

## Reduxi with Nibe Heat Pumps

Connect Nibe heat pumps to the Reduxi Gateway through the SG-ready contacts and save up to 30% on energy costs: dynamic control aligns the heat pump with fluctuating energy prices.

🔌 Nibe heat pump · Reduxi Controller · Reduxi Gateway    🌐 SG-ready contacts DIG 1 and DIG 2 via 2 gateway relays

📖 4 operating modes: Forced OFF, Normal, Enhanced Comfort, Forced ON



*Nibe VVM S320 (S-Series)*

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## 1 Prepare the connection

### 1.1 Technical documentation

Documentation of the Nibe S-Series heat pumps:

- [Nibe VVM S320: product page](#) – Product information and document downloads (Swedish)
- [Nibe VVM S320: user manual \(PDF\)](#) – User manual (Användarhandbok)
- [Nibe VVM S320: datasheet \(PDF\)](#) – Datasheet (Produktblad)

### 1.2 Required components

Two Reduxi components connect the Reduxi Controller to the Nibe 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](#).

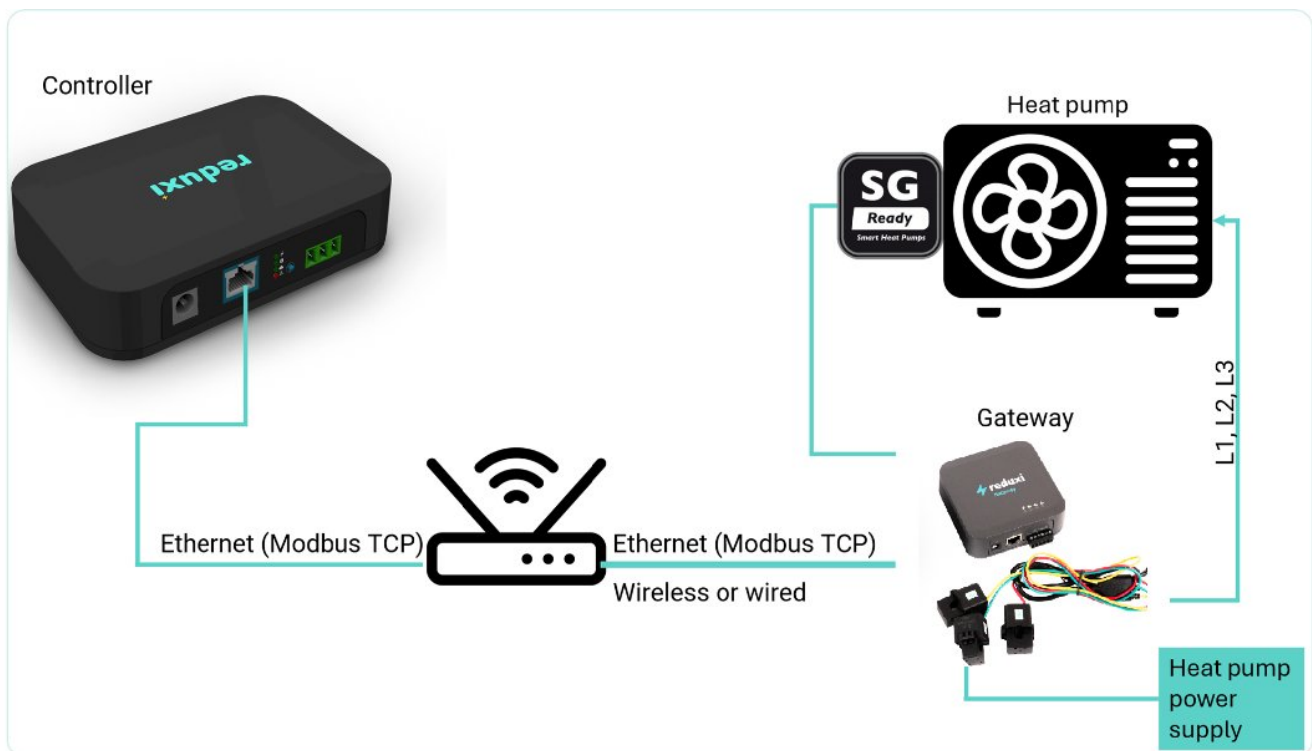
The gateway measures the current of each phase of the heat pump with the 3x (30:1A) current sensors (CTs). Its two relay outputs send the signals to the SG-ready contacts and set the operating mode of the heat pump.

