

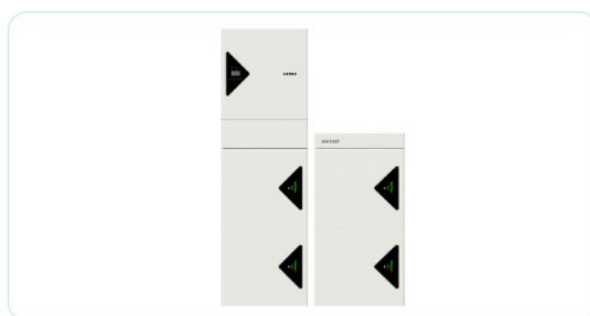
Reduxi with KSTAR hybrid

Integrate the KSTAR hybrid inverter with the Reduxi Controller via Modbus TCP/IP. This gives you maximum flexibility and cost and energy reductions of up to 30%.

🔌 KSTAR hybrid inverter · Reduxi Controller

🌐 Modbus TCP/IP 🏠 IP address from the inverter HMI

KSTAR



KSTAR hybrid inverter

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1 Preparation

1.1 Technical documentation

For further information about the settings of the KSTAR hybrid inverter, see the manufacturer manual.

- [KSTAR hybrid inverter user manual \(E 8-12 KT, EN, V1.0\)](#) – Inverter settings, including the HMI

1.2 Required equipment

- ☐ Reduxi Controller
- ☐ KSTAR hybrid inverter, connected to the Reduxi Controller
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

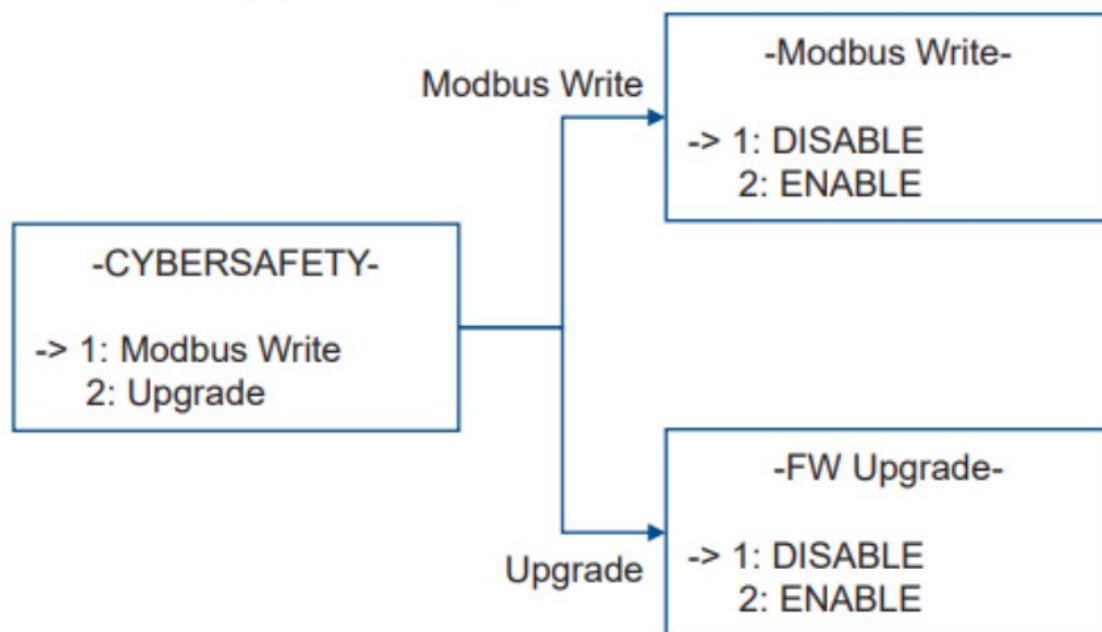
2 Configure the KSTAR hybrid inverter

2.1 Enable Modbus TCP/IP on the inverter

On the HMI of the inverter, enable the Modbus TCP/IP communication settings as shown in the image.

