

How to configure and connect CHINT CPS String Inverter 60kw–275kw to Reduxi controller

Connect CHINT CPS string inverters (60 kW to 275 kW) to the Reduxi Controller via Modbus RS485. Optionally use the FlexOM Gateway.

🔧 CHINT CPS string inverter · Reduxi Controller

🌐 Modbus RS485 (A/B) · optional FlexOM Gateway (TCP/IP, port 502)

🔌 Daisy chain, up to 32 inverters

🏠 Device type: Solar power plant



CHINT CPS string inverter (SCH275KTL)

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1 Technical documentation

Manufacturer documents for CHINT CPS inverters and the FlexOM Gateway:

- [CPS SCH275KTL user manual \(PDF\)](#) – Terminals, RS485 connection, Modbus address and the CPS Connect Pro app.
- [CPS FlexOM Gateway user manual \(PDF\)](#) – Official documentation of the optional FlexOM Gateway module.
- [CPS string inverters](#) – Overview of the CPS string inverter range.

For the exact location of the terminals, refer to the official documentation of your inverter model.

2 Required equipment

You need the following components:

- ☐ CHINT CPS string inverter (60 kW to 275 kW)
- ☐ Reduxi Controller
- ☐ Shielded RS485 cable (the CPS manual names shielded twisted-pair cable such as Belden 3106A)
- ☐ For inverters without display: laptop, RS485 to USB adapter and the CHINT configuration/service software
- ☐ Optional: FlexOM Gateway module
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

3 Connect the inverter to the Reduxi Controller

3.1 Physical connection

Locate the terminals on the inverter. Refer to the official documentation for the exact location:

- RS485 A (D+)
- RS485 B (D-)
- GND (optional)

