

How to connect SolaX X1/X3 hybrid inverter G4/Pro/Ultra with Reduxi controller

Cut energy costs by up to 70%: connect SolaX Power X1/X3 hybrid inverters G4, Pro and Ultra to the Reduxi Controller via Modbus TCP/IP or RTU.



🔧 SolaX X1/X3 Hybrid G4/Pro/Ultra · Reduxi Controller

🌐 Modbus TCP/IP or Modbus RTU

📡 TCP port 502 · Modbus unit ID 1 (default)



SolaX X1 Hybrid G4

Text description of this image

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1 Prepare the SolaX inverter

1.1 Technical documentation

- [SolaX X1-Hybrid G4](#) – Product page
- [SolaX downloads](#) – Manuals and datasheets

1.2 Required equipment

- ☐ SolaX Power X1 or X3 Hybrid Inverter (G4, Pro or Ultra)
- ☐ For Modbus TCP: WiFi 3.0 dongle or WiFi & LAN 3.0 dongle
- ☐ For Modbus RTU: RS485 connection to the Reduxi Controller (see wiring diagrams in [Point 2](#))
- ☐ Reduxi Controller
- ☐ Laptop or tablet with internet access to configure the device in Reduxi

1.3 Install the latest firmware

The inverter must have the latest firmware. To update it, contact SolaX Power support: service.global@solaxpower.com

The table shows the firmware versions by device:

Device		Hardware	Firmware
Energy StorageInverters	Singlephase	X1-IES	ARM V1.23
	Threephase	X3-HybridG4	ARM V1.20
		X3-Hybrid G4 Pro(Need LAN)	ARM V4
		X3-IES	ARM V13
		X3-Ultra	ARM V4.04
On-grid Inverters	Singlephase	X1-MINIG3	ARM V1.46
		X1-MINIG4	ARM V1.0
		X1-MINI G4 Plus	ARM V1.0
		X1-SMART G2	ARM V2.05
		X1-BOOSTG3	ARM V1.46
		X1-BOOSTG4	ARM V1.0
	Threephase	X3-MICG2	ARM V1.17
		X3-PROG2	ARM V1.17
		X3-MEGAG2	ARM V008.02
		X3-FORTH	ARM V015.01
		X3-FORTH Plus	ARM V002.01
		X3-GROUND	ARM V1.00
Wi-Fidongle		Pocket WiFi2.0/Plus(Transition) (SX/SJ)	V3.005.01
		Pocket WiFi 3.0(SV/SR)	V3.005.01
		Pocket WiFi 3.0(SS)	V3.031.02
		Pocket WiFi+LAN(SN)	V1.001.20(WiFi、LAN all support)
		Pocket WiFi+4GM(SM)	V1.001.23(Only WiFi)
		Pocket WiFi+LAN 2.0(XW)	V001.31(WiFi、LAN all support)

