

Connect Reduxi to ABB Terra Wall Box

Integrate the ABB Terra Wall-Box charger with Reduxi via Wi-Fi, using Modbus TCP/RTU or OCPP. Reduxi's flexibility allows cost reductions of up to 30%.

🔧 ABB Terra AC Wall-box · Reduxi Controller

🌐 OCPP 1.6 JSON or Modbus TCP/IP (RTU) via Wi-Fi

🔢 Modbus ID 1 (default) 📱 TerraConfig app



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1 Technical documentation

Documents and tools for the ABB Terra AC Wall-box:

- [ABB Terra AC Wall-box: Modbus communication \(v1.7\)](#) – Modbus RTU and Modbus TCP/IP interfaces and register map
- [TerraConfig platform](#) – Web login of the TerraConfig platform
- [TerraConfig on Google Play](#) – App for Android
- [TerraConfig on the Apple App Store](#) – App for iOS

2 Required equipment

You need these components:

- ☐ ABB Terra AC Wall-box charger
- ☐ Reduxi Controller
- ☐ Smartphone with the TerraConfig app (Android or iOS)
- ☐ Wi-Fi network for the charger
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

The charger connects to Reduxi via Wi-Fi. Choose one protocol:

- OCPP 1.6 JSON (see [Point 6](#))
- Modbus TCP/IP (see [Point 7](#))

3 Install the TerraConfig app

3.1 TerraConfig platform

<https://abb.installer.chargedot.com/#/login>



TerraConfig

3.2 Google Play

The application is available on Google Play: <https://play.google.com/store/apps/details?id=com.abbemobility.terraconfig>

3.3 Apple App Store

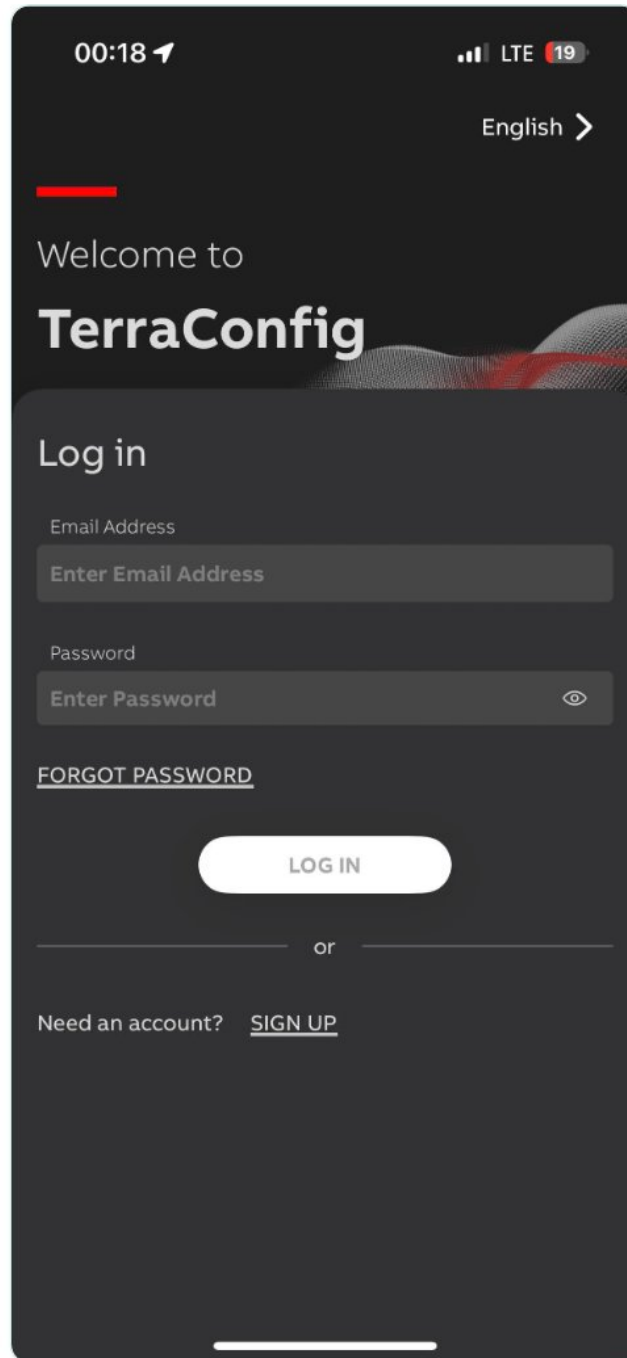
The application is available on the Apple App Store:

<https://apps.apple.com/us/app/terraconfig/id6443887124>

4 Configure the charger in TerraConfig

4.1 Log in or register in the TerraConfig app

Open the application. Log in, or click **SIGN UP** to register a new account and then log in.

