

Reduxi Gateway setup in Reduxi Gateway Configurator page

Reduxi Gateway measures with current sensors, switches devices through relay outputs and converts RS485 to TCP/IP.

🔧 Reduxi Gateway · add-on to the Reduxi Controller

📶 2 × RS485 · 3 × current sensor input · 2 × relay output

🌐 Ethernet or Wi-Fi · Configurator at gateway.local



Reduxi Gateway



Symbolic picture of the Reduxi Gateway

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1 Reduxi Gateway introduction

Reduxi Gateway has three uses:

- A measurement device with current sensors.
- A controllable device to connect Smart Grid contacts or similar.
- A basic gateway that converts the RS485 signal to TCP/IP.

Reduxi Gateway is an add-on device to the Reduxi Controller, which is the primary logic unit. It offers two RS485 ports, three inputs for current sensors and two relay outputs. You connect it to the local area network with an Ethernet cable or via Wi-Fi.

RS485 to TCP/IP. With this conversion, old devices that do not support TCP/IP become accessible in the local network (LAN, WLAN). The conversion also helps when wiring to the device you want to measure is too complicated. In that case you place the Reduxi Gateway near the device, connect it via RS485 and let it communicate with the Reduxi Controller via TCP/IP.

Current sensors. With current sensors, Reduxi Gateway works as a meter. It measures the energy consumption of the measured device when you clamp the sensors around the phase lines of the device. It measures the current flow as an absolute value, without the flow direction. It uses 230 V as the default voltage, or it takes the voltage per phase from one of the devices connected to the Reduxi Controller that provides voltage measurements.

Relay outputs. Through the relay outputs, Reduxi Gateway controls devices that support ON/OFF regulation. It can switch them off or on. One use case is a Smart Grid or EVU contact, where you control heat pumps by decreasing or increasing their consumption. You can use it for other applications with basic ON/OFF regulation too.

The user manual is available here: [Reduxi Gateway manual](#)

| 1.1 Indication lights of Reduxi Gateway

The indication lights give a quick overview of the operating state of Reduxi Gateway. Meaning of each light:

LIGHT	COLOUR AND STATE	MEANING
LED 1	Green	Power supply ON
LED 1	Blue	Connected to the internet
LED 1	Red	Error
LED 1	White	Update/reset
LED 2	Green, blinking	Reading on PORT 1
LED 2	Blue, blinking	Writing on PORT 1
LED 3	Green, blinking	Reading on PORT 2
LED 3	Blue, blinking	Writing on PORT 2
LED 3	Yellow	Modbus communication
LED 4	Green	Relay 1 ON
LED 4	Blue	Relay 2 ON
LED 4	Turquoise	Relay 1 and relay 2 ON

2 First connection to Reduxi Gateway

Reduxi Gateway offers two connection options. You connect it with an Ethernet cable directly to the network (LAN), or you connect to the access point of the Reduxi Gateway.

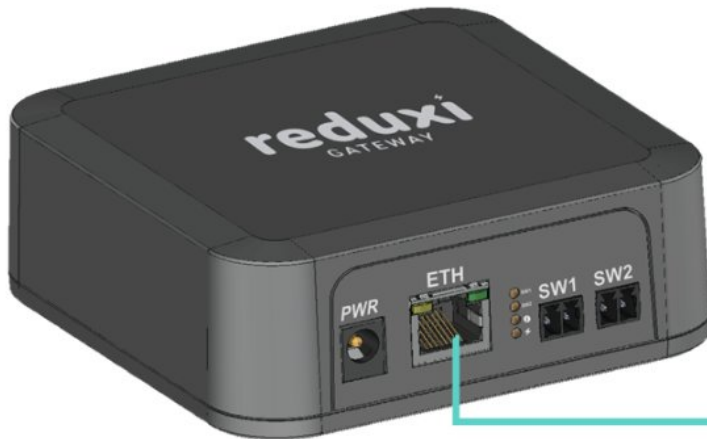
2.1 Wired connection

Connect Reduxi Gateway physically to the local network (LAN), to a switch or router. First make sure that Reduxi Gateway is plugged into the power supply included in the delivery package.

Once it is connected to the LAN, the Reduxi Gateway Configurator should open automatically ("popup") in your default browser. If it does not, follow the instructions in [Point 3](#), section 3.1 Sign in to the Reduxi Gateway Configurator.

Symbolic picture of the Reduxi Gateway connection to a switch or router:

Reduxi Gateway



Switch or router



Reduxi Gateway connected to a switch or router

2.2 Wireless connection

To connect to the Wi-Fi access point of the Reduxi Gateway, check the available Wi-Fi networks on your smartphone or computer.



