

Connect and configure Pixii Powershaper and Home Reduxi controller (TCP/IP and RS485)

Connect Pixii PowerShaper and Pixii Home to the Reduxi Controller via Modbus TCP/IP or Modbus RTU over RS485.

🔧 Pixii PowerShaper, Pixii Home · Reduxi Controller

🌐 Modbus TCP/IP (recommended) or Modbus RTU over RS485

📡 TCP port 502 · RS485 on Serial COM4, 19200 baud





Pixii PowerShaper battery cabinet (manufacturer image)

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1 Technical documentation

Pixii PowerShaper and Pixii Home support two independent Modbus communication methods for integration with the Reduxi Controller. Manufacturer pages:

- [Pixii PowerShaper](#) – Product page from the manufacturer
- [Pixii Home](#) – Product page from the manufacturer
- [Pixii document center](#) – Datasheets and manuals from the manufacturer

2 Required equipment

Prepare the following. Use one communication method at a time.

- ☐ Reduxi Controller (installed and online)
- ☐ Pixii PowerShaper or Pixii Home
- ☐ Access to the Pixii user interface (Pixii Home App for Pixii Home, web interface for PowerShaper)
- ☐ Modbus TCP/IP: Ethernet cable and a local network shared by Pixii and the Reduxi Controller
- ☐ Modbus RTU over RS485: RS485 cable and access inside the Pixii cabinet (Pixii Gateway, Serial COM4)
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

3 System overview and wiring

3.1 Communication methods

Pixii PowerShaper and Pixii Home support two independent communication methods:

- **Modbus TCP/IP** over Ethernet
- **Modbus RTU** over RS485 (Serial COM4)

Only one communication method is used at a time. It depends on the site design and the available infrastructure.

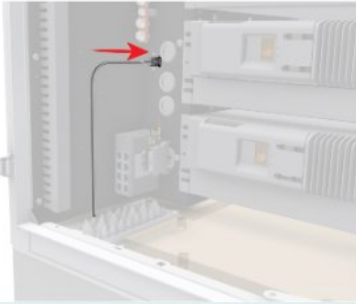
3.2 Modbus TCP/IP

Modbus TCP/IP is the recommended and most commonly used method. It runs over Ethernet. Pixii and Reduxi must be on the same IP network. Commissioning and troubleshooting are easier.

Connect the Pixii PowerShaper or Pixii Home to the local network with an Ethernet cable.
Connect the Reduxi Controller to the same local network.

Ethernet connection examples:

- Route RJ45 network cable from customer switch to cabinet plinth.
- Use left cable entry to enter the cabinet.
- Connect ethernet cable to the connector -X20.

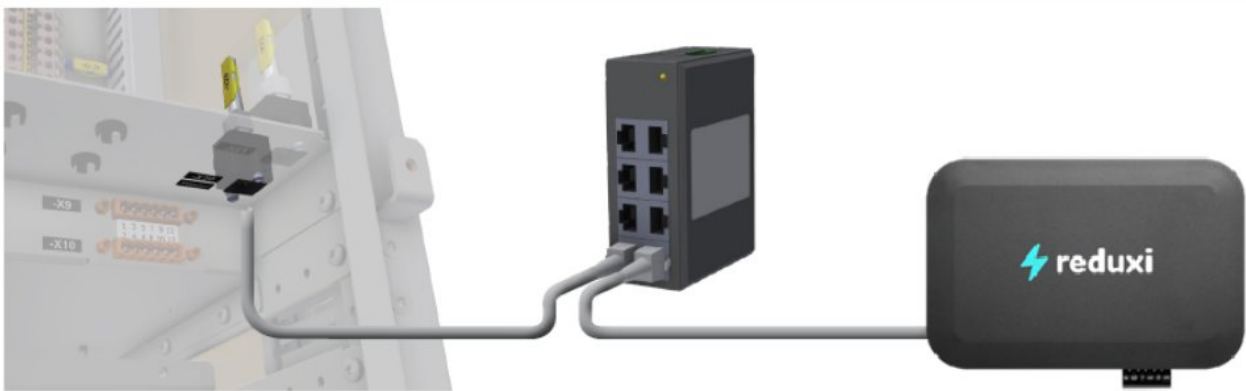


Pixii PowerShaper

- Route RJ45 network cable from customer switch.
- Use bottom cable entry to enter the cabinet.
- Connect ethernet cable to the connector -X20.



Pixii Home



Modbus TCP connection

3.3 Modbus RTU over RS485

Use Modbus RTU over RS485 when Ethernet is not available or a serial industrial bus is required. It is a serial connection, needs access to the cabinet and uses the Pixii Gateway **Serial COM4**.