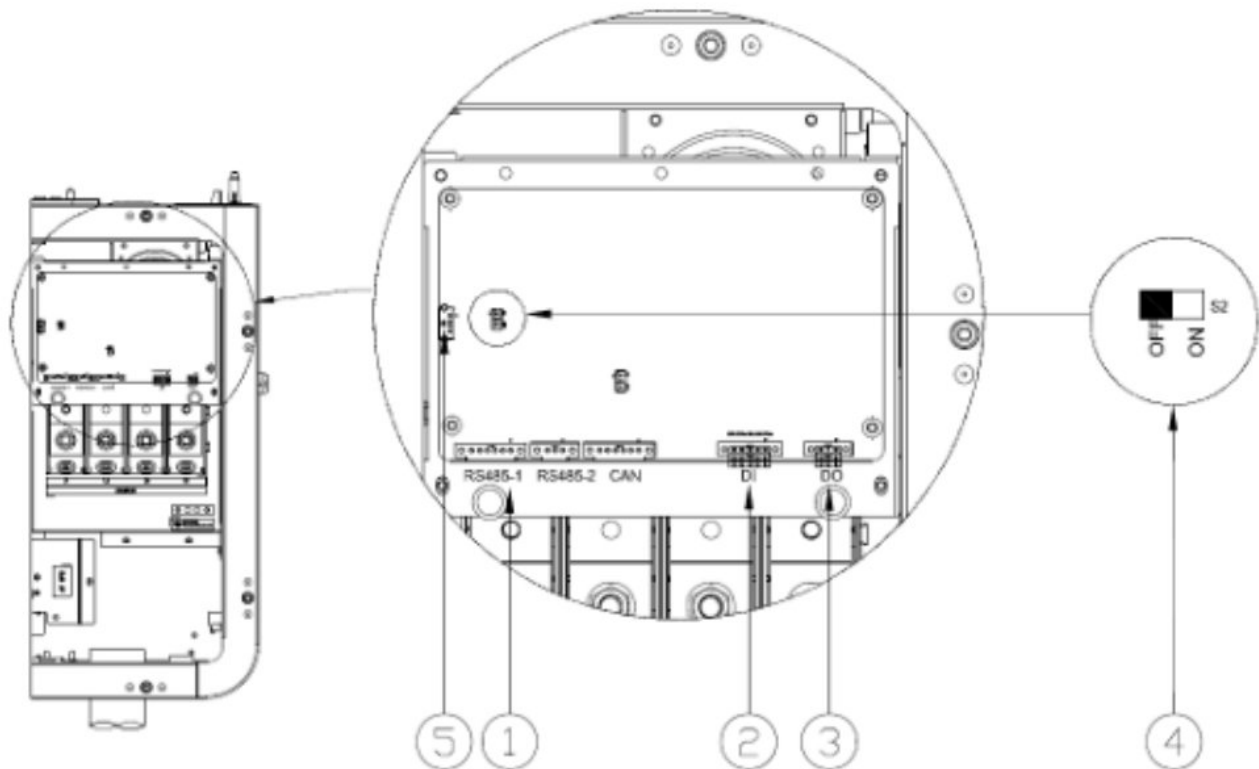


Figure 3-35 Communication Connection Interfaces

No.	Name	Description
①	RS485-1 P170	(From right to left) 1. GND 2. RS485-1 B 3. RS485-1 A 4. GND 5. RS485-1 B1 6. RS485-1 A1
②	Reserved	function not available
③	Reserved	function not available
④	Selection Switch (S2):	120Ω terminal resistor switch for communications. ON : Enable termination resistance OFF : Disable termination resistance
⑤	USB P153	Firmware upgrade

Communication connection interfaces of the inverter (from the manufacturer manual)

Connect as follows:

1

RS485 A

Connect RS485 A on the inverter to RS485 A on the Reduxi Controller.

2

RS485 B

Connect RS485 B on the inverter to RS485 B on the Reduxi Controller.

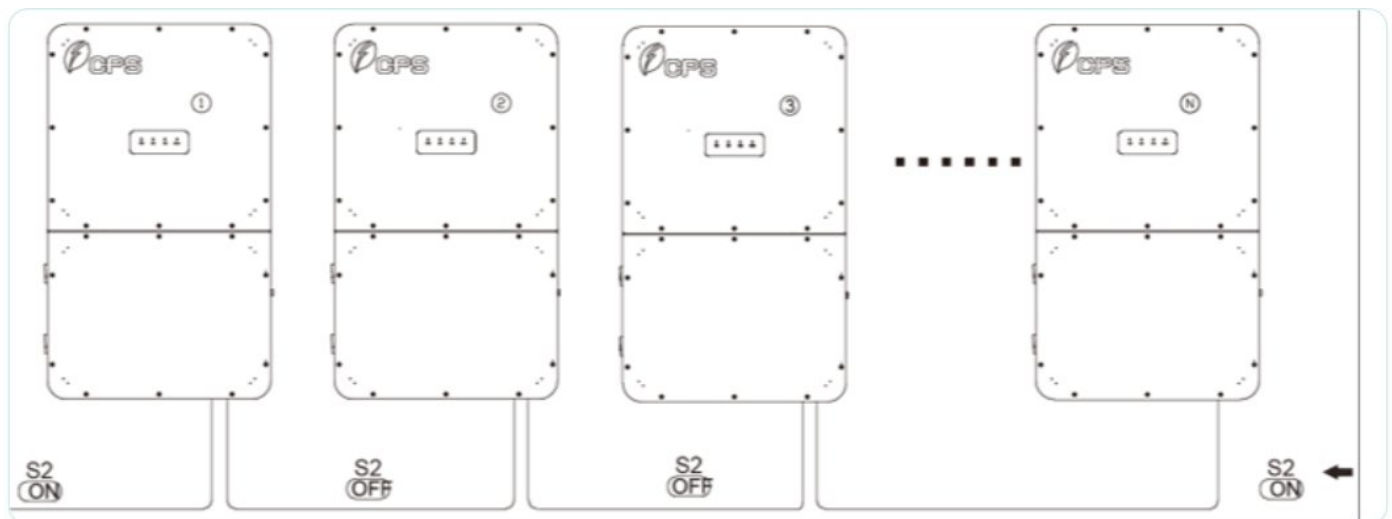
3

GND

You can connect GND if you use a shielded cable.

3.2 Multiple inverters

When you connect multiple inverters, use a linear (daisy chain) topology. Do not use a star connection. The CPS manual allows up to 32 inverters on one RS485 chain.



Daisy chain: S2 ON on the first and last inverter

On the first and last device in the chain, enable the switch (S2) as shown in the image. S2 enables the 120 Ω terminal resistor.

