Data Logger FAQ

Zero-export Commissioning Guide

Applicable to: **Logger1000, CX series inverter**

Abstract
This document describes steps required to commission CX inverter, connect power meter and set zero-feed-in limitation in logger.

Table of content

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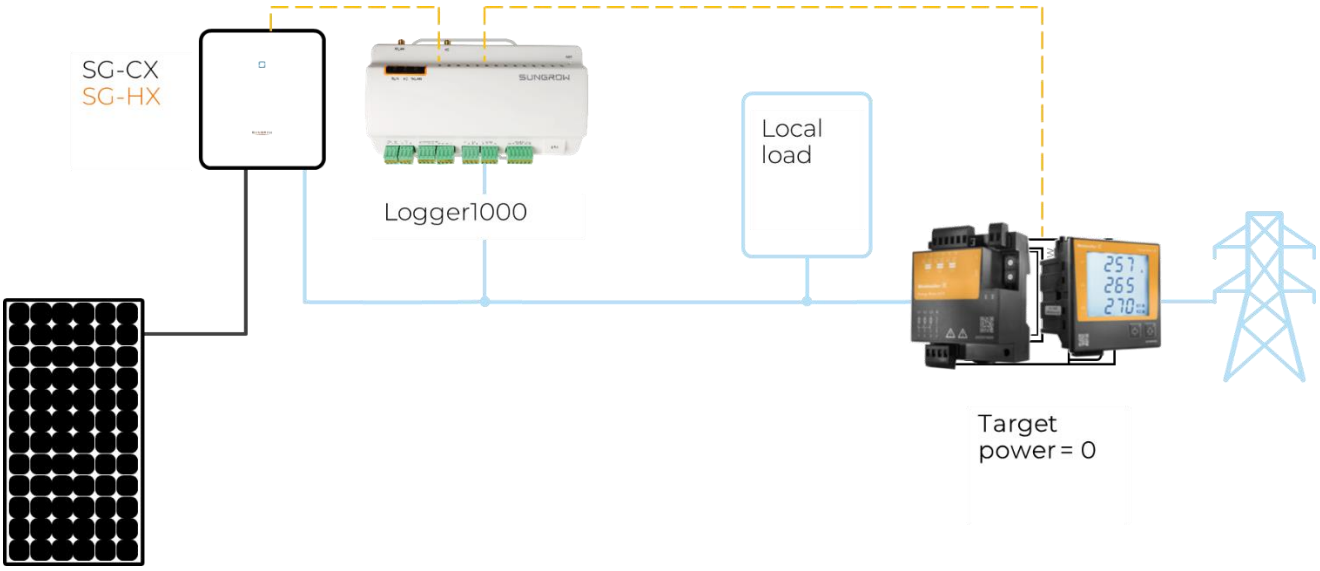
1. Connection topology

Power meter should be installed in main connection point. Measurement should include power of all loads and inverters.
New power meter, connected with Logger1000 should measure exactly the same voltages and currents as power meter installed by DNO.

If current transformers (CTs) are installed it is important to install them with proper direction.



Logger1000 is compatible with 3rd-party power meters:

Weidmüller Energy Meter 610

Janitza UMG604 Pro

1.1 Physical connection setup

Preliminary considerations before wiring the various devices

One RS485 port of the COM100E must be reserved for communication with the inverters.

Equipment from different ranges must not be mixed.

One RS485 port of the COM100E must be reserved for communication with the meter.

Connect an end-of-line resistor of 120 Ohms to the terminals of the meter.

The meter must be on a different input of the logger from the inverters.

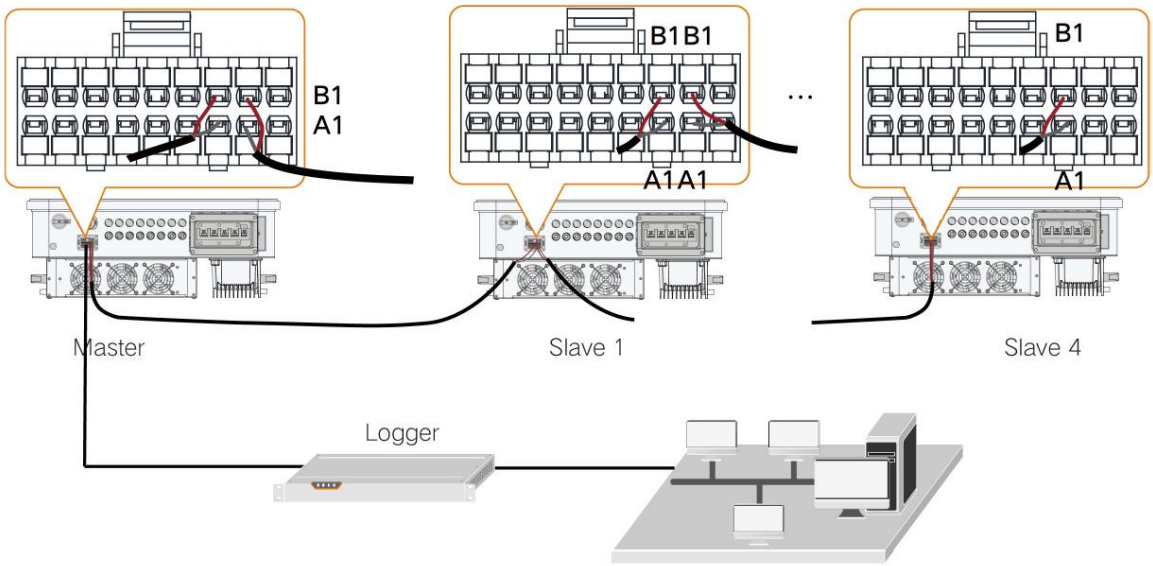
Connect the energy meter and data collector correctly with RS485 communication line. The data collector has three RS485 interfaces. A1B1, A2B2 and A3B3, which correspond to COM1, COM2 and COM3 respectively.

1.2 Inverters connection setup

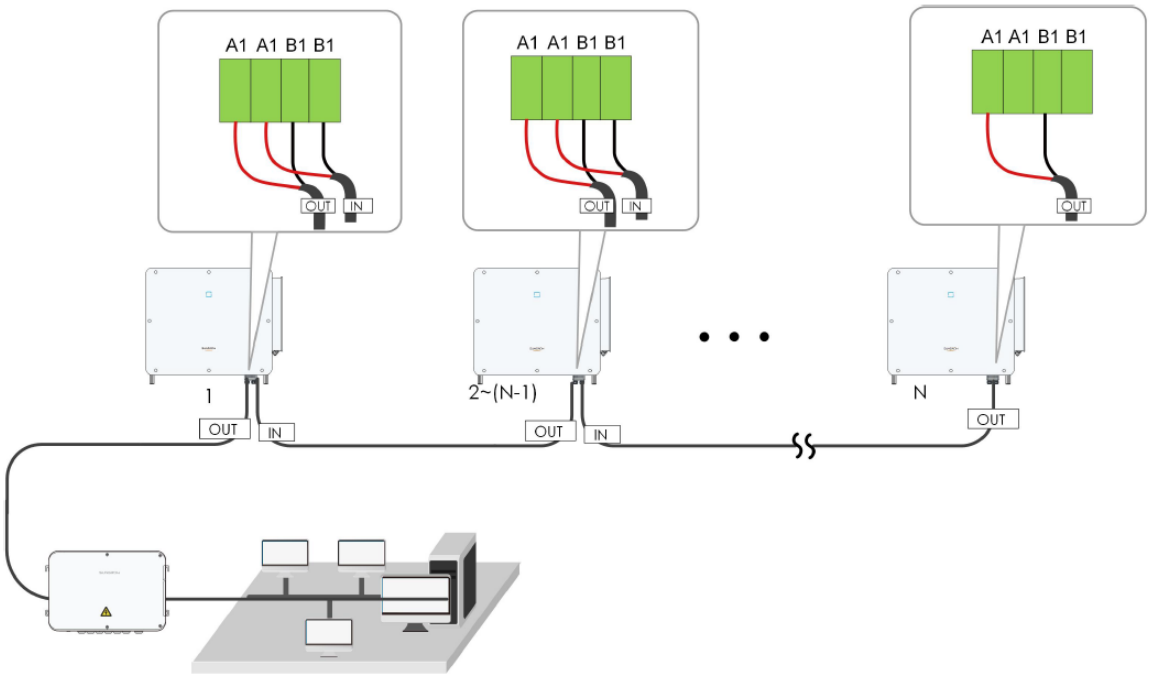
Use the corresponding terminals on the terminal board of the communications card to ensure correct communications (the communications card changes in the SG125CX and SG33/50CX models).