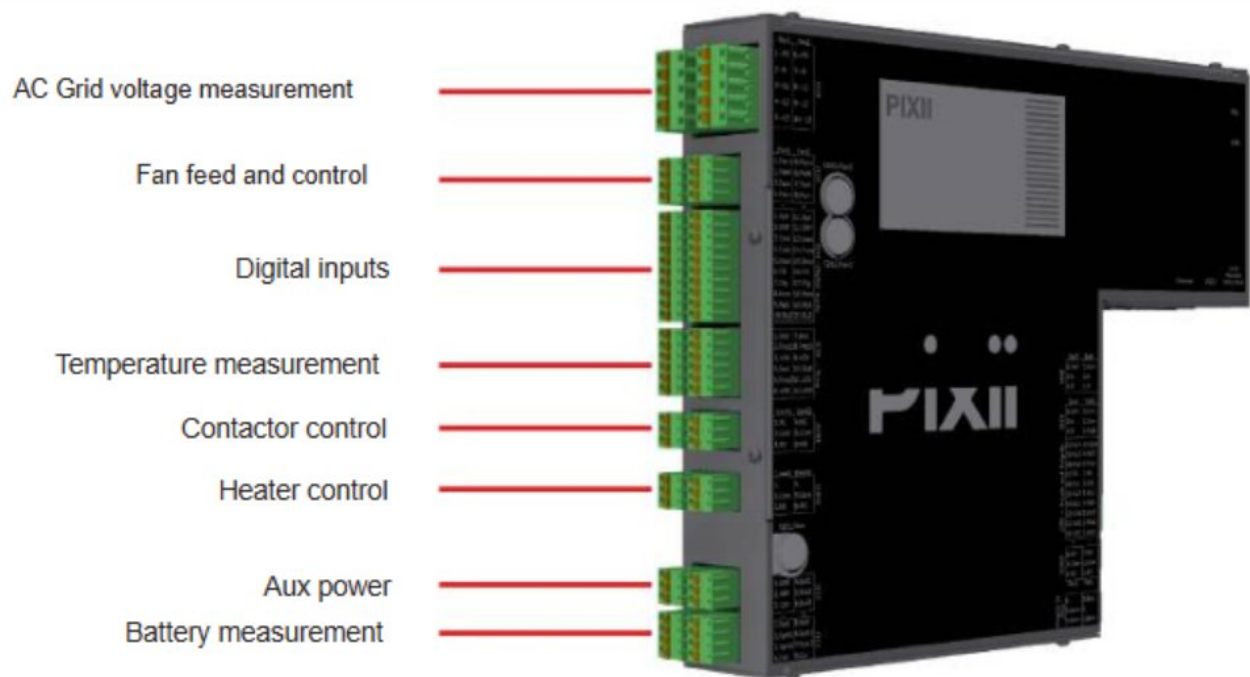
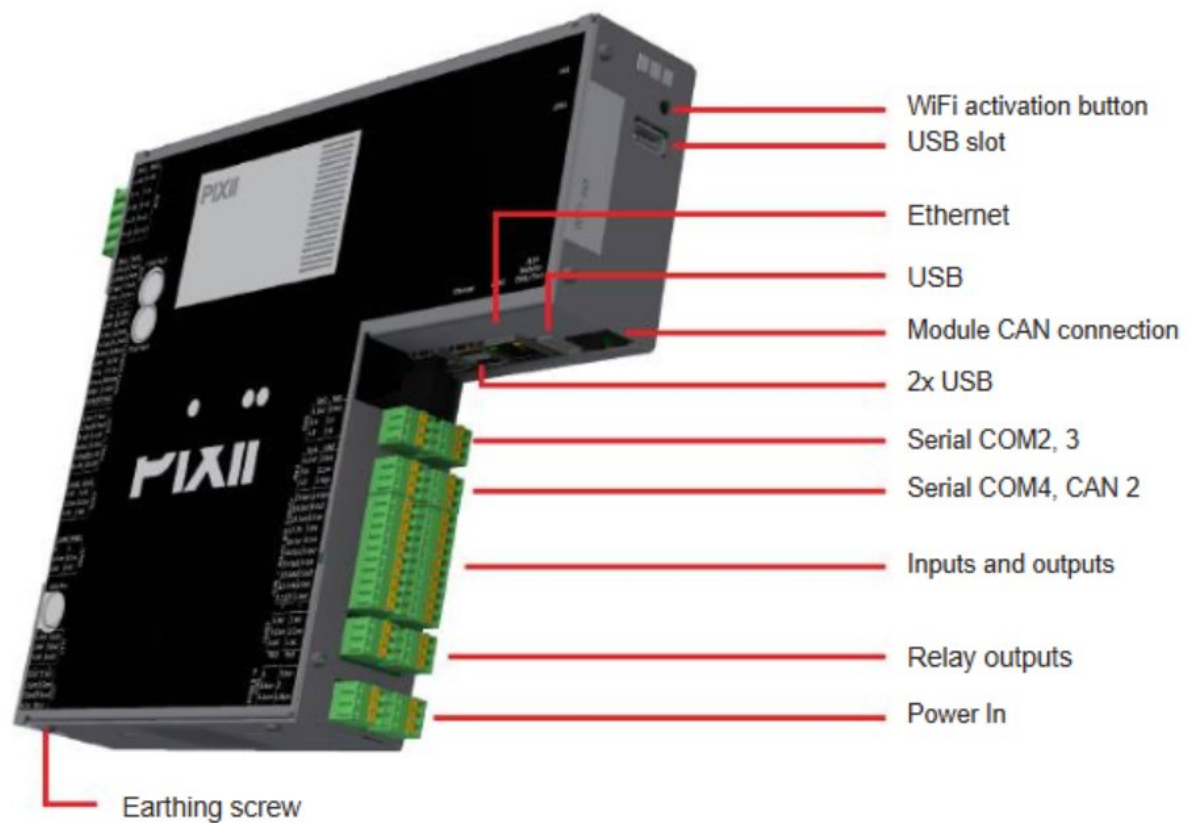