4 Set the RS485 address on the inverter

Each inverter on the chain needs its own Modbus address. The method depends on the inverter.

4.1 Inverters with LCD display

Set the RS485 address directly on the inverter:

1

Open the menu

On the inverter display, go to **Settings** → **Communication** → **RS485**.

2

Find the parameter

Locate the parameter **Address (Modbus ID)**.

3

Set the address

Enter the required value (for example 1, 2, 3, ... depending on the system).

4

Save

Confirm and save the settings on the inverter.

No additional tools or software are required. You do all the configuration locally on the inverter screen.

4.2 Inverters without LCD display

For inverters without a display, set the RS485 address with a PC and an RS485 to USB connection.

1

Connect the adapter to the inverter

Adapter A to inverter RS485 A. Adapter B to inverter RS485 B.

2

Connect the adapter to the PC

Plug the adapter into the PC via USB.

3

Open the CHINT software

Open the CHINT configuration software on the PC.

4

Set the communication parameters

Select the correct COM port (for example **COM3**) and set: BaudRate **9600**, DataBits **8**, Parity **None**, StopBit **1**.

5

Connect

Establish the connection with the inverter (Connect / Read).

6

Set the address

Locate the parameter **Address (Modbus ID)**, set the required address and write/save it to the inverter.



If RS485 access is not supported

If the inverter firmware does not support the direct RS485 connection, set the address with a compatible gateway or service interface.