Terminal A Meter to terminal B2 Logger1000

Terminal B Meter to terminal A2 Logger1000



Sungrow 33kW and 50kW inverters connection details



Sungrow 125kW inverters connection details

1.3 Meters connection setup

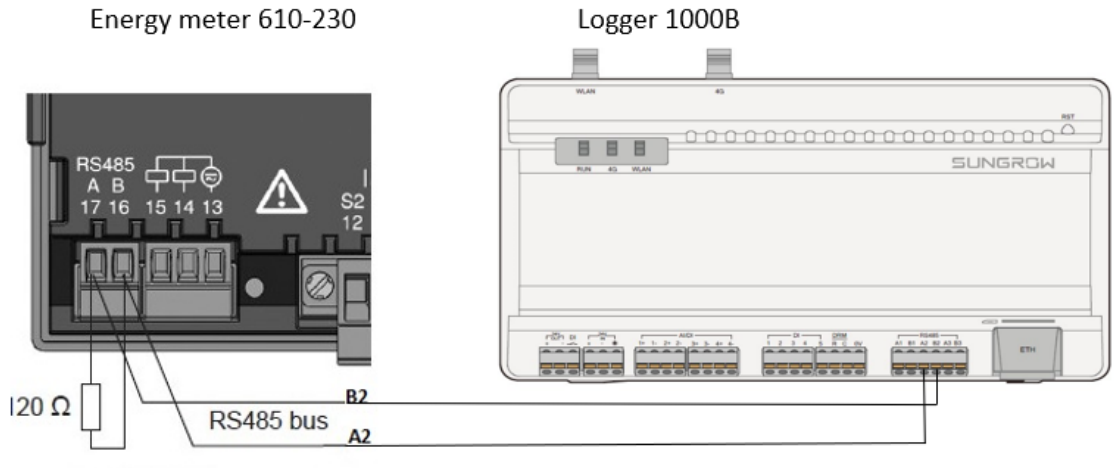
The wiring has to be crossed in the meter (both Janitza and Weidmüller devices).

Terminal A Meter to terminal B2 Logger1000

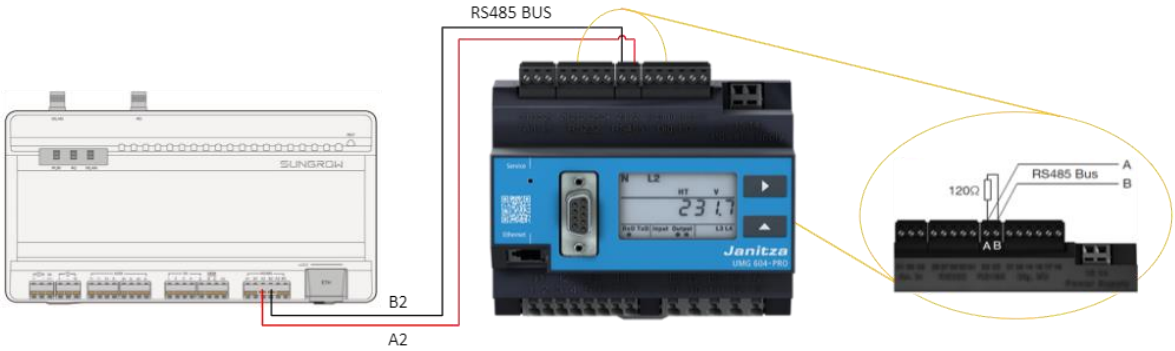
Terminal B Meter to terminal A2 Logger1000

1.3.1 A in the RS485 interface of the energy meter is connected to B2 in the RS485 interface of the data collector

1.3.2 B in the RS485 interface of the energy meter is connected to A1 in the RS485 interface of the data collector.



RS485 connection between Logger1000 and Weidmüller Energy Meter 610



RS485 connection between Logger1000 and Janitza UMG604 Pro

2. Logging in

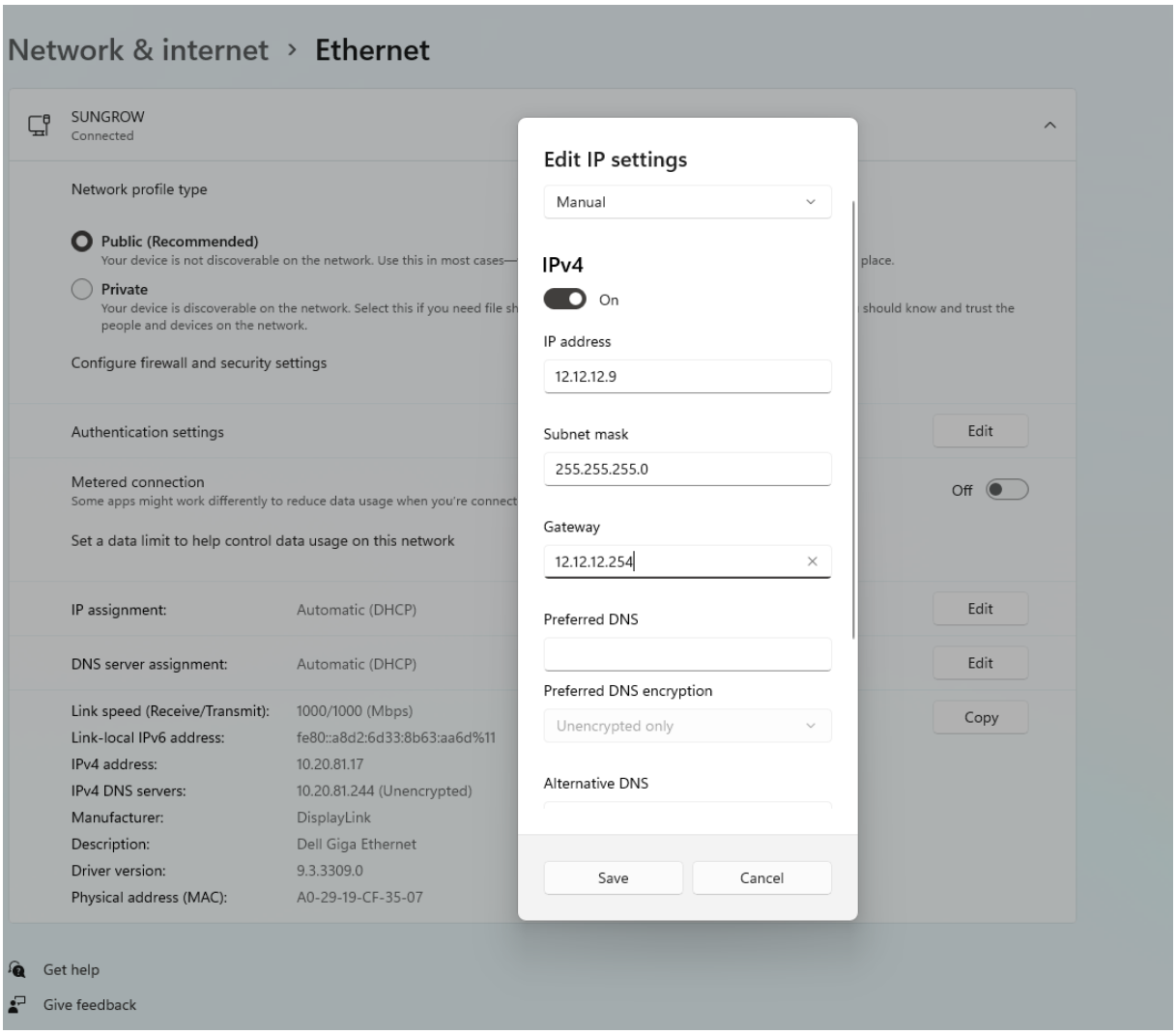
2.1 Wi-Fi

Logger1000 supports WiFi-login. After the device is powered, check the SN code on the device and select the WiFi hotspot signal named SG-XXXX (XXXX is the device SN) to connect to WiFi.