Access point

The Wi-Fi SSID is **GATEWAY**. No password is needed to connect to this Wi-Fi network.

Once you are connected to the Wi-Fi, the Reduxi Gateway Configurator should open automatically ("popup") in your default browser. If it does not, follow the instructions in [Point 3](#), section 3.1 Sign in to the Reduxi Gateway Configurator.

08:18

5G 78

< Settings

Wi-Fi

Edit

Wi-Fi



Gateway



NETWORKS

Other...

Ask to Join Networks

Notify >

Known networks will be joined automatically. If no known networks are available, you will be notified of available networks.

Auto-Join Hotspot

Ask to Join >

Allow this device to automatically discover nearby personal hotspots when no Wi-Fi network is available.

3 Configure Reduxi Gateway

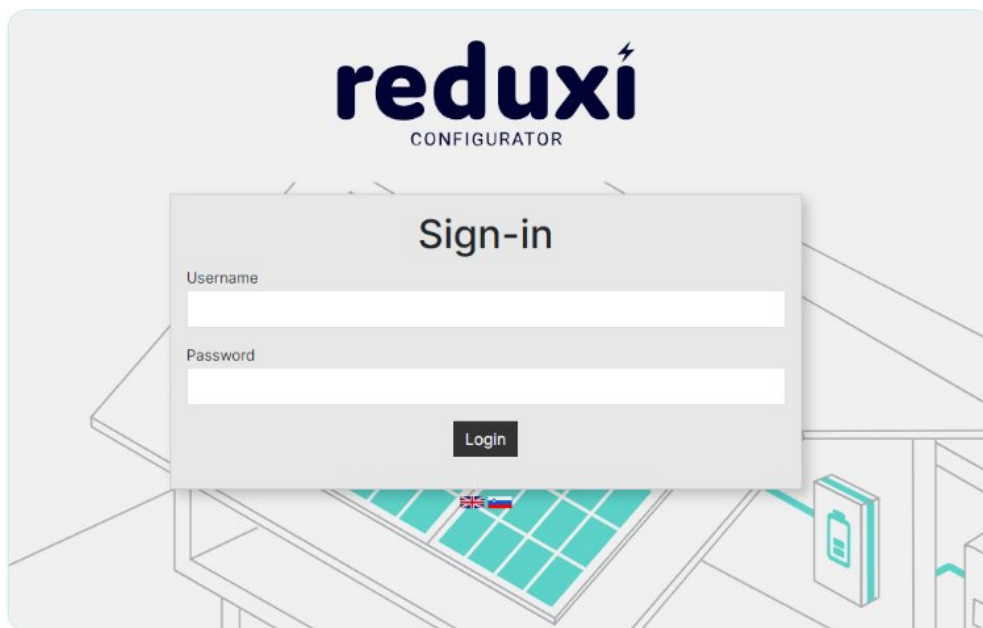
3.1 Sign in to the Reduxi Gateway Configurator

Once you are connected to the Wi-Fi or the LAN, the configurator should open automatically ("popup") in your default browser. If it does not, enter this URL in the browser: <http://gateway.local>

If the configurator is still unreachable, check your internet connection. Check that you are connected to the same LAN or WLAN as the Reduxi Gateway.

Log in with these parameters:

- Username: `admin`
- Password: `admin`



Login page of the Reduxi Gateway Configurator

3.2 Configure network settings for a wired network connection

DHCP is the default protocol for assigning the IP address of Reduxi Gateway. We strongly recommend setting a static IP address. Go to **Network settings / Wired network**, set the protocol to **STATIC** and set the other parameters:

- IP address: set the IP address.
- Netmask: set the netmask (usually `255.255.255.0`).
- Gateway: set your network gateway (if needed).
- Primary DNS: set your DNS (if needed).
- Secondary DNS: set your DNS (if needed).
- Click the **Save** button under the network settings.

reduxi

CONFIGURATOR

[Home](#) **[Network](#)** [Serial](#) [MQTT](#) [System](#)

Wired network [Wireless network](#)

C0:49:EF:08:6B:77 | 192.168.1.201

Protocol

STATIC

IP address

Netmask

255.255.255.0

Gateway

Primary DNS

8.8.8.8

Secondary DNS

8.8.4.4

Wired network settings

3.3 Configure network settings for a wireless network

First fill in the information about the local Wi-Fi that you choose as the preferred WLAN. Scan for the available Wi-Fi networks with the Wi-Fi icon on the right. Select your network, enter the password and connect.