Figure 2.2 Left side view



RS485 connection on the Pixii Gateway

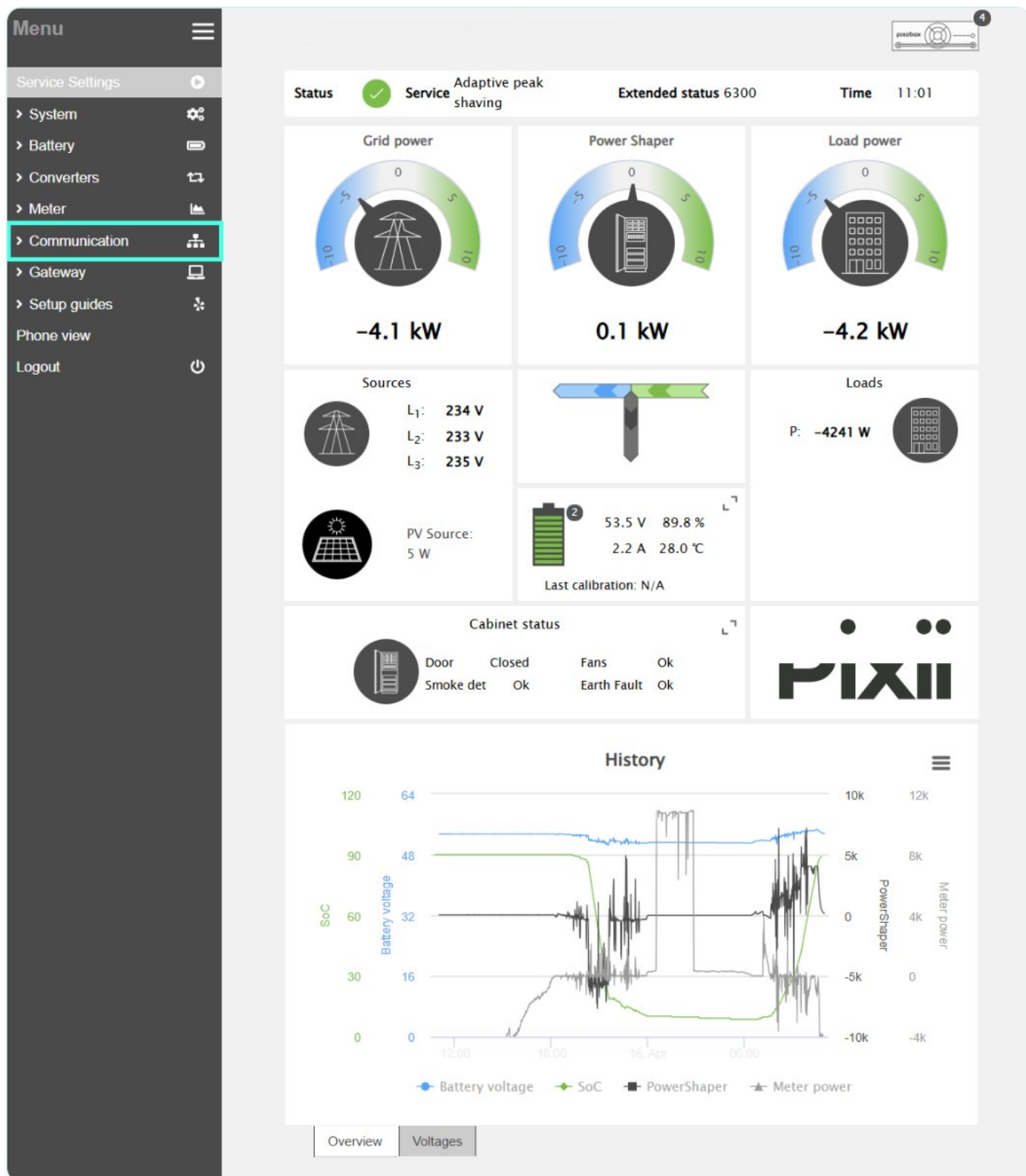
- RS485 is located on the **Pixii Gateway**
- Connection point: **Serial COM4**
- Physical access: **inside the Pixii cabinet**
- Reference: Figure 2.3 – Right side view (Serial COM4)

4 Device configuration on Pixii

Configure only the section of the method you use: 4.1 to 4.3 for Modbus TCP/IP, 4.4 to 4.6 for Modbus RTU over RS485.

4.1 Network settings (Modbus TCP/IP)

Enter the Pixii user interface (Pixii Home App for Pixii Home, web interface for PowerShaper) and go to **Communication → Network settings**.



Communication → Network settings

Configure:

- IP address (static IP recommended)
- Subnet mask
- Gateway (if required)

Record the Pixii IP address. You need it for the configuration in Reduxi.

