

How to connect Iskraemeco AM550 energy meter with Reduxi controller

Connect the Iskraemeco AM550 smart meter to the Reduxi Controller over the P1 port.

⚡ Iskraemeco AM550 · Reduxi Converter · Reduxi Controller

🔌 P1 port with RJ12 cable

🔑 Block cipher key and authentication key from the XML file



Iskraemeco AM550

Text description of this image

IN THIS ARTICLE

1. Required equipment
2. Physically connect the Iskraemeco AM550 to the Reduxi Converter
3. Obtain the keys
 - Request the XML file
 - Find the keys in the XML file
4. Log in to the Reduxi web interface
 - Via the Reduxi app
 - Via a web browser
5. Add the Iskraemeco AM550 to Reduxi
 - Basic settings
 - Communication settings
 - Advanced settings
 - Test communication
6. Check the readings
7. Resolve non-working communication
8. Summary
9. Common issues
10. Related articles

1 Required equipment



Obsolete article

This article is rather obsolete. Please use [Connect P1 WiFi / Ultra converter to grid meters and Reduxi Controller](#).

You need the following components:

- ☐ Iskraemeco AM550 smart meter
- ☐ Reduxi Converter with the RJ12 cable (included in the package)
- ☐ Reduxi Controller
- ☐ The XML file with the meter keys (see [Point 3](#))
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

2 Physically connect the Iskraemeco AM550 to the Reduxi Converter

The P1 port is in the upper right corner of the AM550 smart meter. Connect the AM550 to the Reduxi Converter over the P1 port with the RJ12 cable. The cable is included in the package with the Reduxi Converter. The green LED on top of the converter starts to glow.



Location of the P1 port on the Iskraemeco AM550

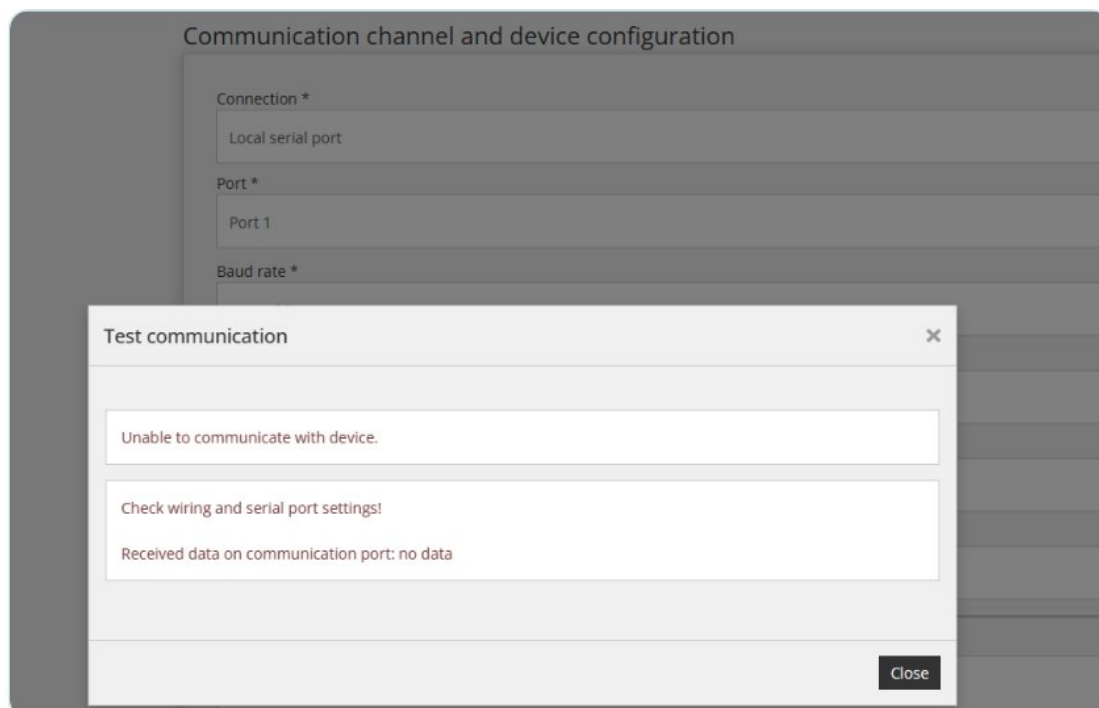
Text description of this image

Additional information about the cable: connect the double-insulated twisted-pair wire as follows. Connect the first wire (A) of the converter to Reduxi wire A. Connect the other wire (B) to Reduxi wire B. Connect the braided (shielded) cable to GND.



Note

You can test the connection from the Iskraemeco AM550 to the Reduxi Controller without keys. The test shows whether communication works, that is, whether data is received. Without keys, the data cannot be converted into measurements, but you can see if the physical communication works. You can add the keys later over a remote connection to the Reduxi Controller.