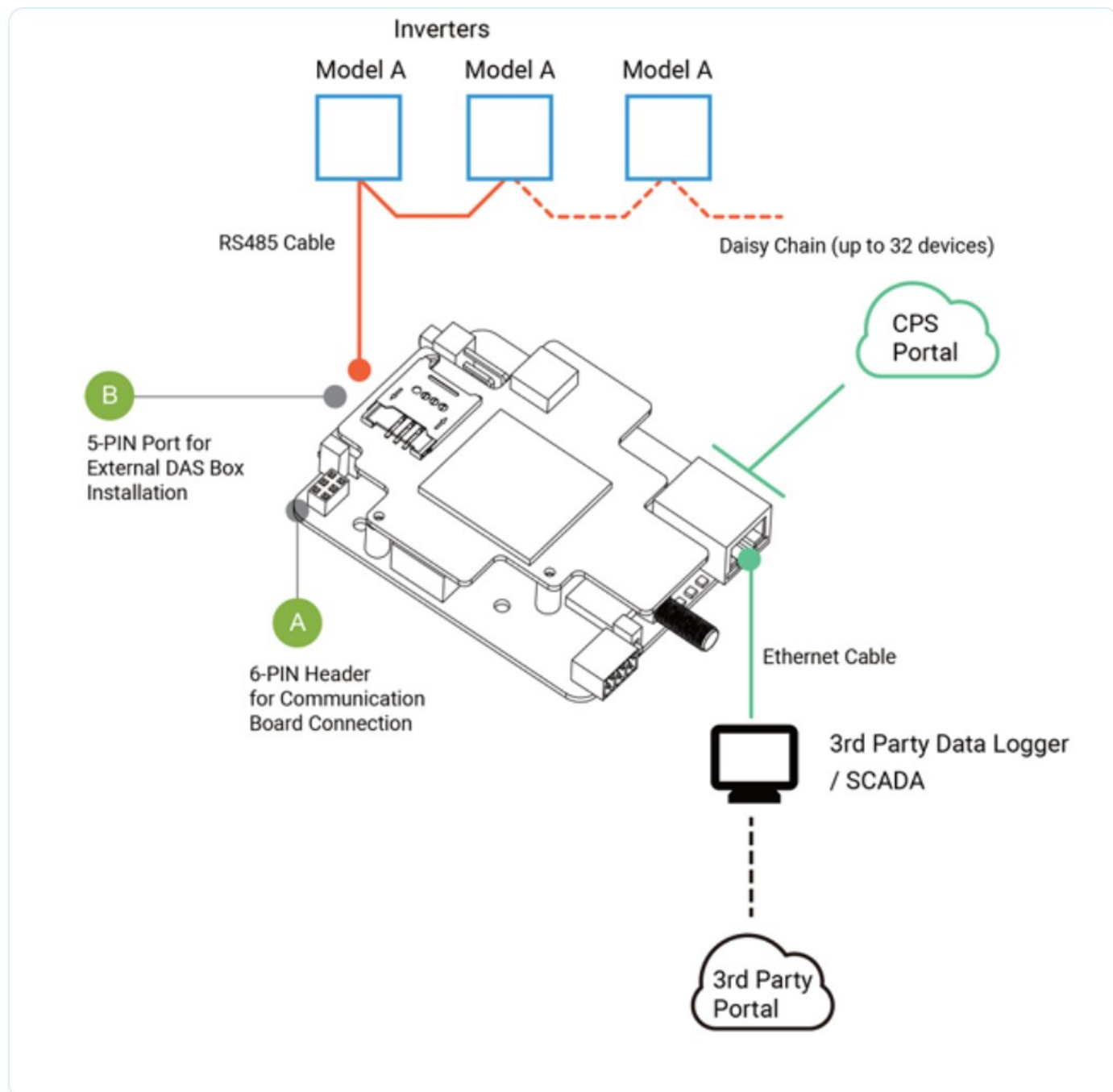
CPS Connect Pro app

The CPS SCH275KTL manual describes assigning the Modbus address and the baud rate with the CPS Connect Pro app. Check your inverter manual for the method of your model.

5

Optional: FlexOM Gateway module

As an optional addition, you can install a **FlexOM Gateway** module.



FlexOM Gateway module

The module enables:

- Remote access to the inverter
- Communication via **TCP/IP (Ethernet), port 502**
- Easier configuration and monitoring through a web interface

With the FlexOM Gateway, you can access the inverter over the network. In most cases, you no longer need the direct RS485 configuration via PC.



Firewall ports

The FlexOM Gateway needs an Internet connection via Ethernet. Before commissioning the gateway, open the LAN firewall ports **both ways** (incoming and outgoing): **TCP 1884** with destination IP **47.254.52.209** (mqtt.chintpowersystems.com).

Official documentation: [CPS FlexOM Gateway user manual](#).

6 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

6.1 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

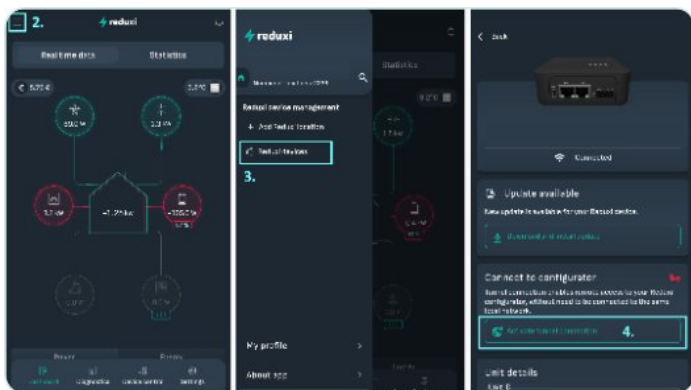
Activate the tunnel connection

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

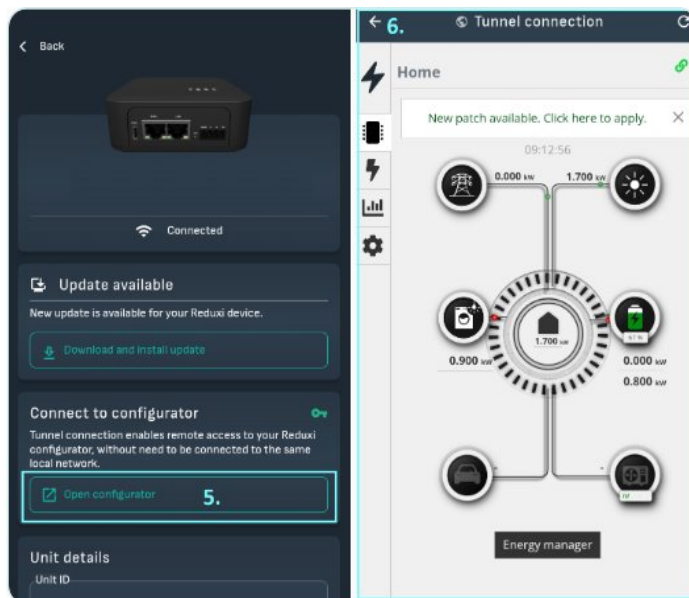
4

Open the configurator

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



Activate the tunnel connection (step 3)