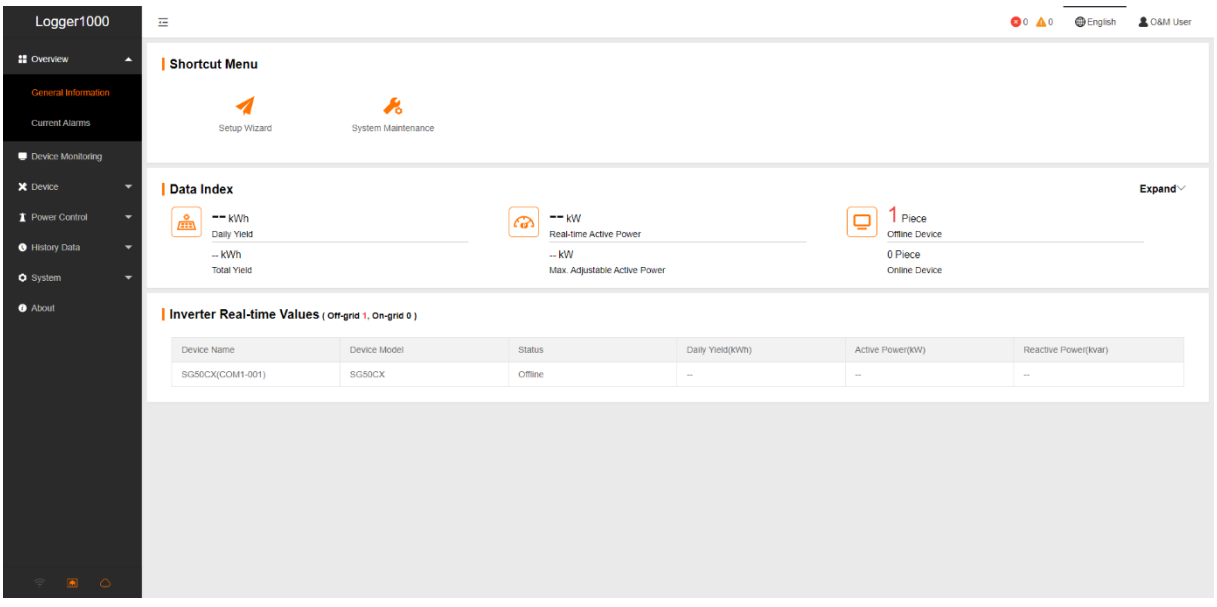
Enter the default IP address of Logger 1000 in the browser address bar after the device is connected: **11.11.11.1** to open the device management interface, the initial password is **pw1111**.

2.2 Ethernet login

Logger 1000 also supports Ethernet login. The default IP address of Logger 1000 is **12.12.12.12**. First, after the device is powered, use the network cable to connect it with the computer, and change the IP address of the computer to make it in the same network segment as the device, as shown in the following figure.



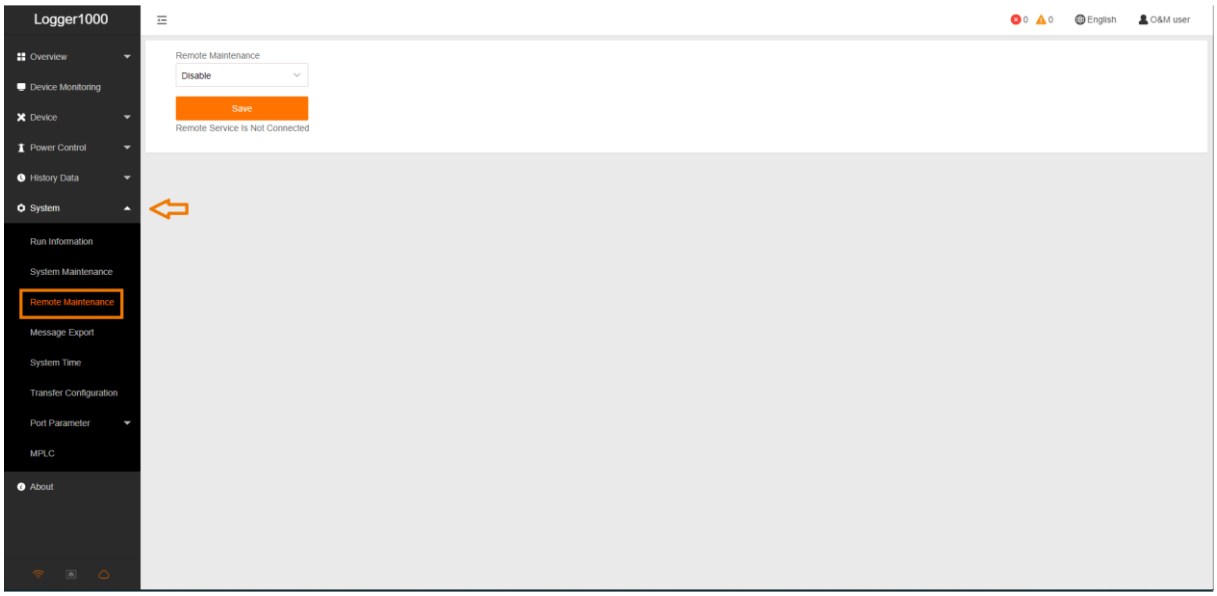
Enter the default IP address of Logger 1000 in the browser address bar after the device is connected: **12.12.12.12** to open the device management interface, and the initial password is **pw1111**. After logging in, the main interface of Logger1000 is shown in the following figure.



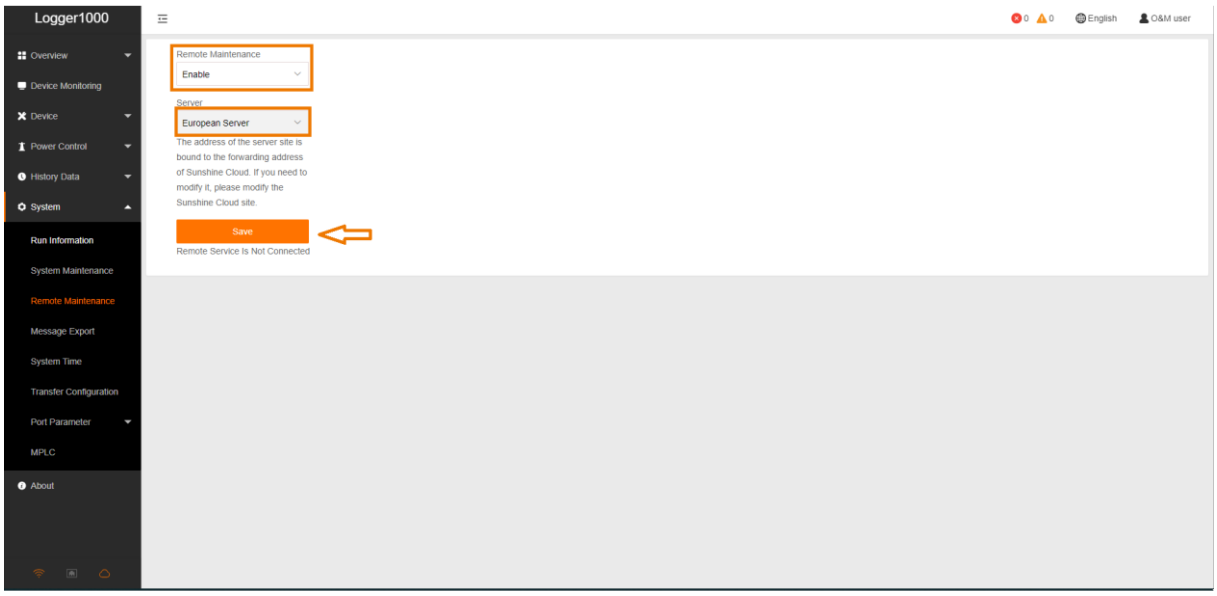
3. Initial logger configuration

Make sure, your Datalogger is updated to the latest firmware.

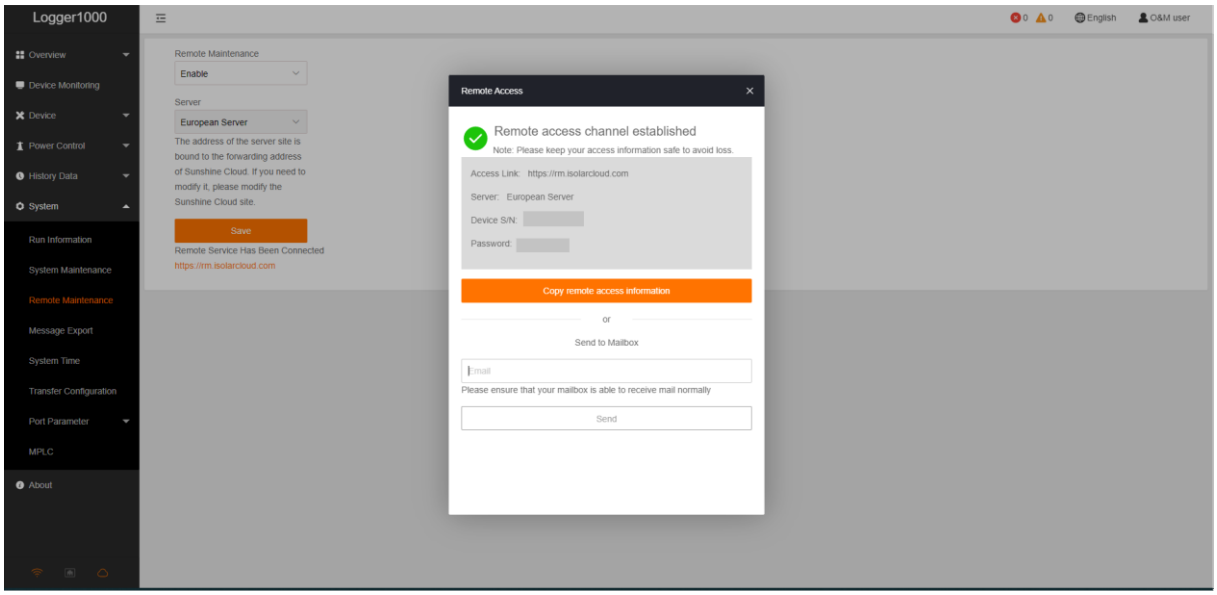
Use the navigation bar to click **System** and open **Remote Maintenance**.