Communication is not working

Text description of this image

If communication is not working, make sure the physical connection works before you go to the next step.

3 Obtain the keys

For the Reduxi Controller to connect to the Iskraemeco AM550, you need the keys used for the communication.

3.1 Request the XML file with the keys

Send an e-mail to support@reduxi.eu. Example content:

Dear,

Please send me the key for the AM550 counter – serial number: 1680 xxxxxxxx

Thank you,

Kind regards!



Figure 1: Iskraemeco serial number – example

Text description of this image

3.2 Find the block cipher key and the authentication key in the XML file

Open the XML file with a text editor. We recommend Notepad++ on Windows. The XML contains many markups. First find `MeterRole` with `id="103"`, as shown here:

```
<MeterRole NodeName="IDIS_role" name="CIP" id="103">
  <Master_key>DE35A2267193843FDF757AD9731605D8</Master_key>
  <Global_encryption_unicast_key>HERE YOU CAN FIND Global_encryption_unicast_key</Global_enc>
  <Global_encryption_broadcast_key>4D6CC121548658396x</Global_encryption_broadcast_key>
  <Authentication_key>HERE YOU CAN FIND Authentication_key</Authentication_key>
</MeterRole>
```

In this `MeterRole`, find `Authentication_key` and `Global_encryption_unicast_key`. Copy their content into the matching fields in the Reduxi Configurator (see [Point 5](#), point 5.2).

4 Log in to the Reduxi web interface

You can open the Reduxi web interface in two ways:



REMOTE

Reduxi app

Via tunnel connection · works from anywhere



Web browser

In the local network · via IP address or reduxि.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

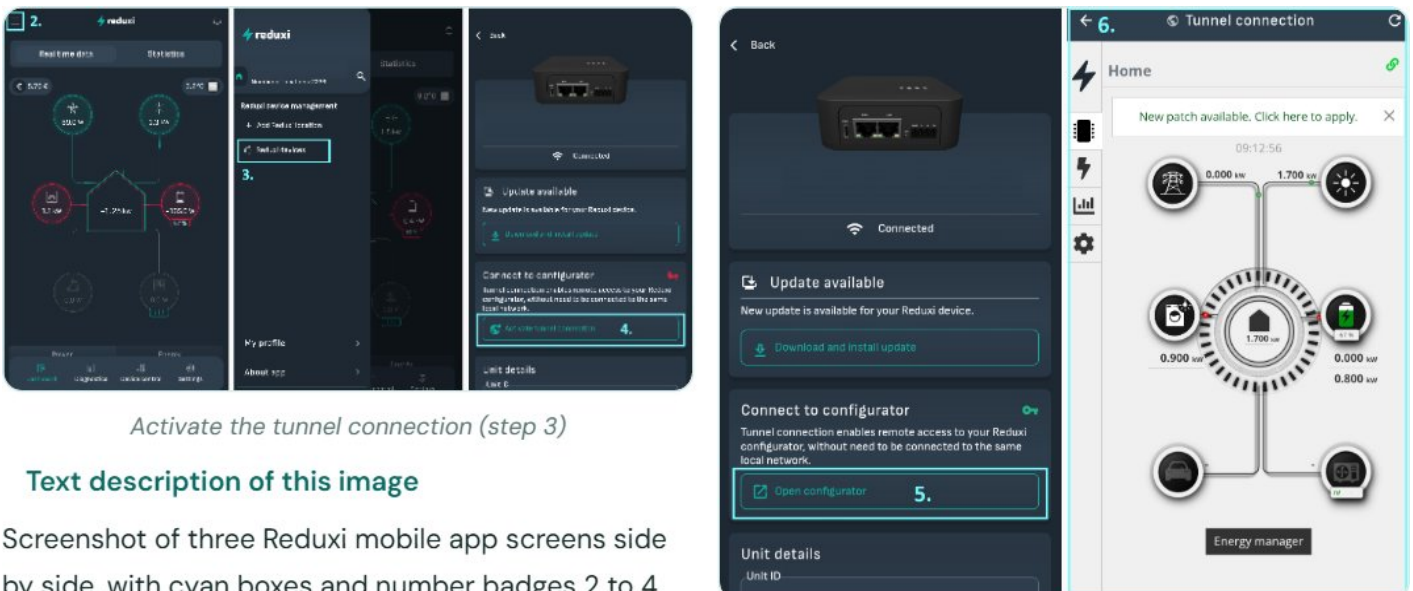
Tap the menu icon (three lines, top left) and select **Reduxi devices**.