Open configurator (step 4)

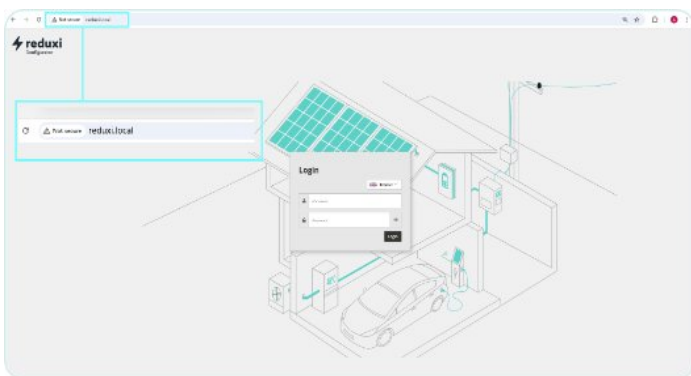
6.2 Via a web browser

1 Open the login page

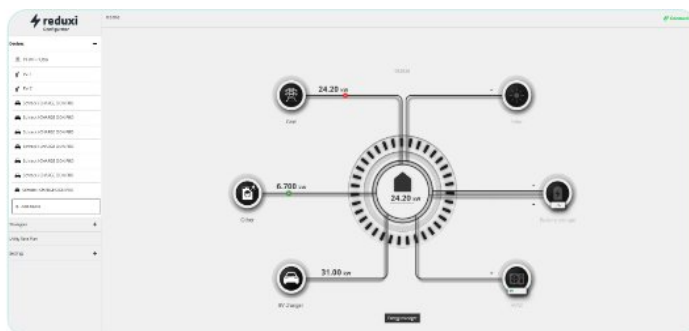
On a device in the same network, open a web browser and enter the controller's IP address or `http://reduxi.local`. You can find the controller's IP address in your router's device list or in the Reduxi app under **Reduxi devices**.