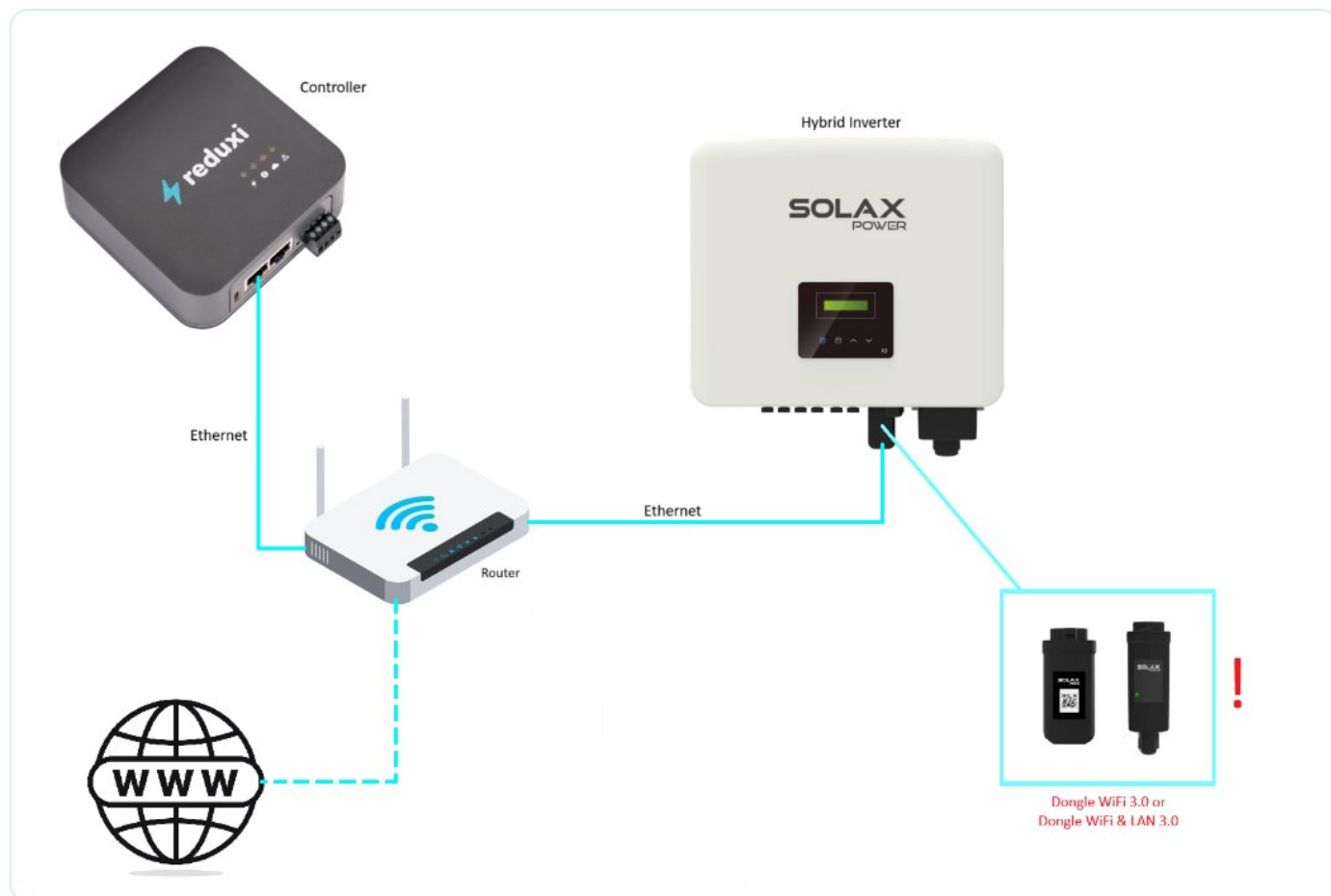
Firmware versions by device

Text description of this image

2 Physical connection

2.1 Modbus TCP/IP

The picture shows the entire connection from the Reduxi Controller to the inverter.