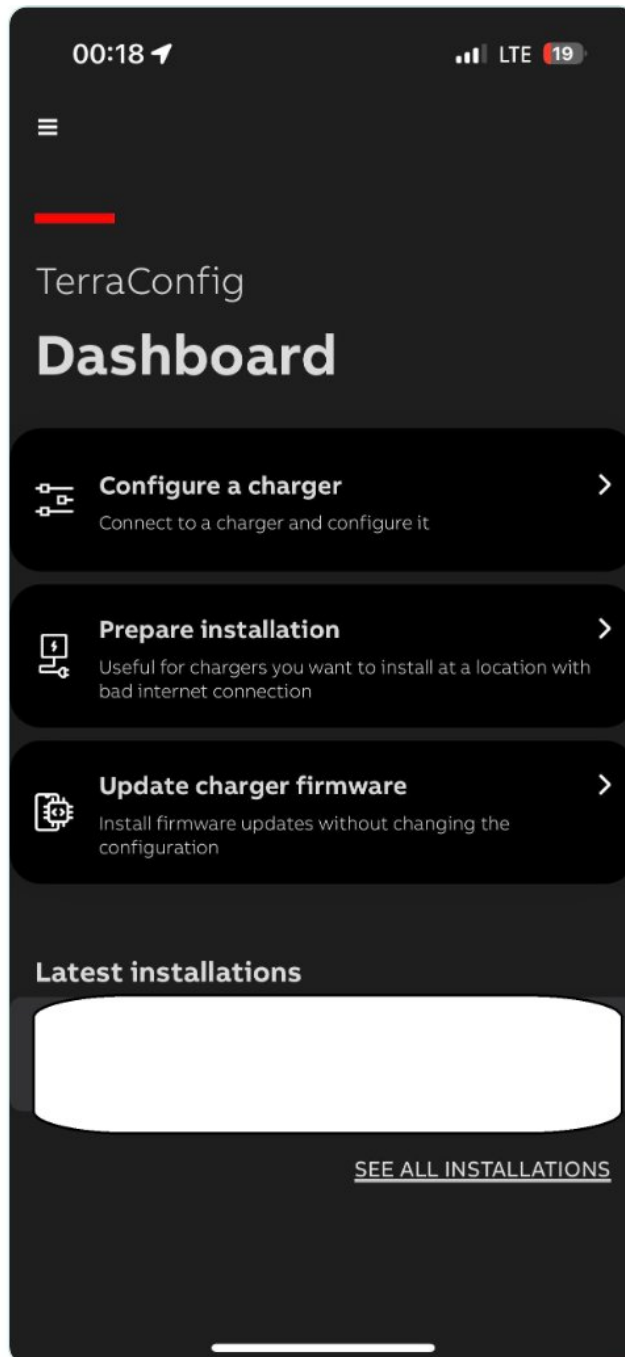


TerraConfig login screen

4.2 Charger settings

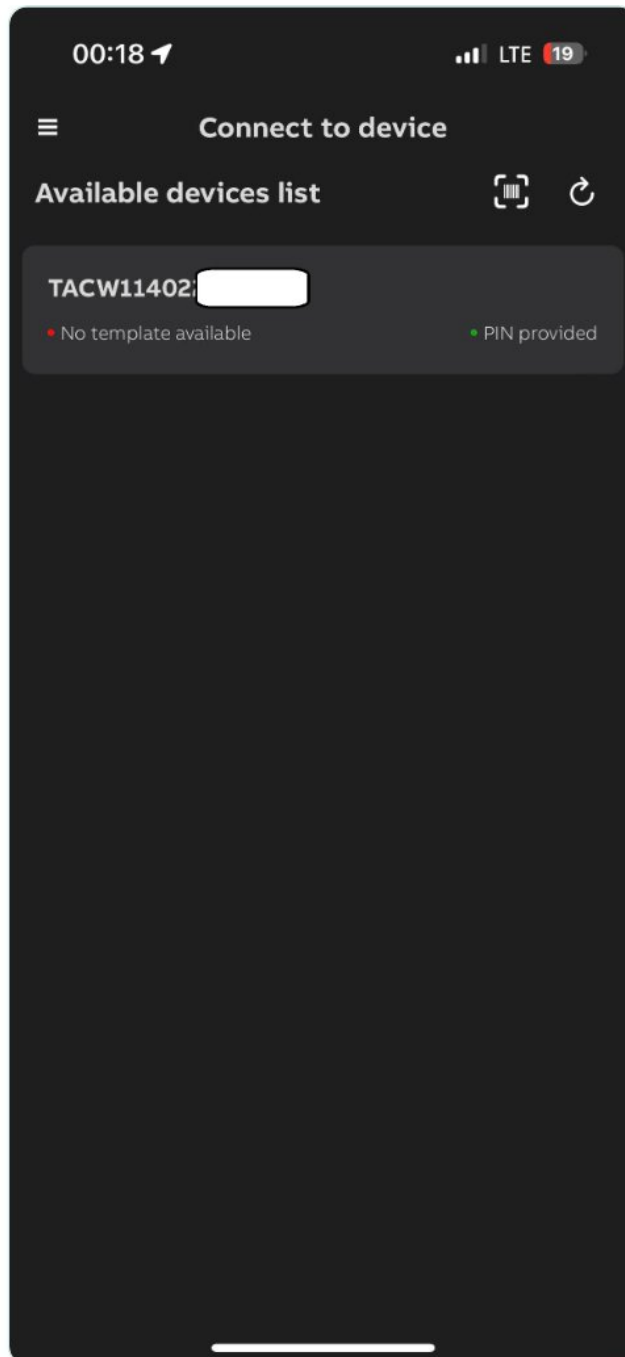
After login, configure the charger in the app:

On the dashboard, click **Configure a charger**.



TerraConfig dashboard

Connect to the charger from the list of available devices.



Available devices list

Fill in the basic settings.