On the **CYBERSAFETY** page, you have two options:

- **Modbus Write:** To enable or disable remote control of the inverter. When this feature is enabled, you can control the inverter on the data-monitoring page.
- **Upgrade:** When this feature is enabled, you can upgrade the firmware of the inverter or the battery packs remotely.



Modbus TCP/IP settings on the inverter HMI

2.2 Find the IP address



Important

Read the IP address of the KSTAR hybrid inverter from its HMI. You need it in the communication settings in the Reduxi Configurator (see [Point 4](#)).

3 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`

3.1 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

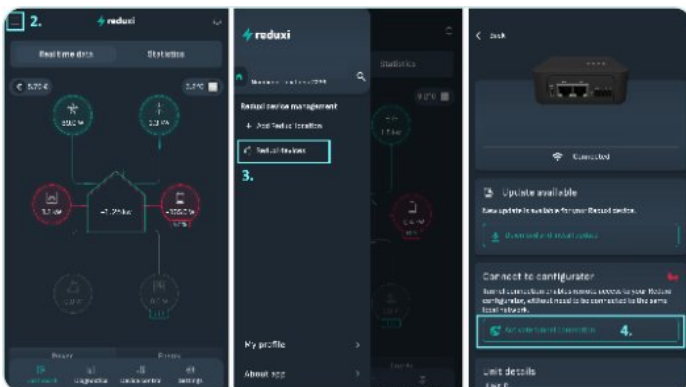
Tap the menu icon (three lines, top left) and select **Reduxi devices**.

3 Activate the tunnel connection

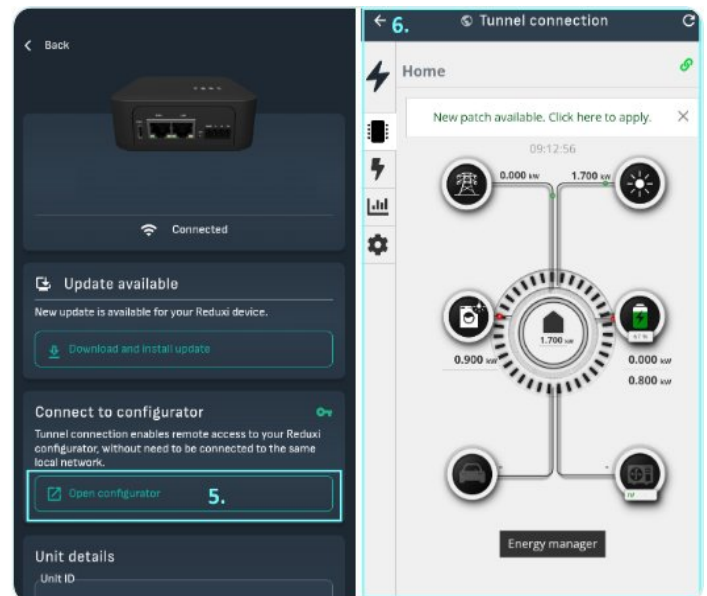
Switch on the tunnel connection and wait a moment until it is active.

4 Open the configurator

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



Activate the tunnel connection (step 3)



Open configurator (step 4)

3.2 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**.

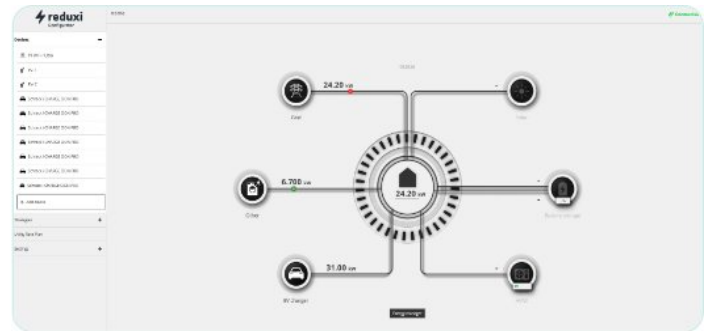
2

Log in

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



Reduxi Controller login screen



Controller web interface after login

4

Add the KSTAR hybrid inverter to Reduxi

After you connect the Reduxi Controller and the KSTAR hybrid inverter, register the inverter as a new device.