## 2 Connect the Reduxi Gateway and the heat pump

### 2.1 Connection scheme of the Reduxi devices and Nibe

The physical connection between the Reduxi Gateway and Nibe has two steps:

- Connect the relays of the Reduxi Gateway to the Nibe SG-ready contacts (Point 2.2).
- Connect the current sensors (CT) of the Reduxi Gateway to the phases L1, L2 and L3 (Point 2.3).

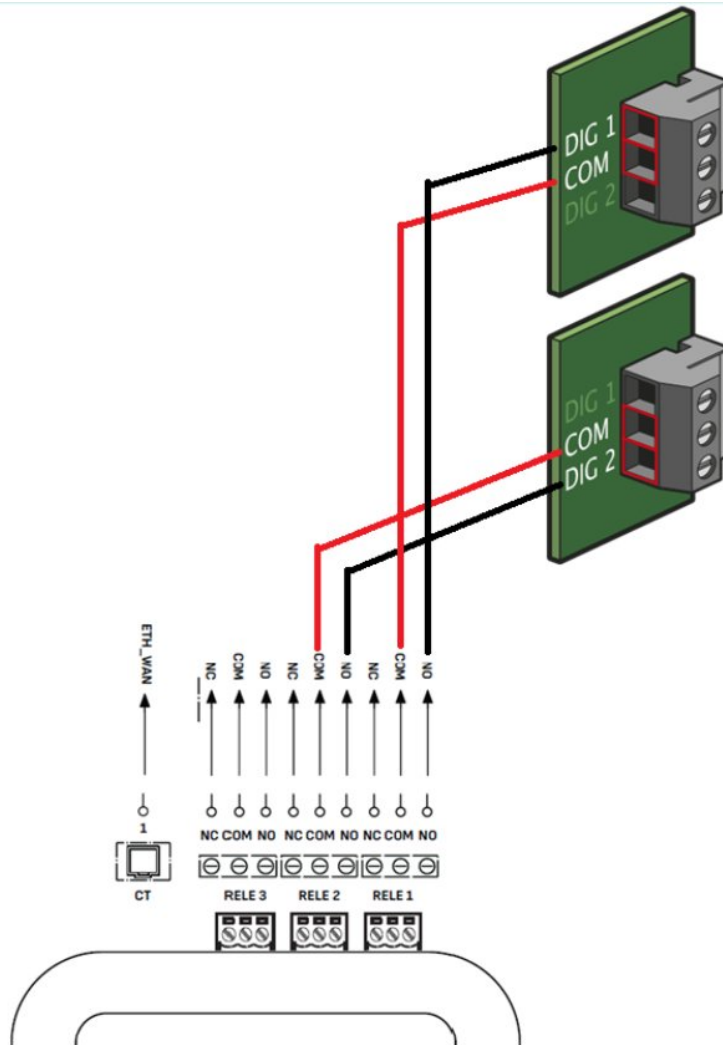


Connection scheme of the Reduxi devices and the heat pump

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

First find the SG-ready contacts on the circuit board of the heat pump. Use the user manual of your specific Nibe device.

The picture shows how to connect the SG-ready contacts to the Reduxi Gateway.



Connection of the relays to the Nibe SG-ready contacts

| REDUXI GATEWAY RELAY CONTACT                    | NIBE HEAT PUMP CONTACT                                      |
|-------------------------------------------------|-------------------------------------------------------------|
| Relay 1, <b>NO</b> contact (Smart Grid Ready 1) | <b>DIG 1</b>                                                |
| Relay 1, <b>COM</b> contact                     | <b>COM</b> contact that belongs to relay 1 on the heat pump |
| Relay 2, <b>NO</b> contact (Smart Grid Ready 2) | <b>DIG 2</b>                                                |
| Relay 2, <b>COM</b> contact                     | <b>COM</b> contact that belongs to relay 2 on the heat pump |

### 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.

The current sensors (CTs) are included in the Reduxi Gateway kit.



