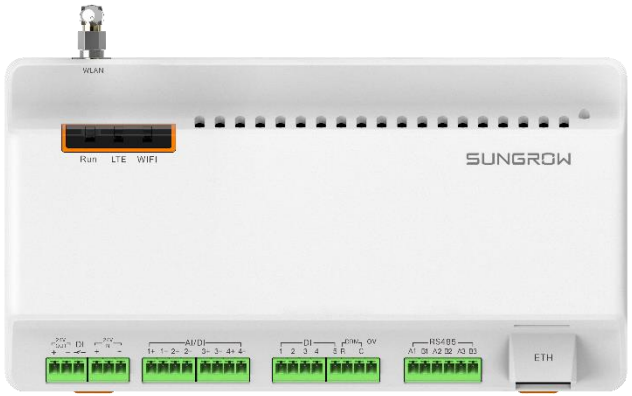
SUNGROW

Clean power for all

COM100E

Logger1000B vs. COM100E?



=

C&I MONITORING Solution

LOGGER1000B / COM100E

01

Supporting RS485, Ethernet and WLAN/Wifi

02

Active- and reactive power control

03

Simple using and maintenance

04

Inverter batch parametrizing and firmware updates

COMMUNICATION	COM100E	LOGGER1000B
Max. Inverters	30	30
RS485 Interfaces	3	3
Ethernet	1 x RJ45, 10/100/1000 Mbps	1 x RJ45, 10/100/1000 Mbps
Digital Inputs (DI)	5, max. 24 VDC	5, max. 24 VDC
Analog Inputs (AI)	4, Support of 4-20 mA and/or 0-10 Vdc	4, Support of 4-20 mA and/or 0-10 Vdc
Wifi Communication	802.11 b/g/n/ac HT20/40/80 MHz 2,4 GHz / 5 GHz	802.11 b / g / n / ac HT20 / 40 / 80MHz 2.4G Hz / 5GHz

GENERAL DATA		
Size (W × H × D)	**460 x 315 x 126 mm**	**200 x 110 x 60 mm**
Mass	**6 kg**	**500 g**
Operation Temperature	-30....60°C	-30....60°C
Storage Temperature	-40...80°C	-40...80°C
IP (Ingress Protection Class)	**IP66**	**IP20**
Allowed relative air humidity	< 95% (non condensing)	< 95% (non condensing)
Maximum operating altitude	4000 m	4000 m
Housing material	**PC (PolyCarbonate)**	-
Information	**COM100E consists of: Logger1000B, AC Adapter, surge protect, electrical fuse, night light**	

USER MANUALS

COM100E: ENG

LOGGER1000B: ENG

INSTALLATION GUIDES

(COM100E: ENG)

LOGGER1000B: ENG

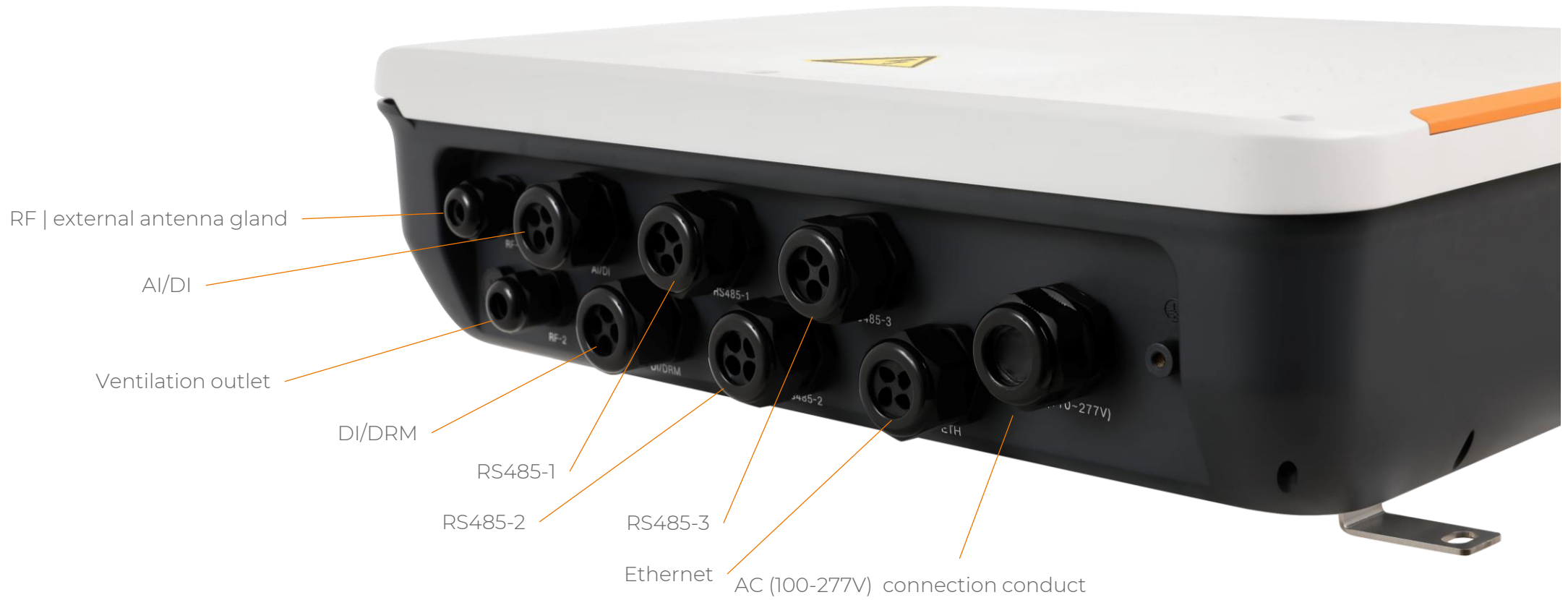
DATA SHEETS

(COM100E: ENG)

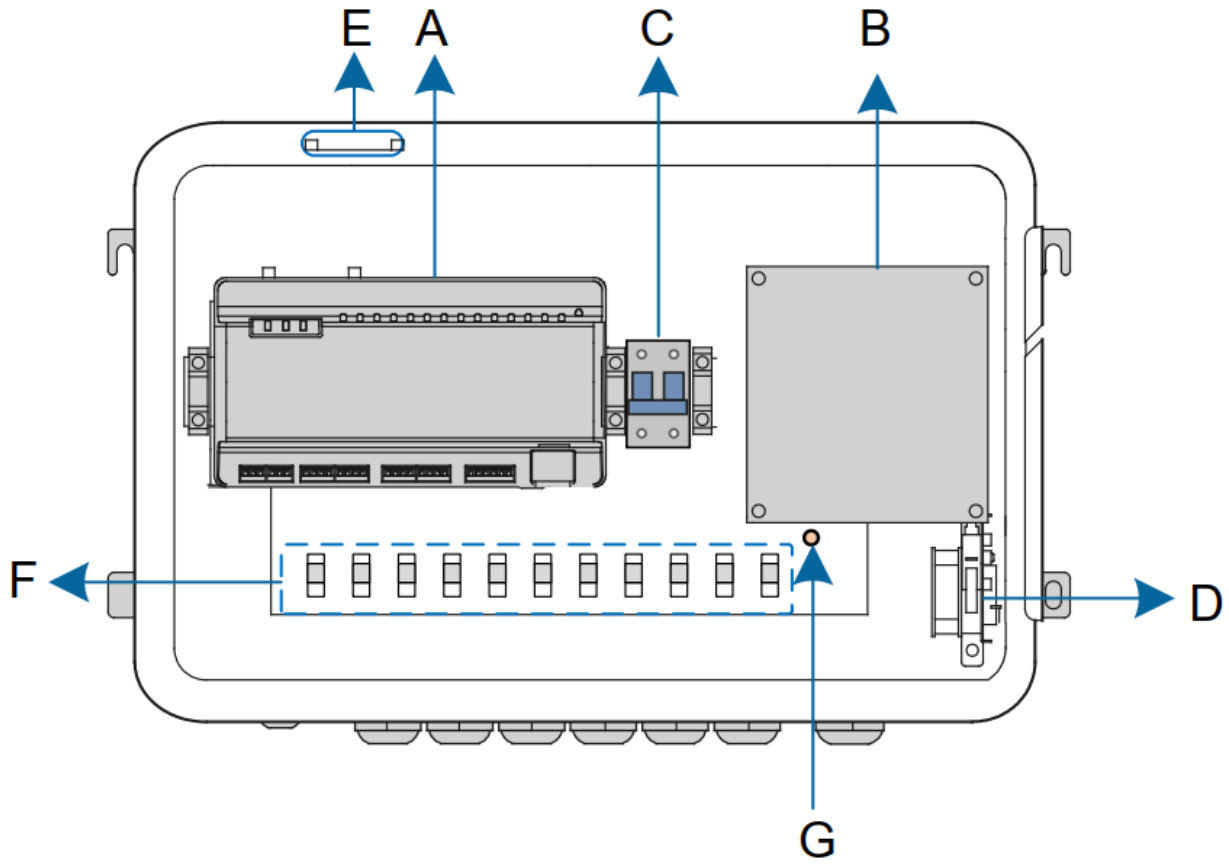
(LOGGER1000B: ENG)

(In brackets: might not work during website relaunch)

Outside Connections COM100E

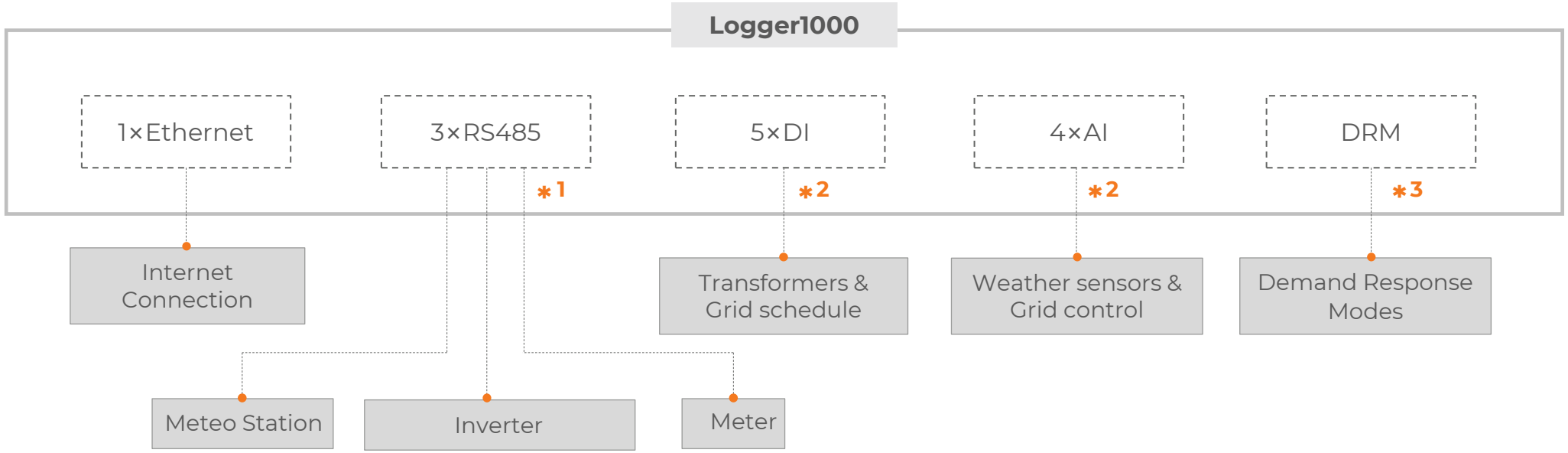


Inner Installation COM100E



Description	
A	Logger1000B
B	AC Power Supply and Surge Protect for 24 Vdc
C	Micro circuit breaker for disconnection of 230Vac power supply
D	Night / Maintenance light
E	Antenna
F	Cable fixation holders
G	Grounding terminal

Interface Description Logger1000 / COM100



∗1 Devices of each type are connected by using an independent RS485 cable

∗2 Via the DI & AI-Ports grid schedule / regulation functions can be performed, be receiving signals from the utility provider (e.g. ripple control)

∗3 For the Demand Response Mode (DRM) standard required for Australia

Login and User Interface

Local Access via Ethernet

- Connect Notebook to the logger via LAN-Cable CAT5/6
- Configure the notebook IP-address to 12.12.12.xx e.g. .13 (under „network settings“)
- Enter logger IP-address in the internet browser

IP: 12.12.12.13

IP: 12.12.12.12

- Default PW: **pw1111**
- IP 12.12.12.12 is the factory-set IP-address for the logger Ethernet port (Subnet mask: 255.255.255.0)

Local Access via WiFi/WLAN

- Open WiFi-adjustments of the smartphone – Look for SSID „SG-Axxxxxx“ of the logger
- Click and connect smartphone to the logger WiFi hotspot
- Enter Logger IP adress in the internet browser

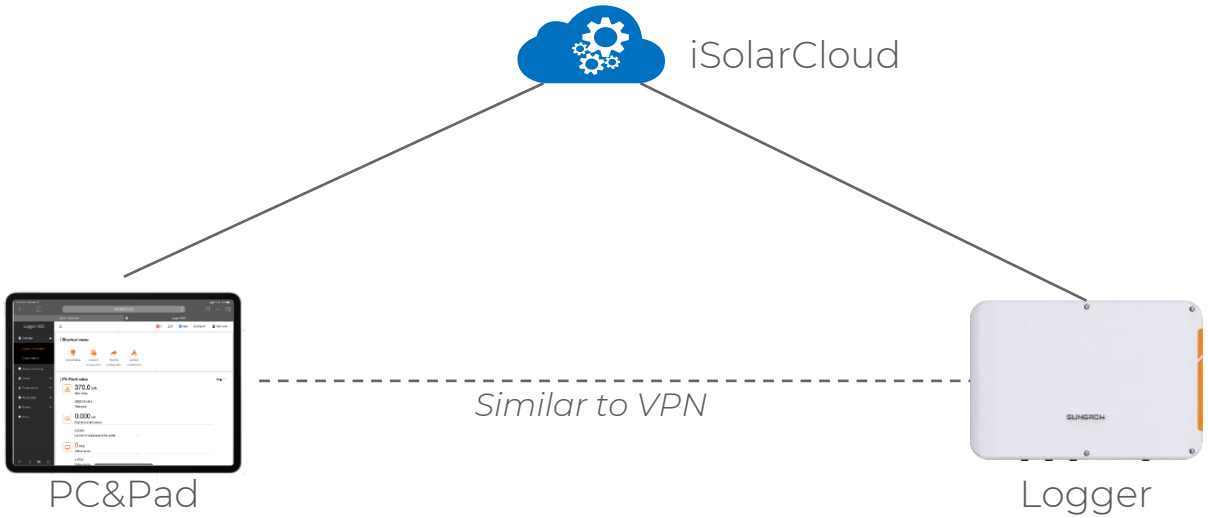
IP: **DHCP**

IP: 11.11.11.1

- Default PW: **pw1111**
- IP 11.11.11.1 is the factory-set IP address for the WiFi/WLAN hotspot

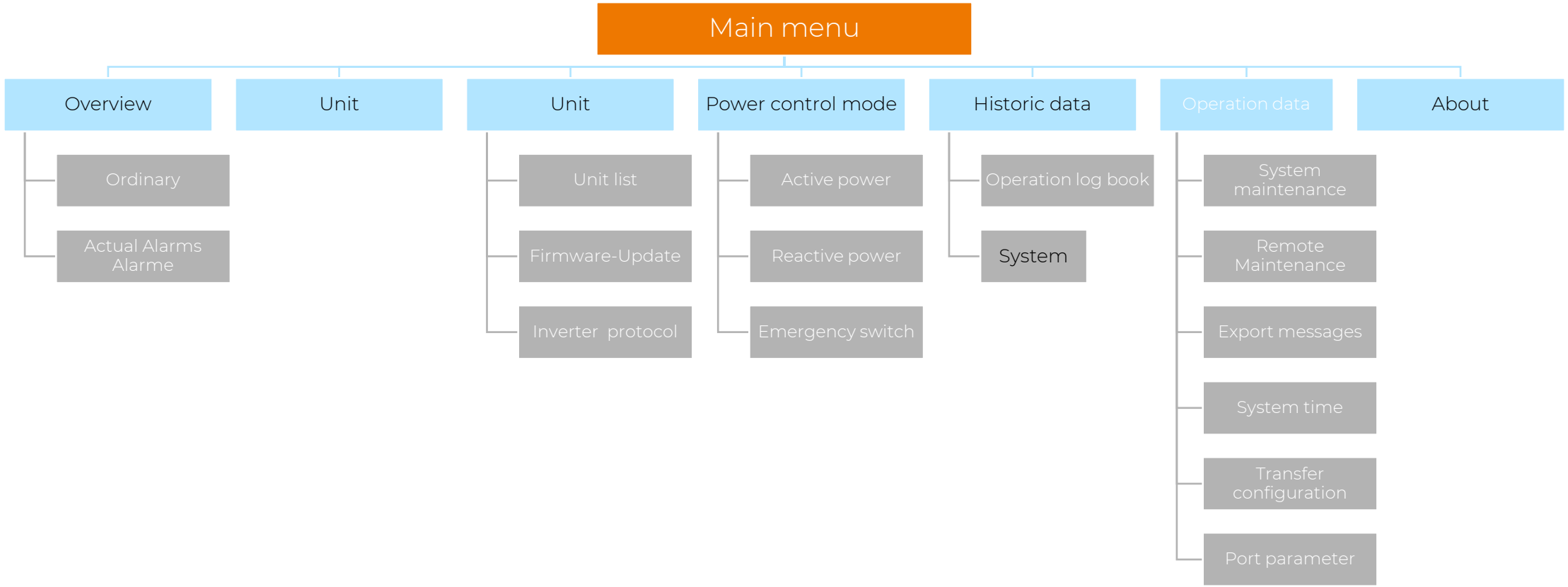
Remote Access via Internet

- For remote access to the logger it has to be connected to iSolarCloud (access via „remote maintenance“)
- Login iSolarCloud – Advanced – Remote Control – Click on HTTP-remote connection address