Enable Remote Maintenance and choose the **European Server**. **Save** your settings.



After you confirmed your settings by entering your password, you will see all your remote access information. You can either copy them or send them via e-mail to any account.



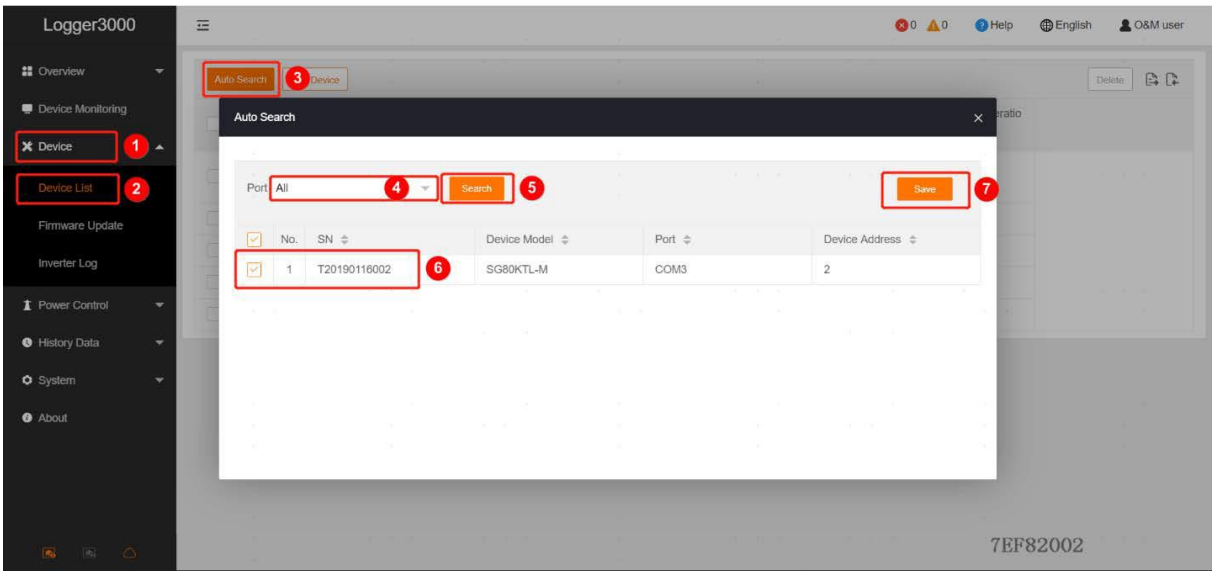
4. Adding CX inverters

4.1 Auto Search

Click **Device** > **Device List** > **Auto Search** to enter the corresponding interface.

In the pop-up window, select **All** in the **Port** and click **Search**.

Select the corresponding Inverter, then click **Save**.

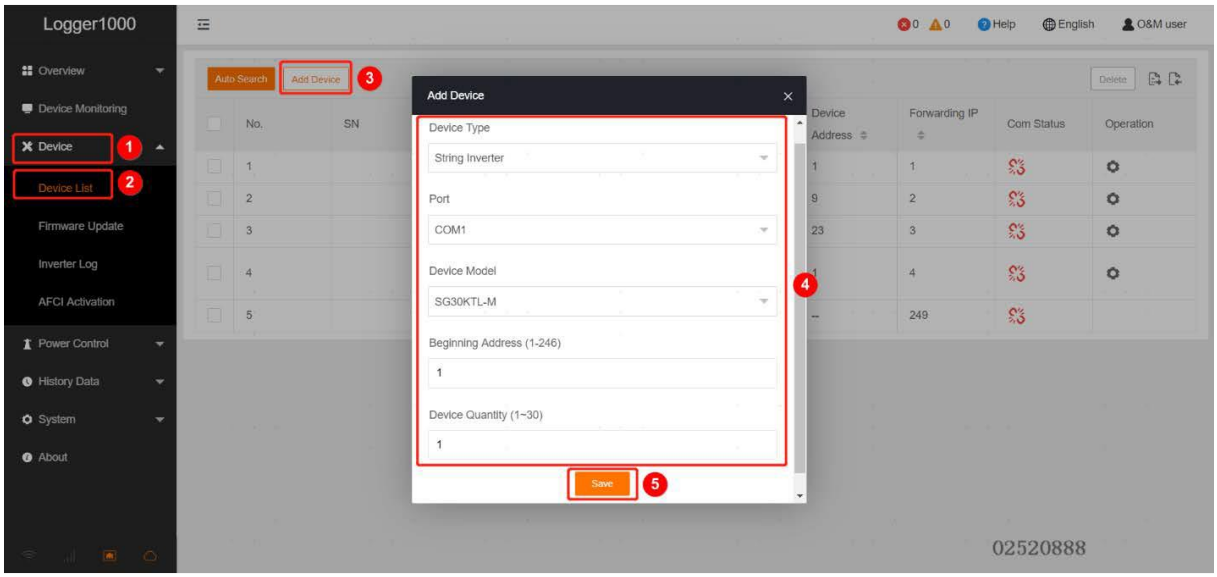


Note:

Auto search mode for device addition currently only supports the inverter devices self-developed by Sungrow Power Supply Co., Ltd. (Please refer to relevant document for the specific supported models).

4.2 Manual Addition

Click **Device** -> **Device List** -> **Add Device** to enter the corresponding interface.



In the pop-up window, select the corresponding Inverter type in the **Device Type**.

Select the corresponding Logger1000 COM **Port** which connect the Inverter.

Select the corresponding Inverter in the **Device Model**.

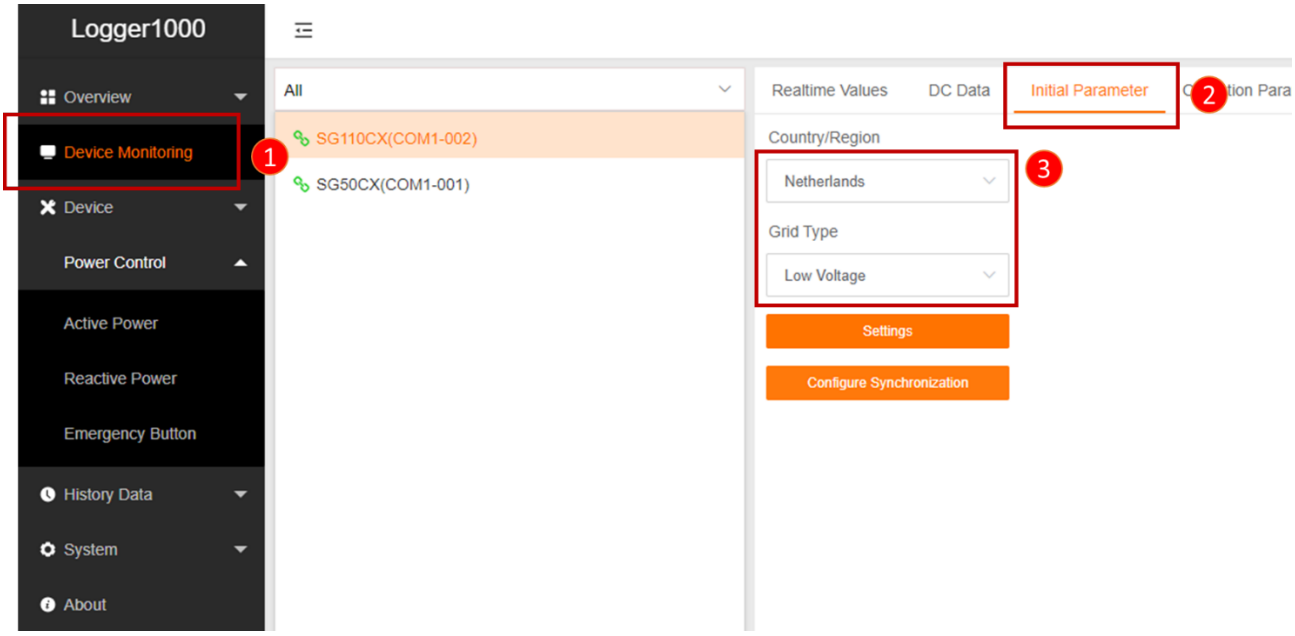
Enter the value of **Beginning Address** and the **Device Quantity**, then click **Save**.