Connection via Modbus TCP/IP

Text description of this image

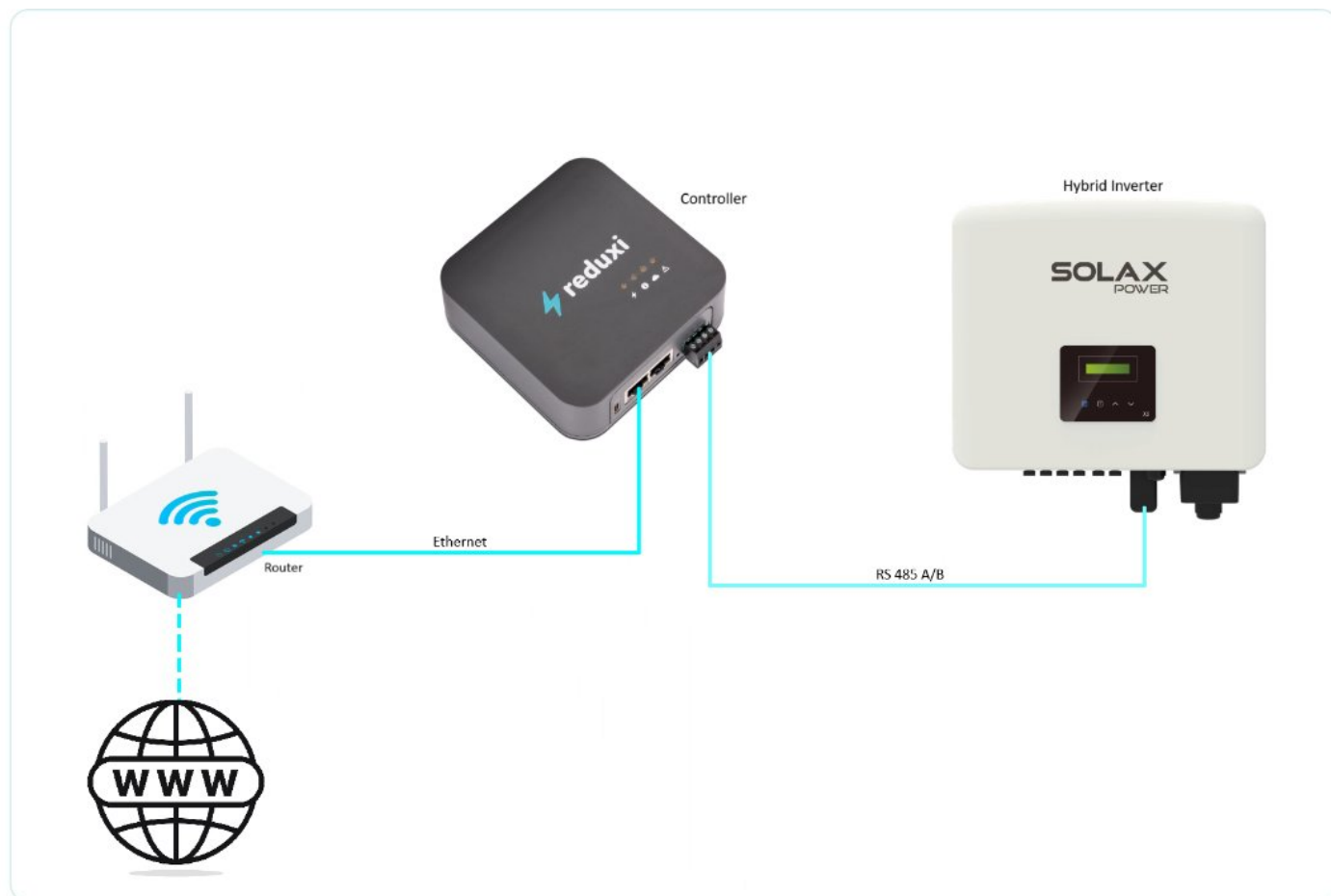


Dongle required

For Modbus TCP you need the WiFi 3.0 dongle or the WiFi & LAN 3.0 dongle.

2.2 Modbus RTU

The picture shows the entire connection from the Reduxi Controller to the inverter.



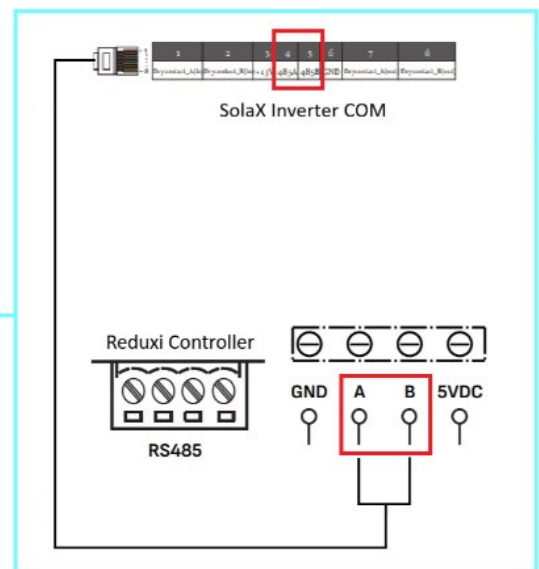
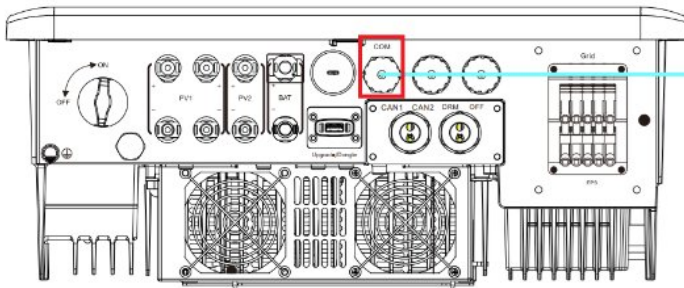
Connection via Modbus RTU