2 Log in

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



Reduxi Controller login screen



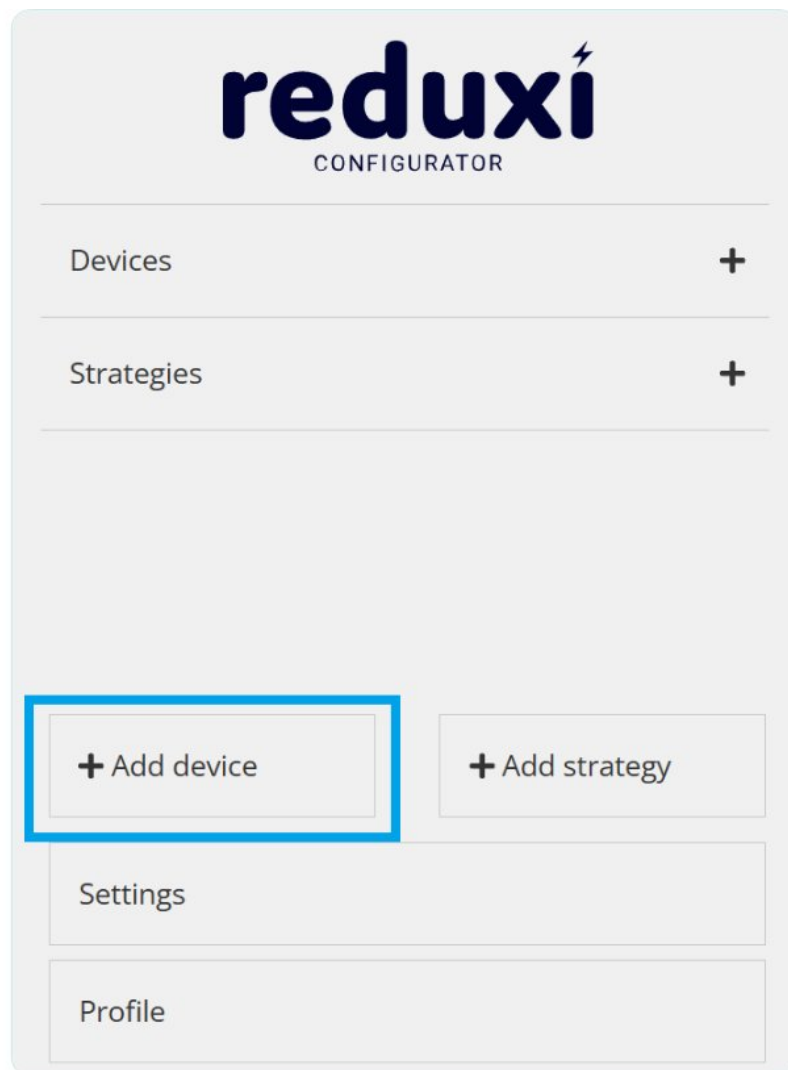
Controller web interface after login

7 Add the CHINT inverter to Reduxi

Use these steps to add a new CHINT string inverter or to edit an existing one.

7.1 Basic settings

Log in to the [Reduxi Configurator](#) (see [Point 6](#)) and click **+ Add device**.



The + Add device button

In the first step, select the basic parameters of the device:

- Device type: Solar power plant
- Type: CHINT CPS String Inverter
- Name: a name of your choice

1

2

3

Basic settingsCommunication channelAdvanced settings

Basic settings

Device type *

Type *

Name *

Back

Next

Basic settings

7.2 Communication channel

Fill in the communication parameters:

PARAMETER	VALUE
Connection	TCP/IP (FlexOM Gateway)
IP	The IP address of the gateway
Port	Always 502
Modbus unit ID	The Modbus address (Address (Modbus ID)) of the inverter, set in Point 4

Communication channel and device configuration

7.3 Test communication

The **Test communication** button is below all communication settings. If the test succeeds, click **Done**: only **Done** creates the device.

The **Test communication** button

The test returns one of two results:

1. Communication works properly

2. Communication does not work properly

7.4 Advanced settings

The advanced settings are optional and depend on the needs of the site where the Reduxi Controller is installed. After you finish, click **Done** at the lower right.

1
Basic settings
2
Communication channel
3
Advanced settings

Advanced settings

Do you want to set data saving interval?
☒ No Default: 1 min

Do you want to set reading delay?
☒ No Default: 1000 ms

Do you want to set writing delay?
☒ No Default: 1000 ms

Do you want to set power generation limits and capabilities?
☒ No

Do you want to set power consumption limits and capabilities?
☒ No

Do you want to limit communication with the device to read-only?
☒ No Default: No

