

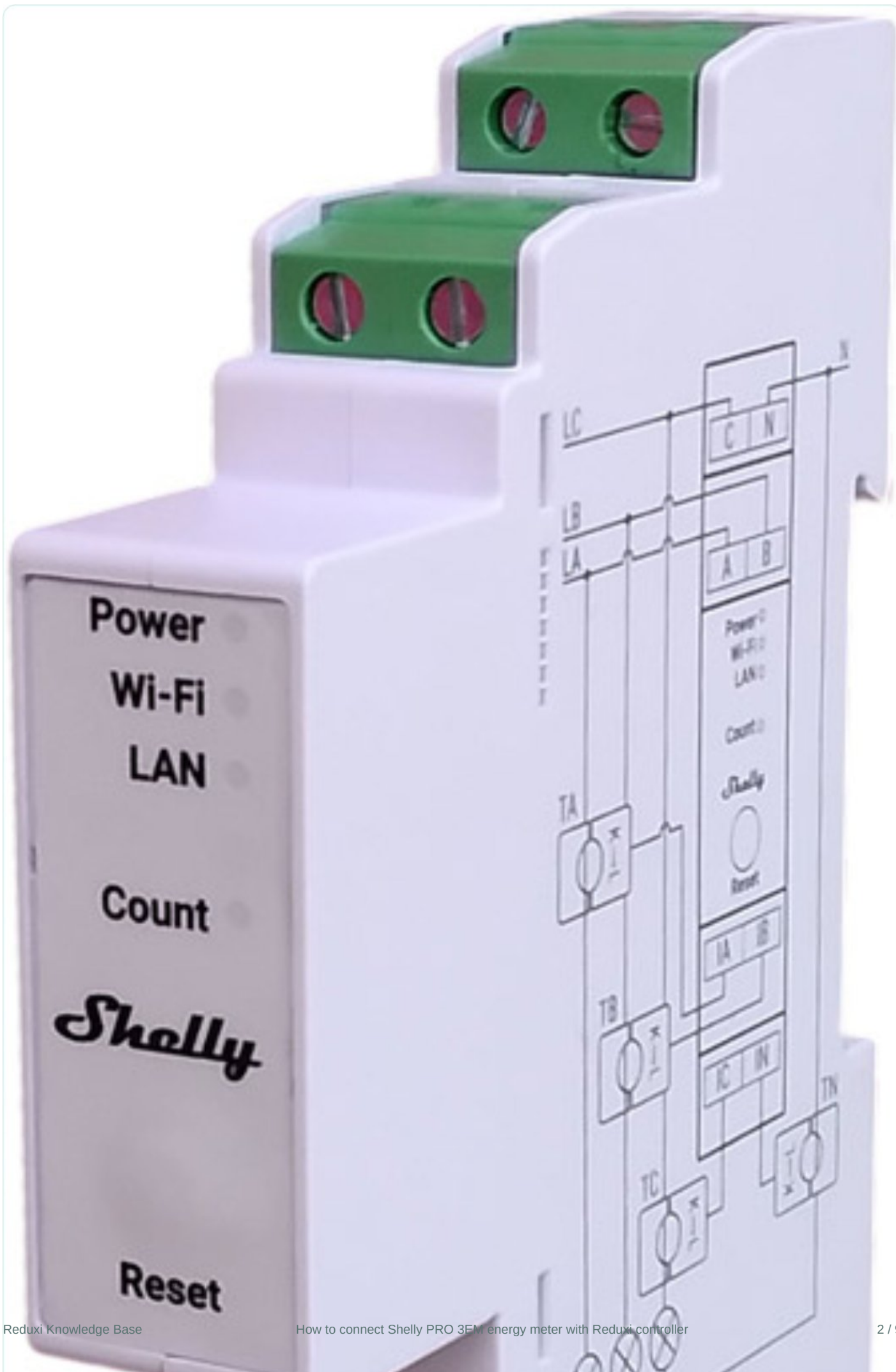
How to connect Shelly PRO 3EM energy meter with Reduxi controller

Connect your Shelly Pro 3EM to the Reduxi Controller via Modbus TCP.

⚡ Shelly Pro 3EM · Reduxi Controller

🌐 Modbus TCP (Ethernet or Wi-Fi)  Port 502





IN THIS ARTICLE

1. Technical documentation
2. Required equipment
3. Prepare the Shelly Pro 3EM
 - Technical data
 - Connect to the network
 - Enable Modbus TCP
4. Log in to the Reduxi web interface
 - Via the Reduxi app
 - Via a web browser
5. Add the Shelly Pro 3EM to Reduxi
 - Basic settings
 - Communication settings
 - Test communication
6. Check the readings
7. Summary
8. Common issues
9. Related articles

1 Technical documentation

Instructions for connecting and configuring the device are on the manufacturer web page.