Text description of this image

2.2.1 Wiring diagrams

Connect terminals A and B of the RS485 port of the Reduxi Controller to the COM port of the inverter, as shown for your series.

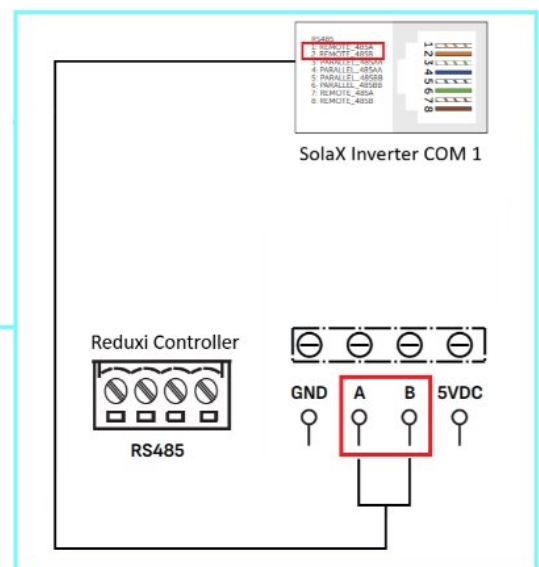
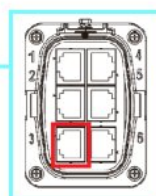
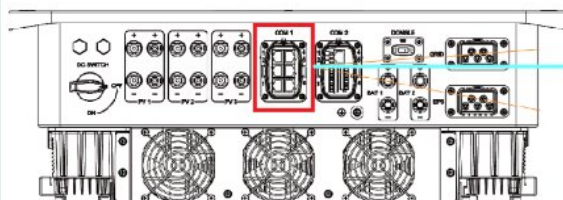
X1/X3 G4 Series



X1/X3 G4 series

Text description of this image

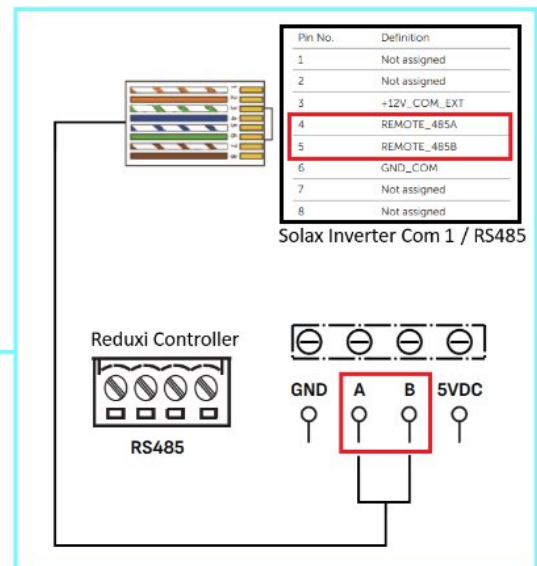
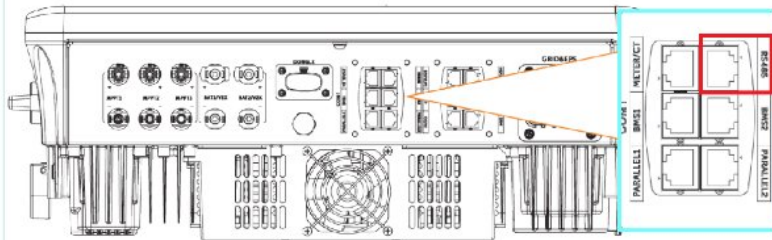
X1/X3 Ultra Series