Communication

Back

TCP/IP

MQTT

> HTTPS

E-mail

SMS

Serial ports

Modbus

Certificates

Multicabinet

Site: Tolvmansgatan – Hybrid Logged in as: installer

4

Network setting

Type

DHCP

Name

Wired connection 1

Host name

Address (ipv4)

Mask

Gateway

Obtain DNS server address automatically

DNS1

8.8.8.8

DNS2

8.8.4.4

NTP1

0.pool.ntp.org

NTP2

1.pool.ntp.org

NTP3

2.pool.ntp.org

NTP4

3.pool.ntp.org

NTP used

2.pool.ntp.org

Edit

Save

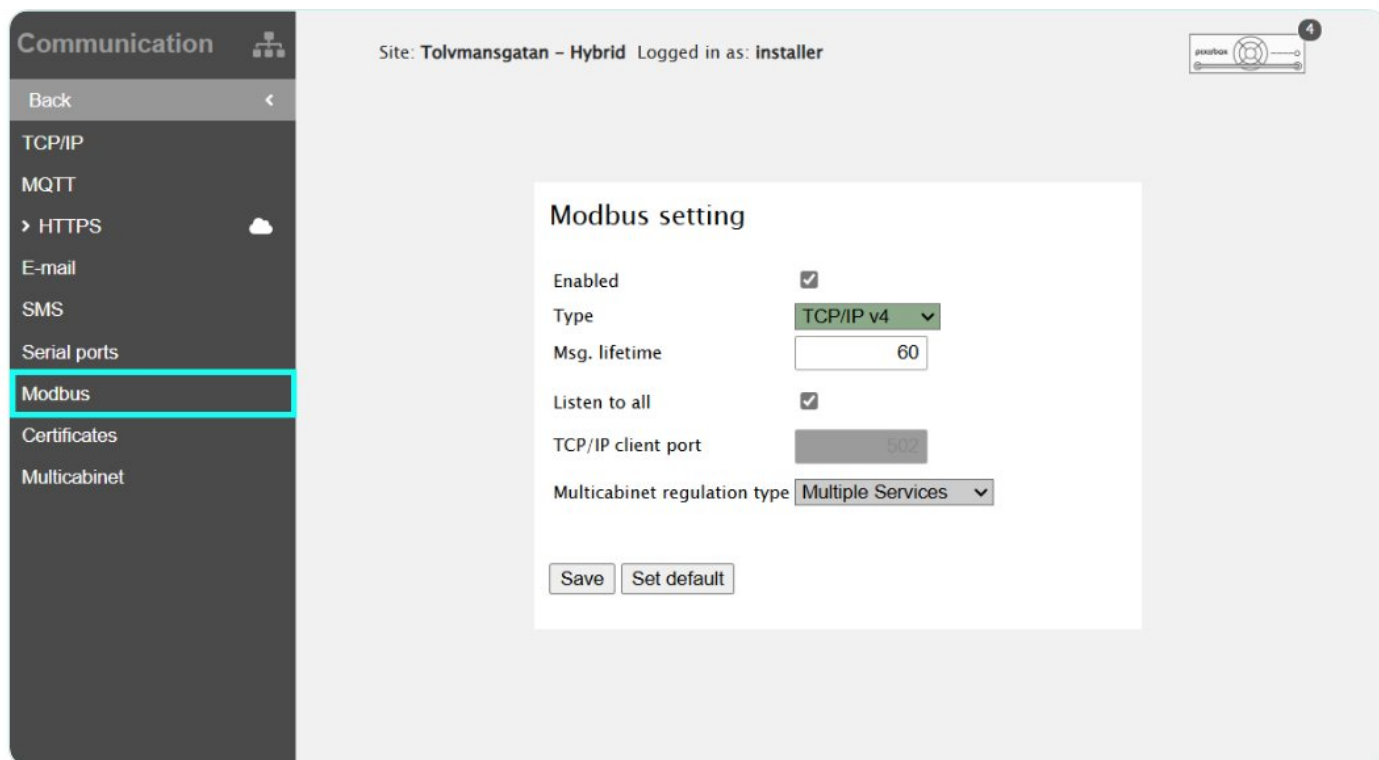
Network settings of Pixii

4.2 Modbus TCP

Go to **Menu → Communication → Modbus** and set:

PARAMETER	VALUE
Enabled	Yes
Type	TCP/IP
TCP Port	502 (default)

Save the settings.