Default PW: **pw1111**

Menu structure

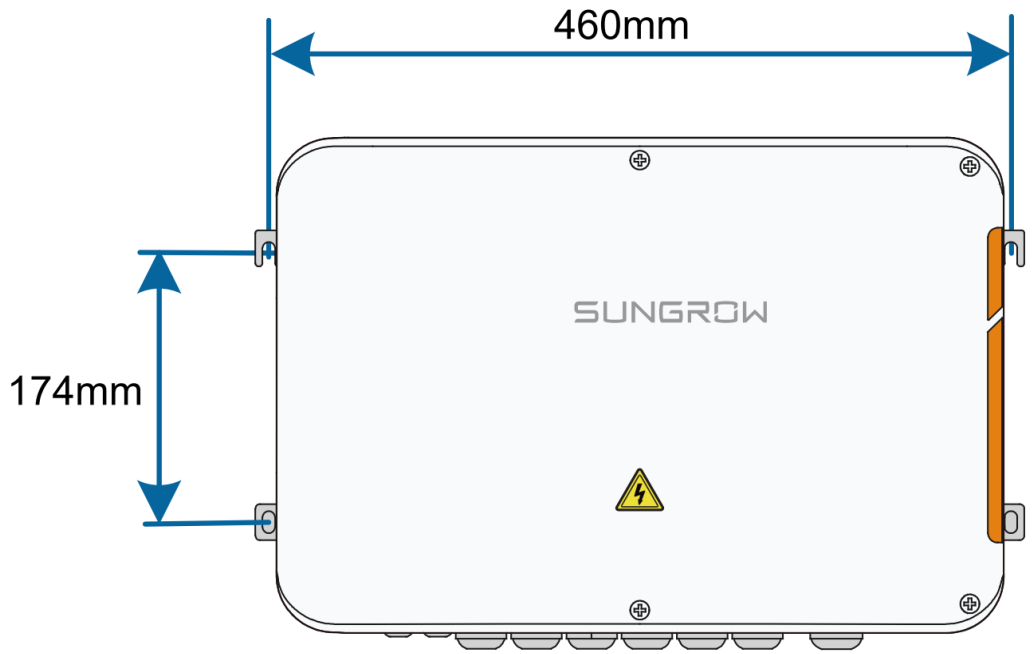


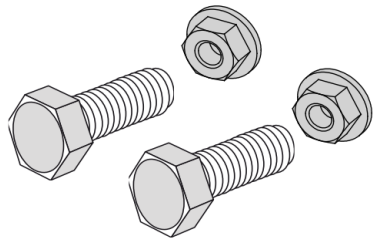
Mechanical and Electrical Installation

Mechanic Installation

Equipment for concrete and metal wall included in the scope of delivery.

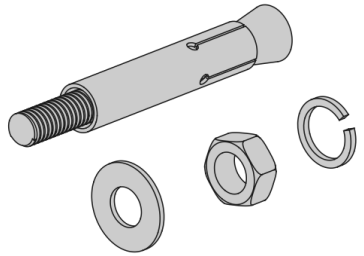
Four mounting hooks on the backside of the logger.





Metal wall

Hexagon bolt screws with nut,
4x M6x45

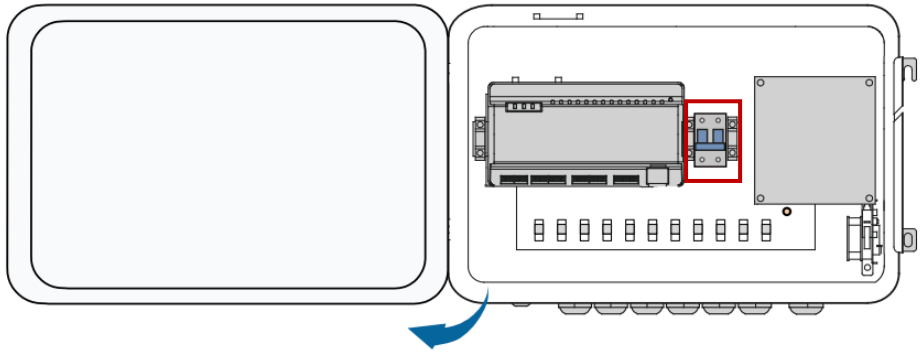


Concrete wall

Expansion bolt, consisting of
4x M6x60

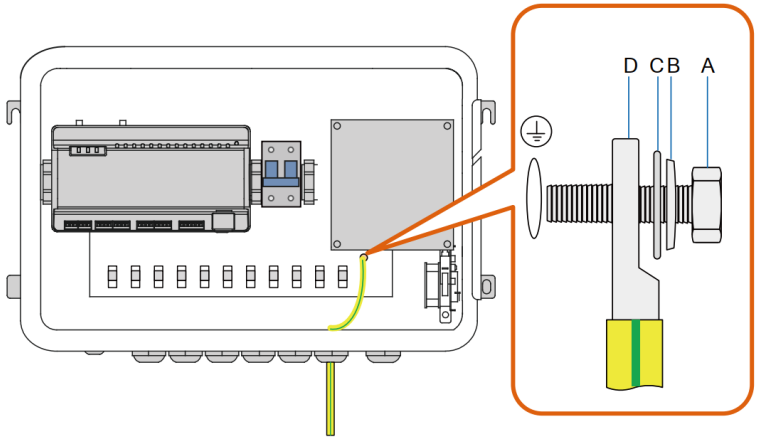
Preparing of Electric Installation

1. Switching off COM100E



- Release the four screws on top of the enclosure and open it
- Turn the internal power switch of the COM100 to the "OFF" position to ensure the COM100 is voltage-free(switch showing down)

2. Grounding COM100E



- Strip the insulation cover of the grounding cable and crimp the stripped cable to the OT terminal.
- Fasten the grounding cable in the sequence of cross recessed fastener assembly, OT terminal, and grounding hole.

A = M5x10 cross recessed fastener | B = flat washer | C = spring washer | D= OT Terminal

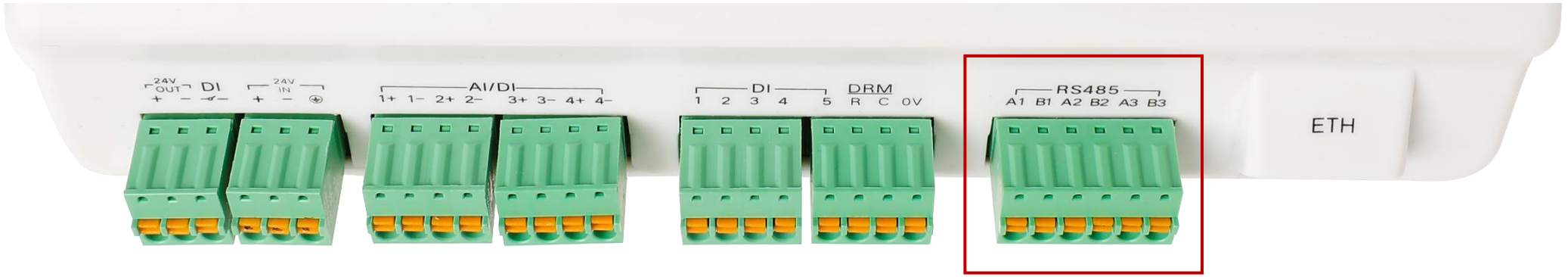
Setting Up of a RS485 Connection

RS485 Connection

The protocol between all connected units in the PV array is RS485.

Three ports are available (A1B1, A2B2, A3B3).

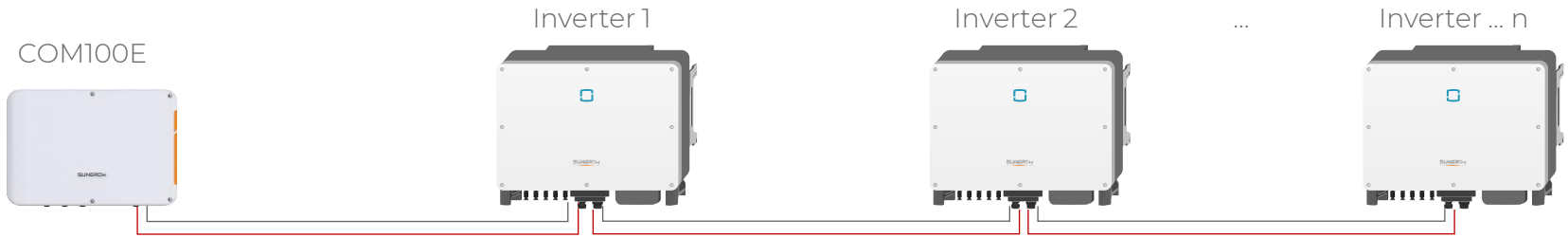
3rd-party units (environmental sensors, grid analysers) and energy meter are connected to a different port as the inverters.



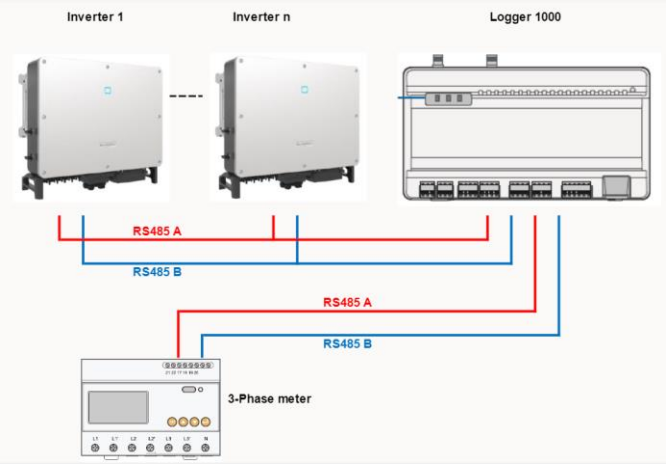
Cable requirements: **Shielded Twisted-Pair, min. 0,75 mm diameter**

Connection Scheme RS485

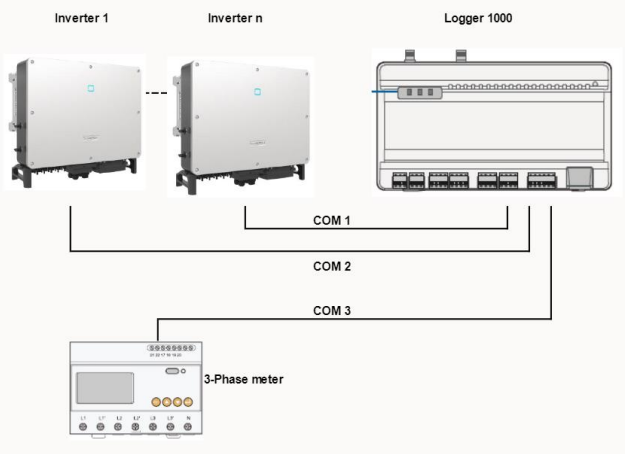
The inverters will get connected in series (daisy-chained). KTL series: just 1 or last unit per daisy-chain.



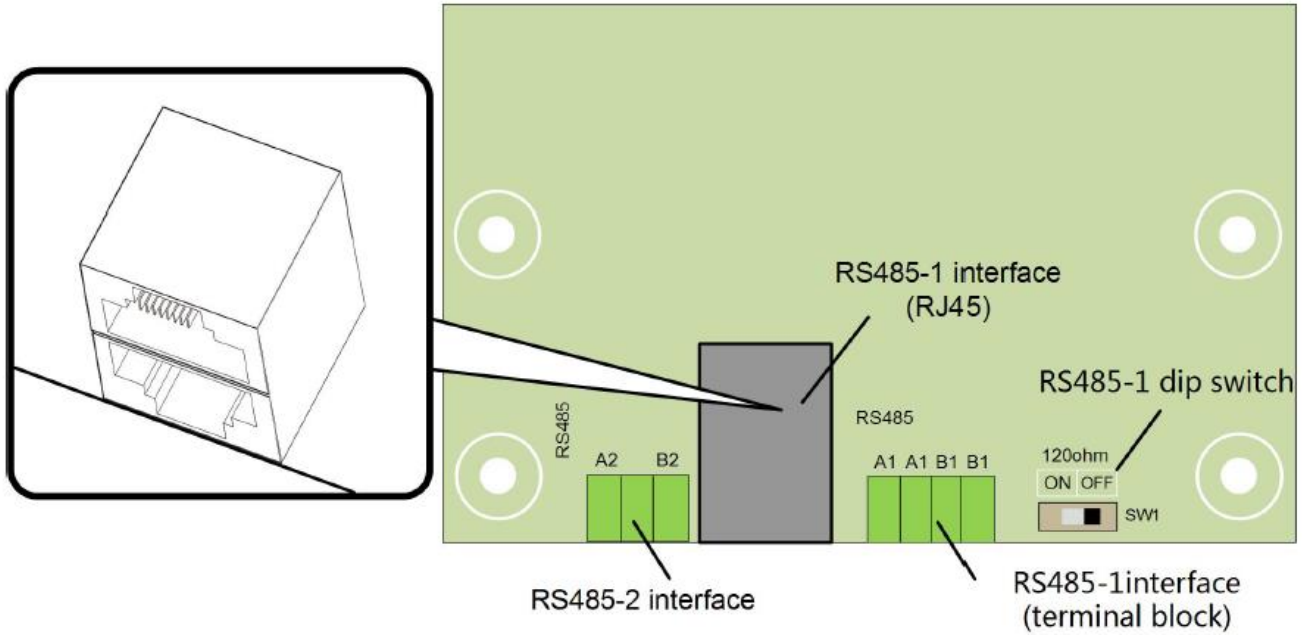
Option 1: connecting all inverters to one RS485 port. (KTL series: last in row



Option 2: connecting the inverters to two different RS485 ports



Connection of the Sungrow CX series

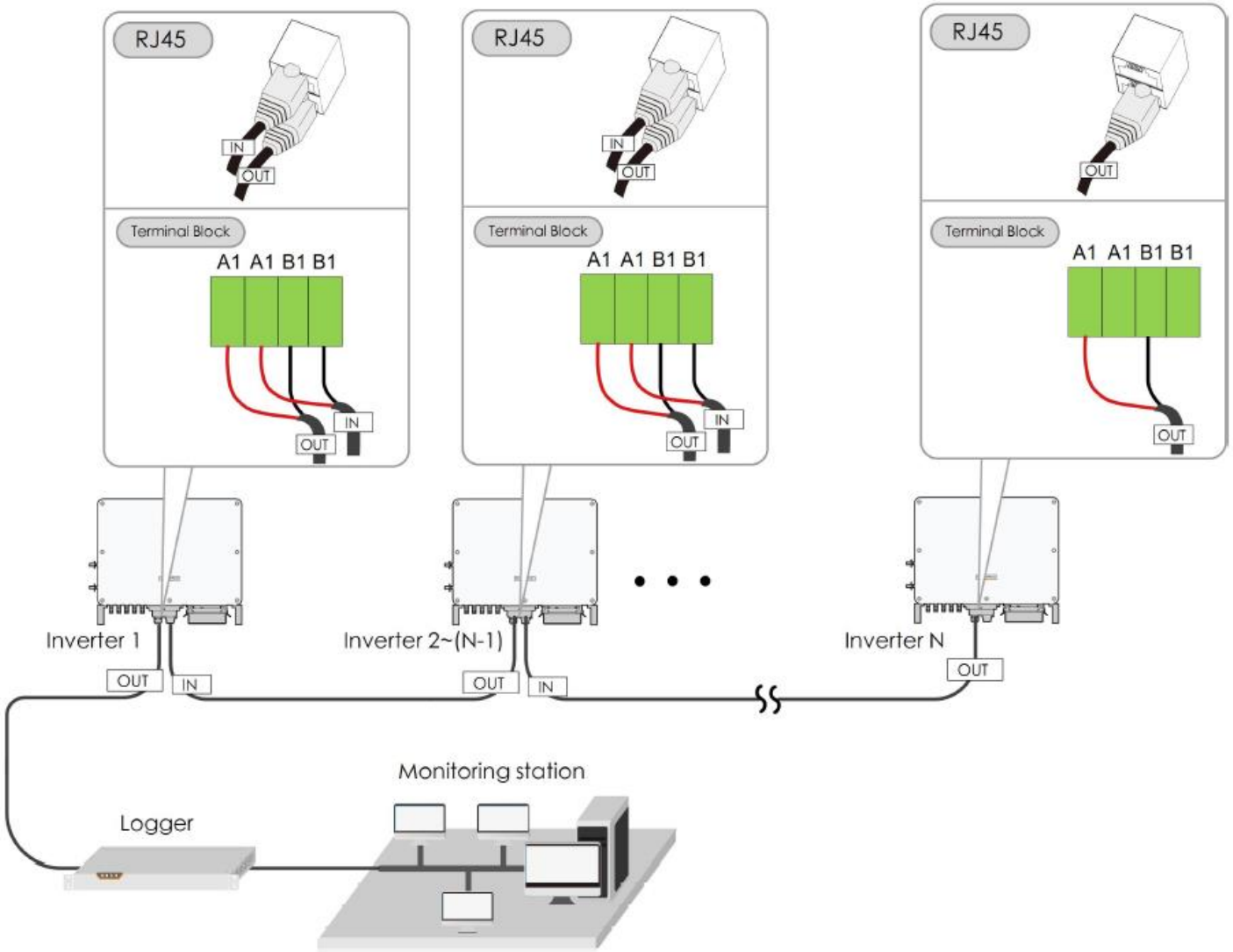


The CX series has two RS485 interfaces (RS485-1 and RS485-2), of which RS485-1 is equipped with both RJ45 and terminal block. Which connection form (RJ45 or terminal block) is used does not influence the functionality.