Do you want to invert direction for energy import and export?
☒ No Default: No

Do you want to exclude device from summary?
☒ No Default: No

L1 is connected to main feed

L1

L2 is connected to main feed

L2

L3 is connected to main feed

L3

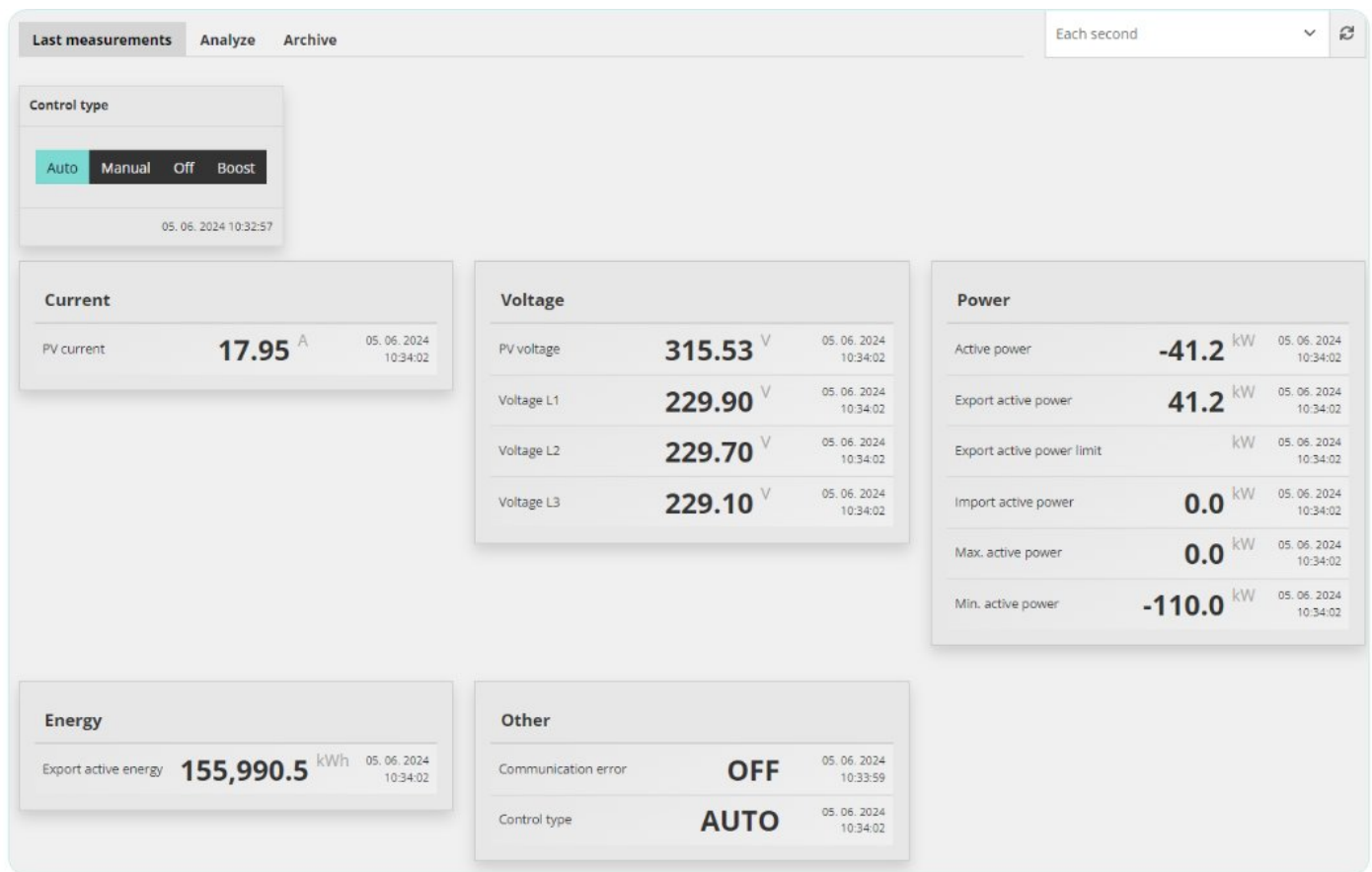
Back
Done

Advanced settings

8 Check the readings

8.1 Last measurements

After communication is established, check the measured values as an additional test. Click **Device** on the home page of the Reduxi Configurator and select the newly added CHINT inverter in the tree structure.



Last measurements of the inverter

8.2 Enable control by Reduxi

To let a strategy manage the device, set the management mode to **Automatic**. In manual mode, you can test the operation of the different states.

To define a strategy, see [Strategies for Reduxi controller](#).

After you add the device and check the values, you can inspect and control it in the [Reduxi application](#).

✓ Summary

Preparation (Points 1–2): Get the documentation. Prepare the shielded RS485 cable and a laptop or tablet. For inverters without display, add an RS485 to USB adapter.

CHINT inverter (Points 3–5): Connect RS485 A and B to the Reduxi Controller. Use a daisy chain for several inverters, with S2 ON on the first and last. Set a unique Modbus address on each inverter. Optionally add the FlexOM Gateway.

power plant CHINT CPS String Inverter Solar Test
communication and click **Done**.

Go live (Point 8): Check the readings under Device. Set the management mode to Automatic for strategy control.

→ Common issues

ISSUE	SOLUTION
Test communication fails	Check RS485 A and B (see Point 3). Check that each inverter has its own Modbus address (see Point 4) and that it matches the Modbus unit ID in Reduxi.
Several inverters, not all respond	Use a daisy chain, not a star. Enable S2 on the first and last inverter (see Point 3 , Point 3.2).
FlexOM Gateway stays offline	Open the LAN firewall ports both ways: TCP 1884 to 47.254.52.209 (see Point 5).
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:



CPS string inverters (manufacturer)

Product overview of the CPS string inverter range with datasheets and manuals.



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