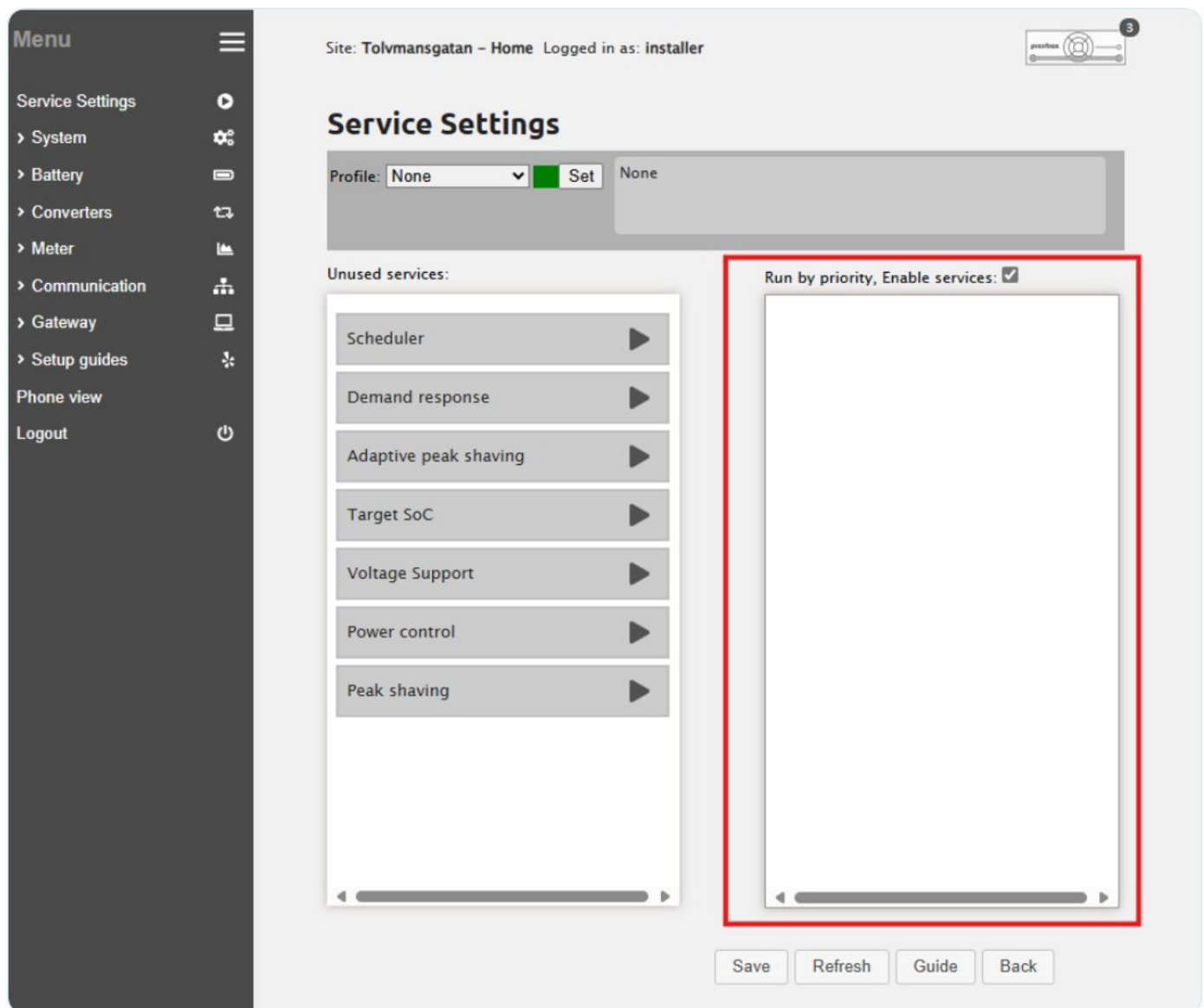
Modbus TCP settings of Pixii

4.3 Multicabinet regulation type (required for Modbus TCP)

Go to **Menu → Communication → Modbus**. Two options are available:

Multiple Services

- Pixii internal control logic is active
- Reduxi acts as a supervisory system



Multiple Services

Simple Modbus

- Reduxi takes full control
- Pixii operates as a controlled device

Communication

Back

TCP/IP

MQTT

> HTTPS

E-mail

SMS

Serial ports

Modbus

Certificates

Multicabinet

Site: PIXII Vassundavägen 178 Logged in as: installer

3

Modbus setting

Enabled

☒

Type

TCP/IP v4

Msg. lifetime

60

Listen to all

☒

TCP/IP client port

502

Multicabinet regulation type

Simple

Save

Set default

Simple Modbus

For the system to respond properly, activate **Demand Response**. Click the play button (move it to the right) and save the setting.

Communication

Back
TCP/IP
MQTT
> HTTPS
E-mail
SMS
Serial ports
Modbus
Certificates
Multicabinet

Site: Läringsgatan 16 Logged in as: installer

Service Settings

Profile: None Set None

Unused services:

Scheduler
Peak shaving
Target SoC
Voltage Support
Power control

Run by priority, Enable services:

Demand response

Save Refresh Guide Back

Demand Response activated



Restart and changes

If Modbus communication does not work properly, restart Pixii. The Multicabinet regulation type can only be changed by Pixii support.

4.4 Multicabinet role (required for RS485)

Go to **System → General settings**.

SYSTEM	MULTICABINET ROLE
Single-cabinet system	Client
Multi-cabinet system	One cabinet: Master . All others: Client .



Note

The Multicabinet role is independent of the Modbus master/slave roles. Pixii is always a Modbus slave.

4.5 Serial port (RS485)

Go to **Menu → Communication → Serial ports**. Select the Serial Port tab **4** (COM4) and configure:

PARAMETER	VALUE
Enabled	Yes
Baud rate	19200
Data bits	8
Stop bits	1
Parity	None

Save the settings.