For the connection in series (daisy chain) only RS485-1 is possible.

For ensuring the communication quality, dip switches with 120 Ohm resistance are used.
The first and last unit in the inverter chain should be set to „on“ (in above graphics: „Ein“)

Connection of the Sungrow CX series

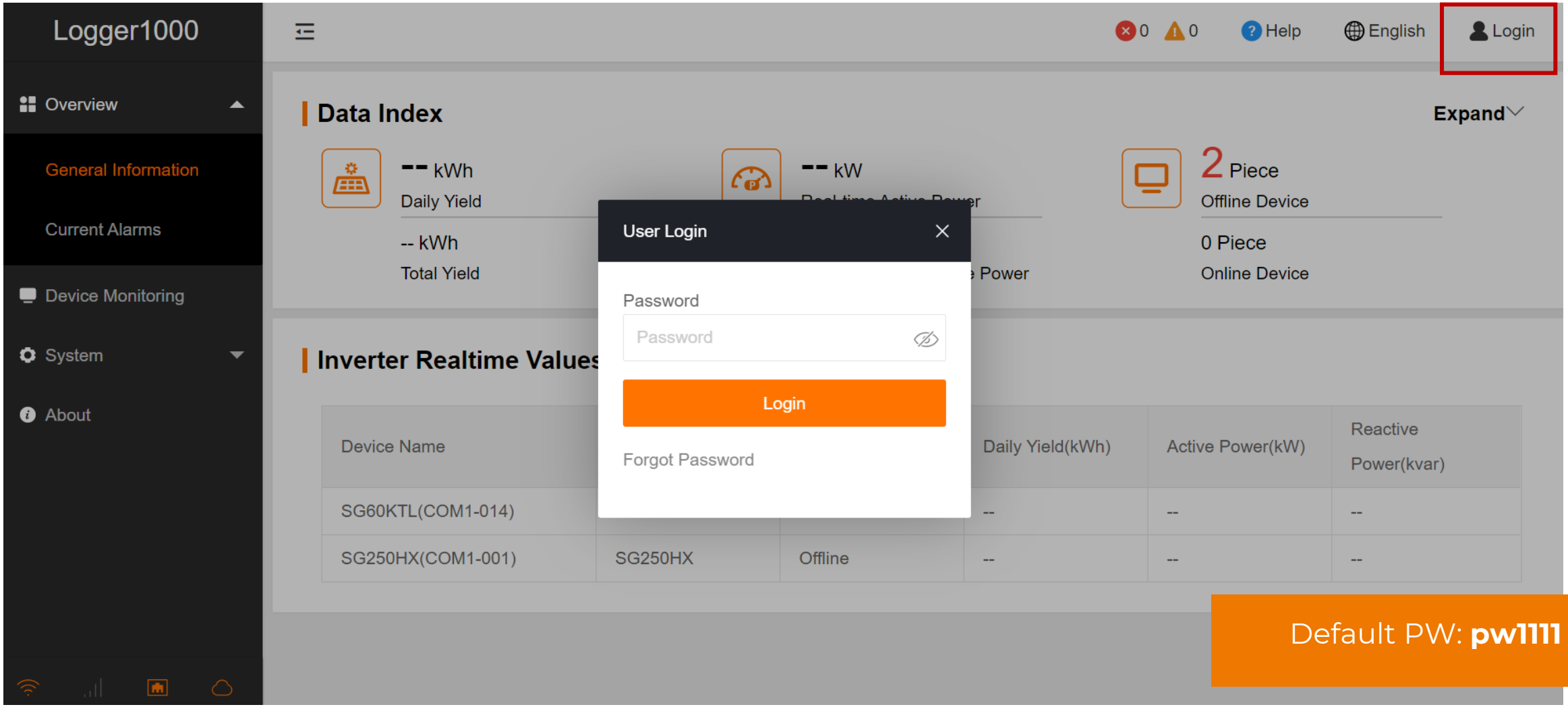


Maximum length of the RS485 cable: **1.200 m**

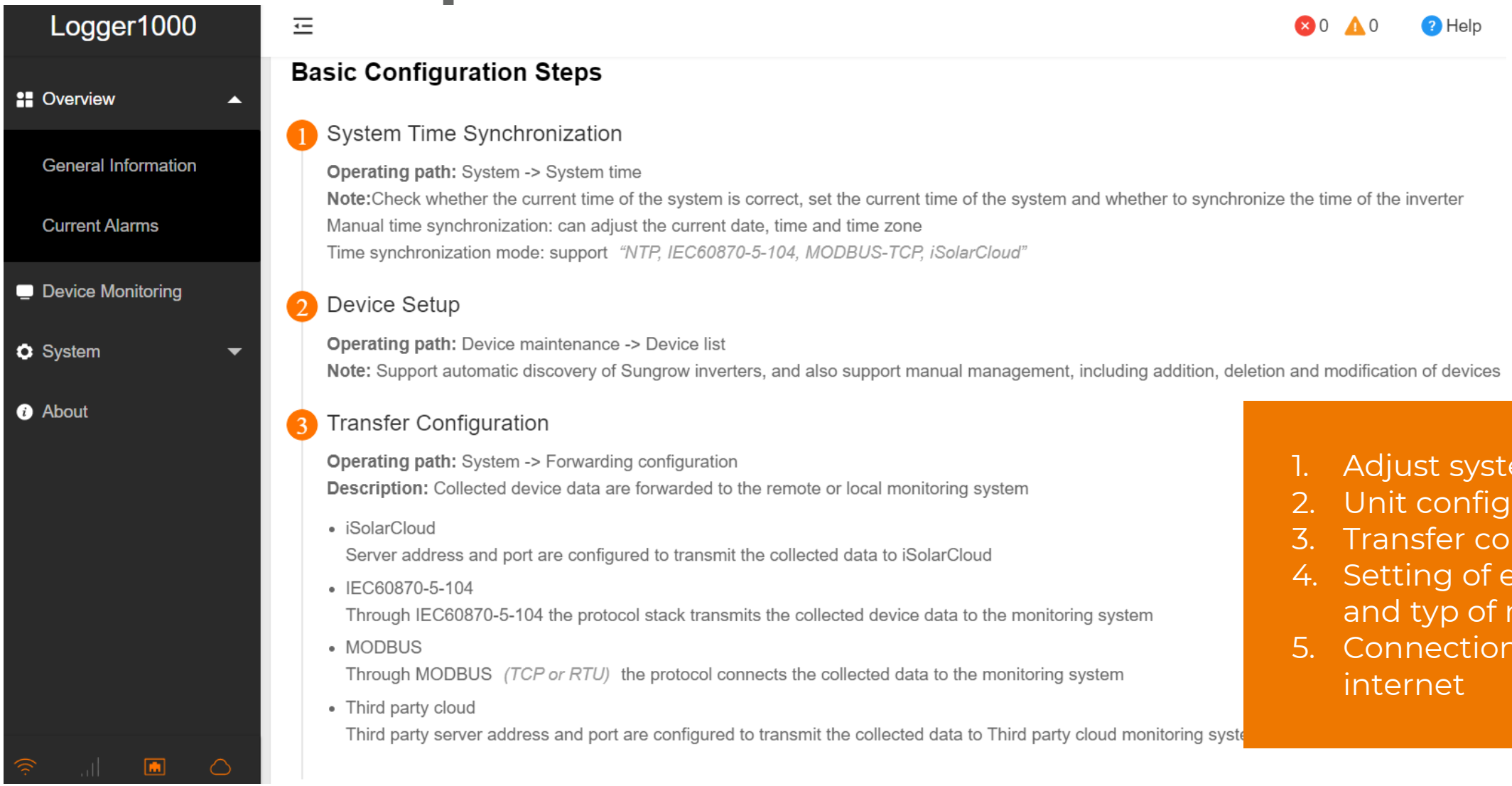
With more than 15 inverter (at latest) per chain, the activation of the termination resistance is needed on the first and last inverter in the chain (see previous slide)

First Commissioning of the COM100E

Login

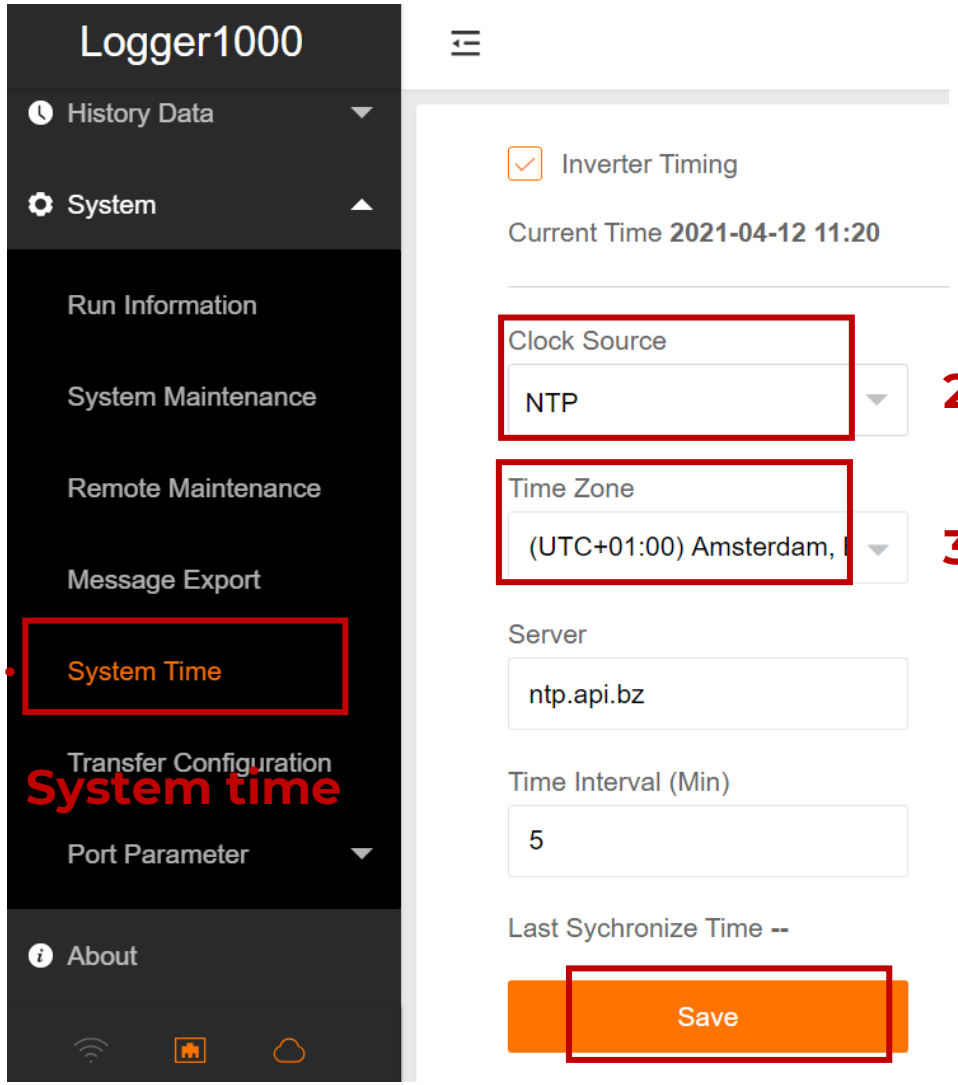

Logger1000
Overview
General Information
Current Alarms
Device Monitoring
System
About
0
0
Help
English
Login
1.
Data Index
Expand
-- kWh
Daily Yield
-- kWh
Total Yield
-- kW
2 Piece
Offline Device
0 Piece
Online Device
User Login
Password
Password
Login
Forgot Password
Inverter Realtime Values
Device Name
Daily Yield(kWh)
Active Power(kW)
Reactive Power(kvar)
SG60KTL(COM1-014)
SG250HX(COM1-001)
SG250HX
Offline
Default PW: pw1111

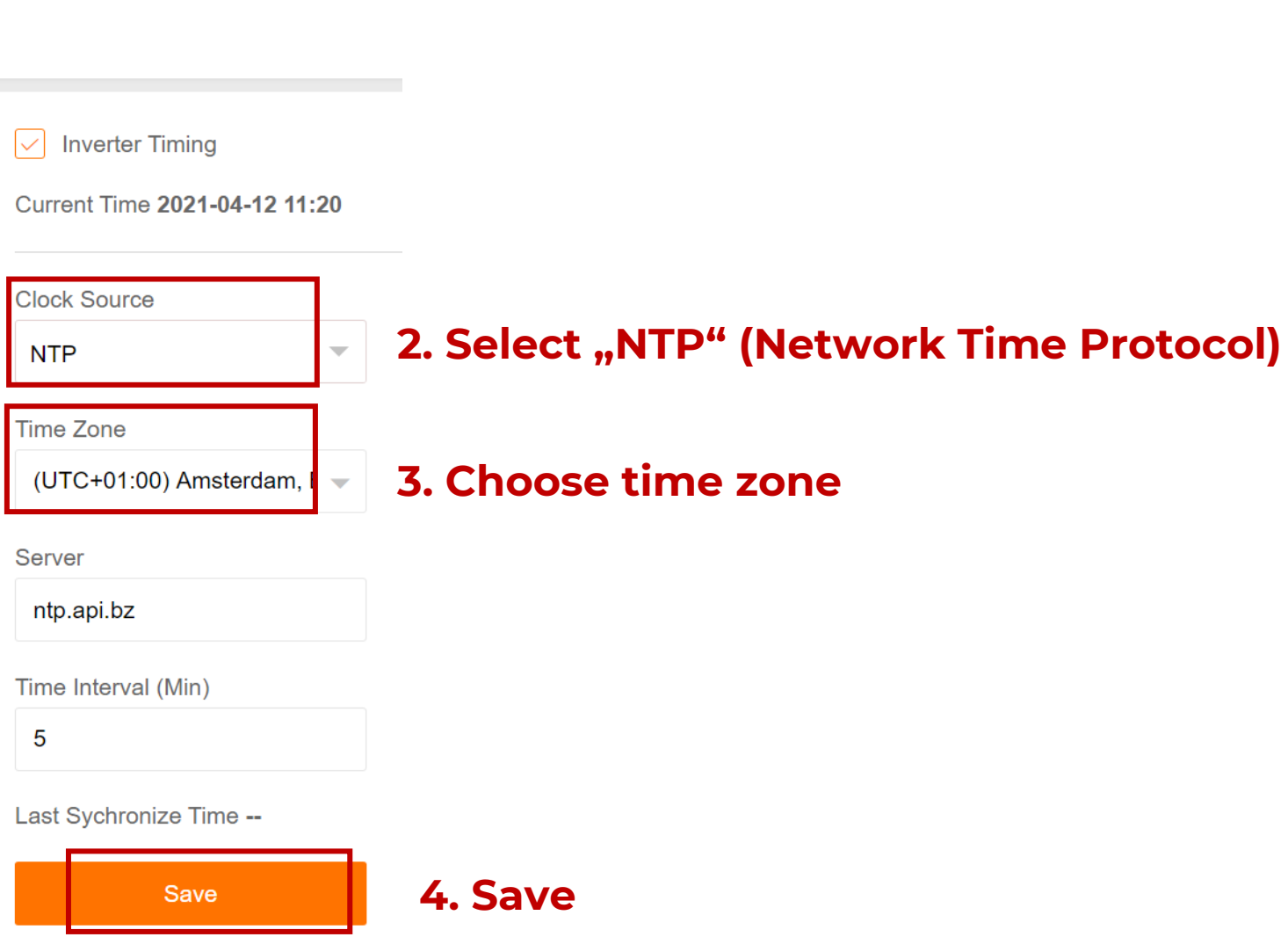
5 first steps



1. Adjust system time
2. Unit configuration
3. Transfer configuration
4. Setting of export limit and typ of net
5. Connection to the internet