00:19 LTE 19

< Back Configure a charger

Test

Bluetooth WiFi Cellular Disconnect

Save as a template Choose template

User settable max current

16 A of 16 A max charging current

Location - **Name** Test

Firmware
v1.8.0 • New update available

Connections
WiFi • Configured

Free vending
• Deactivated

OCPP Server
ws://192.168.1.78:80/ocpp/1.6/json

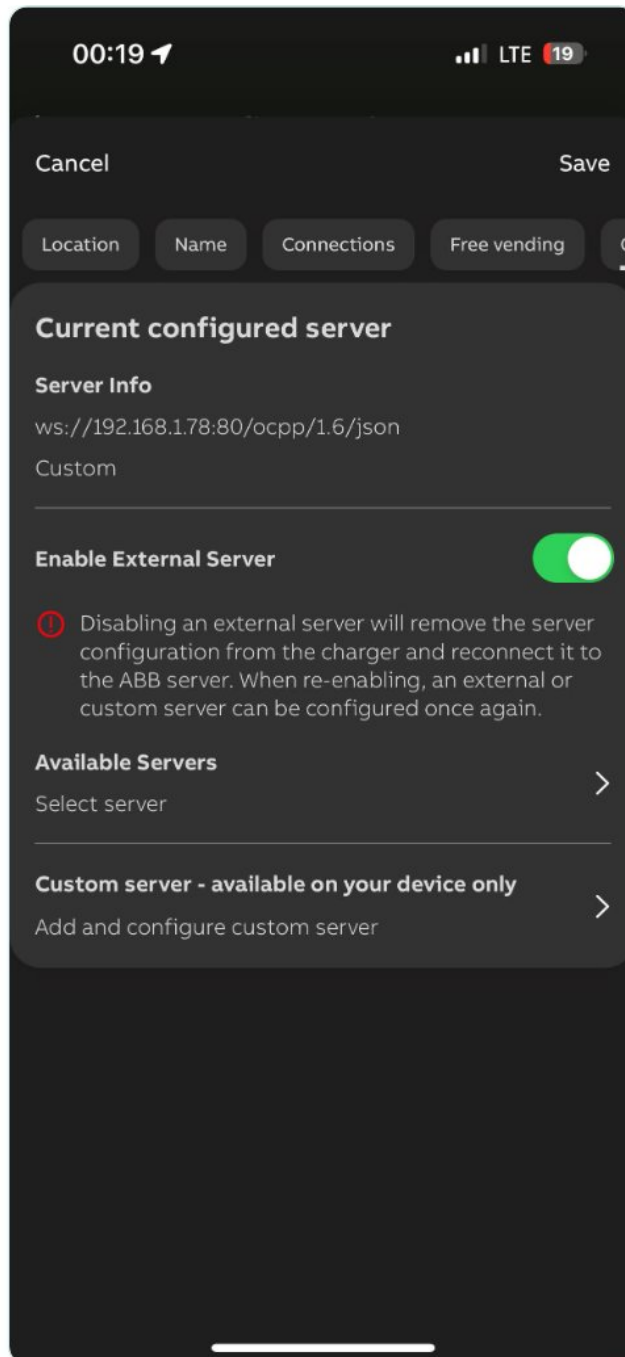
Energy management
- • Medbus not configured

Basic settings of the charger

4.3 OCPP server parameters

Enable the **External Server**.

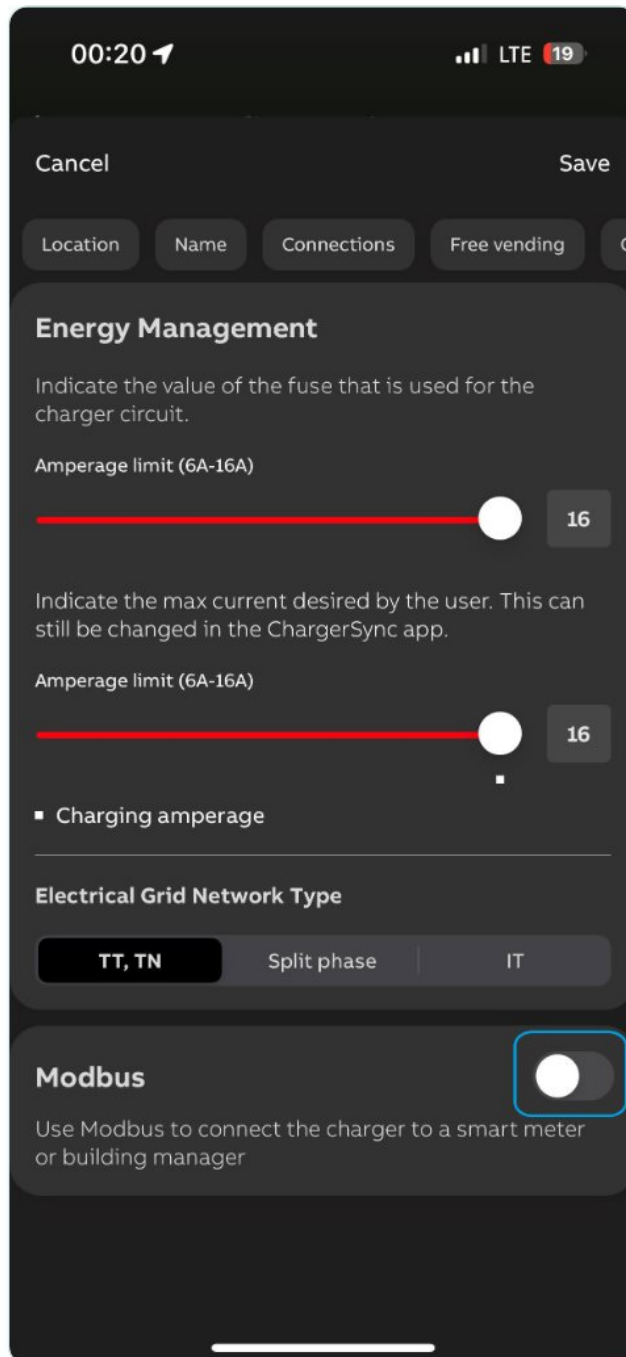
You obtain the OCPP server URL from the Reduxi controller (see [Point 6](#)).



External server and OCPP server URL

4.4 Energy management

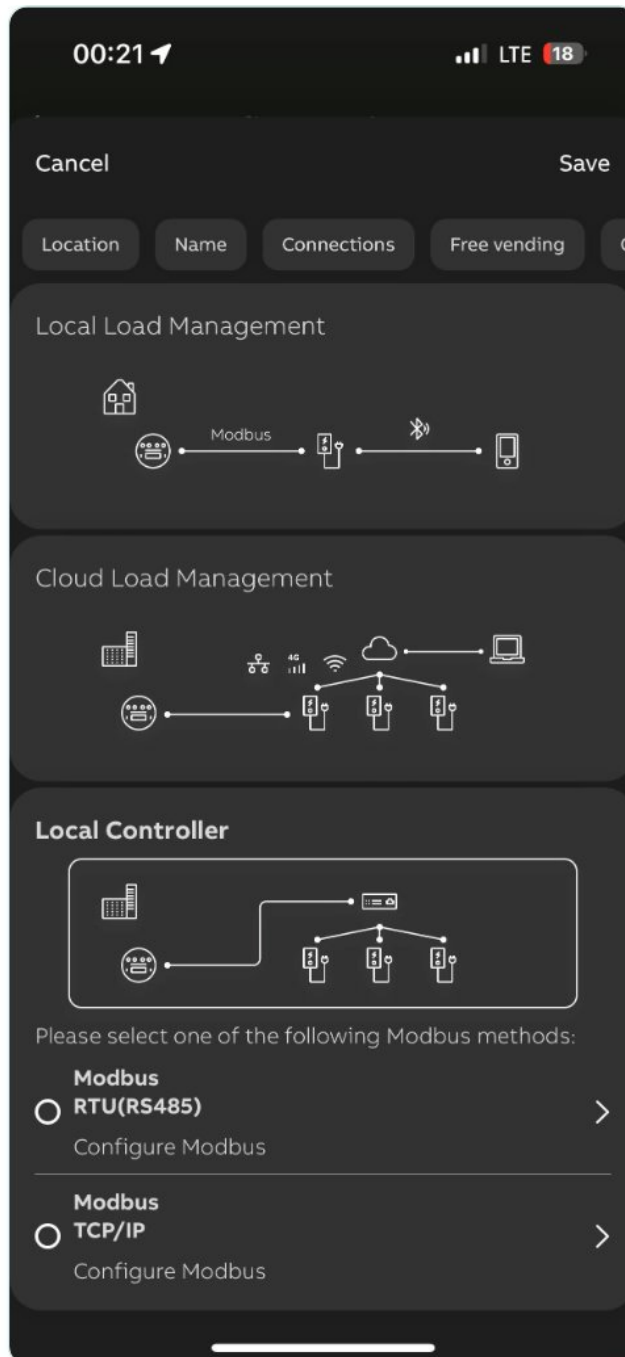
Fill in the Energy Management parameters and **enable Modbus**.