4.6 Modbus RTU

Go to **Menu → Communication → Modbus** and set:

PARAMETER	VALUE
Enabled	Yes
Type	RS485 RTU
Message lifetime	60
Serial port identity	4
Serial Modbus address	1 (single cabinet)
Multicabinet regulation type	simple

In multi-cabinet systems, each cabinet needs a unique Modbus address.

Save the settings.

5 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 reduxि.local

5.1 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

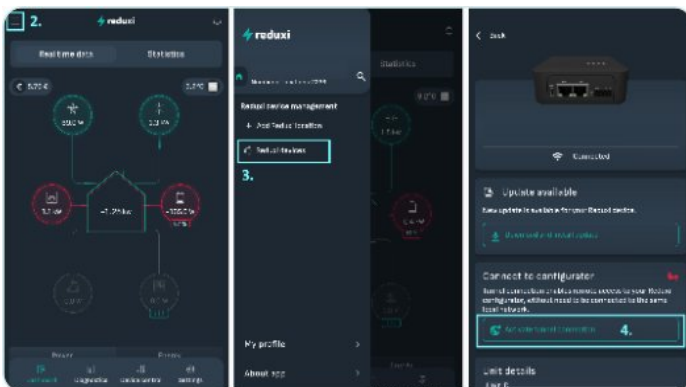
Tap the menu icon (three lines, top left) and select **Reduxi devices**.

3 Activate the tunnel connection

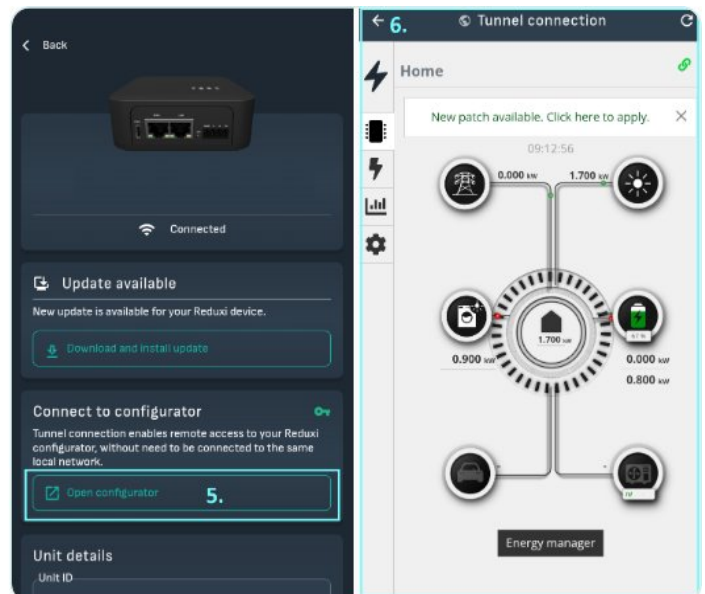
Switch on the tunnel connection and wait a moment until it is active.

4 Open the configurator

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



Activate the tunnel connection (step 3)



Open configurator (step 4)

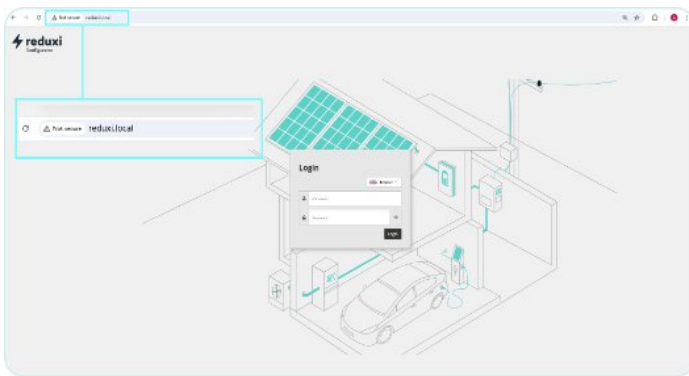
5.2 Via a web browser

1 Open the login page

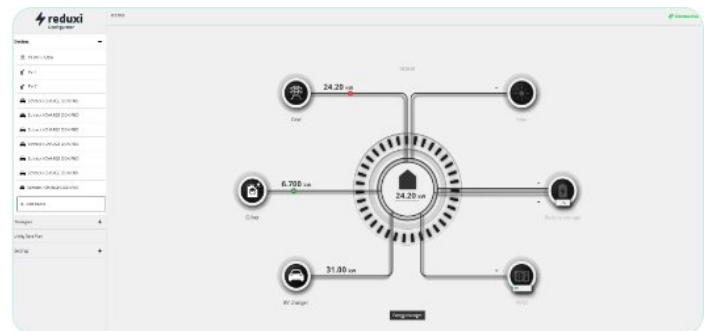
On a device in the same network, open a web browser and enter the controller's IP address or `http://reduxi.local`. You can find the controller's IP address in your router's device list or in the Reduxi app under **Reduxi devices**.

