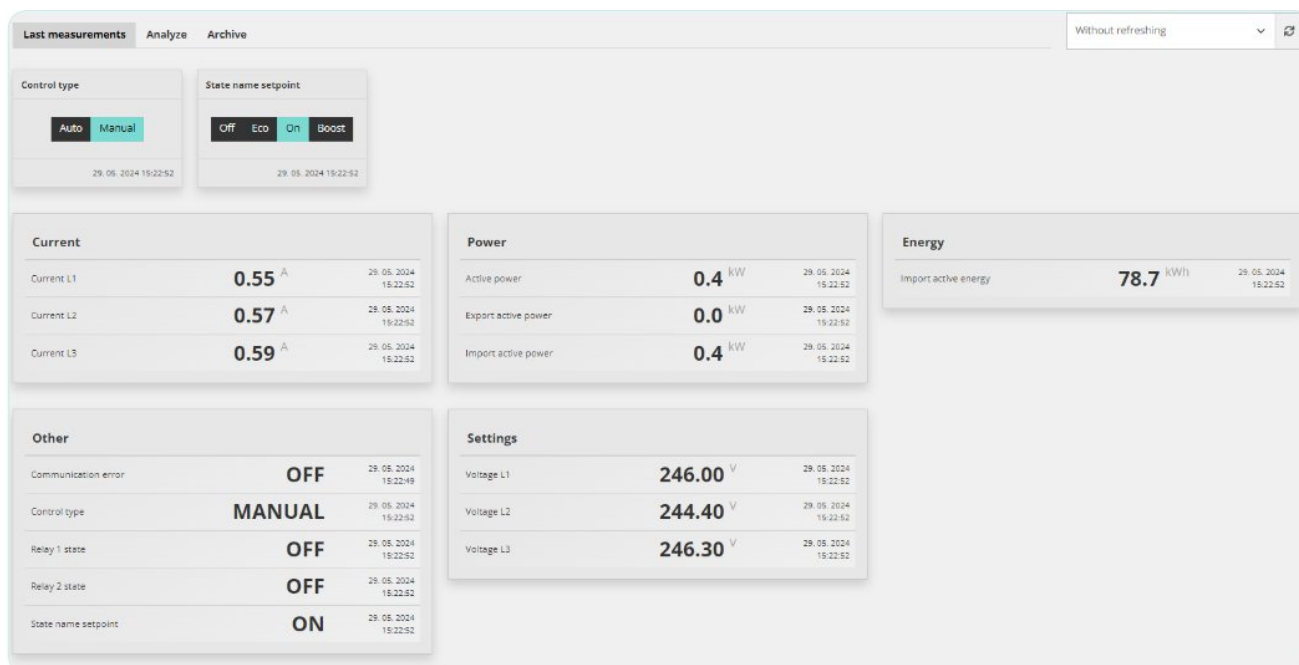
Advanced settings

After the last setting, press **Done** at the lower right. Only **Done** creates the device.

## 5 Check the readings

### 5.1 Last measurements

After communication is established, check the values under **Devices – Daikin Altherma 3 HP** in the **Reduxi Configurator** as an additional test.



*Last measurements of the heat pump*

### 5.2 Enable control by Reduxi

For advanced heat pump control, integrate the device into the Reduxi strategy. Under **Devices – Daikin Altherma 3 HP** in the Reduxi Configurator, set the **control type** to **AUTO**. Only then do strategy commands affect the heat pump.

To achieve maximum flexibility and energy cost reduction with dynamic prices and dynamic tariffs, define a strategy as described in [Strategies for Reduxi controller](#).

After you add the device and check the values, you can also inspect and control it in [the Reduxi application](#).

## ✓ Summary

**Preparation (Point 1):** Open the Daikin documentation. Get the Reduxi Controller and the Reduxi Gateway with 3 current sensors.

**Daikin Altherma 3 (Point 2):** Connect the gateway relays to X5M contacts 5, 6 and 9, 10. Mount the current sensors on the phases L1, L2 and L3.

**Add to Reduxi (Points 3–4):** Log in to the Reduxi web interface. Add the device with type Reduxi Meter, set the relay signals and test the communication.

**Go live (Point 5):** Check the last measurements. Set the control type to AUTO and define a strategy.

## → Common issues

| ISSUE                                           | SOLUTION                                                                                                                                                                                                      |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heat pump does not change its mode              | Check the wiring to X5M contacts 5, 6 (relay 1) and 9, 10 (relay 2). Use the NO contacts. Check that the control type is AUTO (see <a href="#">Point 5.2</a> ).                                               |
| Power readings are missing or wrong             | Check that each current sensor covers one phase wire L1, L2 or L3 (see <a href="#">Point 2.3</a> ). Check that Auto detect from gateway is selected for all current sensors (see <a href="#">Point 4.2</a> ). |
| Gateway not found in the communication settings | Add the Reduxi Gateway to the Reduxi Controller first, wirelessly (WLAN) or via UTP cable (LAN). See the Reduxi Gateway article.                                                                              |
| Open configurator does not open or stays empty  | The tunnel is not active yet. Wait about 30 seconds and check that the controller is online.                                                                                                                  |
| Login with <code>admin</code> is rejected       | The password was changed during installation. Ask the installer. The Reduxi account password does not work here.                                                                                              |
| <code>reduxi.local</code> does not load         | Your device is not in the same network as the controller. Use the IP address or the tunnel connection.                                                                                                        |
| Communication test fails, device shows offline  | Check reachability, IP address / port / unit ID, and that the protocol is enabled on the device.                                                                                                              |

## → Related articles

Matching guides from the Reduxi knowledge base:



### **How to configure the Reduxi Gateway**

Connect the Reduxi Gateway to the Reduxi Controller.



### **Device setup guides**

All step-by-step guides for connecting devices to the Reduxi Controller



### **List of supported devices**

All devices that work with the Reduxi Controller



### **Strategies for the Reduxi Controller**

Energy manager and other strategies explained