Adjust system time



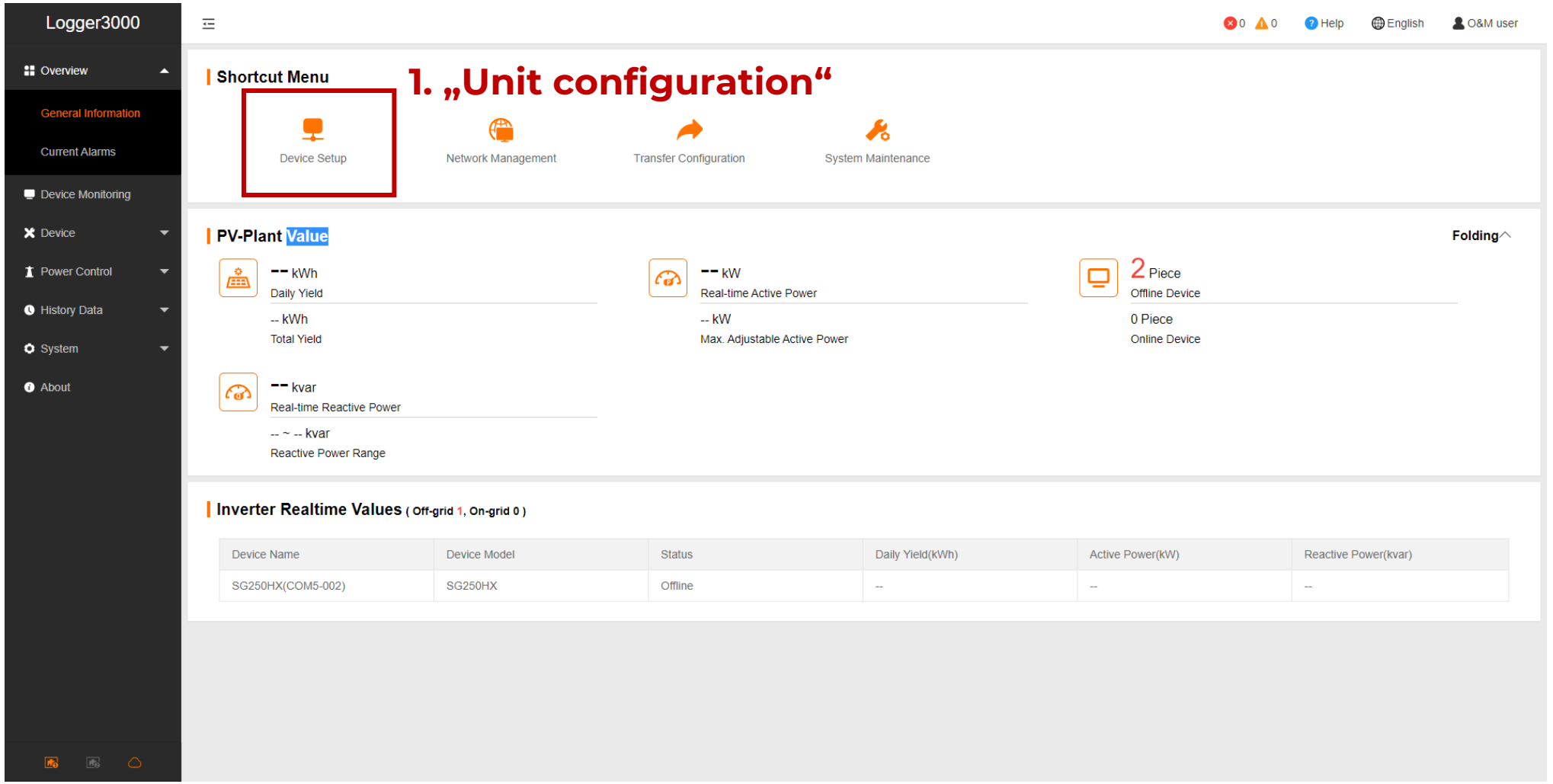


2. Select „NTP“ (Network Time Protocol)

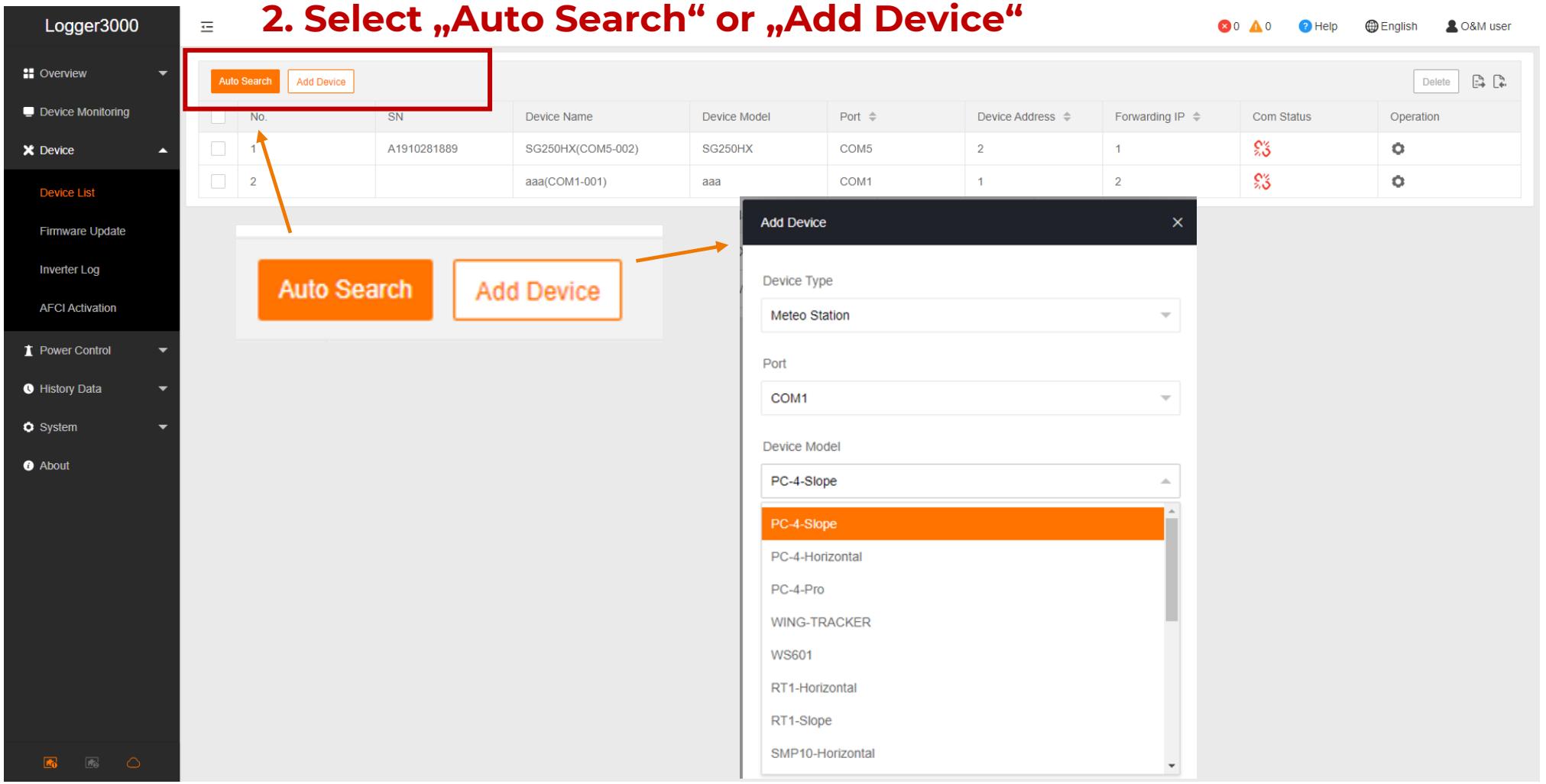
3. Choose time zone

4. Save

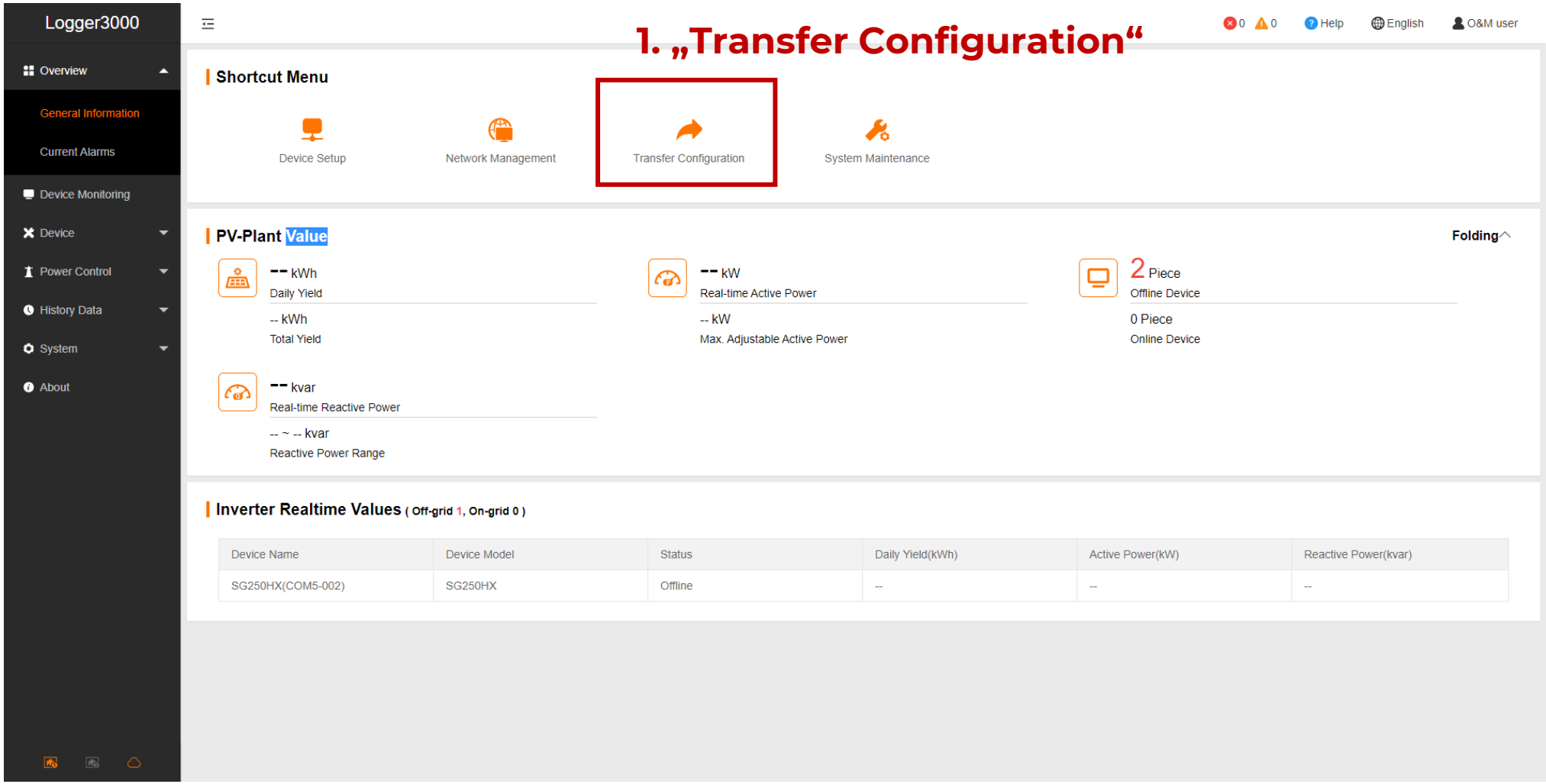
Unit configuration



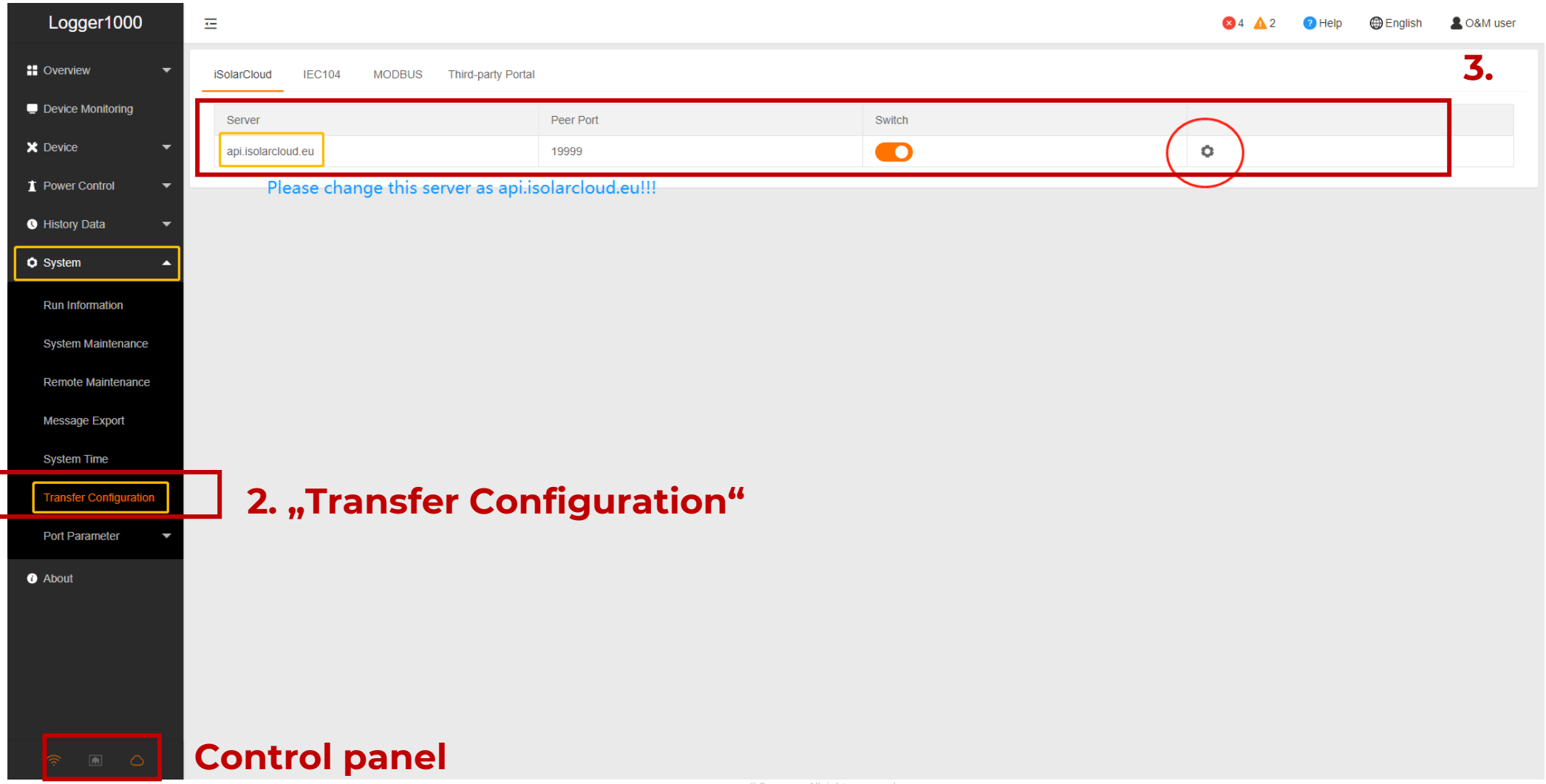
Unit configuration



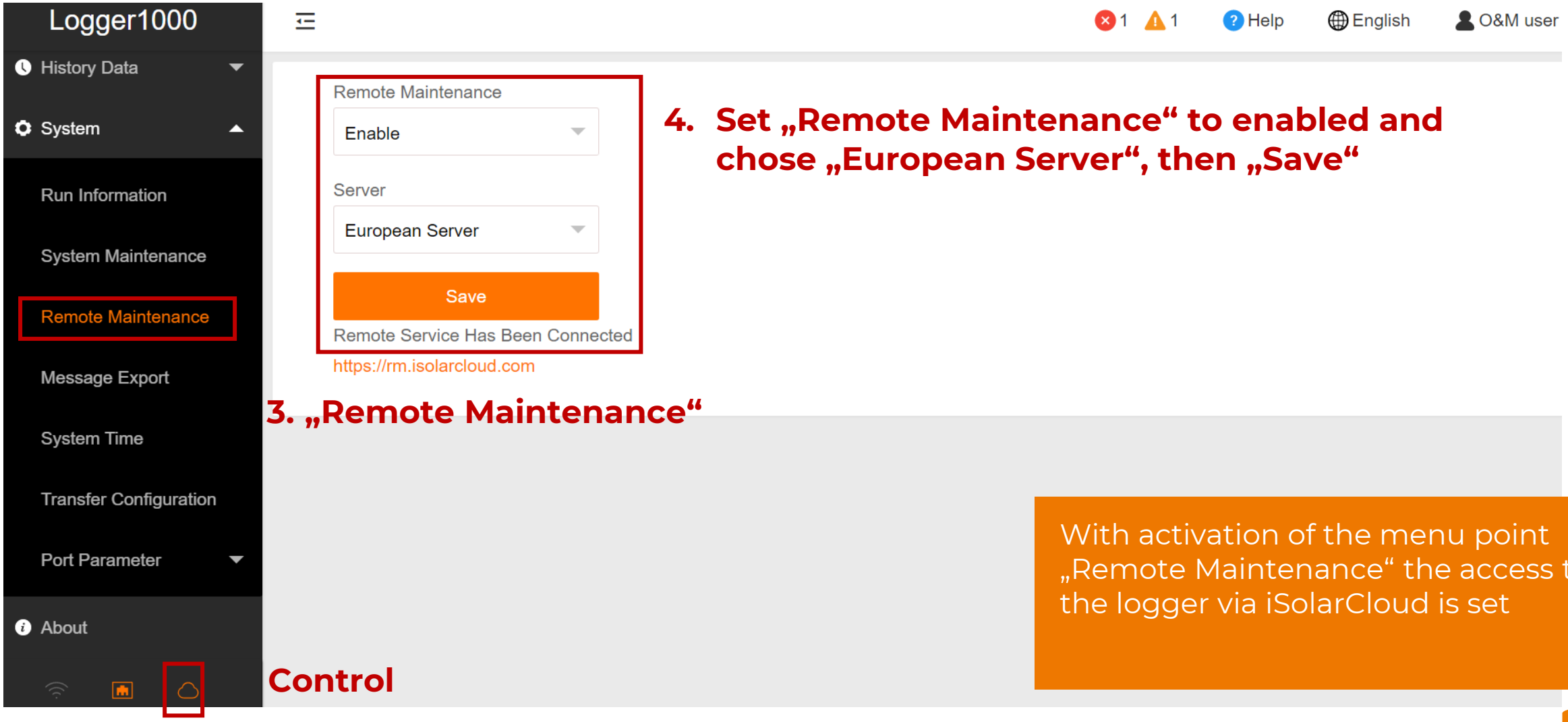
Transfer configuration iSC



Transfer configuration iSC



Transfer configuration iSC



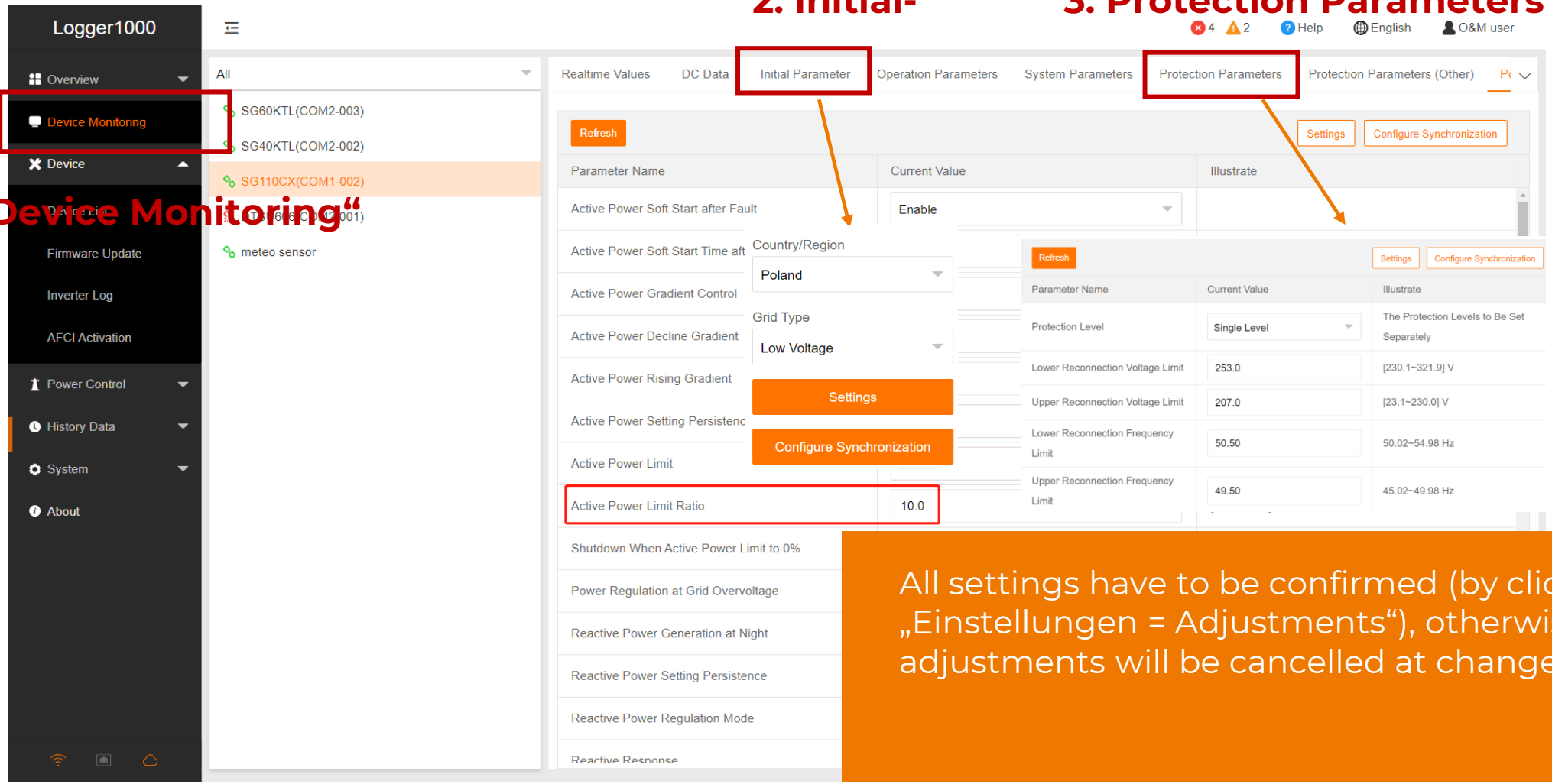
4. Set „Remote Maintenance“ to enabled and chose „European Server“, then „Save“

3. „Remote Maintenance“

Control