Note:

To add a device manually, the model, beginning address and other relevant information of the device to be added need to be confirmed (such information is shown in the user manual of inverter).

4.3 Adjusting the grid parameters

Click **Device Monitoring**, select inverter and click on **Initial Parameters**. Select country code in **Country/Region** menu and grid voltage in **Grid Type** menu. Confirm settings.



5. Adding power meter Janitza/Weidmuller

Logger1000 is compatible with 3rd-party power meters:

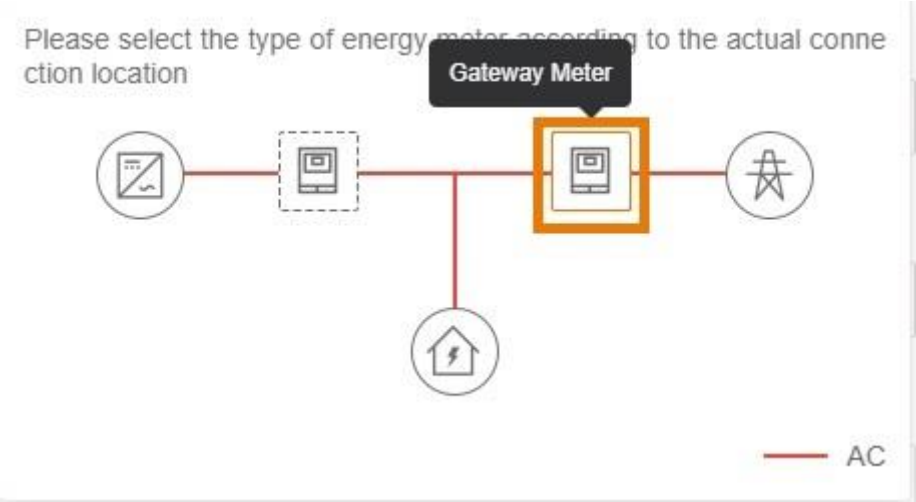
- Weidmüller Energy Meter 610
- Janitza UMG604 Pro

Other meters can be used – please refer to chapter 7 Adding custom meter, but such solution has not been tested.

When adding an energy meter, please pay attention to the parameter settings such as the baud rate of RS485 terminal of data collector and the calibration, which should be consistent with the energy meter.

Pay attention to the connection mode of CT and PT when installing the energy meter. Whether the CT is installed in the correct direction can be judged by power. If the active power of the energy meter is positive, it means taking electricity from the power grid, and if the active power of the energy meter is negative, it means feeding electricity to the power grid.

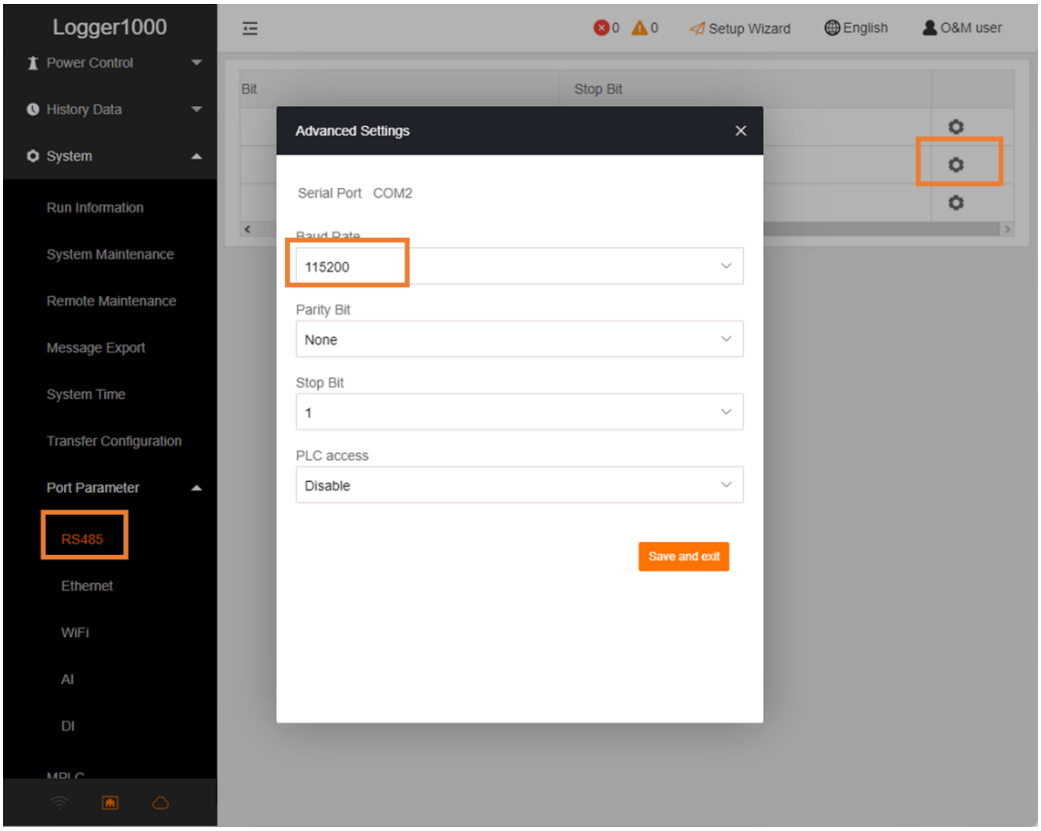
Gateway meter: Shows load side information:



5.1 RS485 settings

Confirm settings of the RS485 interface – go to: **System** -> **Port Parameters** -> **RS485** and click **icon** next to COM2 to open **Advanced Settings** page.

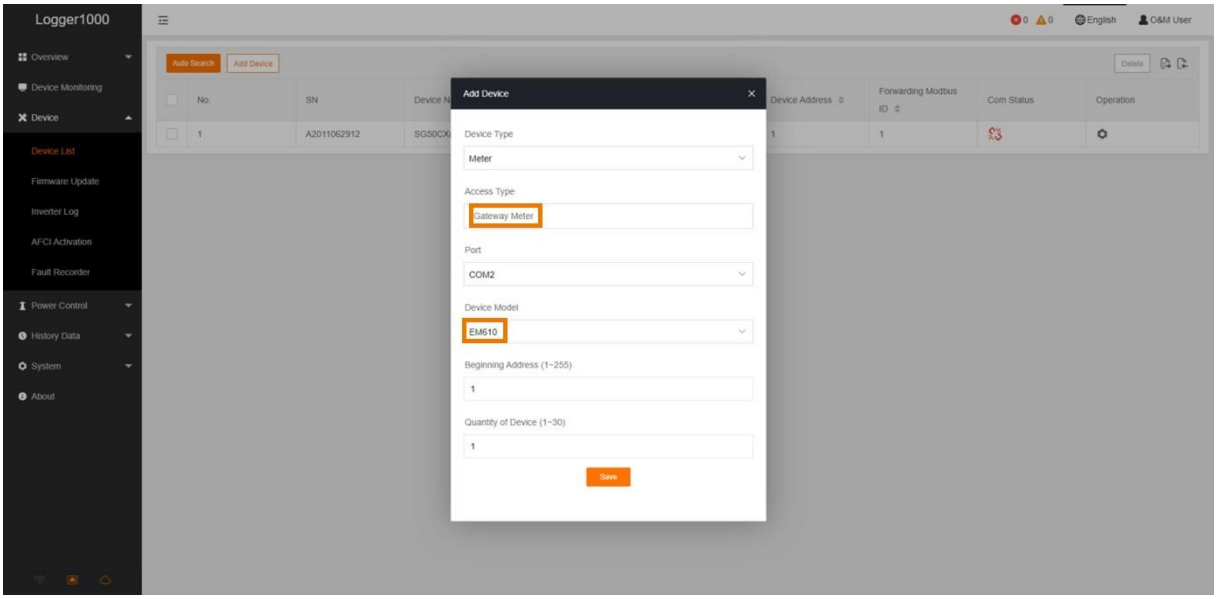
Confirm Baud Rate is **115200**.