Energy Management parameters

4.5 Modbus settings

Choose **Local Controller**.



Choose Local Controller

Modbus RTU: apply the same settings on the Reduxi Controller for RS485 port 1 or port 2.

00:21 LTE 18

Configure Modbus

Cancel

Local controller - Modbus RTU(RS485)
Multiple chargers - charger as secondary

Communication Settings

Modbus Address

1

Baud Rate
9600

Parity
None | Odd | **Even**

Stop Bit
1 | 2

Data Bit
8

SAVE

Modbus RTU (RS485) settings

Modbus TCP/IP: set the parameters for the communication with the Reduxi Controller.

00:21

LTE 18

Configure Modbus

Cancel

Local controller - Modbus TCP/IP

Multiple chargers - charger as secondary

Communication Settings

IP Address

E.g. 192.168.0.4

Mask Address

E.g. 255.255.255.0

Gateway Address

E.g. 192.168.0.1

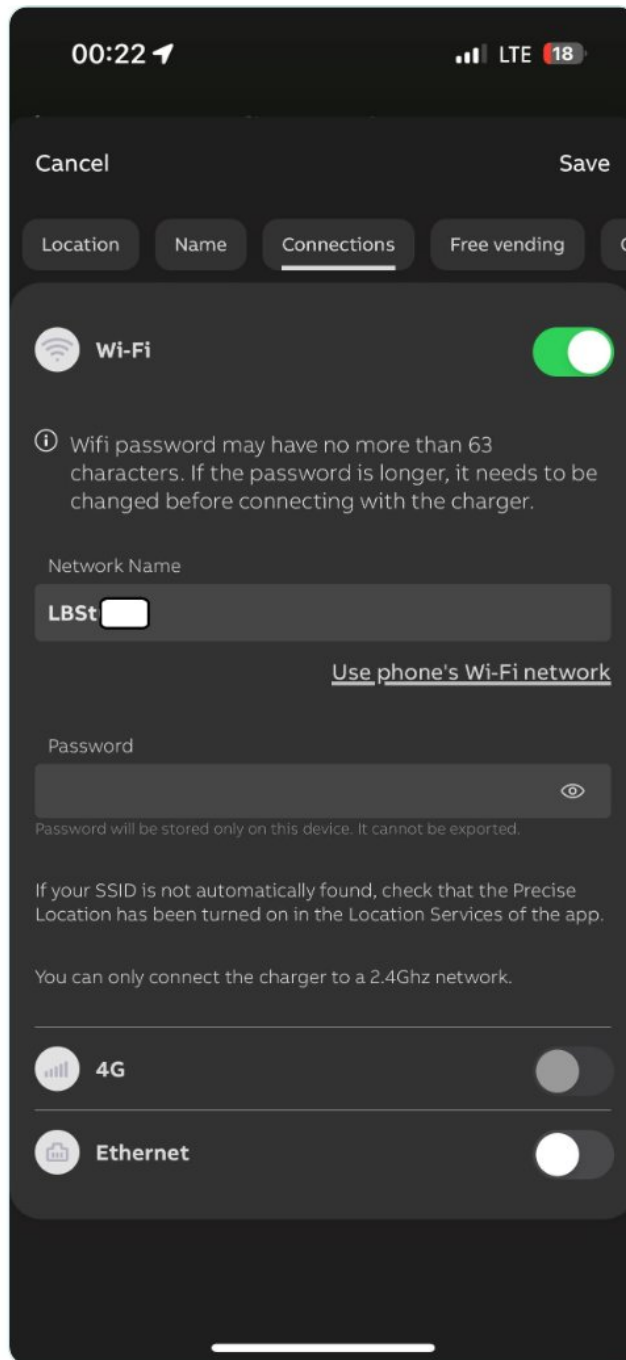
Server port

E.g. 500

SAVE

Modbus TCP/IP settings

4.6 Connect the charger to Wi-Fi



Wi-Fi settings of the charger

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	 Web browser In the local network · via IP address or reduxि.local
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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

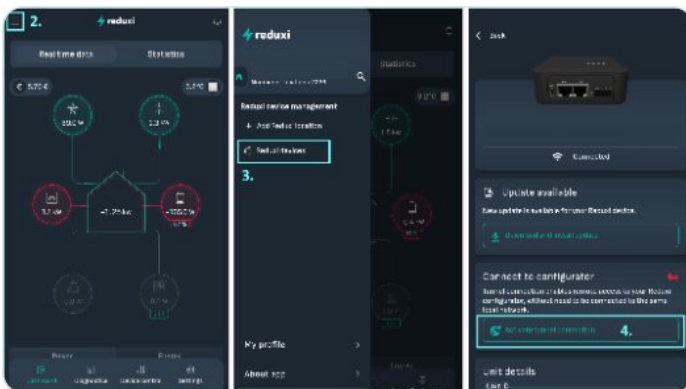
Tap the menu icon (three lines, top left) and select **Reduxi devices**.