DHCP is the default protocol for assigning the IP address of Reduxi Gateway. We strongly recommend setting a static IP address. Go to **Network settings / Wireless network**, set the protocol to **STATIC** and set the other parameters:

- IP address: set the IP address.
- Netmask: set the netmask (usually **255.255.255.0**).
- Gateway: set your network gateway (if needed).
- Primary DNS: set your DNS (if needed).
- Secondary DNS: set your DNS (if needed).
- Click the **Save** button under the network settings.

Wired network

Wireless network

Wireless network is disabled by wired network. Pull out ethernet cable to continue.

Wi-Fi SSID



Password

Protocol

STATIC

IP address



Netmask



Gateway



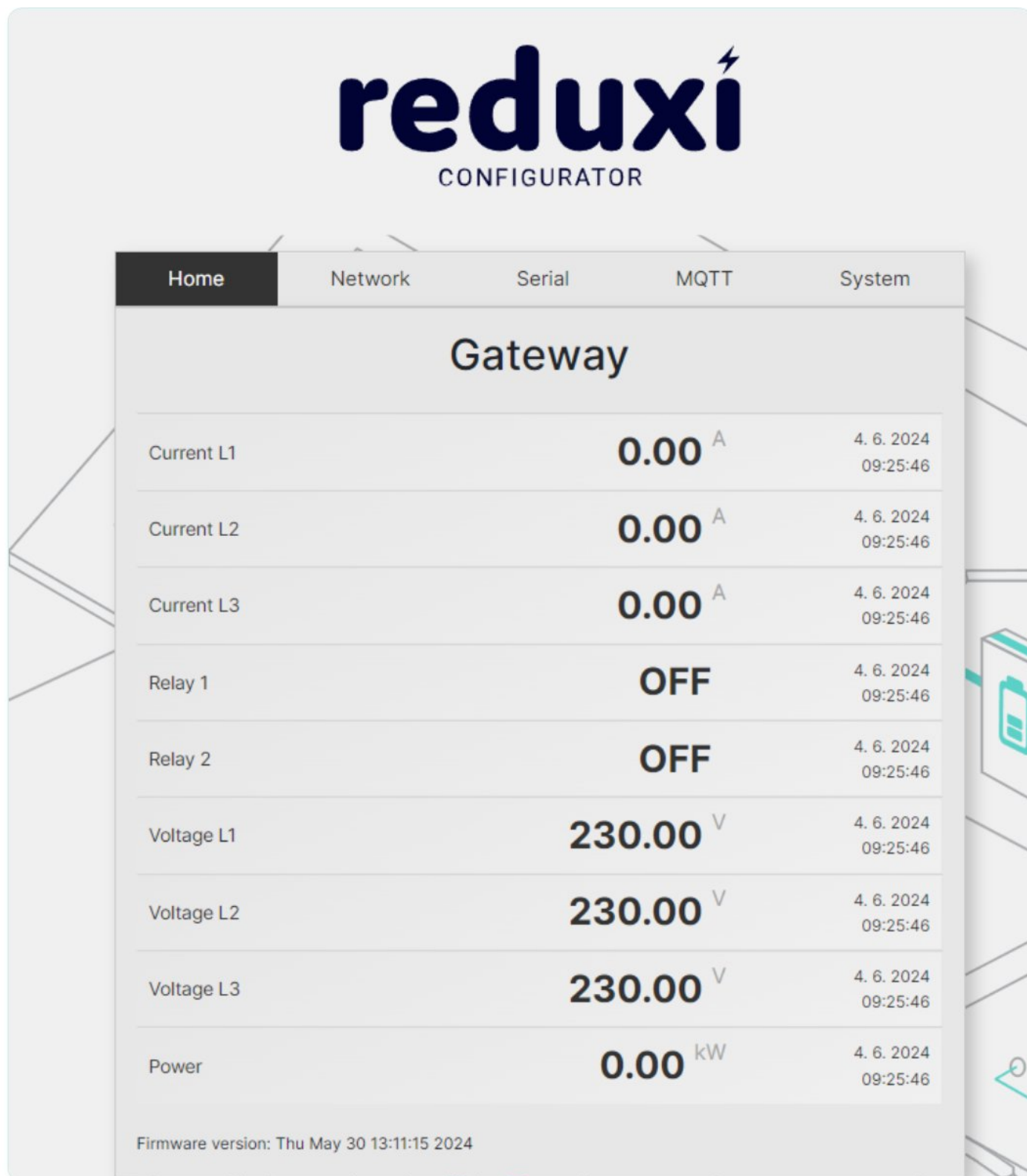
Primary DNS

Secondary DNS



3.4 Home page of the Reduxi Gateway

After you enter the Reduxi Gateway Configurator, the home page opens. It shows the currents, the voltages and the power of the measured device. The voltage data is transferred from the Reduxi Controller.