*Reduxi Gateway with current sensors*

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



Current sensors on the phase wires



#### Colour coding

The CTs of newer Reduxi Gateways are colour-coded: **red** = L1, **green** = L2, **yellow** = L3.

### 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

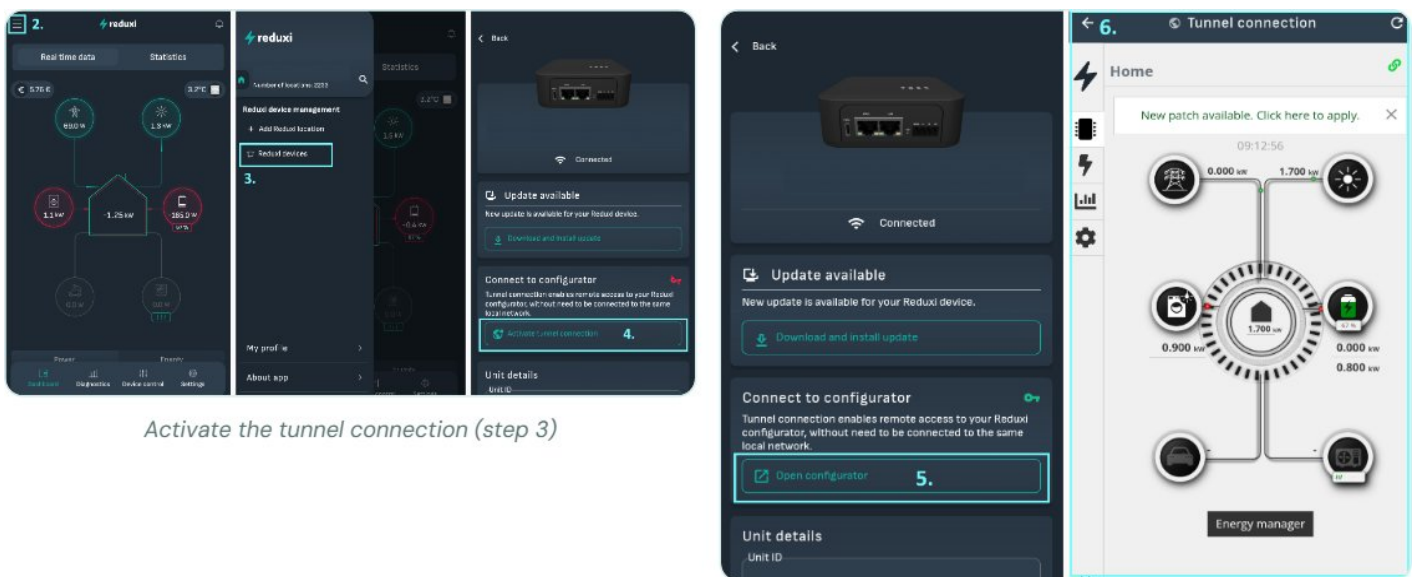
Tap the menu icon (three lines, top left) and select **Reduxi devices**.

#### 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

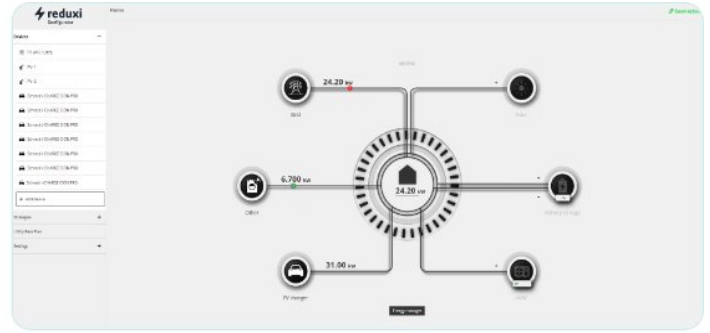
On a device in the same network, open a web browser and enter the controller's IP address or `http://reduxi.local`. You can find the controller's IP address in your router's device list or in the Reduxi app under **Reduxi devices**.