3 Activate the tunnel connection

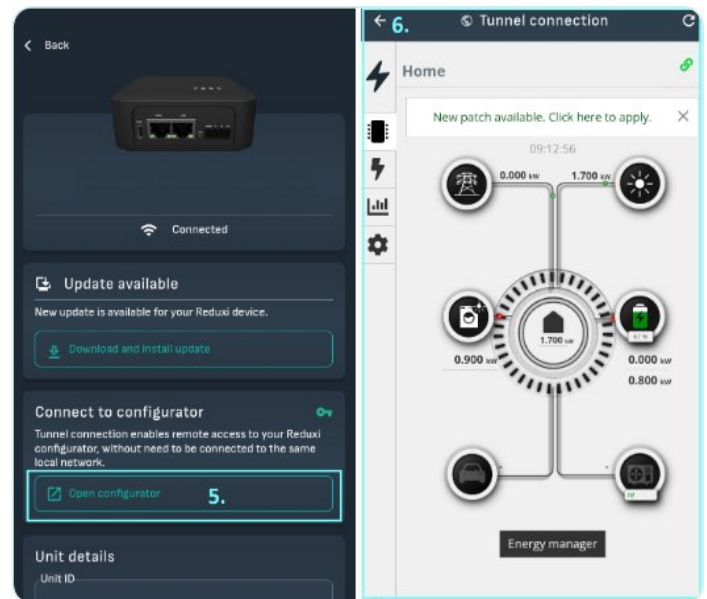
Switch on the tunnel connection and wait a moment until it is active.

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**.

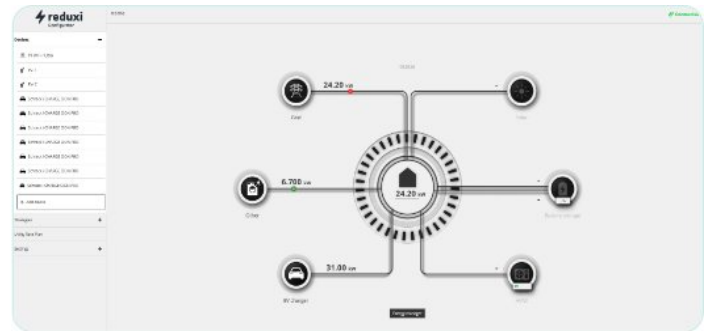
2

Log in

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



Reduxi Controller login screen

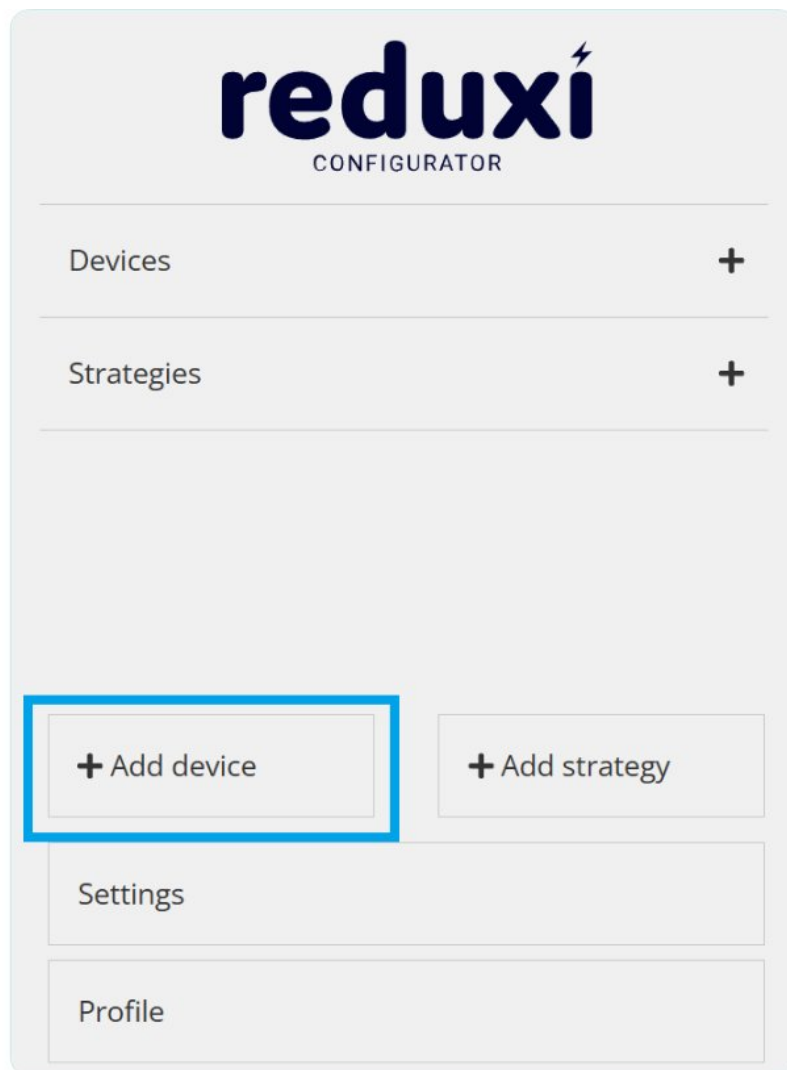


Controller web interface after login

6 Add the charger to Reduxi via OCPP 1.6 JSON

6.1 Basic settings

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



*The **Add device** button*

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

- Device type: **EV charger**
- Type: **OCPP 1.6 - JSON**
- 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

The second step is the communication channel. First fill in the **Device identifier**. The Device ID (unique OCPP ID) is printed on the right side of the charger and starts with **TACW11-4-**. It is also shown in the TerraConfig app. Enter it in the communication channel.

The OCPP 1.6 JSON protocol needs the server OCPP URL. The Reduxi Controller generates it. Copy it from the communication channel.



Example URL

`ws://192.168.1.200/ocpp/1.6/json/`

1
Basic settings
2
Communication channel
3
Advanced settings

Communication channel and device configuration

Device identifier *

Connector *

Charger type *

Energy counter

Allocate power to EVSE when EV is not connected to EVSE

Per phase max. current *

Per phase max. current manual override

In effect when manual override is selected
 Forward communication to backend OCPP server

Forward measurements to backend OCPP server once every

Allow new charging session

Controller OCPP JSON 1.6 URL

Back

Test communication
Next

Communication channel for OCPP

6.3 Configure the OCPP settings in TerraConfig

Enter the server URL in the charger: see [Point 4](#), section 4.3 (OCPP server parameters).