The screenshot displays the 'reduxi CONFIGURATOR' interface. At the top, the 'reduxi' logo is prominently shown with a lightning bolt icon. Below the logo, the word 'CONFIGURATOR' is centered. A navigation bar at the top of the main content area includes tabs for 'Home', 'Network', 'Serial', 'MQTT', and 'System', with 'Home' being the active tab. The main section is titled 'Gateway' and contains a table of measured data. The table lists various parameters such as Current L1, Current L2, Current L3, Relay 1, Relay 2, Voltage L1, Voltage L2, Voltage L3, and Power, each with its corresponding value and unit. The values for Current and Voltage are 0.00 and 230.00 respectively, while the Power is 0.00 kW. The Relays are shown as OFF. The timestamp for all measurements is 4. 6. 2024 09:25:46. At the bottom of the page, the firmware version is noted as 'Thu May 30 13:11:15 2024'.

Parameter	Value	Unit	Timestamp
Current L1	0.00	A	4. 6. 2024 09:25:46
Current L2	0.00	A	4. 6. 2024 09:25:46
Current L3	0.00	A	4. 6. 2024 09:25:46
Relay 1	OFF		4. 6. 2024 09:25:46
Relay 2	OFF		4. 6. 2024 09:25:46
Voltage L1	230.00	V	4. 6. 2024 09:25:46
Voltage L2	230.00	V	4. 6. 2024 09:25:46
Voltage L3	230.00	V	4. 6. 2024 09:25:46
Power	0.00	kW	4. 6. 2024 09:25:46

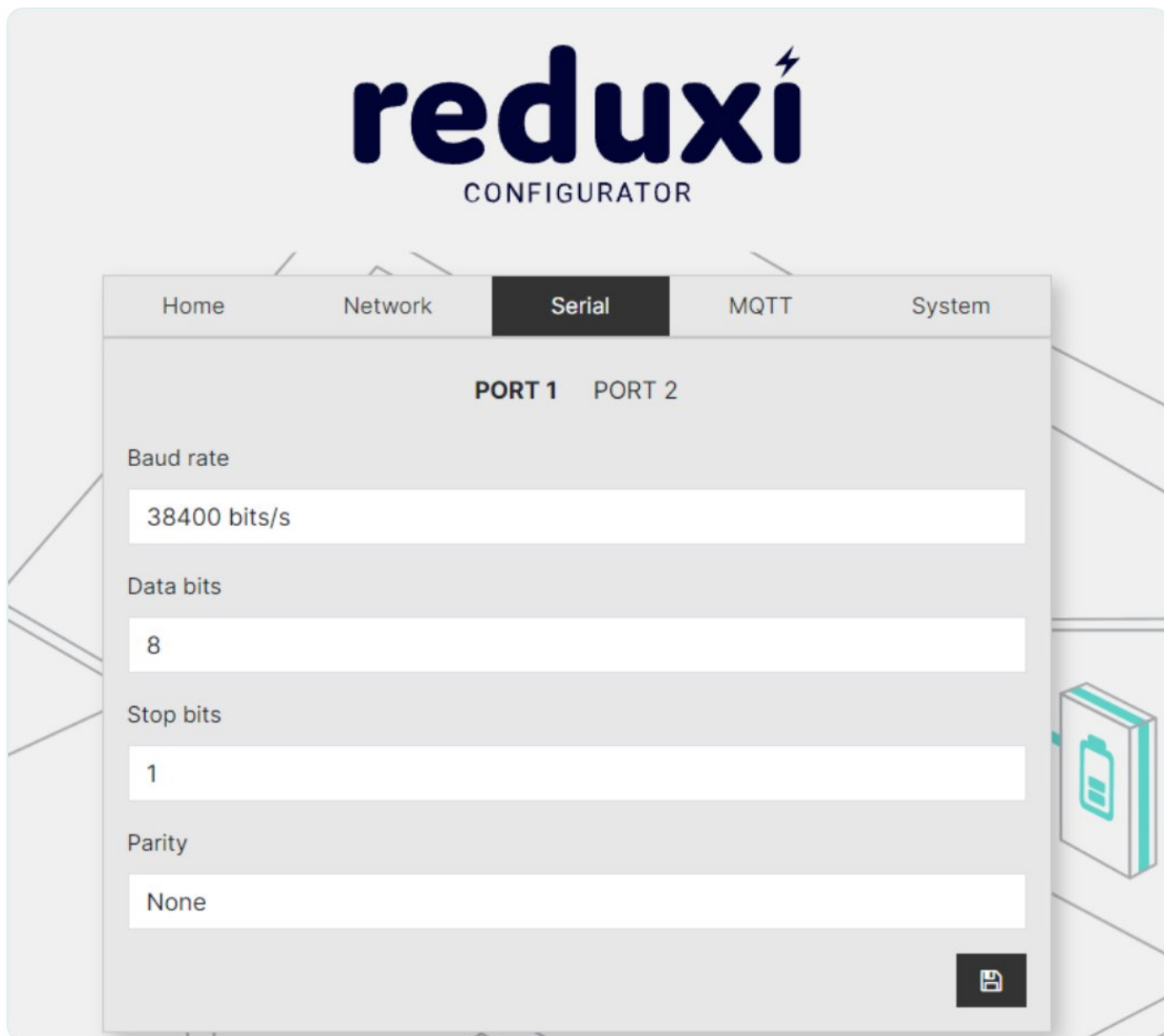
Firmware version: Thu May 30 13:11:15 2024