#### 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 according to the model, for example **Nibe S320**

*Basic settings: device type, type and name*

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

## 4.2 Communication settings

The communication settings have three parts:

- Communication channel
- Current sensor settings (CTs)
- Definition of the relay signals in relation to the SG-ready contacts

**Part 1: communication channel.** Connection type **TCP/IP**, IP address of the Reduxi Gateway, Modbus port and Modbus unit ID. These settings are predefined. Leave them as they are. If the connection fails, click **Scan for IP** to find the IP address of the Reduxi Gateway.

1

Basic settings

2

Communication channel

### Communication channel and device configuration

Connection \*

TCP/IP ▼

IP \*

gateway.local

Port \*

502

Scan for IP

Test port

Modbus unit ID \*

1

Part 1: communication channel

**Part 2: current sensors.** Select **Autodetect from Gateway**.

CT- L1

Auto detect from gateway ▼

Current transformer

CT- L2

Auto detect from gateway ▼

Current transformer

CT- L3

Auto detect from gateway ▼

Current transformer

Part 2: current sensors

**Part 3: relay signals.** The table shows the operating modes of the heat pump:

| REDUXI OPERATING MODE | NIBE OPERATING MODE | SMART GRID READY 1 | SMART GRID READY 2 |
|-----------------------|---------------------|--------------------|--------------------|
| OFF                   | Forced OFF          | on (closed)        | off (open)         |
| ECO                   | Normal operation    | off (open)         | off (open)         |
| ON                    | Enhanced comfort    | off (open)         | on (closed)        |
| BOOST                 | Forced ON           | on (closed)        | on (closed)        |

Configure the relay signals in the Reduxi Configurator as follows.

## Forced OFF mode (OFF in Reduxi)

Off - relay 1

On

Setpoint of the relay 1 when heat pump setpoint is off

Off - relay 2

Off

Setpoint of the relay 2 when heat pump setpoint is off

Off - relay 3

Not in use

Setpoint of the relay 3 when heat pump setpoint is off

*Forced OFF mode*

## Normal operation mode (ECO in Reduxi)

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

ECO - relay 3

Not in use

Setpoint of the relay 3 when heat pump setpoint is ECO

*Normal operation mode*

## Enhanced Comfort mode (ON in Reduxi)

ON - relay 1

Off

Setpoint of the relay 1 when heat pump setpoint is ON

ON - relay 2

On

Setpoint of the relay 2 when heat pump setpoint is ON

ON - relay 3

Not in use

Setpoint of the relay 3 when heat pump setpoint is ON

*Enhanced Comfort mode*

## Forced ON mode (BOOST in Reduxi)

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

BOOST - relay 3

Not in use

Setpoint of the relay 3 when heat pump setpoint is BOOST

Forced ON mode

### 4.3 Test communication

Click **Test communication** at the lower right, below the communication parameters. It reads the device once and saves nothing. If the test succeeds, click **Done**: only **Done** creates the device.

Back

Test communication

Next

The **Test communication** button

The test returns one of two results:

Test komunikacije

Successful readout from device

Active power: 28392 W  
Current L1: 45.329 A  
Current L2: 45.329 A  
Current L3: 45.329 A  
Import active energy: 0 Wh  
Relay 1 state: false  
Relay 2 state: false  
Voltage L1: 231.0 V  
Voltage L2: 232.0 V  
Voltage L3: 233.0 V  
  
Additional parameter - POWER\_ACTIVE\_L1: 9423  
Additional parameter - POWER\_ACTIVE\_L2: 9464  
Additional parameter - POWER\_ACTIVE\_L3: 9505

Zapri

1. Communication works properly

Test communication

Unable to communicate with device.

Unable to communicate with 192.168.1.206 on port 502.  
Check if service is enabled on device, port number is correct and device is reachable on the network.

PING 192.168.1.206 (192.168.1.206) 56(84) bytes of data.