With activation of the menu point „Remote Maintenance“ the access to the logger via iSolarCloud is set

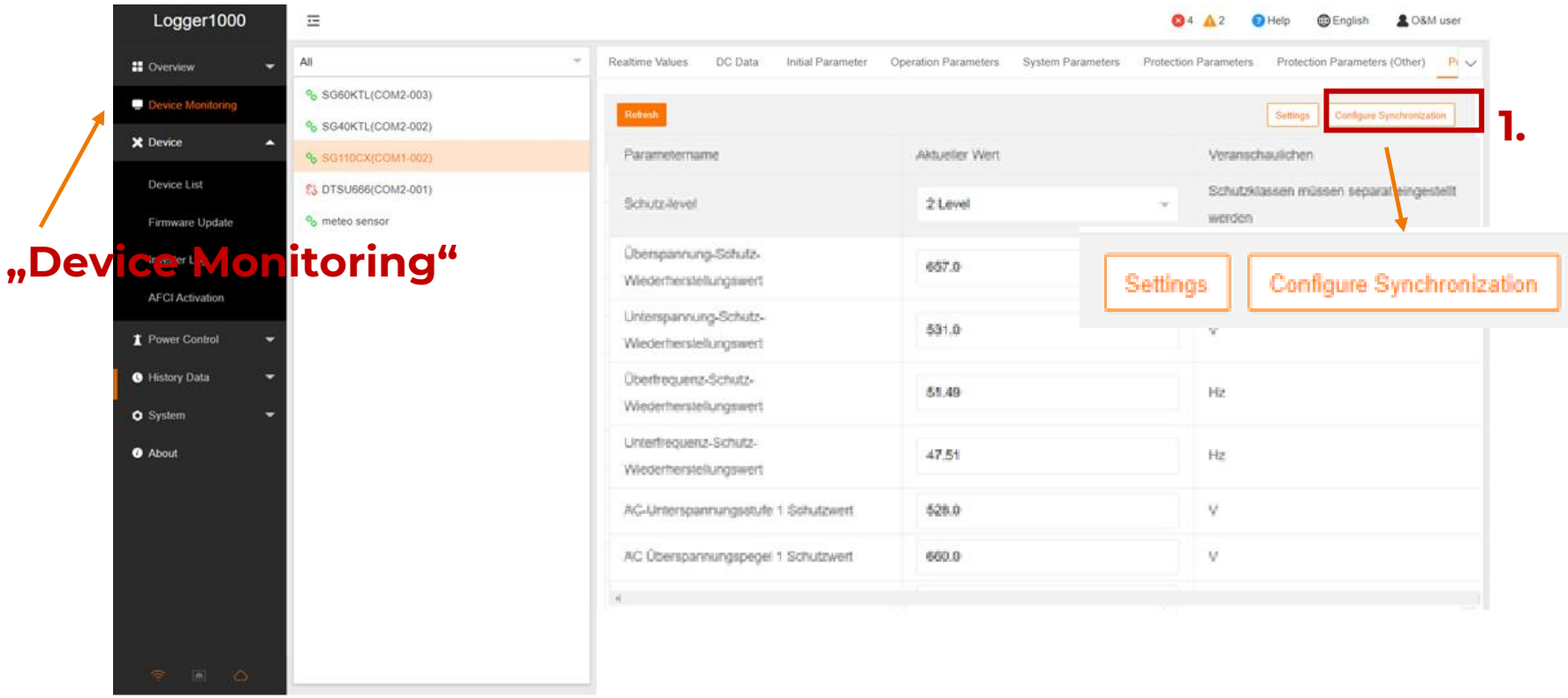
Adjusting the grid parameters

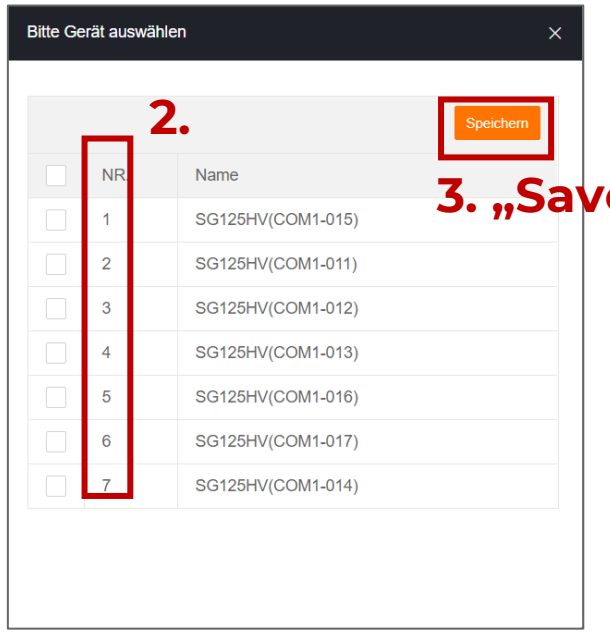


All settings have to be confirmed (by clicking „Einstellungen = Adjustments“), otherwise all adjustments will be cancelled at change of menu.

Adjusting the grid parameters

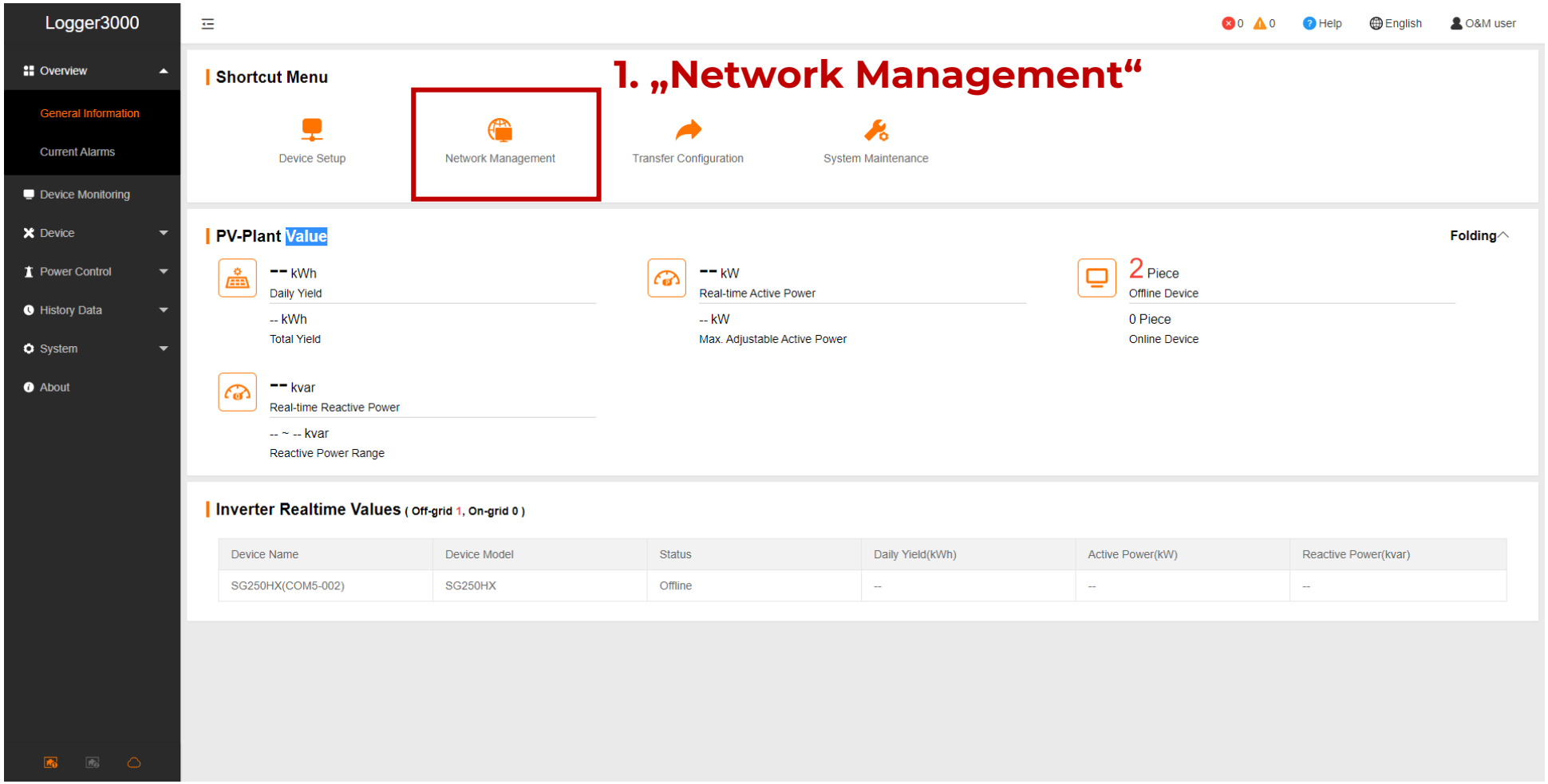
By clicking „Configure Synchronization“, set parameters can be forwarded to all other inverters



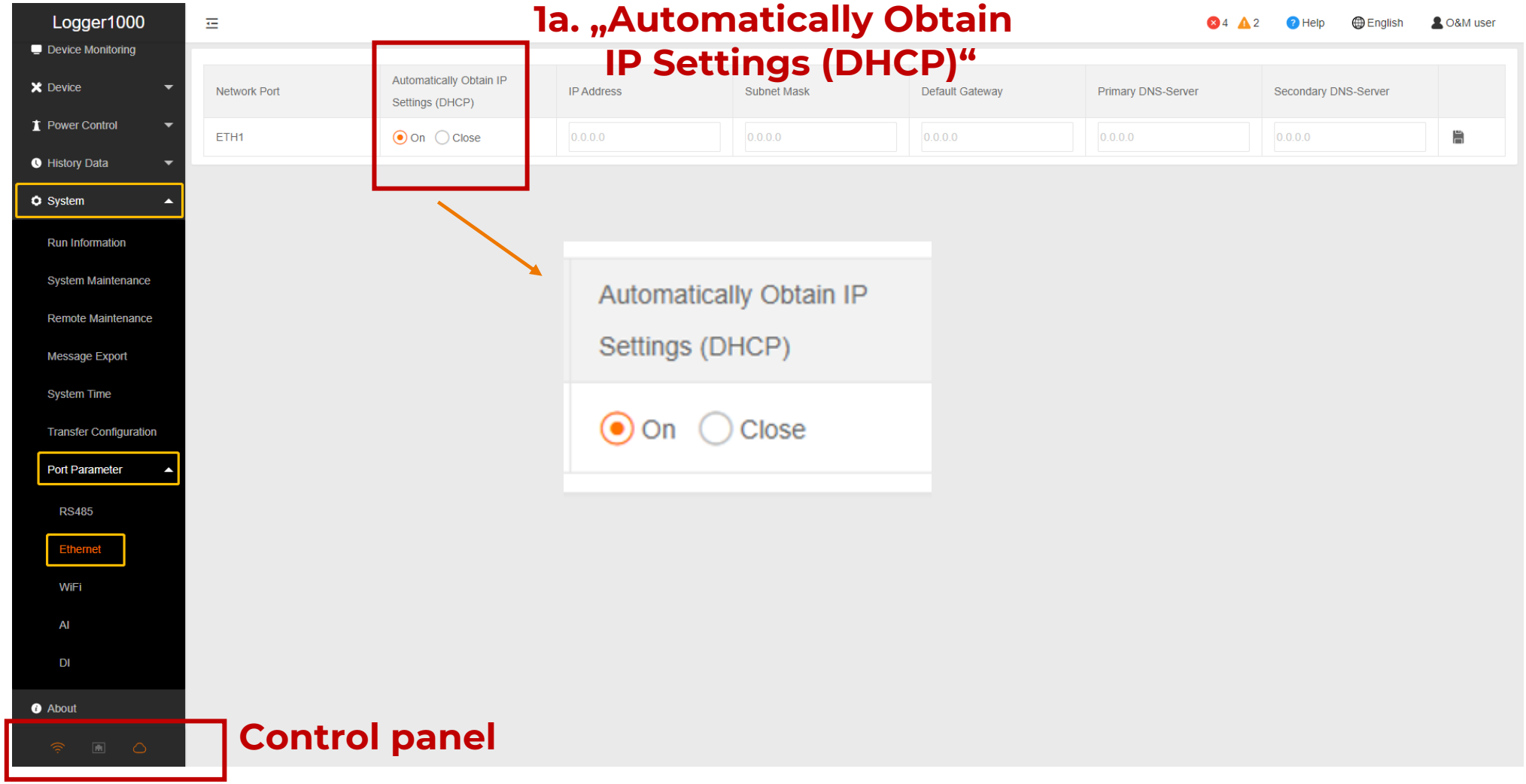


(graphics currently partly available in German language only)