Home page with the measured data

3.5 Reduxi Gateway serial port settings

If you use the RS485 ports for the serial connection, set these parameters:

- Baud rate: set the baud rate.
- Data bits: set the number of data bits.
- Stop bits: set the number of stop bits.
- Parity: choose the parity.
- After all serial settings, click the **Save** button at the bottom right.



The screenshot shows the 'reduxi CONFIGURATOR' interface. At the top, there are five tabs: 'Home', 'Network', 'Serial' (which is selected and highlighted in black), 'MQTT', and 'System'. Below the tabs, there are two columns labeled 'PORT 1' and 'PORT 2'. The 'Serial' tab is active, and the settings for 'PORT 1' are visible. The settings include: 'Baud rate' set to '38400 bits/s', 'Data bits' set to '8', 'Stop bits' set to '1', and 'Parity' set to 'None'. A 'Save' button with a floppy disk icon is located at the bottom right of the configuration panel. The background of the configurator is light gray with a subtle grid pattern and a small icon of a USB drive on the right side.

Serial port settings

3.6 Reduxi Gateway MQTT settings

Reduxi Gateway can be configured and read via the MQTT broker to which it connects. For successful communication with the broker, fill in this information:

- Enable MQTT: Yes/No. Select **Yes**.
- Host: enter the URL where the broker is located.
- Username and password: enter the username and password used to log in to the broker URL.
- Use SSL: select it if SSL is used.
- Verify server cert: select it if you use a server certificate.
- Server CA chain (PEM format): select the server certificate file.
- Client private key (PEM format): select the server certificate file.
- Client public key (PEM format): select the public key file.
- After all MQTT settings, click the **Save** button at the bottom right.

reduxi

CONFIGURATOR

[Home](#) [Network](#) [Serial](#) **[MQTT](#)** [System](#)

Enable MQTT

Yes ☒

Host

Username

Password

Use SSL

☒ No

Verify server cert

☒ No

Server CA chain (PEM format)

Izberite datoteko Nobe...rana

Client public certificate (PEM format)

Izberite datoteko Nobe...rana

Client private key (PEM format)

Izberite datoteko Nobe...rana



MQTT settings

Instructions for using the MQTT broker: [MQTT instructions](#)

3.7 Reduxi Gateway system settings

The system settings contain these options:

- Username: cannot be changed.
- Password: enter a new password.
- Password confirmation: enter the new password again.
- Current 1/2/3: set the current ratio of the current sensor.
- Relay 1/2 – default: specify the default position of the relay.
- Enable Modbus TCP/IP: enable it if you read on the RS-485 inputs.
- After all system settings, click the **Save** button at the bottom right.

The screenshot shows the 'System' tab of the Reduxi Configurator. The interface has a top navigation bar with tabs: Home, Network, Serial, MQTT, and System (which is active). Below the tabs, the 'Username' field is set to 'admin'. The 'Password' and 'password_confirmation' fields are empty. There are three 'Current tr.' fields, each set to '0 A'. Below these are three toggle switches: 'Relay 1 - default' (Off), 'Relay 2 - default' (Off), and 'Enable Modbus TCP/IP' (Yes). A 'Save' button with a floppy disk icon is located at the bottom right. At the very bottom of the form, there are four icons: a cloud, a refresh arrow, a circular arrow, and a red square with a white arrow pointing right.

reduxi[⚡]

CONFIGURATOR

Home Network Serial MQTT **System**

Username

admin

Password

password_confirmation

Current tr. 1

0 A

Current tr. 2

0 A

Current tr. 3

0 A

Relay 1 - default

Off

Relay 2 - default

Off

Enable Modbus TCP/IP

Yes

Save

Cloud Refresh Circular Arrow Red Arrow

System settings

4.1 Ping test between Reduxi Controller and Reduxi Gateway in the same network

When the Reduxi Controller and the Reduxi Gateway are connected to the same network (LAN, WLAN), run a ping test. It shows that the Reduxi Controller can reach the Reduxi Gateway.