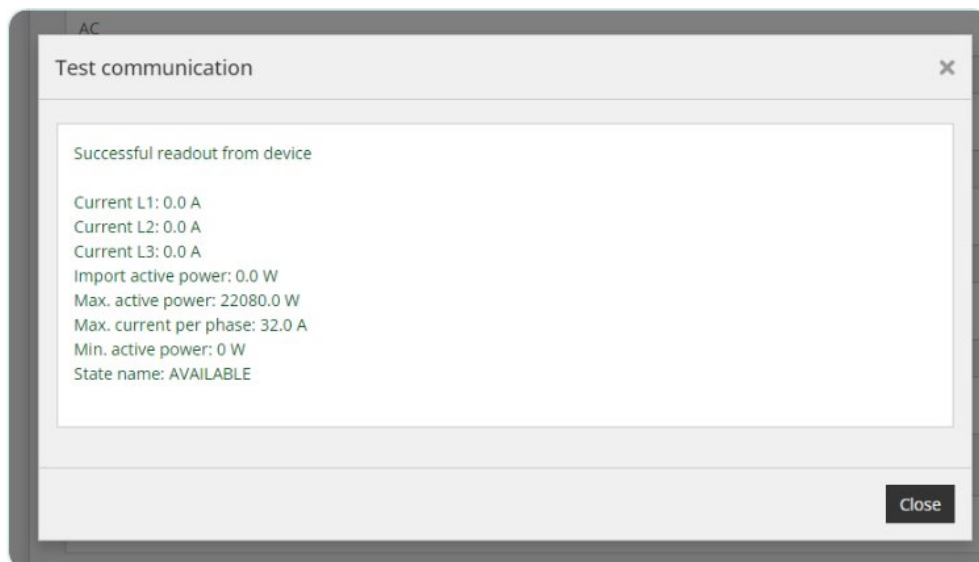
6.4 Test communication

Click **Test communication** at the lower right, below the communication channel fields. It reads the charger once and saves nothing. If the test succeeds, click **Next**, complete the advanced settings (see [Point 7](#), section 7.4) and click **Done**. Only **Done** creates the device.

The **Test communication** button

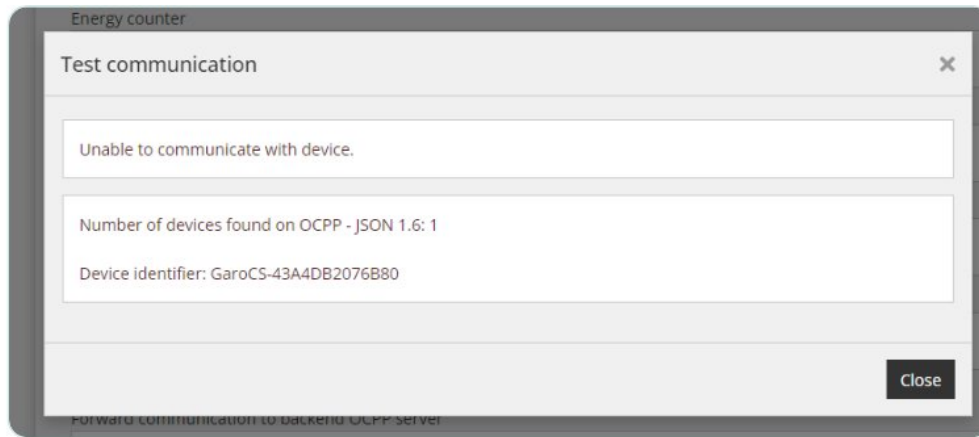
The test returns one of three results:

Case 1: communication works properly.



Case 1: communication works

Case 2: unable to communicate with the device. The ID of the device is not set or is different.



Case 2: device identifier not set or different

Case 3: no device with OCPP 1.6 communication is found.