X1/X3 Ultra series

Text description of this image

X1/X3 PRO Series



X1/X3 Pro series

Text description of this image

3 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 reduxι.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

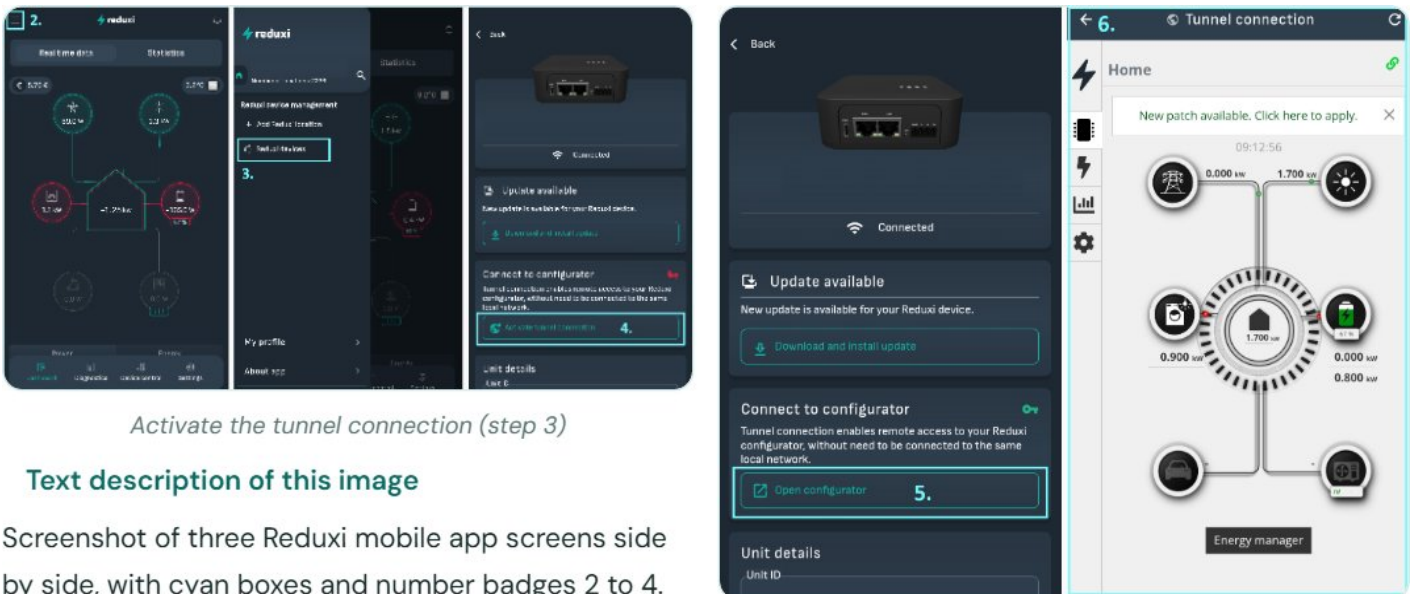
Activate the tunnel connection

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)

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. Middle screen (statistics): cyan box around 'Open configurator' button with badge 3. Right screen (update available): cyan box around 'Open configurator' button with badge 4.

Open configurator (step 4)