Log in to the [Reduxi Configurator](#) and click the **Setting** button at the bottom left of the home page.

reduxi[⚡]

CONFIGURATOR

Devices



Strategies



The ping test needs three clicks:

1 Click the + sign next to System

Opens the System group.

2 Click the + sign next to Tools

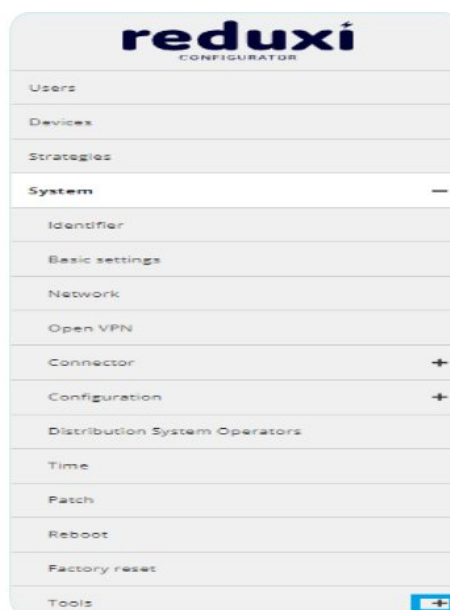
Opens the Tools group.

3 Click Ping test

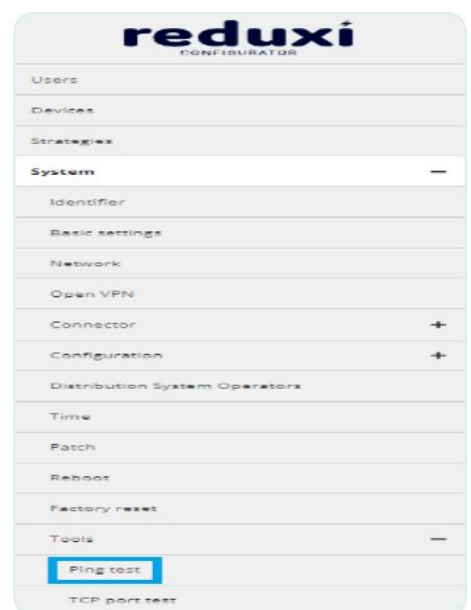
Opens the ping test.



1. System



2. Tools



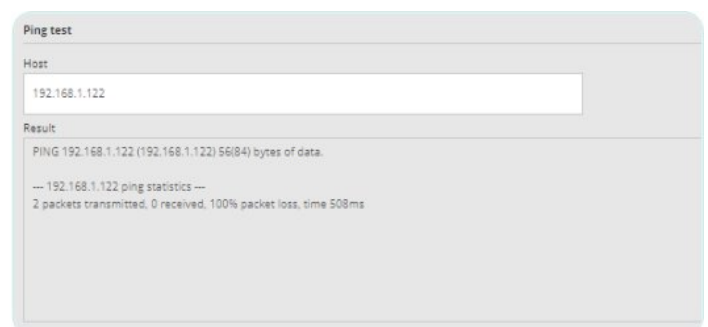
3. Ping test

Enter the IP address of the Reduxi Gateway and click the **Test** button. You can use an IP address or the DNS name `gateway.local`.

The ping test has two possible results:



1. Ping test successful

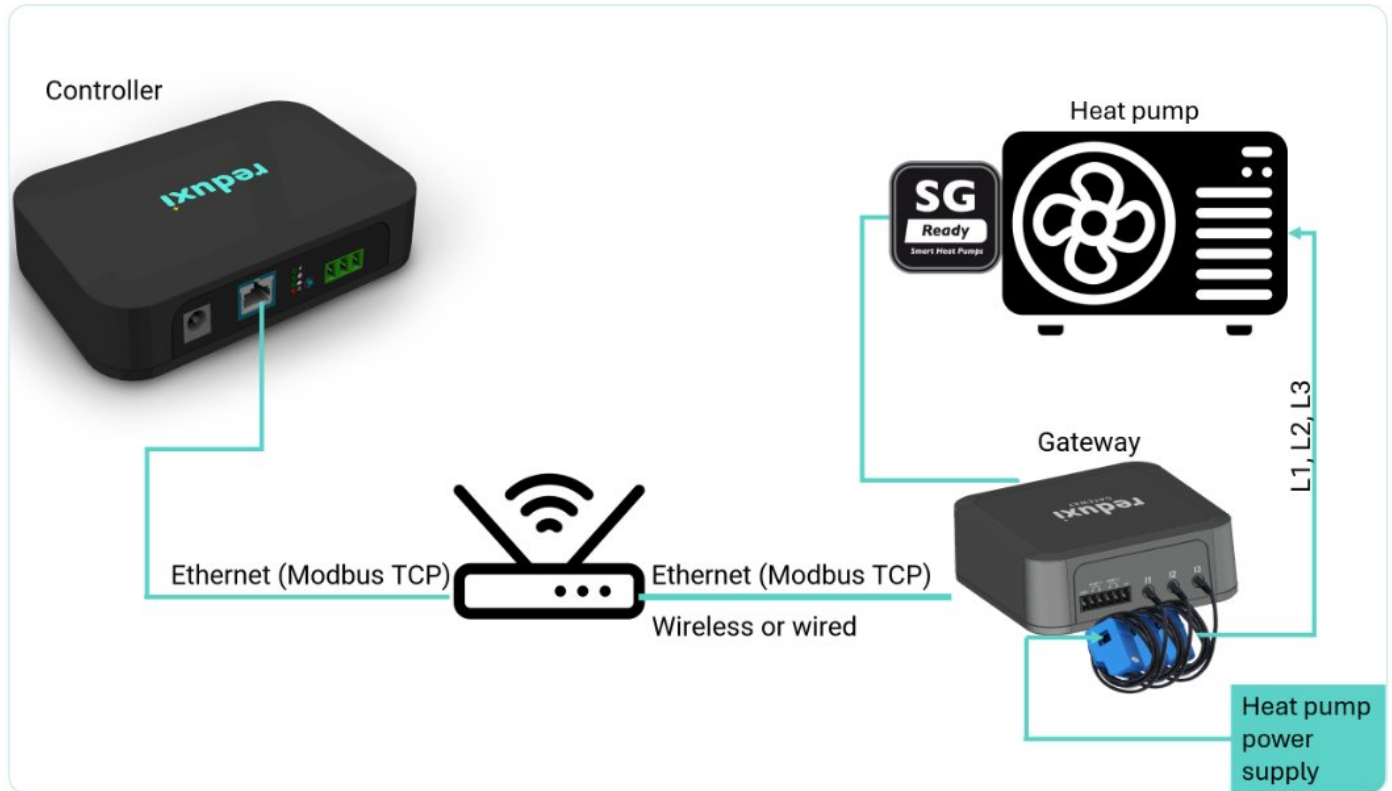


2. Ping test failed

4.2 Reduxi Gateway as Reduxi meter

An example of how to add a Reduxi Gateway as a Reduxi meter: **Kronoterm Heat pump with SG ready contacts**. In this example the Reduxi Gateway serves as the energy meter for the heat pump. Configure the relays of the Reduxi Gateway as described in the example.

Symbolic image from the example:



Complete scheme from the example

Modbus settings from the example for the Reduxi meter:

The screenshot shows the 'Communication channel and device configuration' section of the Reduxi Gateway Configurator. The settings are as follows:

Field	Value
Connection *	TCP/IP
IP *	gateway.local
Port *	502
Modbus unit ID *	1

Modbus settings of the Reduxi meter

Current sensor and relay output settings from the example for the Reduxi meter:

CT- L1 *

30 A

Current transformer

CT- L2 *

30 A

Current transformer

CT- L3 *

30 A

Current transformer

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

On

Setpoint of the relay 2 when heat pump setpoint is ECO

ON - relay 1

Off

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

Off

Setpoint of the relay 2 when heat pump setpoint is BOOST

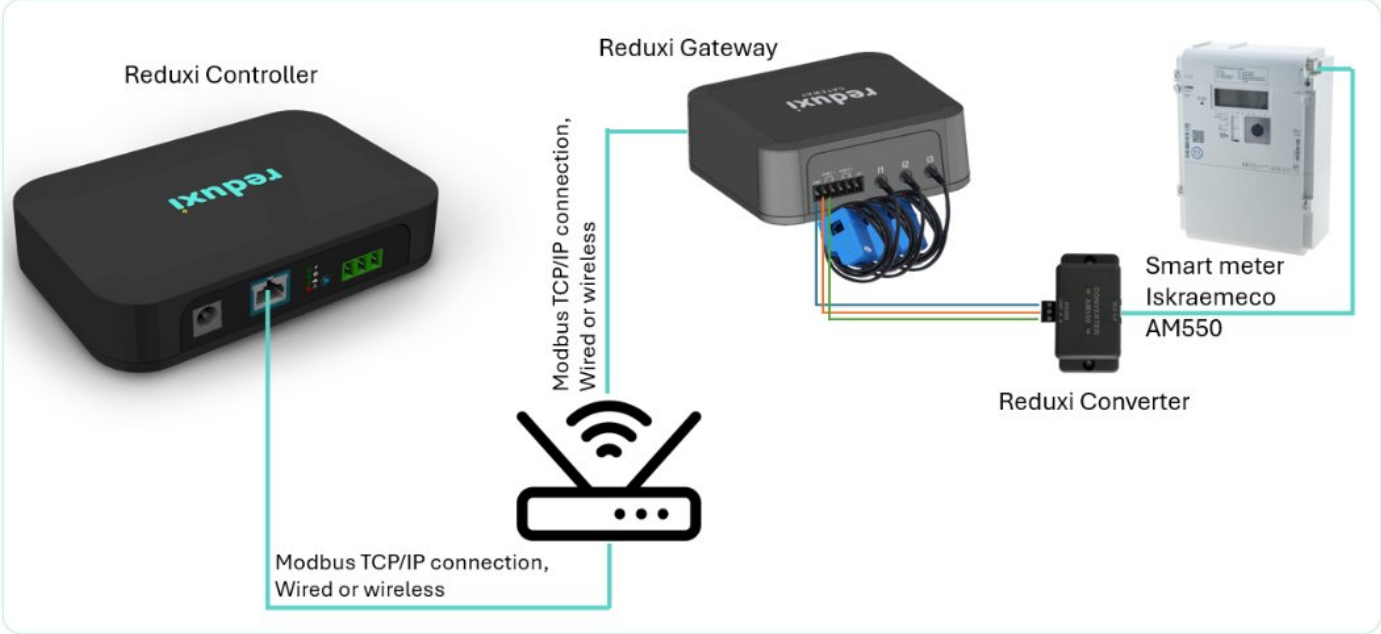
Current sensor and relay output settings

4.3 Reduxi Gateway for use of RS485

In contrast to point 4.2, you can use Reduxi Gateway as an add-on device to the Reduxi Controller, placed in another location. Then you need to establish a connection between the controller and the gateway (see [Point 4](#), section 4.1 Ping test).

An example of Reduxi Gateway with RS485 for the connection to a smart meter Iskraemeco AM550: [Connect to Smart meter Iskraemeco AM550](#)

Symbolic image from the example:



Reduxi Controller to smart meter via Reduxi Gateway

Modbus settings from the example for Reduxi Gateway used with RS485:

Communication channel	Device configuration
Connection * Gateway	Interface type * HDLC
IP * 192.168.1.121	Block cipher key
Port * Port 1	Authentication key
Baud rate * 38400 bits/s	Message structure * Standard Reduxi telegram for Iskraemeco AM550
Data bits * 8	
Stop bits * 1	
Parity * None	

Modbus settings for RS485 use

After you have added the device and checked the values, you can inspect and control the device in [the Reduxi application](#).

✓ Summary

Introduction (Point 1): Reduxi Gateway measures with current sensors, switches devices through relay outputs and converts RS485 to TCP/IP. The indication lights show its state.

Connect (Point 2): Connect the Gateway to the LAN with an Ethernet cable or to its Wi-Fi access point GATEWAY.

Configure (Point 3): Open gateway.local, log in, set a static IP address, then set serial port, MQTT and system settings as needed.

Add to Reduxi (Point 4): Run the ping test from the Reduxi Configurator, then add the Gateway as Reduxi meter or for RS485 use.

→ Common issues

ISSUE	SOLUTION
The configurator does not open automatically	Enter <code>http://gateway.local</code> in the browser. Check that you are connected to the same LAN or WLAN as the Reduxi Gateway (see Point 3).
The Reduxi Gateway is not reachable from the Reduxi Controller	Run the ping test with the IP address or <code>gateway.local</code> (see Point 4). Both devices must be in the same network.
No values from the RS-485 inputs	Enable Modbus TCP/IP in the system settings and click Save (see Point 3).

→ Related articles

Matching guides from the Reduxi knowledge base:



Kronoterm Heat pump with SG ready contacts

Example with Reduxi Gateway as energy meter and relay outputs for the heat pump.



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