5.2 Add EM610 energy meter

EM610 default communication parameters: **address 1, baud rate 115200bps, data bit 8, non parity, stop bit 1.**

5.2.1 To add energy meter, click: **Device** -> **Device List** -> **Add Device**.



5.3 Add UMG604 energy meter

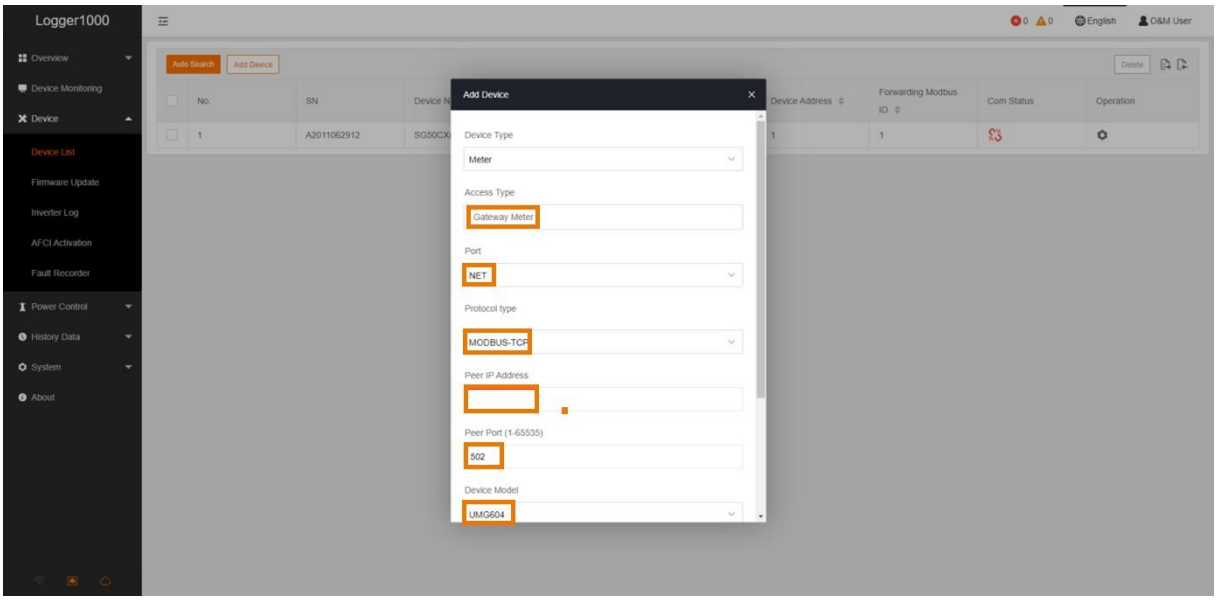
5.3.1 The UMG604 energy meter is connected to the data collector with an Ethernet cable in two ways or with a RS485 bus:

A: Connect the energy meter and data collector directly with the network cable.

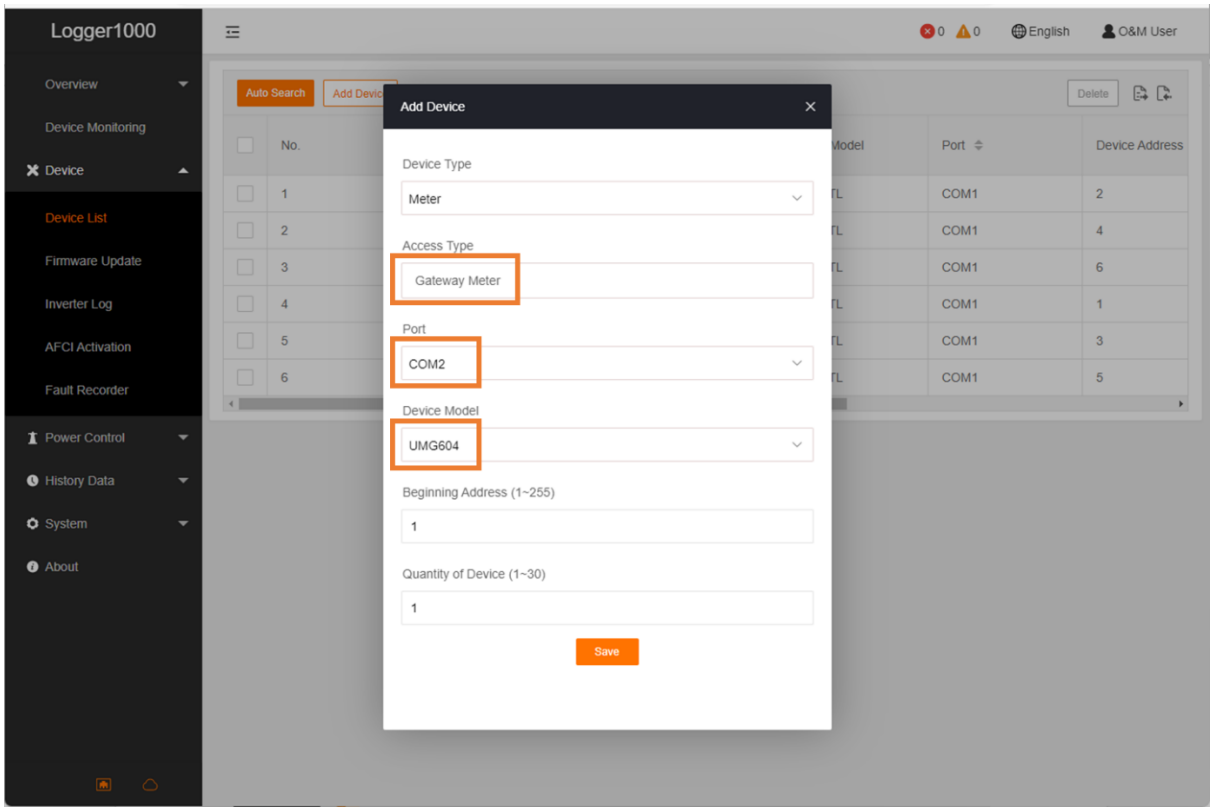
B: Transfer through the router. First connect the energy meter to the router with a network cable, then connect the data collector to the router with another network cable.

C: RS485 bus connection - default communication parameters: address 1, baud rate 115200bps.

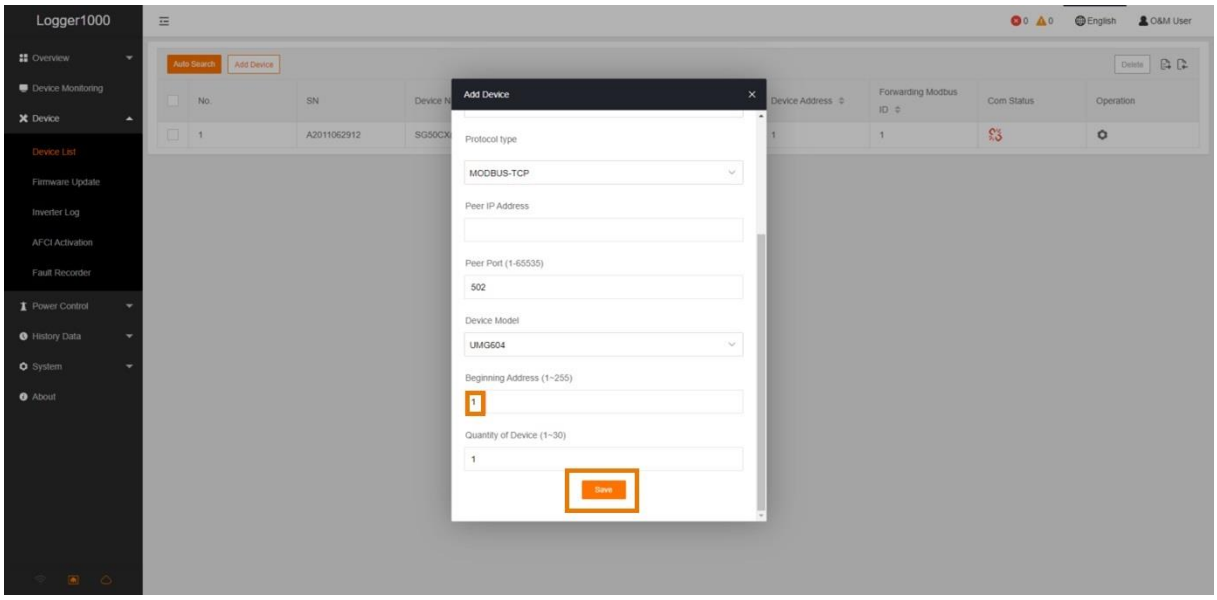
5.3.2 To add energy meter, click: **Device** -> **Device List** -> **Add Device**.