- [Shelly Pro 3EM: knowledge base](#) – Technical data, documents and connection instructions
- [Shelly Pro 3EM: web interface guide](#) – Wi-Fi, Ethernet and static IP settings
- [Shelly Pro 3EM: user and safety guide \(PDF\)](#) – Multilingual printed guide
- [Shelly API: Modbus component](#) – Enable Modbus TCP and register description
- [Shelly 3EM: knowledge base](#) – Link from the previous version of this article (older Shelly 3EM model)

2 Required equipment

You need the following components:

- ☐ Reduxi Controller
- ☐ Shelly Pro 3EM (SPEM-003CEBEU), Pro 3EM-3CT63 (SPEM-003CEBEU63) or Pro 3EM-400 (SPEM-003CEBEU400)
- ☐ Current transformers: 3 for the phases, 1 optional for the neutral conductor (CT 120 A is compatible)
- ☐ Ethernet cable (for the wired connection) or local Wi-Fi network (802.11 b/g/n)
- ☐ Smart device (phone, computer or tablet) to configure the Shelly
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

3 Prepare the Shelly Pro 3EM

3.1 Technical data

MOUNTING
DIN rail

SUPPLY VOLTAGE
100–260 V AC,
50/60 Hz

INTERFACES
Wi-Fi 802.11 b/g/n,
Ethernet (1 RJ45),
Bluetooth 4.2

CURRENT INPUTS
IA, IB, IC and IN
(neutral, optional
CT)

MEASUREMENTS
Voltage, current,
active and apparent
power, active and
apparent energy,
power factor

3.2 Connect the Shelly to your local network

Wi-Fi: press and hold the button for 5 seconds. This activates the access point of the device. The network name has the format **ShellyPro3EM-XXXXXX**. Connect your smart device to it and open the web interface of the Shelly.

In the web interface, go to **Settings > Wi-Fi**. Enter the name and password of your network or set a static IP address there. After saving, a link with the new IP address of the device appears above the Wi-Fi settings.

Ethernet: connect the RJ45 cable only when the device is powered off. In the web interface, go to **Settings > Network settings > Ethernet** and enable the Ethernet connection. For a static IP, enable that option and enter IP address, DNS server, gateway and network mask.



Note

A static IP address is recommended so the device keeps the same address. You need the IP address in the [Reduxi Configurator](#) (see [Point 5](#)).

3.3 Enable Modbus TCP

Reduxi reads the Shelly Pro 3EM via Modbus TCP. The Modbus TCP port of Shelly devices is **502**. Enable Modbus with the RPC method **Modbus.SetConfig**. Replace *IP* with the IP address of the Shelly:

```
http://IP/rpc/Modbus.SetConfig?config={"enable":true}
```

A successful call returns **{"restart_required": false}**. You can check the setting with **Modbus.GetConfig** or **Modbus.GetStatus**.

4 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



4.1 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

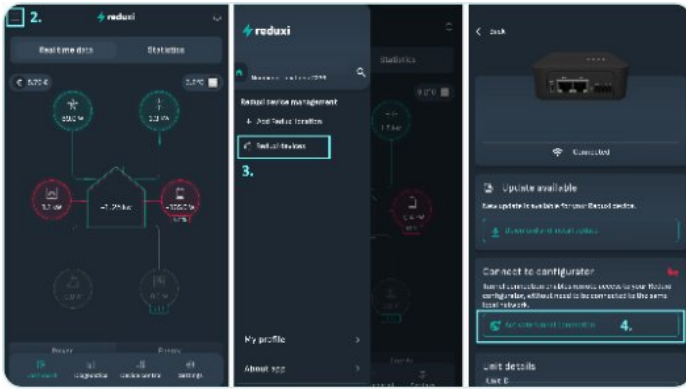
Activate the tunnel connection

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

4

Open the configurator

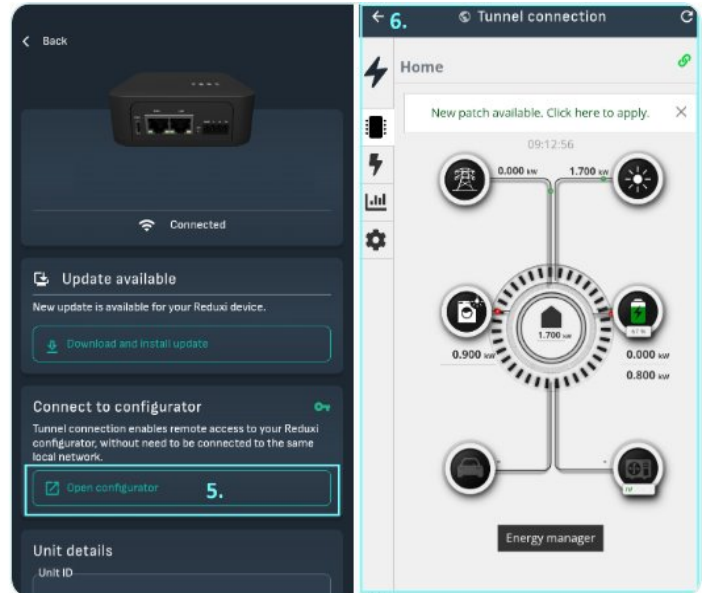
Tap **Open configurator**. The Reduxi web interface opens.