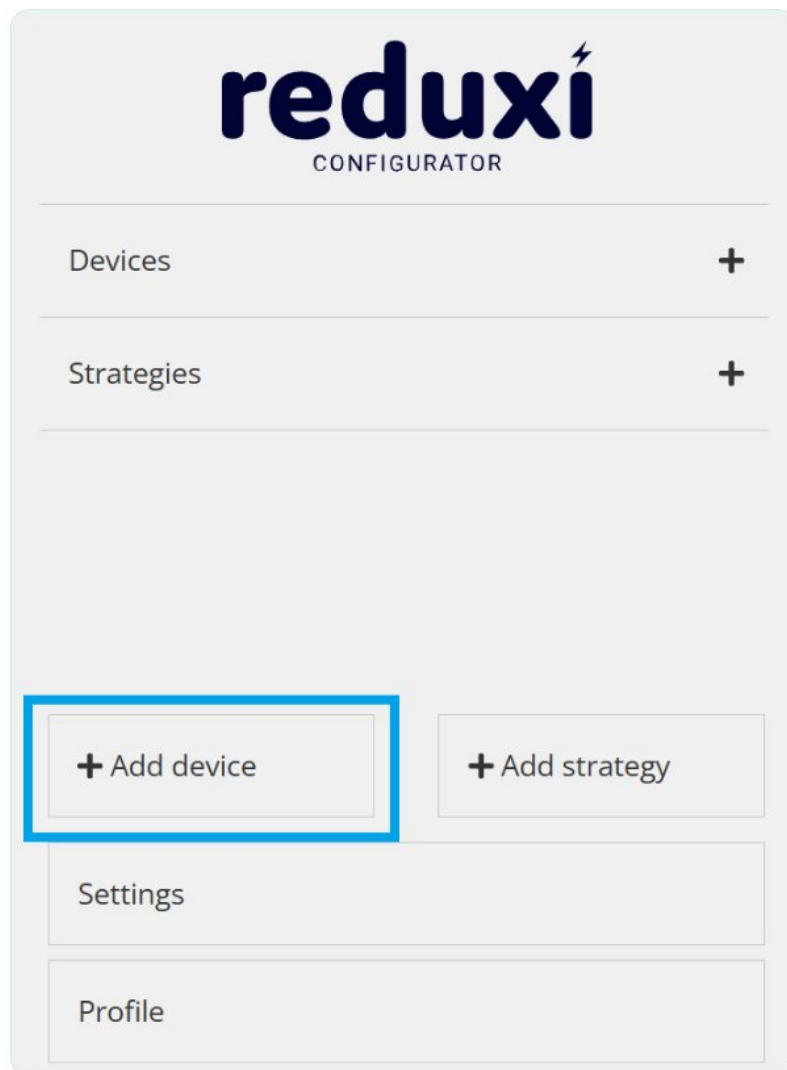
Case 3: no OCPP 1.6 device found

7 Add the charger to Reduxi via Modbus TCP/IP

ABB describes the Modbus interface in the [Modbus communication document](#) (see [Point 1](#)).

7.1 Basic settings

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



*The **Add device** button*

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

- Device type: **EV charger**
- Type: **ABB Terra AC Wall-box**
- Name: a name of your choice

1

2

3

Basic settings

Communication channel

Advanced settings

Basic settings

Device type *

EV charger

Type *

ABB Terra AC wallbox

Category *

EV charger

Name *

ABB Terra AC wallbox

Back

Next

Basic settings: device type, type and name

7.2 Communication settings

The second step is the communication channel. Enter the IP address of the ABB Terra AC Wall-box and the Modbus ID. The default Modbus ID is **1**.

PARAMETER	VALUE
Connection	TCP/IP
IP	The IP address of the charger, for example 192.168.2.201
Port	The Modbus TCP port set in TerraConfig (502 in the example screenshots)
Modbus ID	Default 1

1 Basic settings 2 Communication channel 3 Advanced settings

Communication channel and device configuration

Connection *
TCP/IP

IP *

Port *
502

Modbus unit ID *
1

Back Test communication Next

Communication channel for Modbus TCP/IP

7.3 Test communication

Click **Test communication** at the lower right, below the communication channel fields. It reads the charger once and saves nothing. Example IP: **192.168.2.201**.

Communication channel and device configuration

Connection *
TCP/IP

IP *
192.168.2.201

Port *
502

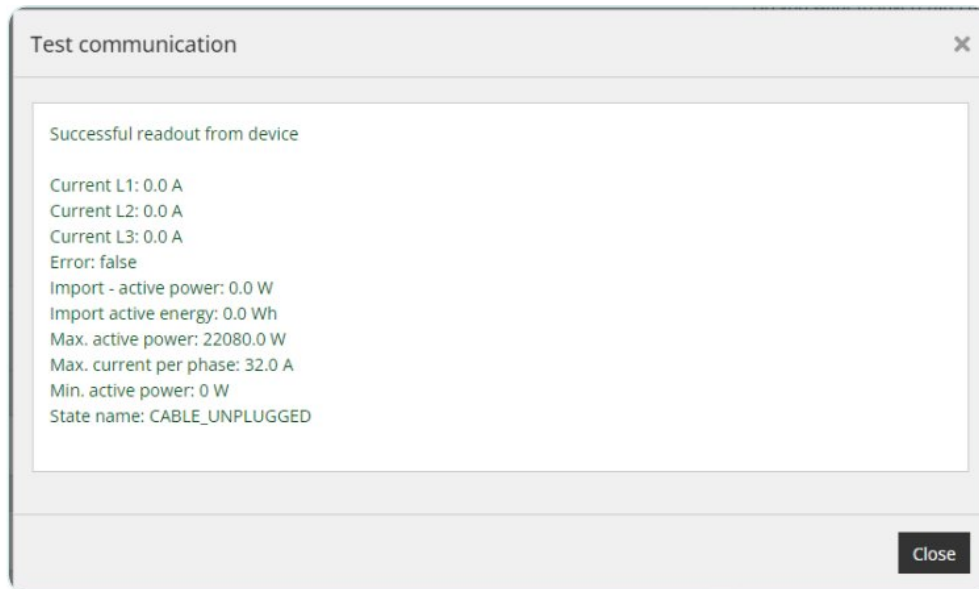
Modbus unit ID *
1

Back Test communication Next

The **Test communication** button

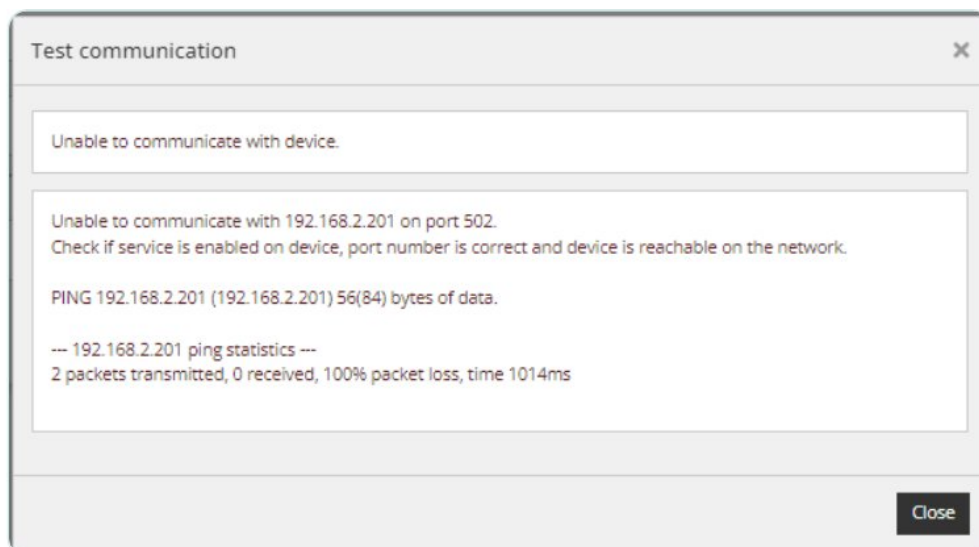
The test returns one of three results:

Case 1: communication works properly and the readout succeeds.