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)

2. Text description of this image

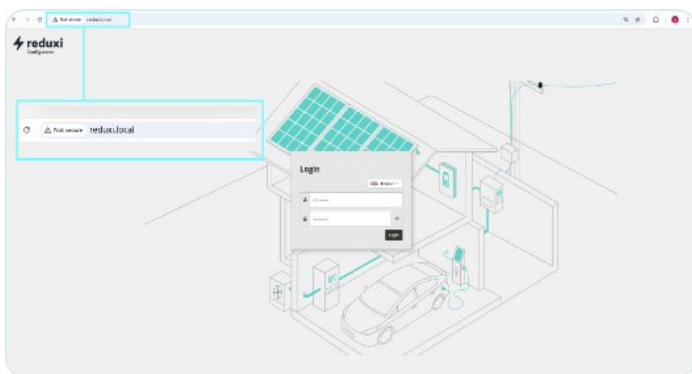
4.2 Via a web browser

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**.

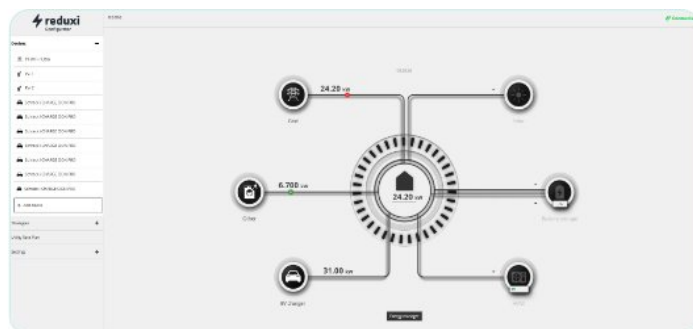
2 Log in

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 Iskraemeco AM550 to Reduxi

Use these steps to add a new energy meter or to edit an existing one.

5.1 Basic settings

Log in to the **Reduxi Configurator** (see [Point 4](#)) and click **+ Add device**. Then enter the basic settings:

- Device type: `Energy meter`
- Type: `Iskraemeco AM550`
- Name: a name of your choice

Basic settings

Device type

Energy meter

Type

Iskraemeco AM550

Name

Iskraemeco AM550

Back

Next

Basic settings: device type, type and name

Text description of this image

5.2 Communication settings

Select the communication channel, then enter the device configuration:

PARAMETER	VALUE
Interface type	HLDC
Block cipher key	Global_encryption_unicast_key , copied from the XML file
Authentication key	Authentication_key , copied from the XML file

Interface type

HLDC

Block cipher key

Here is the field "Global_encryption_unicast_key" from XML files

Authentication key

Here is the field " Authentication_key " from XML files

Figure 2: Example of entering the XML keys into the Reduxi Configurator

Text description of this image

5.3 Advanced settings

Finally, select the **Readout type**. It is the message that the meter sends. It depends on how the meter is set. Usually, the right setting is **Slovenia / SODO**, as shown in the image.

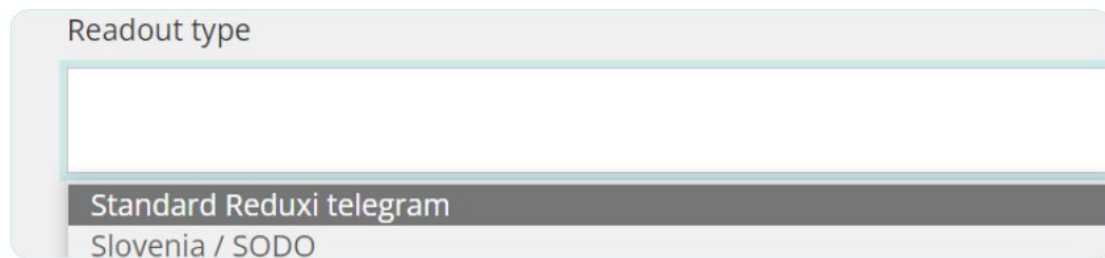
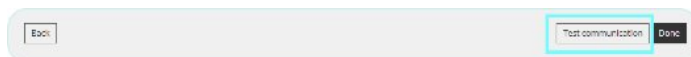


Figure 3: Readout type configuration

Text description of this image

5.4 Test communication

Click **Test communication** at the bottom of the wizard. It reads the Iskraemeco AM550 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** in the Reduxi Configurator as an additional test.

6.2 Use the meter data in Reduxi

To achieve maximum flexibility and energy cost reduction with dynamic prices and dynamic tariffs, define a strategy as described in [Strategies for Reduxi controller](#).

7 Resolve non-working communication

If communication between the Reduxi Controller and the AM550 does not work, follow this procedure:

1

Check the converter

After the physical connection, check that the Reduxi AM550 converter is active. The green LED shows that power is active.

2

Check the data transfer

The yellow LEDs on the converter flash when data is transmitted. Flashing means communication works. If the LEDs do not flash, there is a problem with the physical connection.