--- 192.168.1.206 ping statistics ---  
2 packets transmitted, 0 received, 100% packet loss, time 1062ms

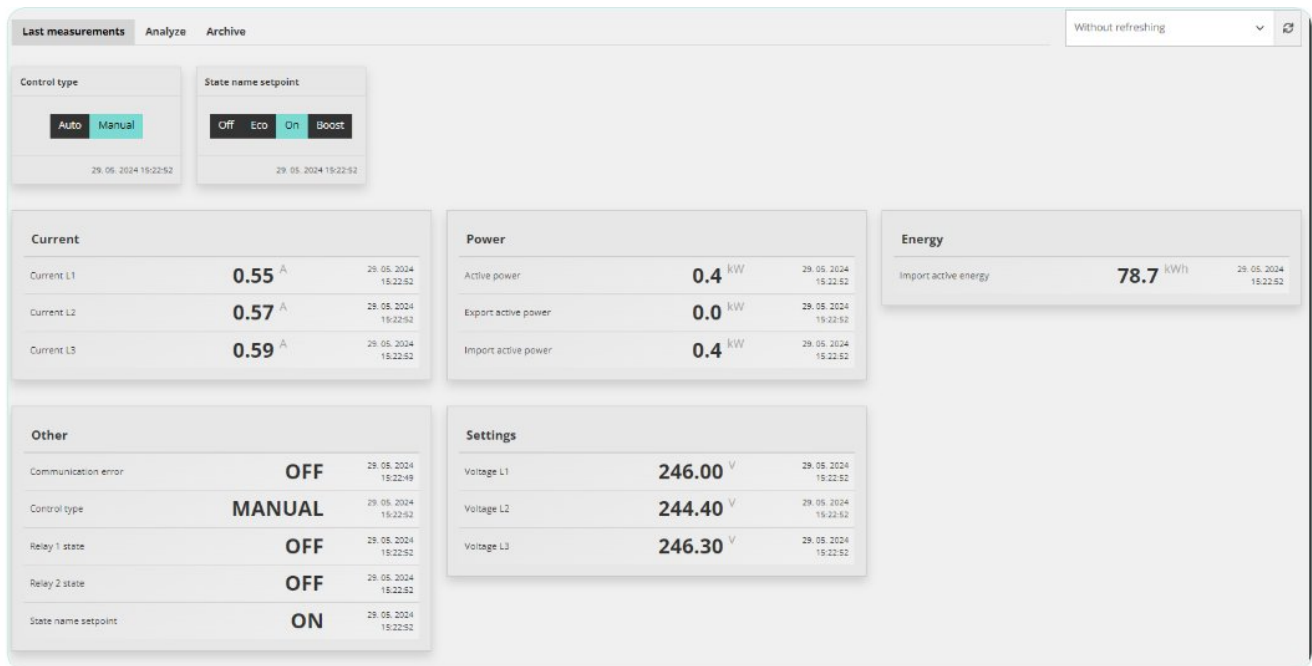
Close

2. Communication does not work properly

## 5 Check the readings

### 5.1 Last measurements

After communication is established, check the values under **Devices – Nibe heat pump** 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 system strategy. Under **Devices – Nibe** 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 Nibe documentation. Get the Reduxi Controller and the Reduxi Gateway with 3 current sensors.

**Nibe heat pump (Point 2):** Connect the gateway relays to the contacts DIG 1 and DIG 2 with their COM contacts. 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 of relay 1 to DIG 1 and relay 2 to DIG 2, each with its COM contact (see <a href="#">Point 2.2</a> ). Check the relay states of the mode (see <a href="#">Point 4.2</a> ). 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 Autodetect from Gateway is selected (see <a href="#">Point 4.2</a> ).                                                                              |
| Gateway not found in the communication settings | Click Scan for IP in the communication settings (see <a href="#">Point 4.2</a> ). Add the Reduxi Gateway to the Reduxi Controller first, wirelessly (WLAN) or via UTP cable (LAN).                                                                                |
| 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:



### Nibe VVM S320

Product page and documents of the Nibe S-Series indoor module.



### 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