Ethernet configuration- **MODBUS TCP**



RS485 bus configuration- **COM2**

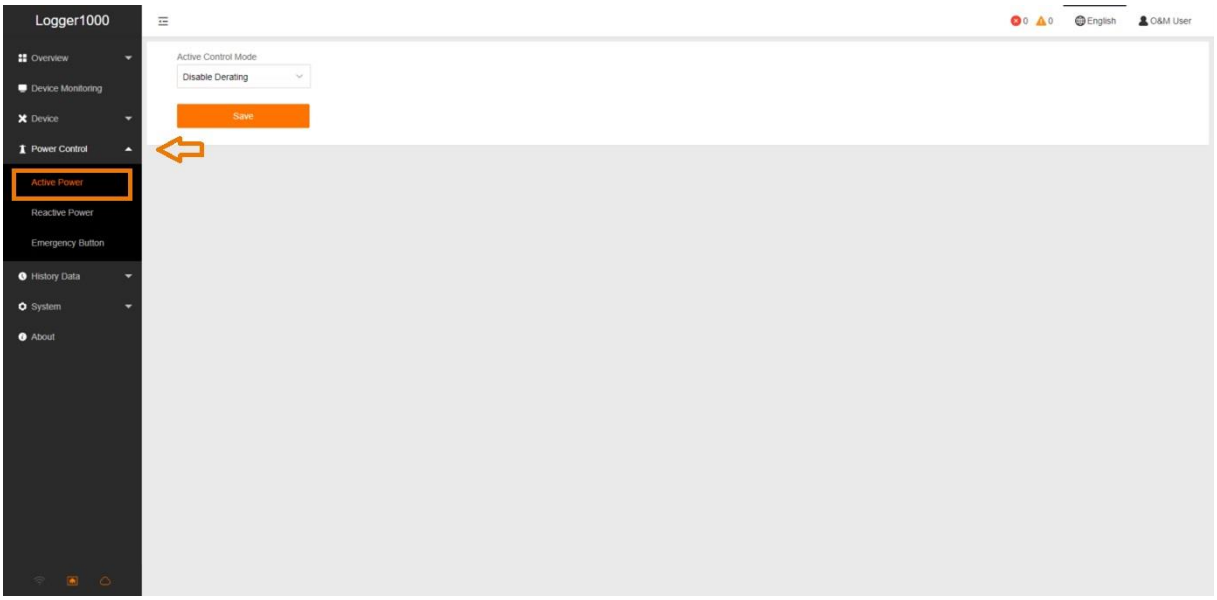


Modbus address setting

6. Setting up zero-feed-in in logger

6.1 Active Power Settings

Open the **Power Control**-settings and click **Active Power** to enter the active power settings.



6.2 Zero-feed in Settings

If you wish, Logger1000 not to feed in power to the grid, select **Local Power Control** as the active control mode.
Type **100** in Abnormal output of meter communication (%)

Select **Closed-loop Control** in the Control Method

Select corresponding power meter configured in chapter Adding power meter Janitza/Weidmuller.

Select **Direct connection** in the Wiring mode.

Select **Enable** in the Start after communication recovery

Adjust delay time, in seconds, in the Start delay after communication recovery (0–120)s

Select **Disable** in the Feed-in stop.

Select **Total active power control** in the Feed network control mode

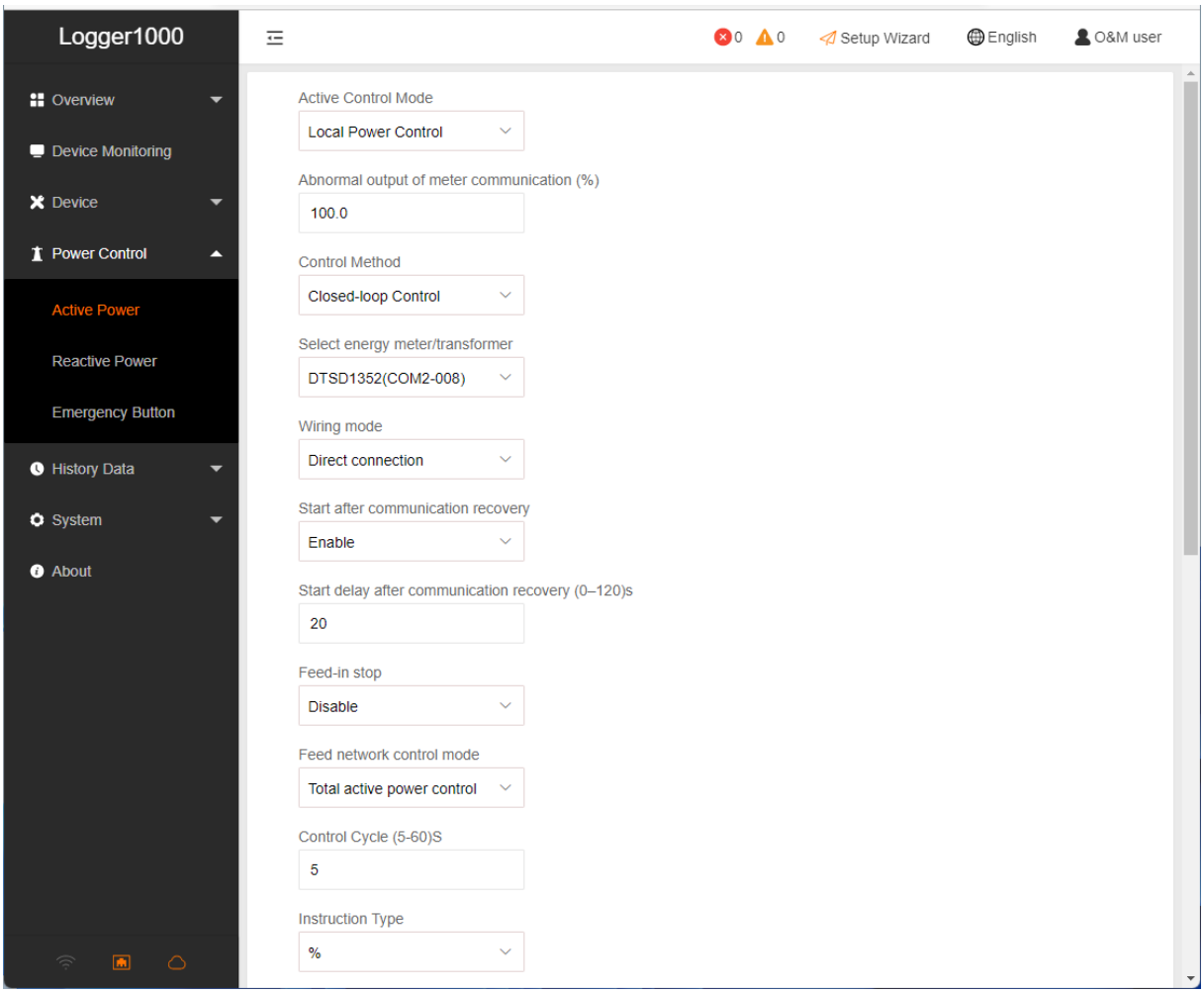
Adjust cycles duration in Control Cycle (5-60)S