2 Log in

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



Reduxi Controller login screen



Controller web interface after login

6 Add Pixii to the Reduxi Controller

This step is the same for both communication methods, except for the selected connection type.

6.1 Basic settings

Log in to the [Reduxi Configurator](#) (see [Point 5](#)) and click **+ Add device**.

reduxi[⚡]

CONFIGURATOR

Devices



Strategies



+ Add device

+ Add strategy

Settings

Profile

The + Add device button

In the first step, define the basic settings:

- Device type: **Battery**
- Type: **Pixii PowerShaper** or **Pixii Home**
- Name: a name of your choice

1

2

3

Basic settings

Communication channel

Advanced settings

Basic settings

Device type *

Type *

Name *

Back

Next

Basic settings: device type, type and name

6.2 Communication settings

Select the communication type and set the parameters accordingly. Use the values you set on Pixii (see [Point 4](#)).

COMMUNICATION TYPE	USE FOR
TCP/IP	Modbus TCP
Serial RS485	Modbus RTU

1 Basic settings 2 Communication channel 3 Advanced settings

Communication channel and device configuration

Connection *

TCP/IP

IP *

Port *

502

Modbus unit ID *

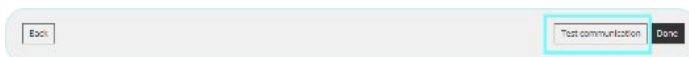
2

Back Test communication Next

Communication settings

6.3 Test communication

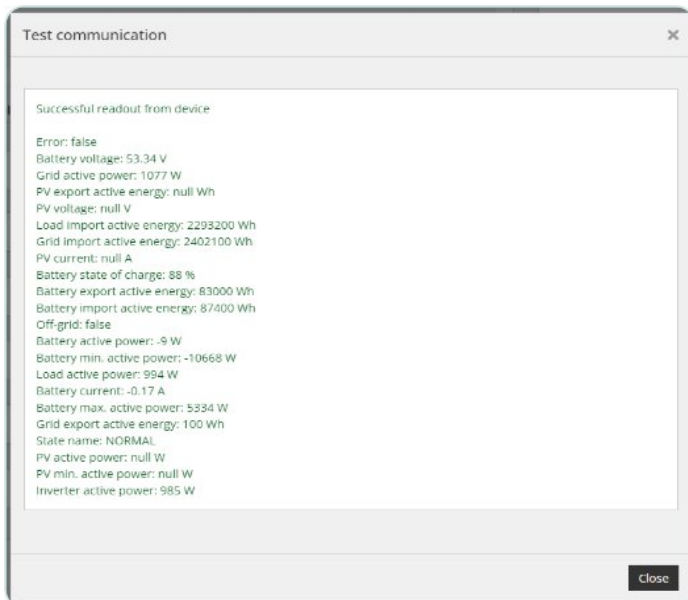
Click **Test communication** at the bottom of the wizard. It reads the Pixii once and saves nothing. If the test succeeds, click **Done**: only **Done** creates the device.



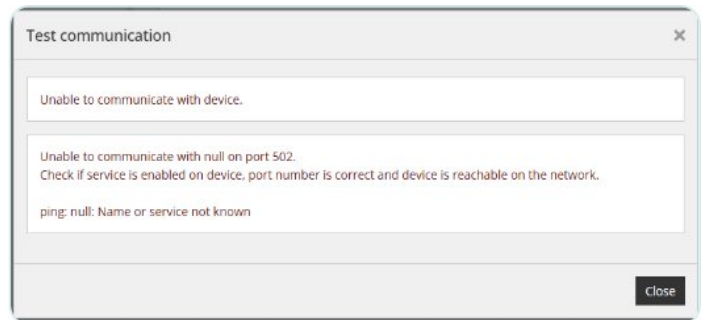
The **Test communication** button

The **Done** button

The test returns one of two results:



1. Communication successful



2. Communication failed

6.4 Advanced settings

The advanced settings are optional. They depend on the needs of the location where the Reduxi Controller is installed. After you have finished all advanced settings, press **Done** at the lower right.

Advanced settings

7 Check the readings and set control

7.1 Control settings for Pixii devices

You control the Pixii system in one of two ways (see [Point 4](#), Point 4.3). Depending on the option, set the matching control type in the Reduxi Configurator for every Pixii device you add.

For **Multiple Services**, configure the device under **Devices – Pixii – Details – All settings** as shown:

Communication channel

Connection *
TCP/IP

IP *
192.168.86.43

Port *
502

Device configuration

Modbus unit ID *
1

Is PV installed? *
☒ No

Control mode *
EMS by Pixii (Multiple Services)

Select control mode of inverter

Settings for Multiple Services

For **Simple Modbus**, configure the device under **Devices – Pixii – Details – All settings** as shown:

Communication channel

Connection *
TCP/IP

IP *
192.168.86.43

Port *
502

Device configuration

Modbus unit ID *
1

Is PV installed? *
☒ No

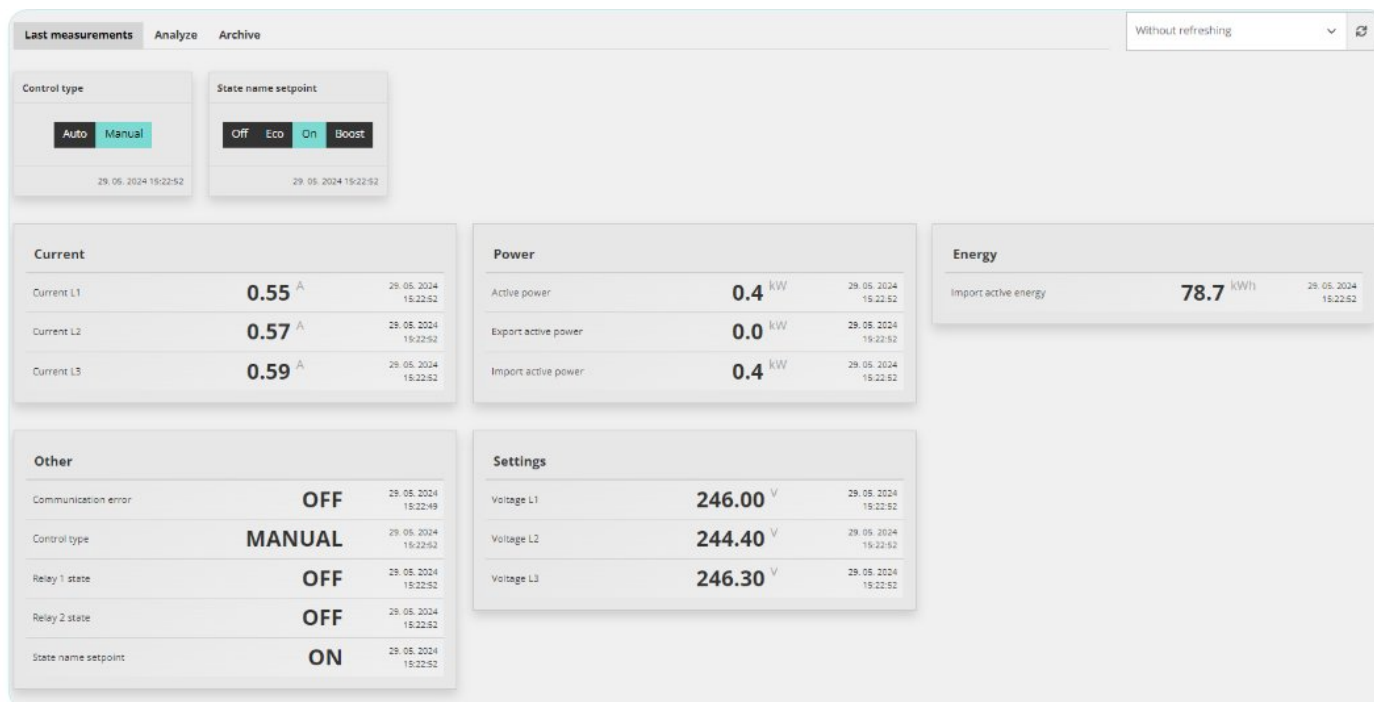
Control mode *
EMS by setpoint (Simple Modbus)

Select control mode of inverter

Settings for Simple Modbus

7.2 Last measurements

After communication is established, check the values under **Devices – Pixii PowerShaper** in the [Reduxi Configurator](#) as an additional test.



Last measurements of the Pixii device

7.3 Enable control by Reduxi

For advanced battery control, integrate the device into the strategy of the Reduxi system. Under **Devices – Pixii PowerShaper** or **Pixii Home** in the [Reduxi Configurator](#), set the **control type** to **AUTO**. Only then do strategy commands affect the battery.

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 have added the device, you can also monitor and control it via [the Reduxi application](#).

✓ Summary

Preparation (Points 1–3): Read the manufacturer pages and choose one method: Modbus TCP/IP over Ethernet (recommended) or Modbus RTU over RS485 on Serial COM4.

Pixii (Point 4): Set the network and Modbus settings on Pixii. TCP: IP address, port **502** , Multicabinet regulation type. RTU: Multicabinet role, serial port 4 with **19200** baud and Modbus settings.

PowerShaper **Pixii Home** **TCP/IP** **Serial RS485** **Test communication.** **Pixii**

Go live (Point 7): Set the control type for your Pixii option, check **Last measurements** and set the control type to **AUTO** .

→ Common issues

ISSUE	SOLUTION
Test communication fails	Check that Pixii and the Reduxi Controller are on the same IP network and that IP address and port 502 are correct (TCP). For RTU, check that the serial port settings on Pixii match the Reduxi settings (see Point 4).
Modbus communication does not work	Restart Pixii.
Multicabinet regulation type must be changed	Only Pixii support can change the Multicabinet regulation type.
Reduxi commands have no effect on Pixii	Check that Demand Response is activated for Simple Modbus (see Point 4) and that the control type in Reduxi is AUTO (see Point 7).
RS485 connection not found	RS485 is on the Pixii Gateway, Serial COM4, inside the Pixii cabinet.
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 admin is rejected	The password was changed during installation. Ask the installer. The Reduxi account password does not work here.
reduxi.local 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:



Pixii document center

Datasheets and manuals from the manufacturer



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