Text description of this image

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

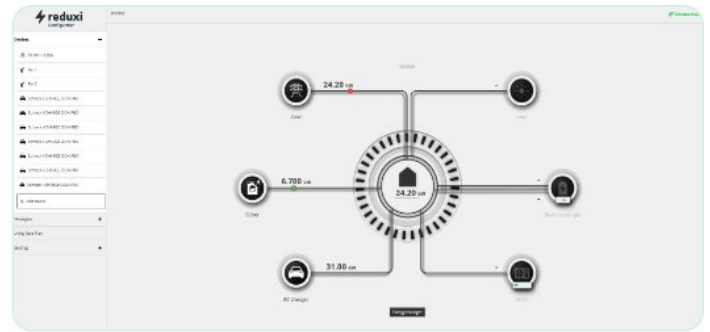
Log in

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



Reduxi Controller login screen

Text description of this image



Controller web interface after login

2. Text description of this image

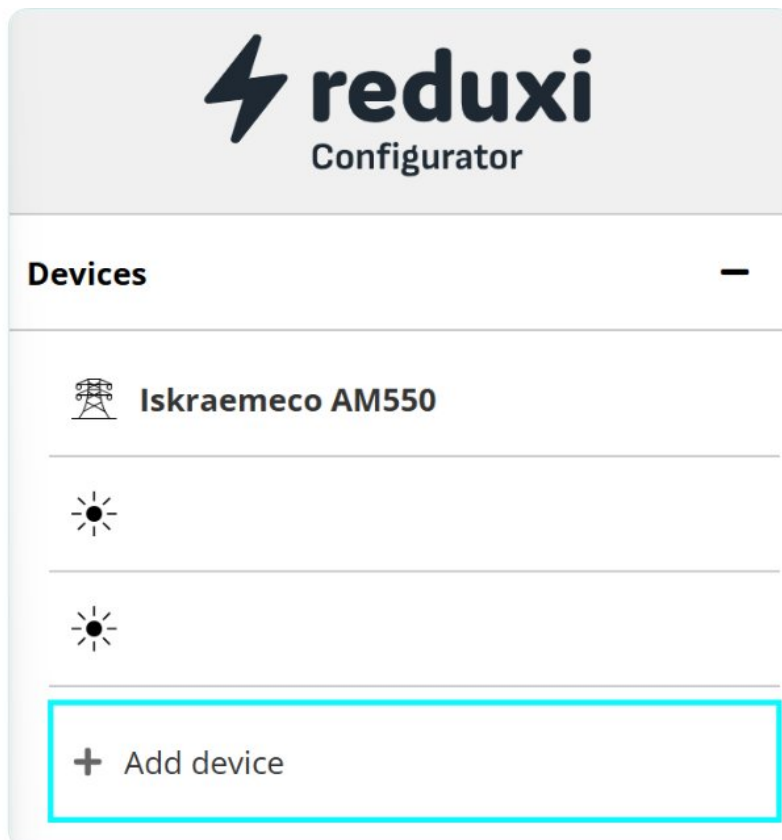
Screenshot of the Reduxi Configurator web interface

4 Add the SolaX inverter to Reduxi

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

4.1 Basic settings

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



The Add device button

Text description of this image

In the first step, select the basic settings. For a single-phase inverter select X1. For a three-phase inverter select X3.

- Device type: Hybrid Inverter
- Type: SolaX Power X1 Hybrid or SolaX Power X3 Hybrid
- Name: a name of your choice, for example Solax Power X3 Hybrid G4

1 Basic settings 2 Communication channel

Basic settings

Device type *

Hybrid inverter

Type *

Solax Power X3 Hybrid G4

Name *

Solax Power X3 Hybrid G4

Back Next

Basic settings: device type, type and name

Text description of this image

Click **Next**.

4.2 Communication settings

The second step sets up the communication channel for Modbus between the Reduxi Controller and the SolaX inverter. Choose TCP/IP or RTU, depending on your connection.

4.2.1 Modbus TCP

PARAMETER	VALUE
Connection	TCP/IP
IP	The IP address of the SolaX inverter
Port	502
Modbus unit ID	The same ID as set on the inverter. Default: 1
User password	The same PIN code as for the display of the inverter, for example 2014
PV	Is a PV installed: Yes or No
Battery	Is a battery installed: Yes or No

1

Basic settings

2

Communication channel

Communication channel and device configuration

Connection *

TCP/IP



IP *

Port *

502

Modbus unit ID *

1

User password *

2014

PV *

Yes



Is PV installed on the inverter?

Battery *

Yes



Is battery installed on the inverter?