Activate the tunnel connection (step 3)

Text description of this image

Screenshot of three Reduxi mobile app screens side by side, with cyan boxes and number badges 2 to 4. Left screen (dashboard, dark theme): menu icon at top left marked with a box and badge 2; 'reduxi' logo; tabs 'Real time data' (active) and 'Statistics'; price 5.79



Open configurator (step 4)

Text description of this image

Screenshot of the Reduxi mobile app showing the 'Tunnel connection' screen. The screen displays a 'New patch available. Click here to apply.' message and a diagram of the tunnel connection setup. The 'Open configurator' button is highlighted with a cyan box and a number badge 6.

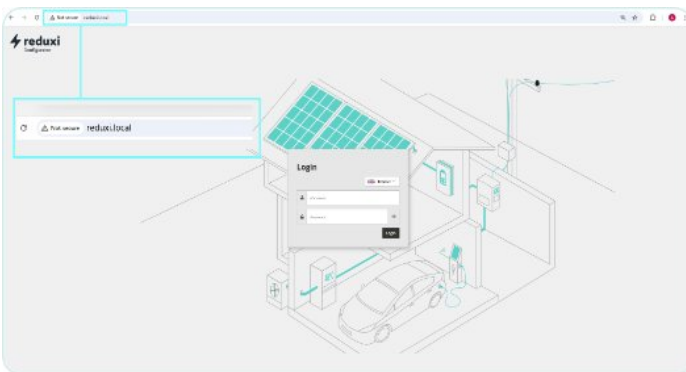
4.2 Via a web browser

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**.

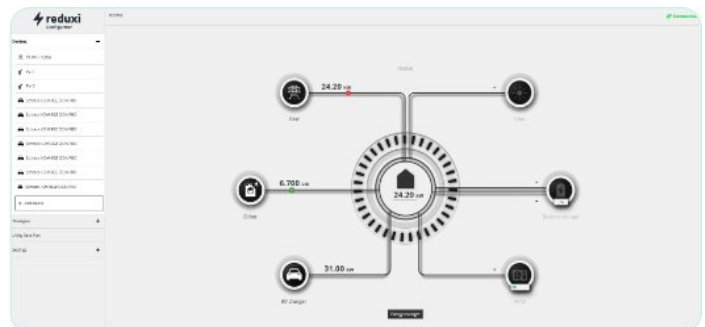
2 Log in

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



Reduxi Controller login screen

Text description of this image



Controller web interface after login

2. Text description of this image

Screenshot of the Reduxi Configurator web interface

5 Add the Shelly Pro 3EM to Reduxi

Use these steps to add a new Shelly Pro 3EM or to edit an existing one.

5.1 Basic settings

Log in locally to the [Reduxi Configurator](#) on the controller (see [Point 4](#)) and press the **Add device** button. In the first step, enter the basic settings of the device: select the energy meter and the Shelly Pro 3EM, and enter a name of your choice. Then press **Next**.

5.2 Communication settings

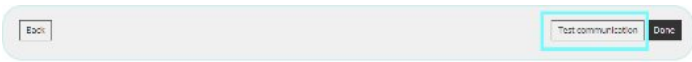
Select the communication channel. Enter the connection details of the Shelly Pro 3EM:

PARAMETER	VALUE
Connection	TCP/IP (Modbus TCP)
IP	The IP address of the Shelly in your local network (see Point 3)
Port	502 (Modbus TCP port of Shelly devices)

Then enter and choose the advanced settings.

5.3 Test communication

Click **Test communication** at the bottom of the wizard. It reads the Shelly Pro 3EM once and saves nothing. If the test succeeds, click **Done**: only **Done** creates the device.



The **Test communication** button

Text description of this image

Screenshot of the bottom button bar of a Reduxi Configurator page. Left: button 'Back'. Right: button 'Test communication' (marked with a cyan box) and dark button 'Done'.



The **Done** button

2. Text description of this image

6 Check the readings

6.1 Last measurements

After communication is established, check the values under **Devices – Shelly Pro 3EM** in the Reduxi Configurator as an additional test.

✓ Summary

Preparation (Points 1–2): Open the Shelly documentation and prepare the equipment.

Shelly Pro 3EM (Point 3): Connect the Shelly to your network, set a static IP and enable Modbus TCP.

Add to Reduxi (Points 4–5): Log in to the Reduxi Configurator, add the device with the Shelly IP and port 502 and test the communication.

Go live (Point 6): Check the last measurements under Devices.

→ Common issues

ISSUE	SOLUTION
Test communication fails	Check that Modbus TCP is enabled on the Shelly (Modbus.GetStatus) and that IP and port 502 in the Reduxi Configurator match the Shelly.
The Shelly IP address changed	Set a static IP address on the Shelly under Settings, then enter the new IP in the Reduxi Configurator.
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:



Shelly API: Modbus component

Enable Modbus TCP and read the register description from the manufacturer.



Device setup guides

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



Strategies for the Reduxi Controller

Energy manager and other strategies explained