Network management



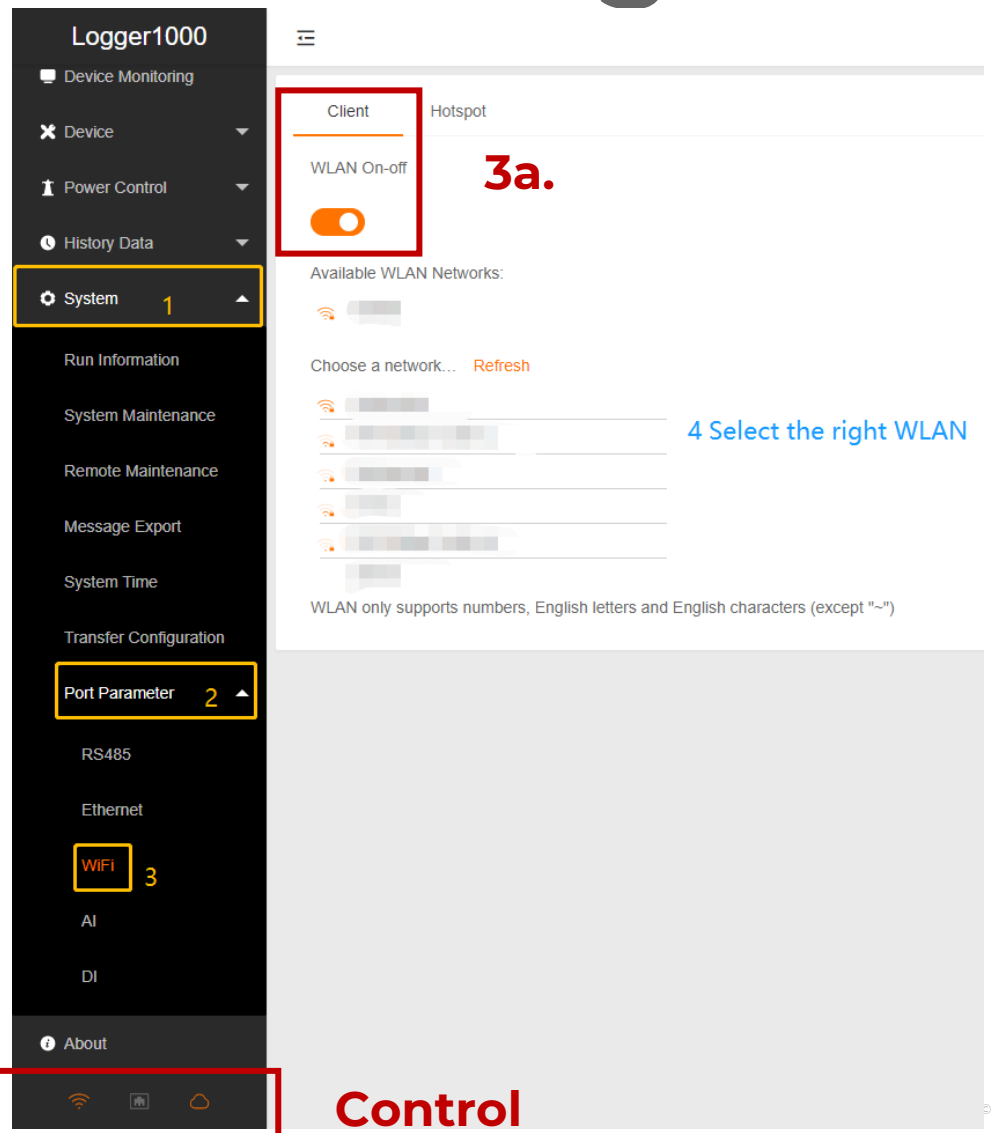
Net management Ethernet/LAN



1a. „Automatically Obtain IP Settings (DHCP)“

Control panel

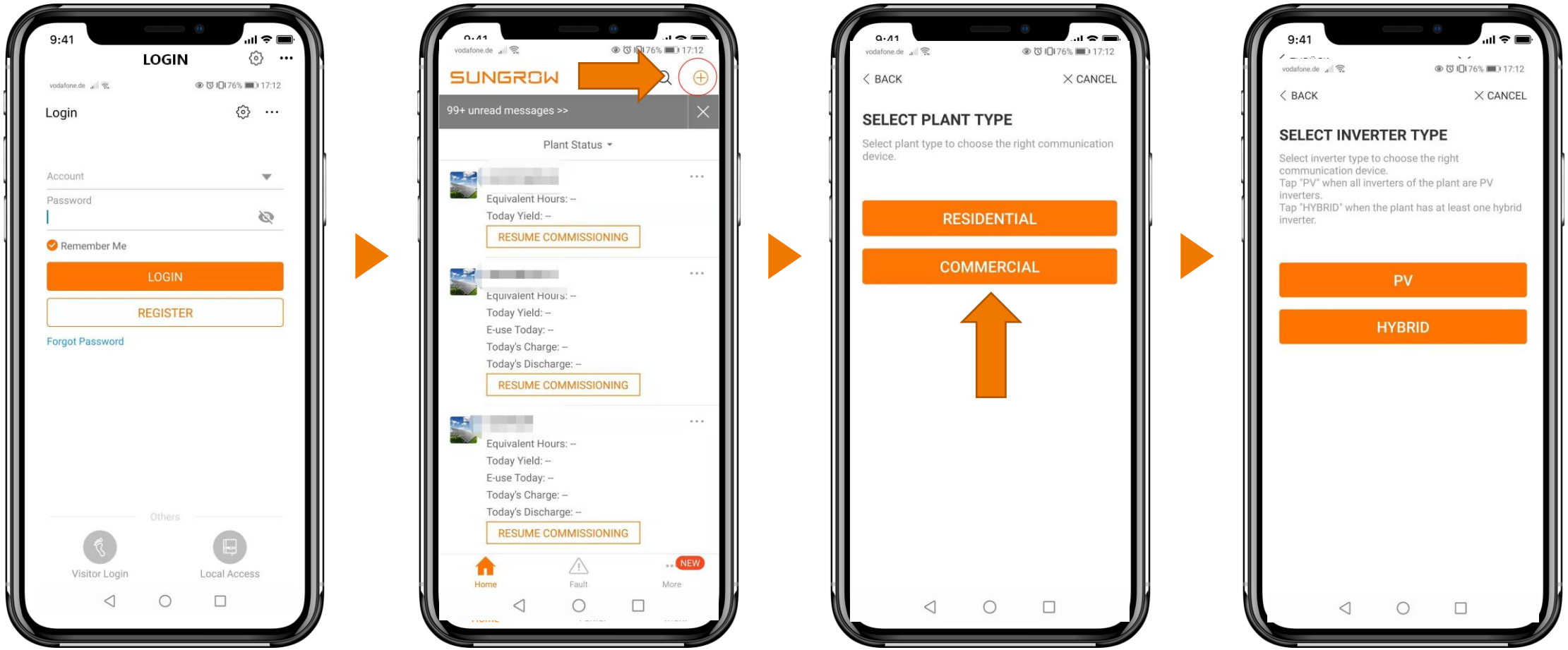
Net management WLAN/WiFi



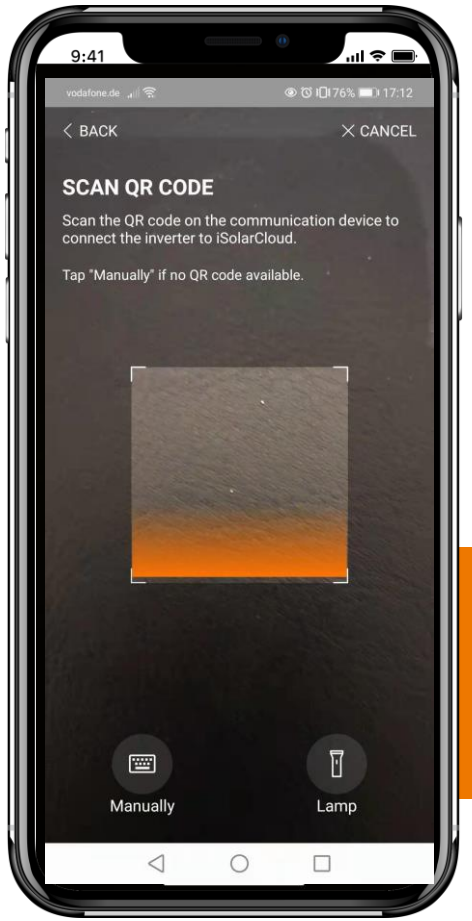
Installation and Displaying in the iSolarCloud

- In order to see the data monitored in iSolarCloud the array has to be added
- By the transfer configuration and the internet connection via ETH or WiFi, data gets transferred to the server, but not yet to an initialized array.

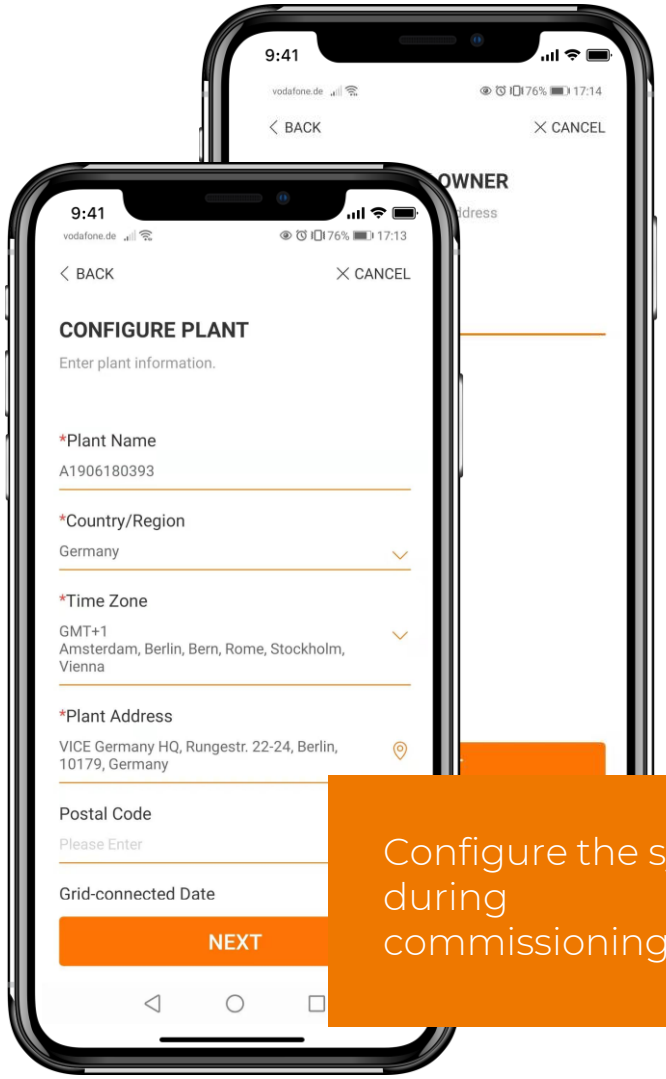
Commissioning and Displaying in the iSolarCloud



Commissioning and Displaying in the iSolarCloud

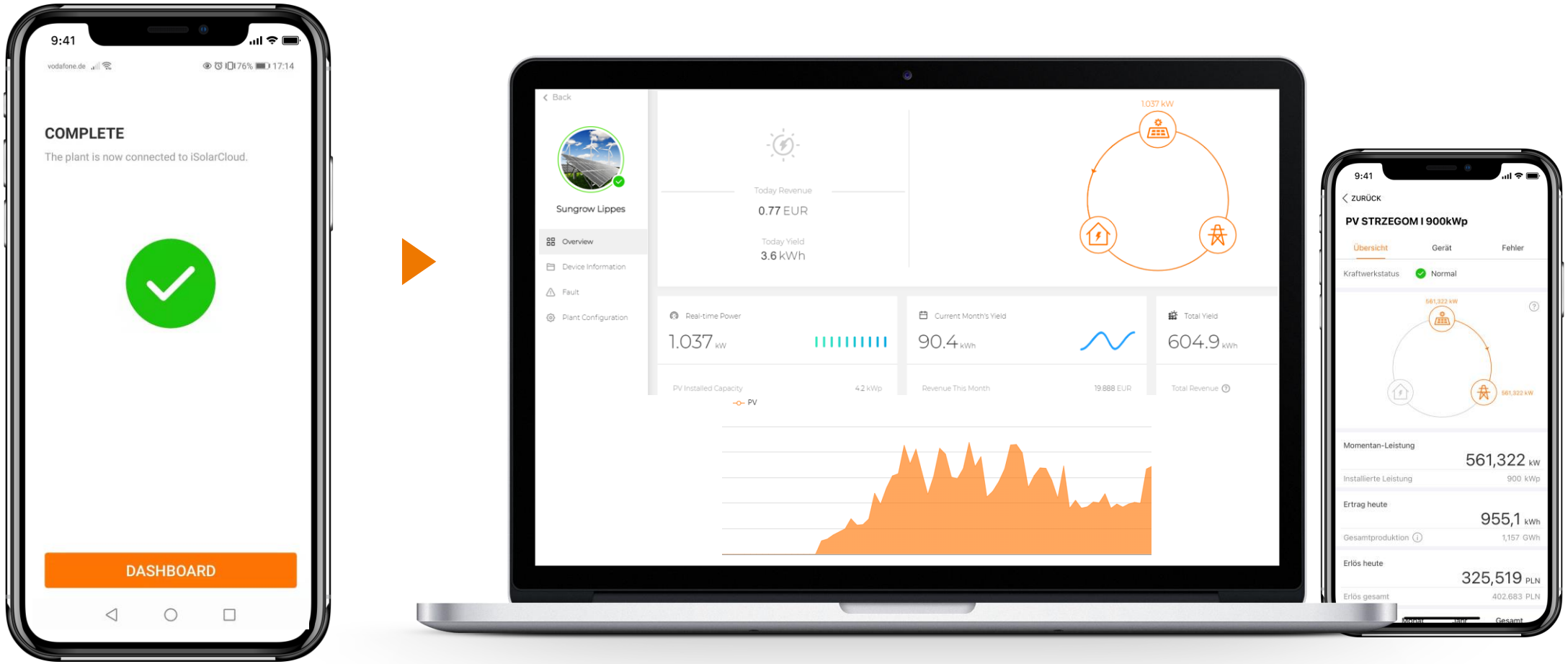


Scan the QR Code on the logger enclosure



Configure the system during commissioning

Commissioning and Displaying in the iSolarCloud



Commissioning IsolarCloud / Logger – Check List

1. Inspect the logger before commissioning
2. Switch on the logger
3. Check the status LEDs of the logger
4. Connect a notebook via ETH with the logger for any error removal (IP: 12.12.12.12 , notebook: .13)
5. Switch on DC switch for the inverters connected
6. If needed: Adoption of the RS485 interface to special requirements
7. Add all units connected to the logger via „unit administration“
8. Aktivate DHCP für automatically receiving an IP address
9. Connect to iSolarCloud (transver configuration -> europ. server)
10. Check the inverter data for correctness via real time information
11. Create a new system in iSolarCloud and check system parameters

Functions of the COM100E

Functions Overview

1.

Zero Feed-In/ Limiting of active power

2.

Reative power control

3.

Connection to Ripple Control Receiver (RSE)

4.

Connectin 3rd-party data logger via Modbus TCP

5.

Compatibility and connection of 3rd-party units/sensors

6.