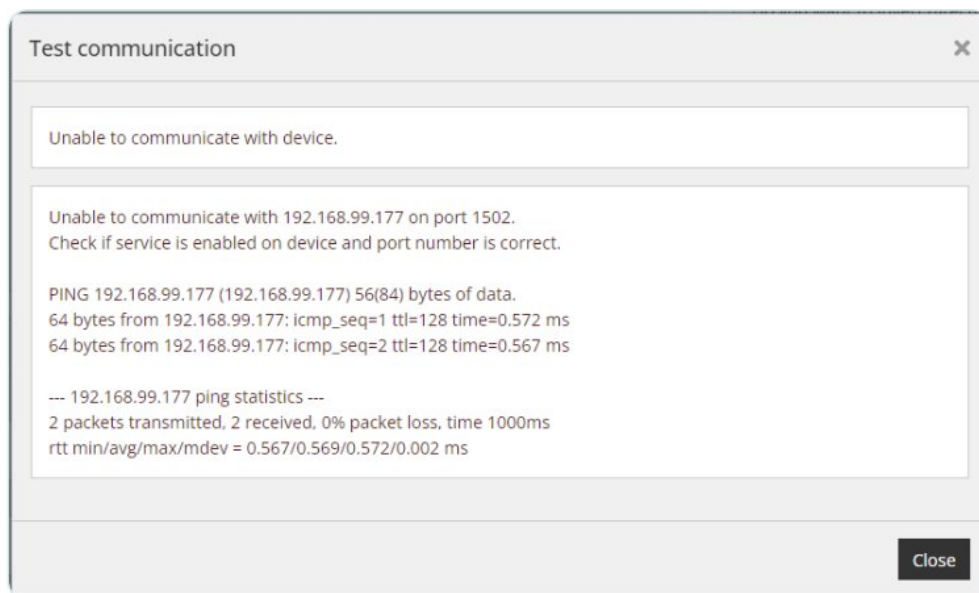
Case 1: communication works

Case 2: unable to communicate with the device on IP 192.168.2.201. The IP of the device is different.



Case 2: IP address not correct

Case 3: the chosen port is not correct. Check the port for Modbus TCP/IP.



Case 3: port not correct

7.4 Advanced settings and default parameters

Fill in the advanced settings and choose the parameters shown in the image. The settings can vary depending on the needs of the location. When you are done, click **Done**.

The image shows a configuration screen with a progress bar at the top containing three steps: 1 Basic settings, 2 Communication channel, and 3 Advanced settings. The "Advanced settings" section is active. It contains several toggle switches, each with a "No" label and a default value. The settings are:

- Do you want to set data saving interval? (Toggle: No, Default: 1 min)
- Do you want to set reading delay? (Toggle: No, Default: 1000 ms)
- Do you want to set writing delay? (Toggle: No, Default: 1000 ms)
- Do you want to set power generation limits and capabilities? (Toggle: No)
- Do you want to set power consumption limits and capabilities? (Toggle: No)
- Do you want to limit communication with the device to read-only? (Toggle: No, Default: No)
- Do you want to invert direction for energy import and export? (Toggle: No, Default: No)
- Do you want to exclude device from summary? (Toggle: No, Default: No)

At the bottom, there are three dropdown menus labeled "L1 is connected to main feed", "L2 is connected to main feed", and "L3 is connected to main feed". The first dropdown is set to "L1", the second to "L2", and the third to "L3". A "Back" button is on the bottom left and a "Done" button is on the bottom right.

Advanced settings

8 Check the readings

8.1 Last measurements (OCPP or Modbus TCP/IP)

Check the readings of the charger under **Device – Last measurements** in the [Reduxi Configurator](#).

Control type		
Auto Manual Off Boost		
02.10.2024 15:47:17		

Current		
Current L1	0.00 A	02.10.2024 15:47:17
Current L2	0.00 A	02.10.2024 15:47:17
Current L3	0.00 A	02.10.2024 15:47:17
Max. current per phase	32.00 A	02.10.2024 15:47:17
Per phase current setpoint	6.00 A	02.10.2024 15:47:17

Power		
Import - active power	0.0 kW	02.10.2024 15:47:17
Max. active power	22.1 kW	02.10.2024 15:47:17
Min. active power	0.0 kW	02.10.2024 15:47:17

Energy		
Import active energy	5,104.5 kWh	02.10.2024 15:47:17

Other		
Communication error	OFF	02.10.2024 15:47:16
Control type	AUTO	02.10.2024 15:47:17
Error	OFF	02.10.2024 15:47:17
State name	CABLE_UNPLUGGED...	02.10.2024 15:47:17

Readings from the charger

After you have added the device, you can also monitor it in the [Reduxi cloud application](#).

8.2 Control with strategies

To control the charger with Reduxi strategies, set the **control type** of the device to **AUTO**. Define a strategy as described in [Strategies for Reduxi controller](#).

✓ Summary

Preparation (Points 1–3): Get the ABB documents. Prepare the charger, the Reduxi Controller, a smartphone and a laptop or tablet. Install the TerraConfig app.

ABB charger (Point 4): Log in to TerraConfig. Enable the external OCPP server or Modbus, choose Local Controller and connect the charger to Wi-Fi.

Add to Reduxi (Points 5–7): Log in to the Reduxi web interface. Add the charger via OCPP 1.6 JSON or Modbus TCP/IP. Run Test communication, then click Done.

Go live (Point 8): Check the last measurements. Set the control type to AUTO. Define a strategy.

→ Common issues

ISSUE	SOLUTION
OCPP test: unable to communicate, device ID not set or different	Enter the device identifier from the right side of the charger (starts with TACW11-4-) in the communication channel (see Point 6).
OCPP test: no device with OCPP 1.6 found	Check that the External Server is enabled in TerraConfig and that the OCPP server URL of the Reduxi Controller is entered (see Point 4).
Modbus TCP/IP test: IP address not correct	Check the IP address of the charger in TerraConfig and in the communication channel (see Point 7).
Modbus TCP/IP test: port not correct	Check the Modbus TCP port set in TerraConfig and enter the same port in the communication channel.
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:



ABB Terra AC Modbus communication

Modbus RTU and Modbus TCP/IP interfaces and register map from ABB.



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