Back

Test communication

Done

Communication settings for Modbus TCP

Text description of this image

4.2.2 Modbus RTU

PARAMETER	VALUE
Connection	Local Port
Port	1
Baudrate	9600
Data Bits	1
Stop Bits	1
Parity	None
Modbus unit ID	1 (same ID as on the inverter)
User password	The same PIN code as for the display of the inverter, for example 2014
PV	Is a PV installed: Yes or No
Battery	Is a battery installed: Yes or No

1

Basic settings

2

Communication channel

Communication channel and device configuration

Connection *

Local serial port

Port *

Port 1

Baud rate *

9600 bits/s

Data bits *

8

Stop bits *

1

Parity *

None

Modbus unit ID *

1

User password *

2014

Phase *

L1

To what phase is the inverter connected to.

PV *

Yes

Is PV installed on the inverter?

Battery *

Yes

Is battery installed on the inverter?

Back

Test communication

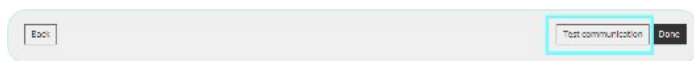
Done

Communication settings for Modbus RTU

Text description of this image

4.3 Test communication

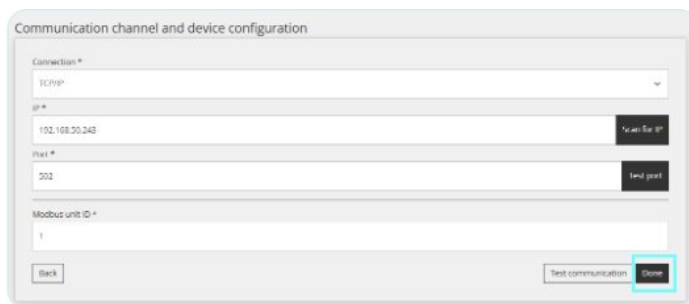
Click **Test communication** at the bottom of the wizard. It reads the SolaX inverter once and saves nothing. If the test succeeds, click **Done**: only **Done** creates the device.



The **Test communication** button

Text description of this image

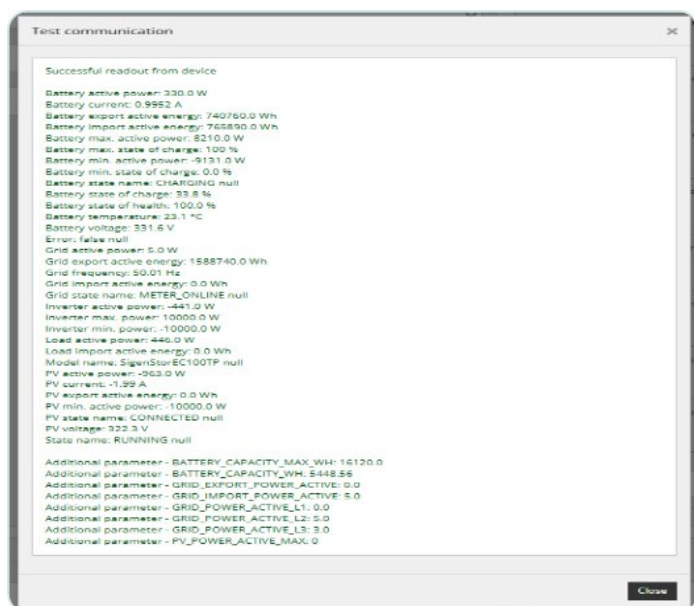
Screenshot of the bottom button bar of a Reduxi Configurator page. Left: button 'Back'. Right: button 'Test communication' (marked with a cyan box) and dark button 'Done'.



The **Done** button

2. Text description of this image

Examples of the result for this device:



1. Test successful (example)

Text description of this image



2. Test failed (example)

2. Text description of this image

Screenshot of a dialog titled Test communication with a close x at the top right. Message in red text: Unable to communicate with device. Dark button at the bottom right: Close.

If the test fails, check the settings and the wiring and try again.

5 Check the readings

5.1 Last measurements

Check the measured values and the communication under **Devices – SolaX Power Inverter – Last Measurement** in the Reduxi Configurator.