4.1 Basic settings

Log in locally to the [Reduxi Configurator](#) on the controller (see [Point 3](#)) and click **+ Add device**.

reduxi[⚡]

CONFIGURATOR

Devices



Strategies



+ Add device

+ Add strategy

Settings

Profile

*The **Add device** button*

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

- Device type: **Hybrid Inverter**
- Type: **KSTAR Hybrid**
- Name: a name of your choice

The screenshot shows a three-step progress bar at the top: 1 Basic settings (active), 2 Communication channel, and 3 Advanced settings. The main content area is titled 'Basic settings' and contains the following fields:

- Device type ***: A dropdown menu with 'Hybrid inverter' selected.
- Type ***: A dropdown menu with 'KSTAR' selected.
- Categories ***: A row of three buttons: 'Solar power plant X', 'Battery X', and 'Grid X'. The 'Grid X' button is highlighted.
- Name ***: A text input field containing 'KSTAR'.

At the bottom left is a 'Back' button, and at the bottom right is a 'Next' button.

Basic settings: device type, type and name

4.2 Communication settings

The second step sets up the communication channel between the Reduxi Controller and the KSTAR hybrid inverter. This step is essential for Modbus TCP/IP communication. The image shows the settings of the communication channel.



Note

Read the IP address from the HMI of the KSTAR hybrid inverter (see [Point 2](#)).

The screenshot shows a three-step progress bar at the top: 1 Basic settings, 2 Communication channel (active), and 3 Advanced settings. The main content area is titled 'Communication channel and device configuration' and contains the following fields:

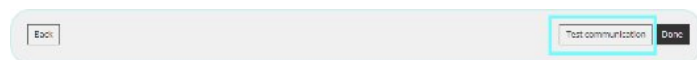
- Connection ***: A dropdown menu with 'TCP/IP' selected.
- IP ***: A text input field containing '192.168.2.210'.
- Port ***: A text input field containing '2000'.
- Modbus unit ID ***: A text input field containing '1'.

At the bottom left is a 'Back' button. At the bottom right are two buttons: 'Test communication' and 'Next'.

Communication settings

4.3 Test communication

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



The **Test communication** button

A form titled 'Communication channel and device configuration'. It contains several input fields: 'Connection *' (a dropdown menu showing 'TCP/IP'), 'IP *' (a text field with '192.168.20.248' and a 'Test for IP' button), 'Port *' (a text field with '202' and a 'Test port' button), and 'Modbus unit ID *' (a text field with '1'). At the bottom, there are 'Back', 'Test communication', and 'Done' buttons. The 'Done' button is highlighted with a red rectangle.

The **Done** button

4.4 Advanced settings

Use the advanced settings only if the location has special needs. By default, you do not need to change anything.

The 'Advanced settings' page is shown within a wizard interface. At the top, there are three numbered steps: '1 Basic settings', '2 Communication channel', and '3 Advanced settings'. The 'Advanced settings' section contains several toggle switches, each with a 'No' label and a default value: 'Do you want to set data saving interval?' (Default: 1 min), 'Do you want to set reading delay?' (Default: 1000 ms), 'Do you want to set writing delay?' (Default: 1000 ms), 'Do you want to set power generation limits and capabilities?', 'Do you want to set power consumption limits and capabilities?', 'Do you want to limit communication with the device to read-only?' (Default: No), and 'Do you want to invert direction for energy import and export?' (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', each with a value (L1, L2, L3) selected. At the very bottom, there are 'Back' and 'Done' buttons.

Advanced settings

5 Check the readings

5.1 Last measurements

After communication is established, check the readings under **Devices – KSTAR Hybrid Inverter – Last measurement** in the [Reduxi Configurator](#).