FTP / SFTP

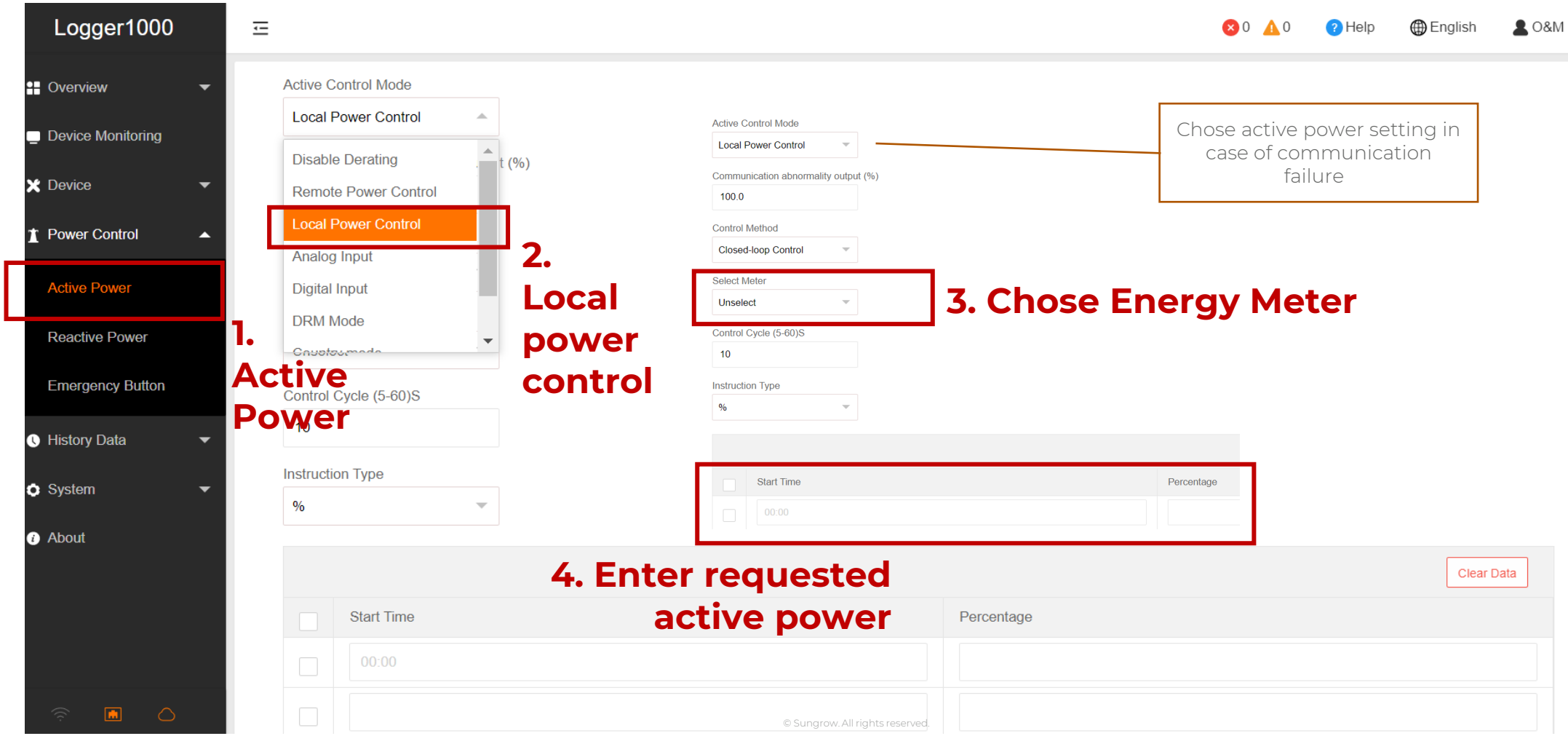
7.

AFCI

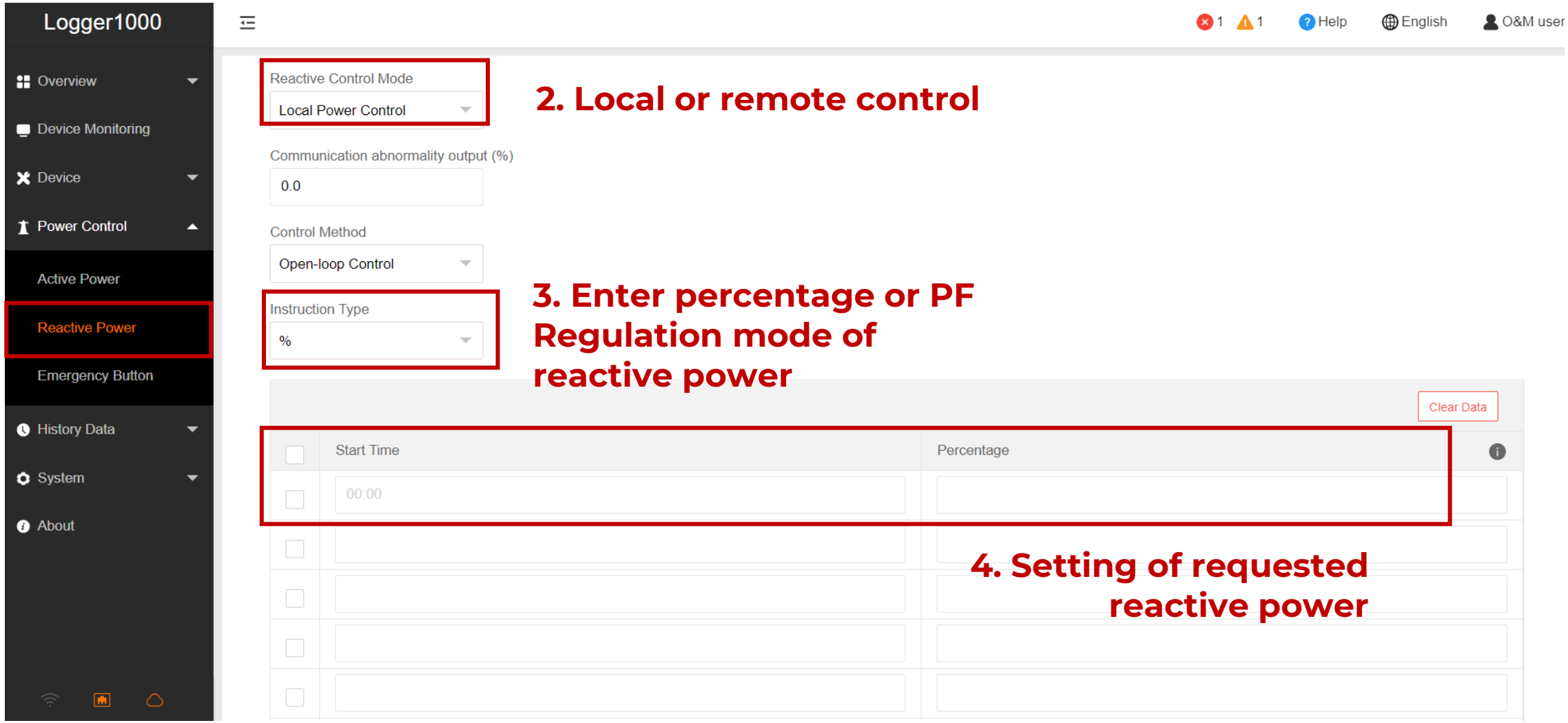
8.

Firmware-Updates for Sungrow units

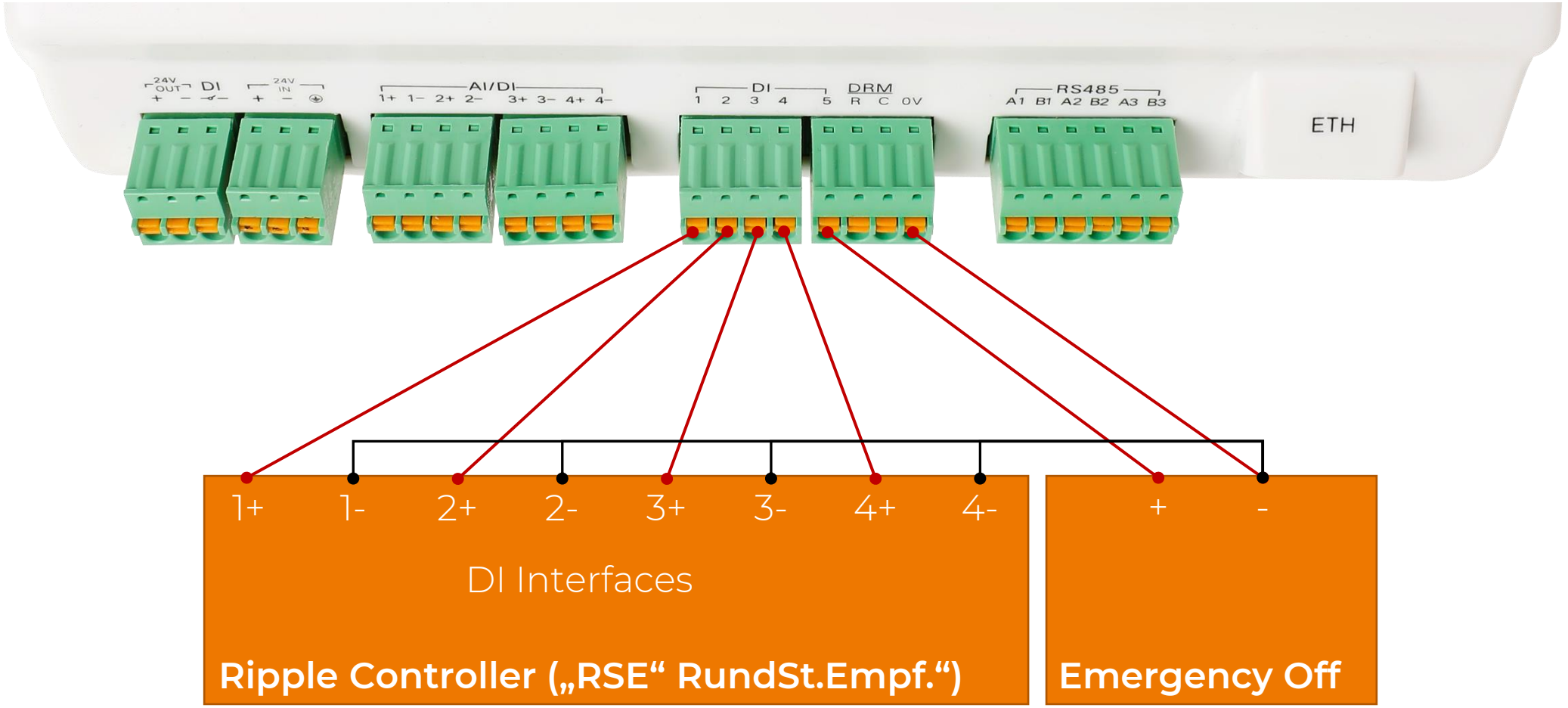
Zero Feed-In / Active Power Limiting



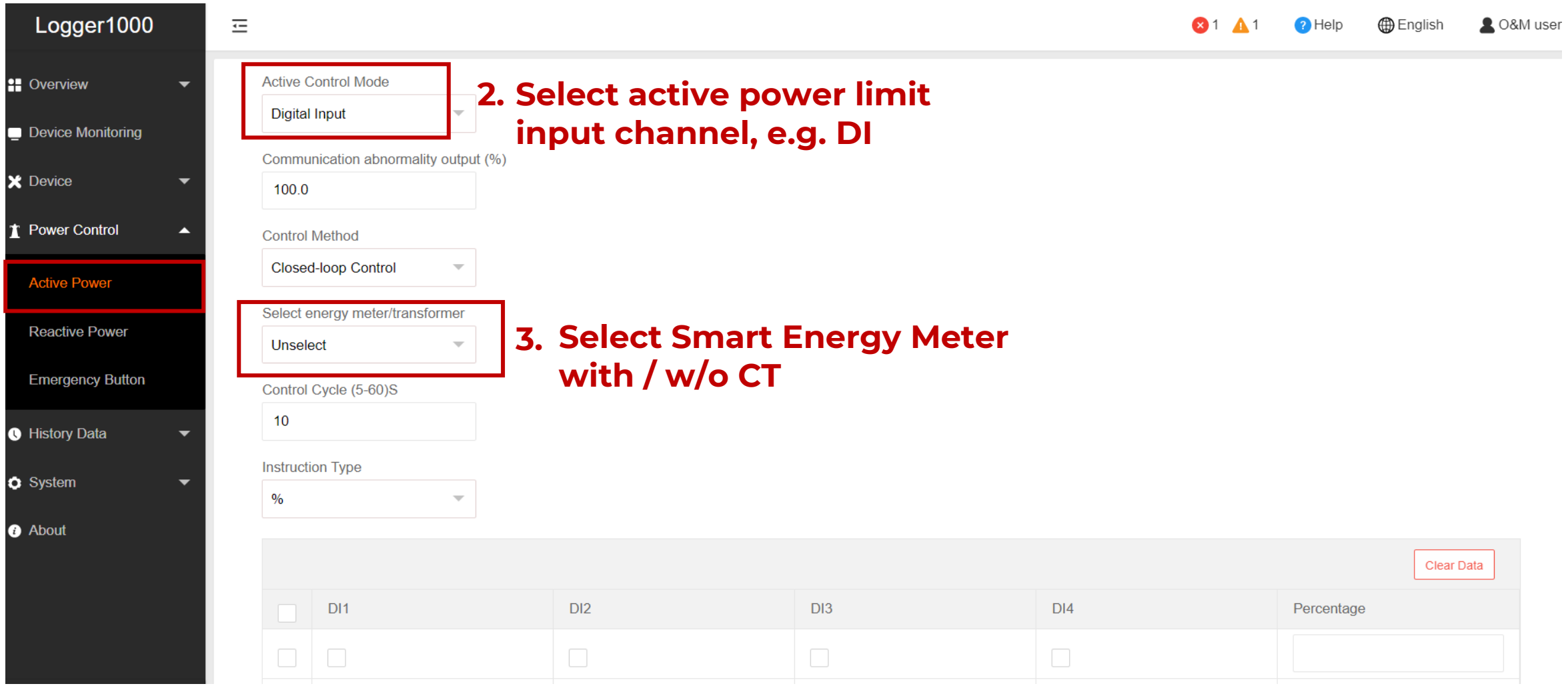
Reactive Power Control



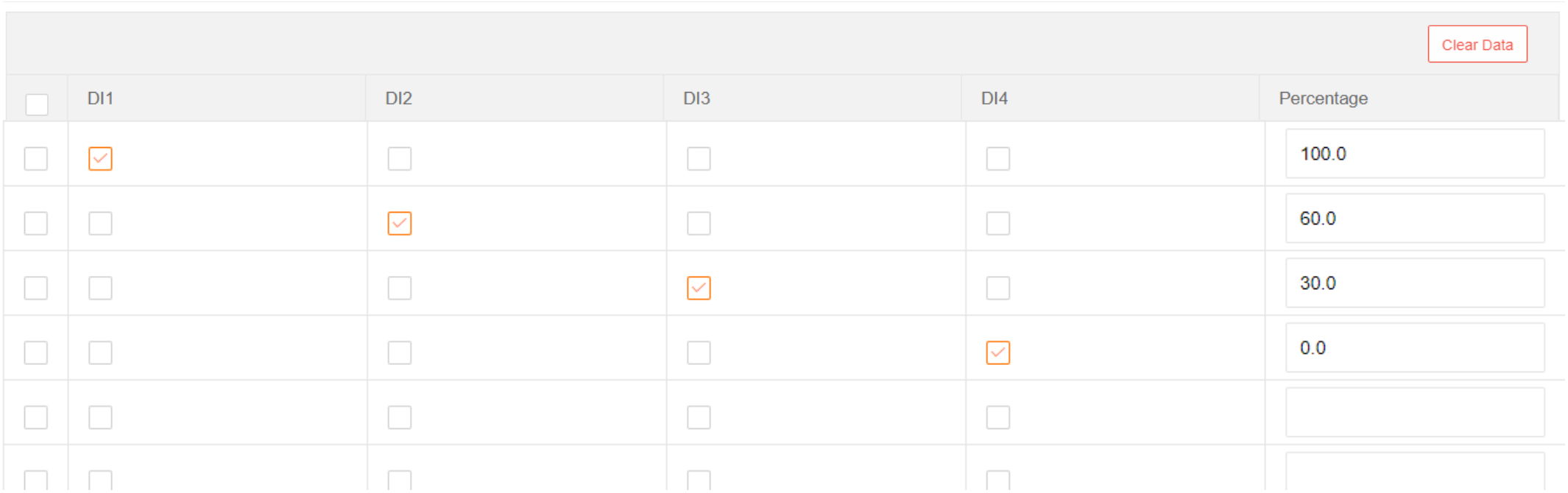
Connecting the ripple controller („RSE“)