3

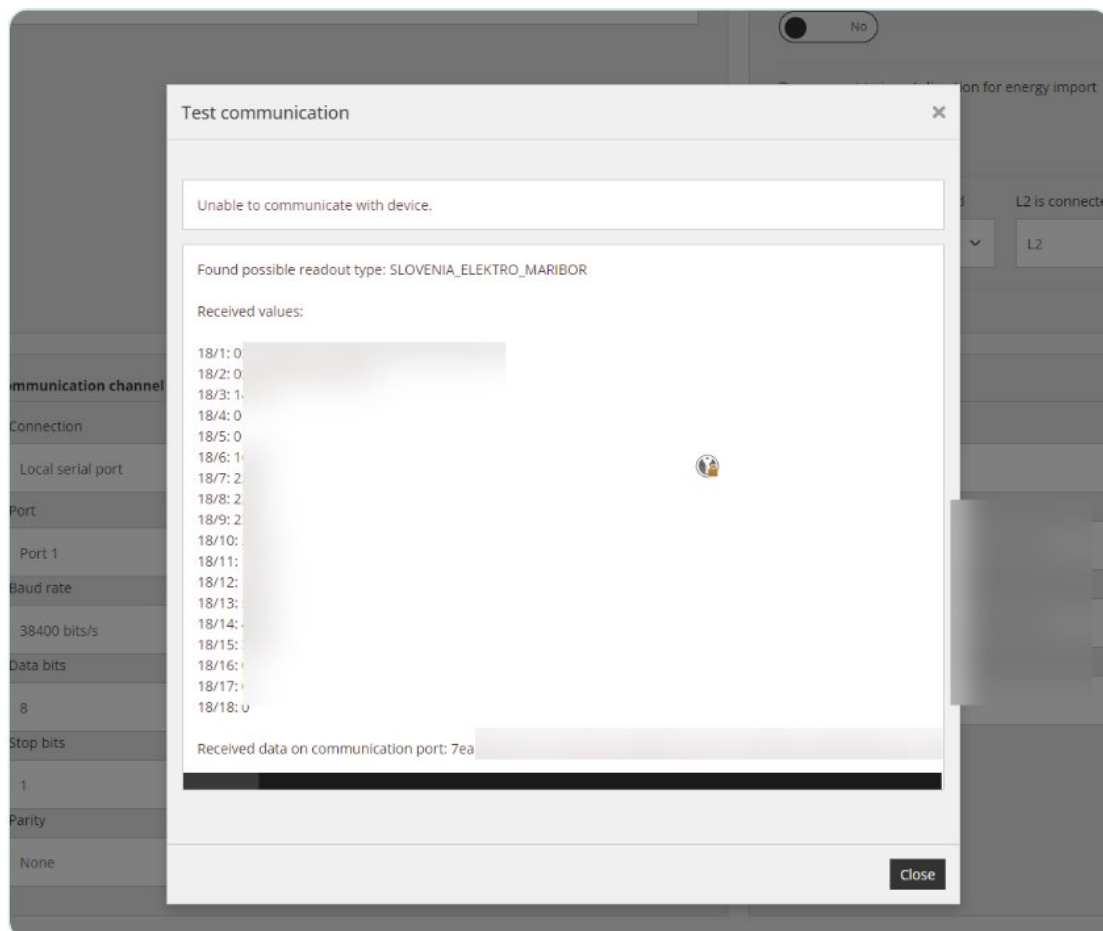
Add the meter and test

Add the AM550 meter in the Reduxi Configurator. Then click **Test communication**.

4

Check the readout type

If data is exchanged but the data is distorted, the cause is most likely the wrong choice of operator. Reduxi can suggest which operator was detected. Click **Test communication** several times to get a relevant result. The picture shows an example of the printout.



Example of the test communication printout with a suggested readout type

Text description of this image

✓ Summary

Preparation (Point 1): Prepare the AM550, the Reduxi Converter with RJ12 cable, the Reduxi Controller and a laptop.

Iskraemeco AM550 (Points 2–3): Connect the converter to the P1 port. Request the XML file at support@reduxi.eu and copy the two keys.

Add to Reduxi (Points 4–5): Log in to the Reduxi web interface. Add the energy meter, enter the keys and the readout type and run Test communication.

Go live (Points 6–7): Check the last measurements. If communication fails, follow the troubleshooting steps.

→ Common issues

ISSUE	SOLUTION
Communication is not working	Check the physical connection first. The green LED must be on. The yellow LEDs flash when data is transmitted.
Data is received but distorted	The readout type is probably wrong. Click Test communication several times. Reduxi suggests the detected operator.
No measurements without keys	Without keys, the data cannot be converted into measurements. Request the XML file at support@reduxi.eu.
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:



Connect P1 WiFi / Ultra converter to grid meters and Reduxi Controller

The current guide for connecting the P1 converter to grid meters and the Reduxi Controller.



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