Control type

Auto

Manual

17.03.2025 12:27:01

Grid import active power limit

-

5.0

kW

+

17.03.2025 12:27:01

Grid export active power limit

-

5.0

kW

+

17.03.2025 12:27:01

Battery active power setpoint

-

0.0

kW

+

17.03.2025 12:27:01

Mode name setpoint

Max. production

Self consumption

Max. consumption

Peak shaving

Setpoint

17.03.2025 12:27:01

Battery

Active power

0.2

kW

17.03.2025 12:27:04

Current

0.00

A

17.03.2025 12:27:04

Voltage

517.70

V

17.03.2025 12:27:04

State of charge

11.75

%

17.03.2025 12:27:04

State

STANDBY

17.03.2025 12:27:04

State of health

100.0

%

17.03.2025 12:27:04

Min. state of charge

10.00

%

17.03.2025 12:27:04

Temperature

14.4

°C

17.03.2025 12:27:04

Max capacity

102.4

kWh

17.03.2025 12:27:04

Max. state of charge

100.00

%

17.03.2025 12:27:04

Import active energy

1,678,138.6

kWh

17.03.2025 12:27:04

Export active energy

11,936.5

kWh

17.03.2025 12:27:04

Min. active power

-51.8

kW

17.03.2025 12:27:04

Max. active power

51.8

kW

17.03.2025 12:27:04

Active power setpoint

0.0

kW

17.03.2025 12:27:04

PV

Active power

0.0

kW

17.03.2025 12:27:04

Current

0.00

A

17.03.2025 12:27:04

Voltage

30.17

V

17.03.2025 12:27:04

Export active energy

0.0

kWh

17.03.2025 12:27:04

Min. active power

-50.0

kW

17.03.2025 12:27:04

State

STANDBY

17.03.2025 12:27:04

Load

Active power

0.0

kW

17.03.2025 12:27:04

Import active energy

0.0

kWh

17.03.2025 12:27:04

Inverter

Active power

0.0

kW

17.03.2025 12:27:04

Max active power

50.0

kW

17.03.2025 12:27:04

Min active power

-50.0

kW

17.03.2025 12:27:04

State

STANDBY

17.03.2025 12:27:04

Error

OFF

17.03.2025 12:27:04

Grid

Grid frequency

50.010

Hz

17.03.2025 12:27:04

Active power

38.6

kW

17.03.2025 12:27:04

Import active power limit

5.0

kW

17.03.2025 12:27:04

Export active power limit

5.0

kW

17.03.2025 12:27:04

Export active energy

4,756.0

kWh

17.03.2025 12:27:04

Import active energy

127,712.0

kWh

17.03.2025 12:27:04

Other

Communication error

OFF

17.03.2025 12:27:02

Control type

MANUAL

17.03.2025 12:27:04

Mode name setpoint

SELF_CONSUMPTION

17.03.2025 12:27:04

Last measurements of the KSTAR hybrid inverter

5.2 Enable control by Reduxi

For advanced control, integrate the device into the optimization modes of the Reduxi system. Under **Devices – KSTAR Hybrid** 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 add the device, you can also monitor and control it in [the Reduxi application](#).

✓ Summary

Preparation (Points 1–2): Use the KSTAR manual. Connect the inverter to the Reduxi Controller.

KSTAR hybrid inverter (Point 2): Enable Modbus TCP/IP on the inverter HMI. Read the IP address from the HMI.

Add to Reduxi (Points 3–4): Log in to the Reduxi web interface. Add the device with type KSTAR Hybrid, enter the IP address and run Test communication.

Go live (Point 5): Check the last measurements. Set the control type to AUTO and define a strategy.

→ Common issues

ISSUE	SOLUTION
Test communication fails	Check that Modbus TCP/IP is enabled on the inverter HMI. Check that the IP address in the communication settings matches the IP address shown on the HMI.
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:



KSTAR hybrid inverter user manual

Manufacturer manual with the inverter HMI settings.



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