Last measurements

Analyze

Archive

Without refreshing

Control type

Auto

Manual

14.03.2025 12:49:53

PV

PV active power

-1.0 kW

14.03.2025 12:49:53

PV current

-1.98 A

14.03.2025 12:49:53

PV voltage

327.63 V

14.03.2025 12:49:53

PV export active energy

587.0 kWh

14.03.2025 12:49:53

PV min. active power

-10.0 kW

14.03.2025 12:49:53

PV export active power limit

kW

14.03.2025 12:49:53

enumeration.PV_STATE_NAME

CONNECTED

14.03.2025 12:49:53

Load

Load active power

0.4 kW

14.03.2025 12:49:53

Load import active energy

1,109.2 kWh

14.03.2025 12:49:53

Battery

Battery active power

0.4 kW

14.03.2025 12:49:53

Battery current

1.09 A

14.03.2025 12:49:53

Battery voltage

331.60 V

14.03.2025 12:49:53

Battery state name

CHARGING

14.03.2025 12:49:53

Battery state of charge

33.80 %

14.03.2025 12:49:53

Battery min. state of charge

0.00 %

14.03.2025 12:49:53

Battery max. state of charge

100.00 %

14.03.2025 12:49:53

Battery import active energy

765.9 kWh

14.03.2025 12:49:53

Battery export active energy

740.8 kWh

14.03.2025 12:49:53

Battery min. active power

-9.1 kW

14.03.2025 12:49:53

Battery max. active power

8.2 kW

14.03.2025 12:49:53

Battery active power setpoint

1.0 kW

14.03.2025 12:49:53

Inverter

Inverter active power

-0.4 kW

14.03.2025 12:49:53

Inverter max. active power

10.0 kW

14.03.2025 12:49:53

Inverter min. active power

-10.0 kW

14.03.2025 12:49:53

State name

RUNNING

14.03.2025 12:49:53

Error

OFF

14.03.2025 12:49:53

Grid

Grid frequency

49.990 Hz

14.03.2025 12:49:53

Grid active power

0.0 kW

14.03.2025 12:49:53

Grid import active power limit

kW

14.03.2025 12:49:53

Grid export active power limit

kW

14.03.2025 12:49:53

enumeration.GRID_STATE_NAME

METER_ONLINE

14.03.2025 12:49:53

Grid export active energy

1,588.7 kWh

14.03.2025 12:49:53

Grid import active energy

0.0 kWh

14.03.2025 12:49:53

Other

Battery state of health

100.00 %

14.03.2025 12:49:53

Battery temperature

23.10 °C

14.03.2025 12:49:53

Model name

SigenStorEC100TP

14.03.2025 12:49:53

Communication error

OFF

14.03.2025 12:49:53

Control type

MANUAL

14.03.2025 12:49:53

Mode name setpoint

SELF_CONSUMPTION

14.03.2025 12:49:53

Last measurements of the inverter

Text description of this image

5.2 Enable control by Reduxi

For advanced control, integrate the device into the optimization modes of the Reduxi system. Under **Devices – SolaX Power Inverter** 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 monitor and control it via [the Reduxi application](#).

✓ Summary

Preparation (Point 1): Install the latest firmware. For Modbus TCP get the WiFi 3.0 or WiFi & LAN 3.0 dongle.

SolaX connection (Point 2): Connect the inverter to the Reduxi Controller via Modbus TCP/IP or wire RS485 for Modbus RTU.

Add to Reduxi (Points 3–4): Log in to the Reduxi web interface, click + Add device, choose X1 or X3 and enter the communication settings. Click Test communication, then Done.

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

→ Common issues

ISSUE	SOLUTION
Modbus does not work	Install the latest firmware. Contact service.global@solaxpower.com for the update.
No Modbus TCP connection	Modbus TCP needs the WiFi 3.0 dongle or the WiFi & LAN 3.0 dongle.
Test communication fails	Check the settings and the wiring. Check the Modbus unit ID (default 1) and the user password. It is the PIN code of the inverter display.
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:



SolaX downloads

Manuals and datasheets from SolaX Power.



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