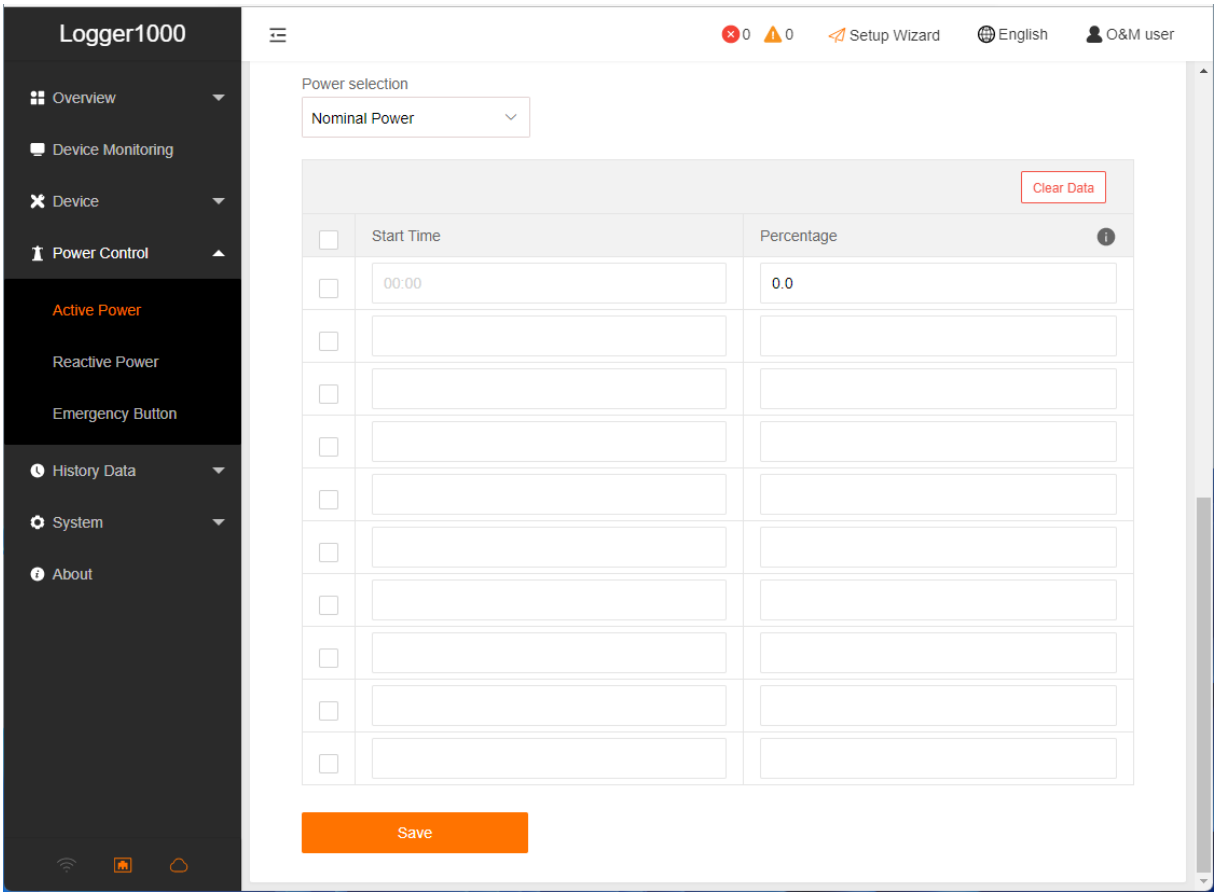
Set **%** as Instruction Type

Select **Nominal Power** in the Power selection

Set **0.0** in Percentage field in the table at the bottom of the page.

Save new settings





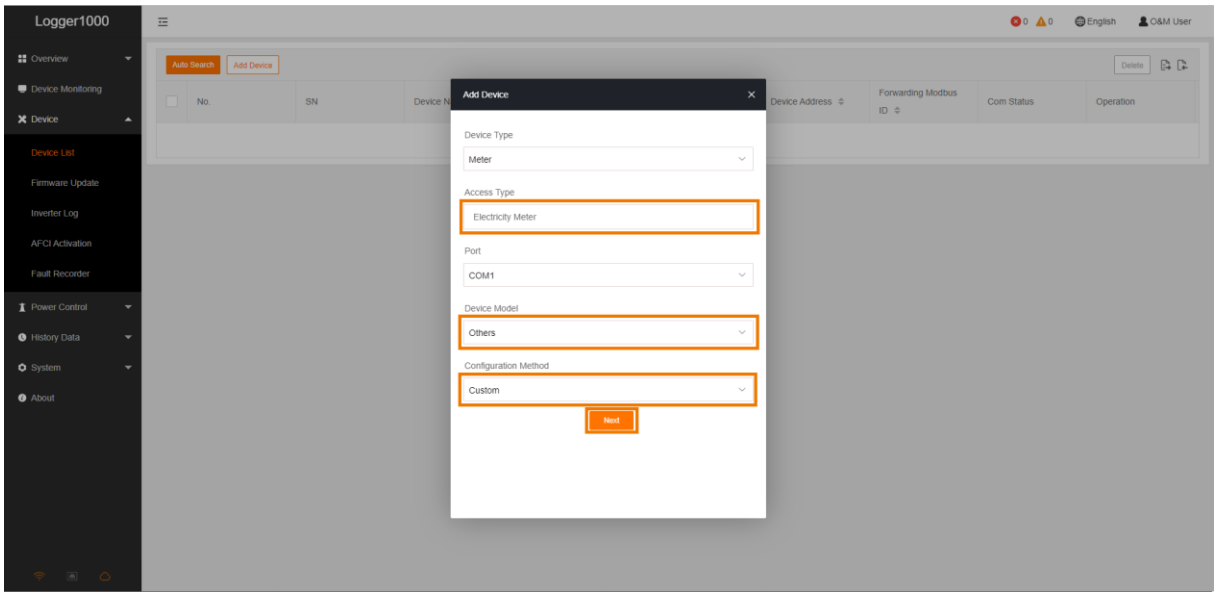
For further information, please download the user manual here.

7. **Adding custom meter**

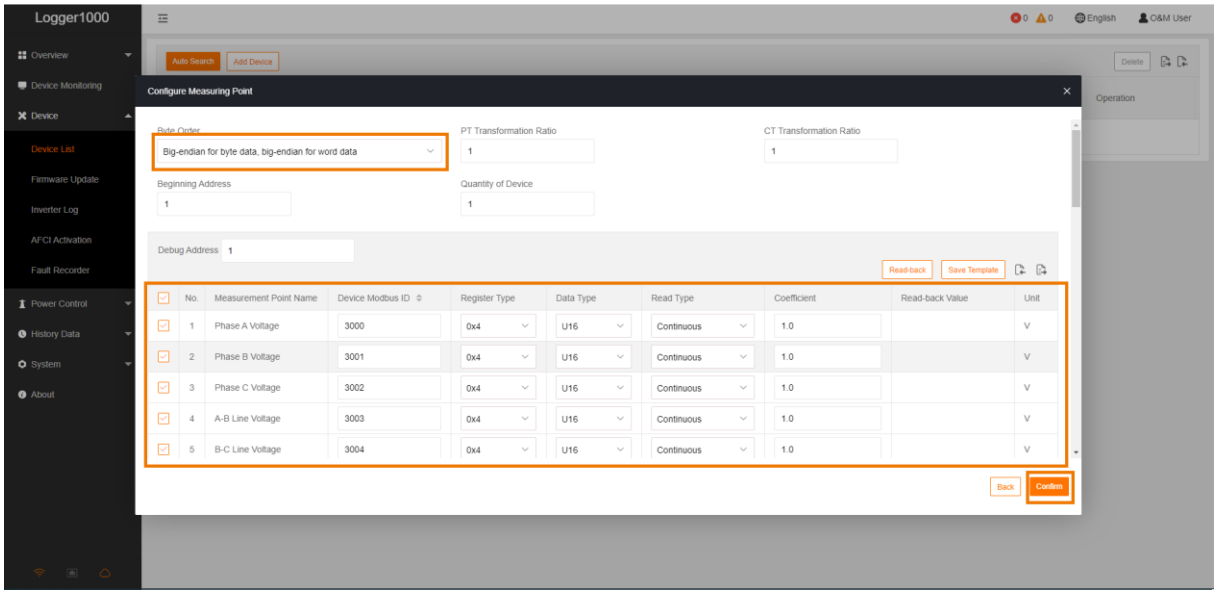
7.1 Connect the RS485 line, connect the first 485 port of the energy meter to the RS485 port of data collector, correspondingly connect the energy meter with the RS485 port of the data collector, connect the A of the energy meter with the A of Logger1000, and connect the B of the energy meter with the B of Logger1000.

7.2 To add energy meter, click: **Device -> Device List -> Add Device**.

7.3 Refer to the steps below and choose **Next**.



7.4 Check the parameters on the next page and set them according to the meter.



8. Disclaimer

This manual is intended for professional technicians who are responsible for installation, operation, maintenance and troubleshooting of inverters, and users who need to check inverter parameters.
The inverter must only be installed by professional technicians.
The professional technician is required to meet the following requirements:

- Know electronic, electrical wiring and mechanical expertise, and be familiar with electrical and mechanical schematics.
- Have received professional training related to the installation, commissioning and troubleshooting of electrical equipment.
- Be able to quickly respond to hazards or emergencies that occur during installation, commissioning and troubleshooting.
- Be familiar with local standards and relevant safety regulations of electrical systems.

- Read this manual thoroughly and understand the safety instructions related to operations.