Connecting the ripple controller

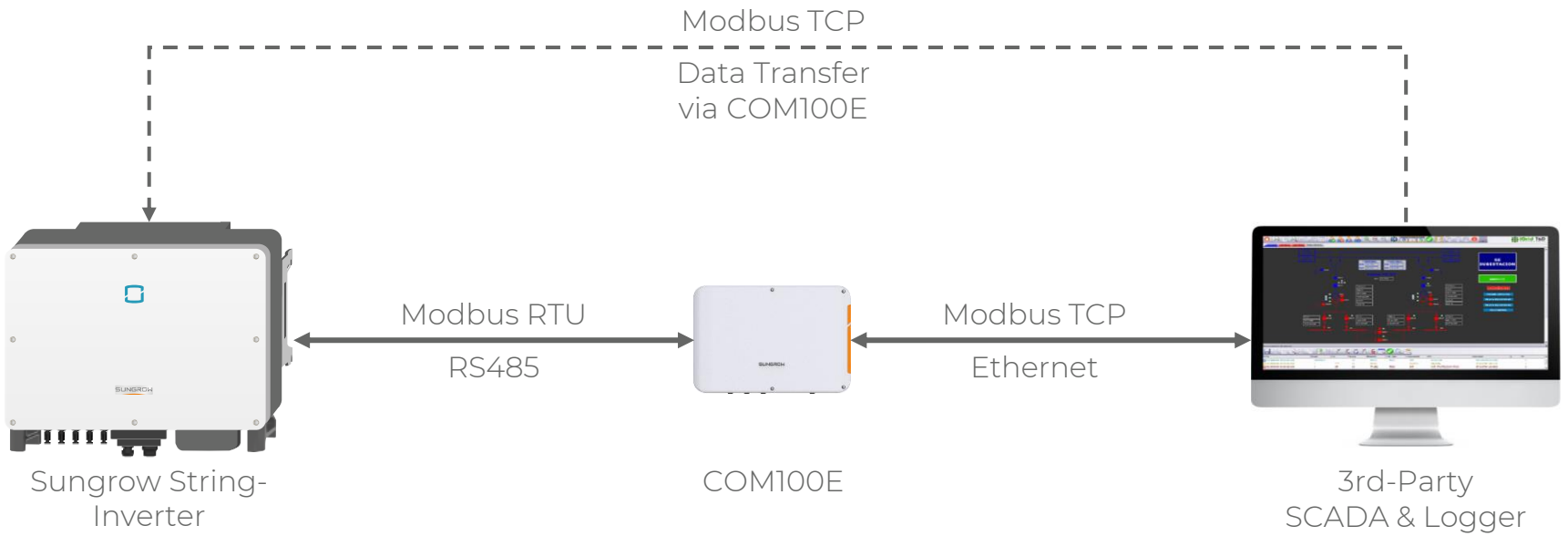


Connecting the ripple controller



Connecting 3rd-Party Logger via Modbus TCP

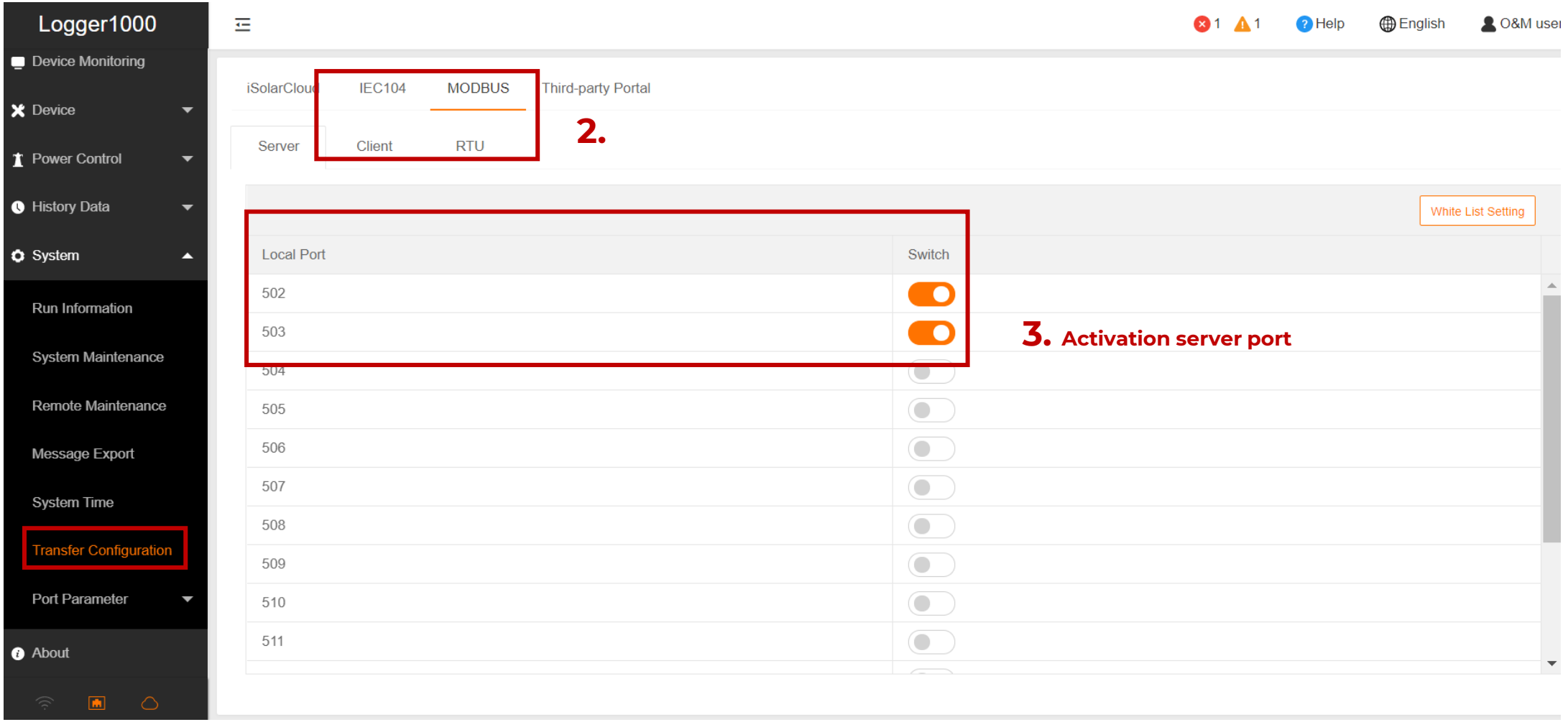
Type1 Modbus TCP



Preparations

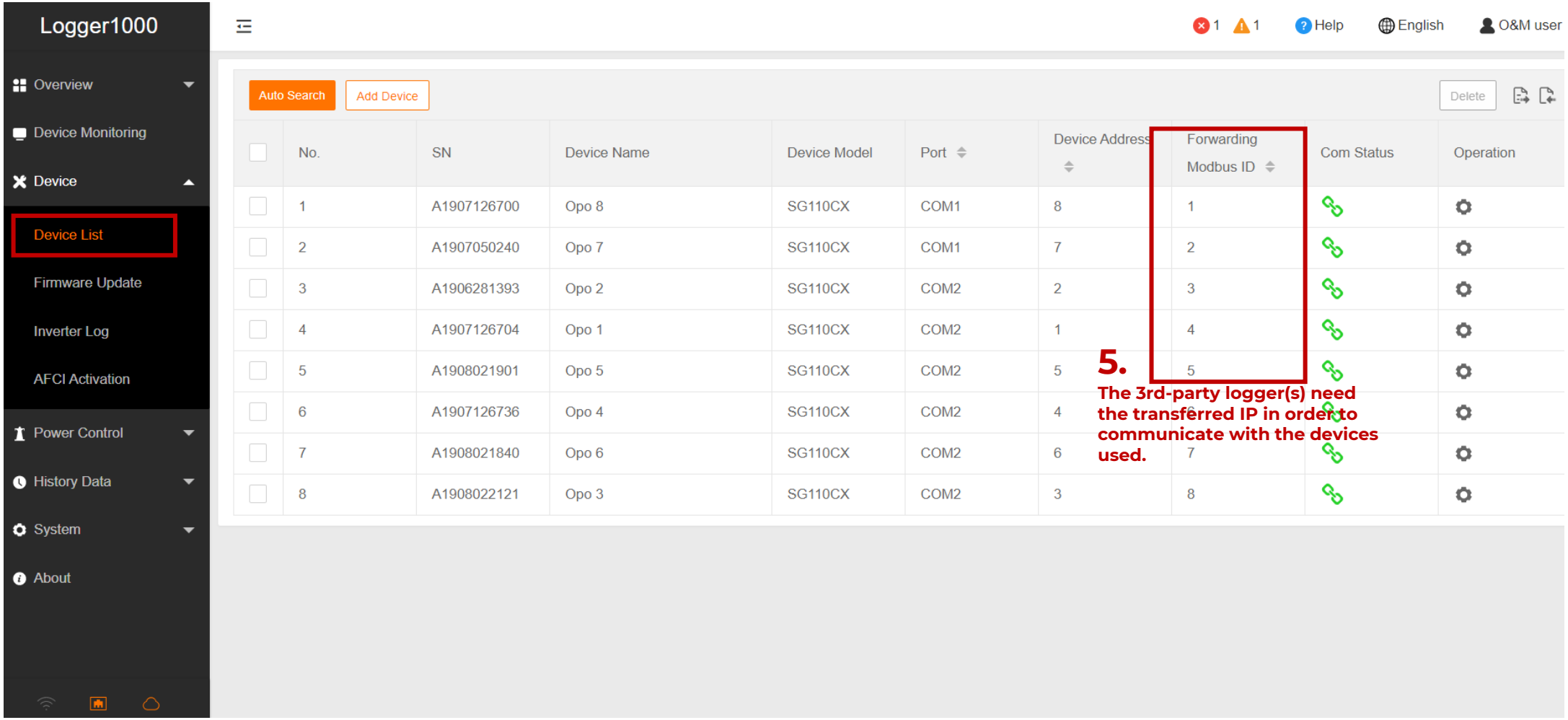
- Logger Modbus protocol (if not yet compatible)
- Inverter ,Meteostation, etc...
- Forwarding of device IP addresses
- Logger IP address and Modbus server ports

Connecting 3rd-party logger via Modbus TCP



Connecting 3rd-party logger via Modbus TCP

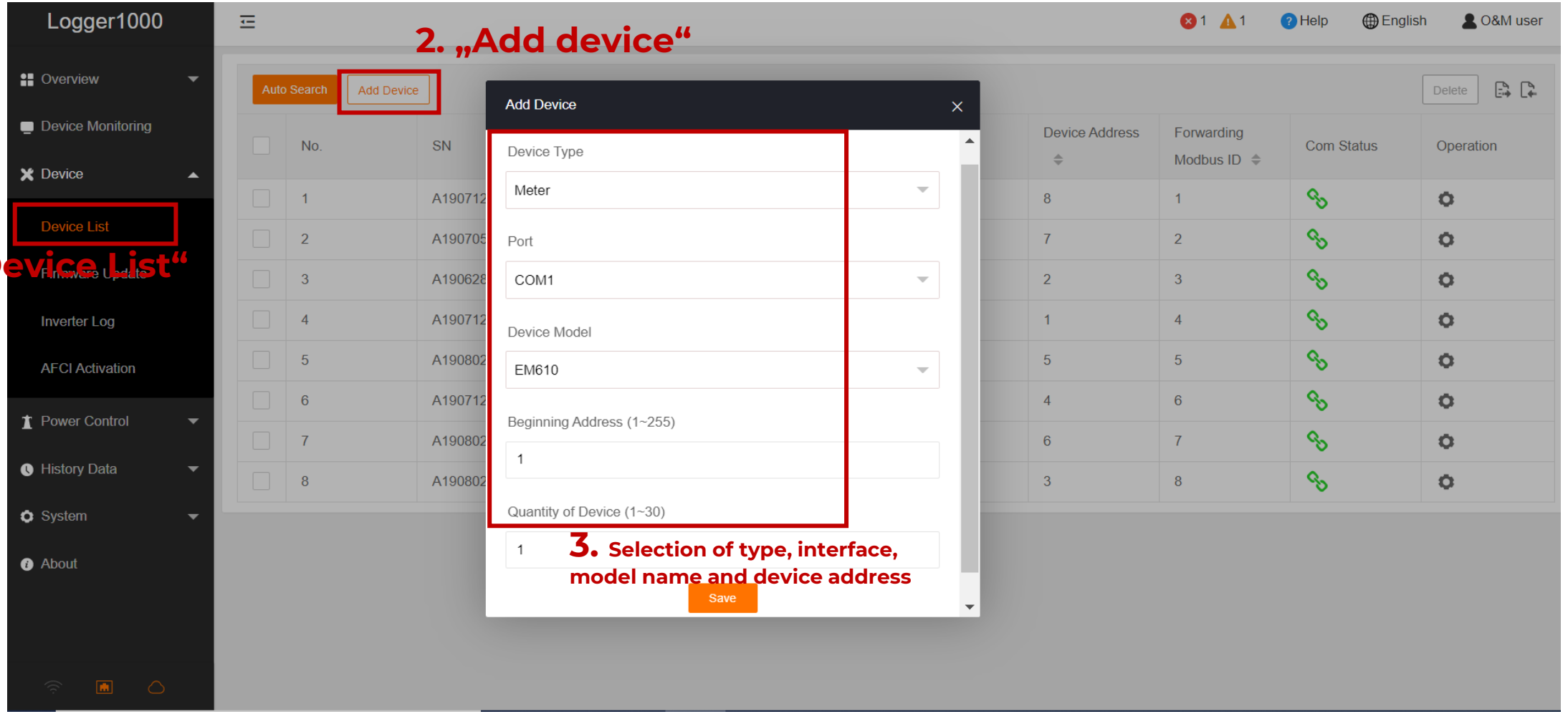
4.



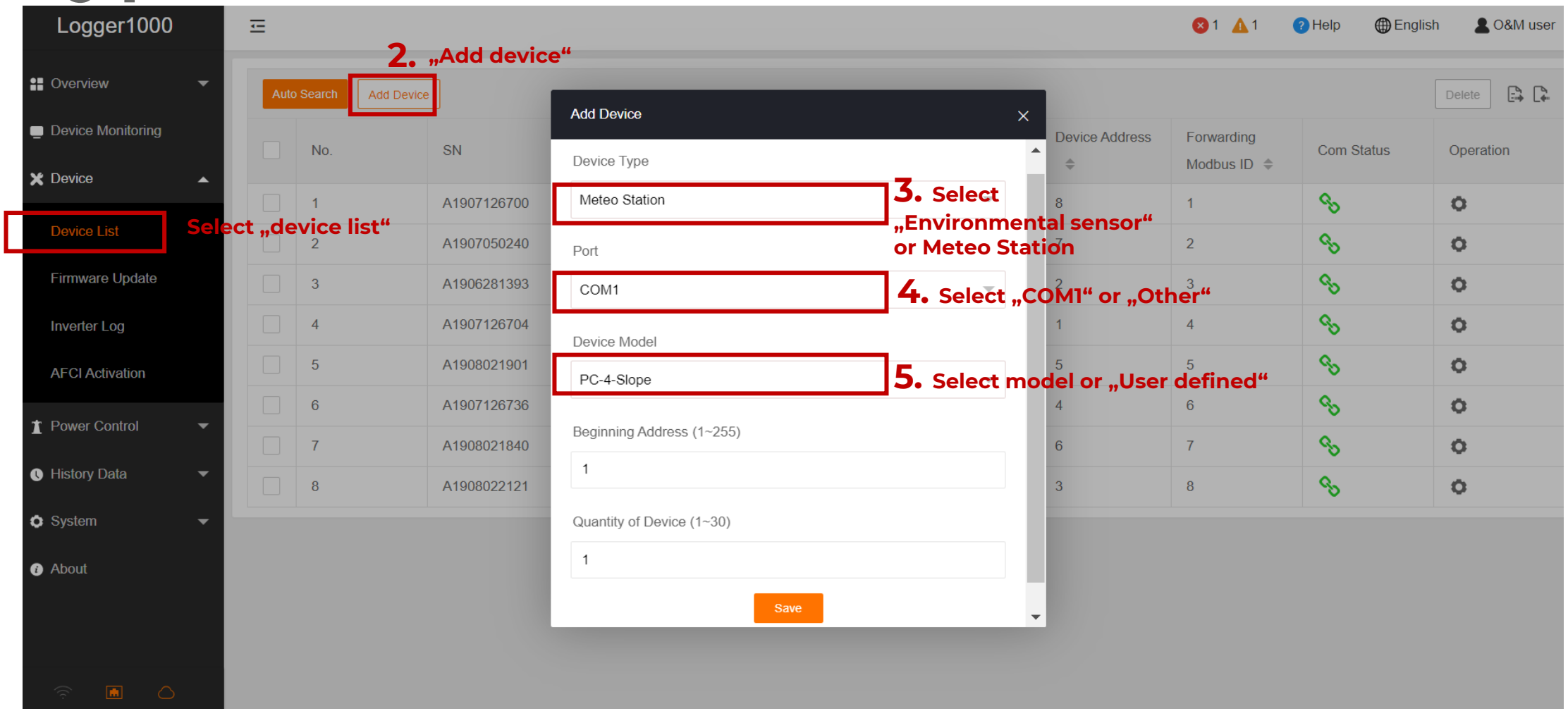
5.

The 3rd-party logger(s) need the transferred IP in order to communicate with the devices used.

Connecting 3rd-party devices Type 1

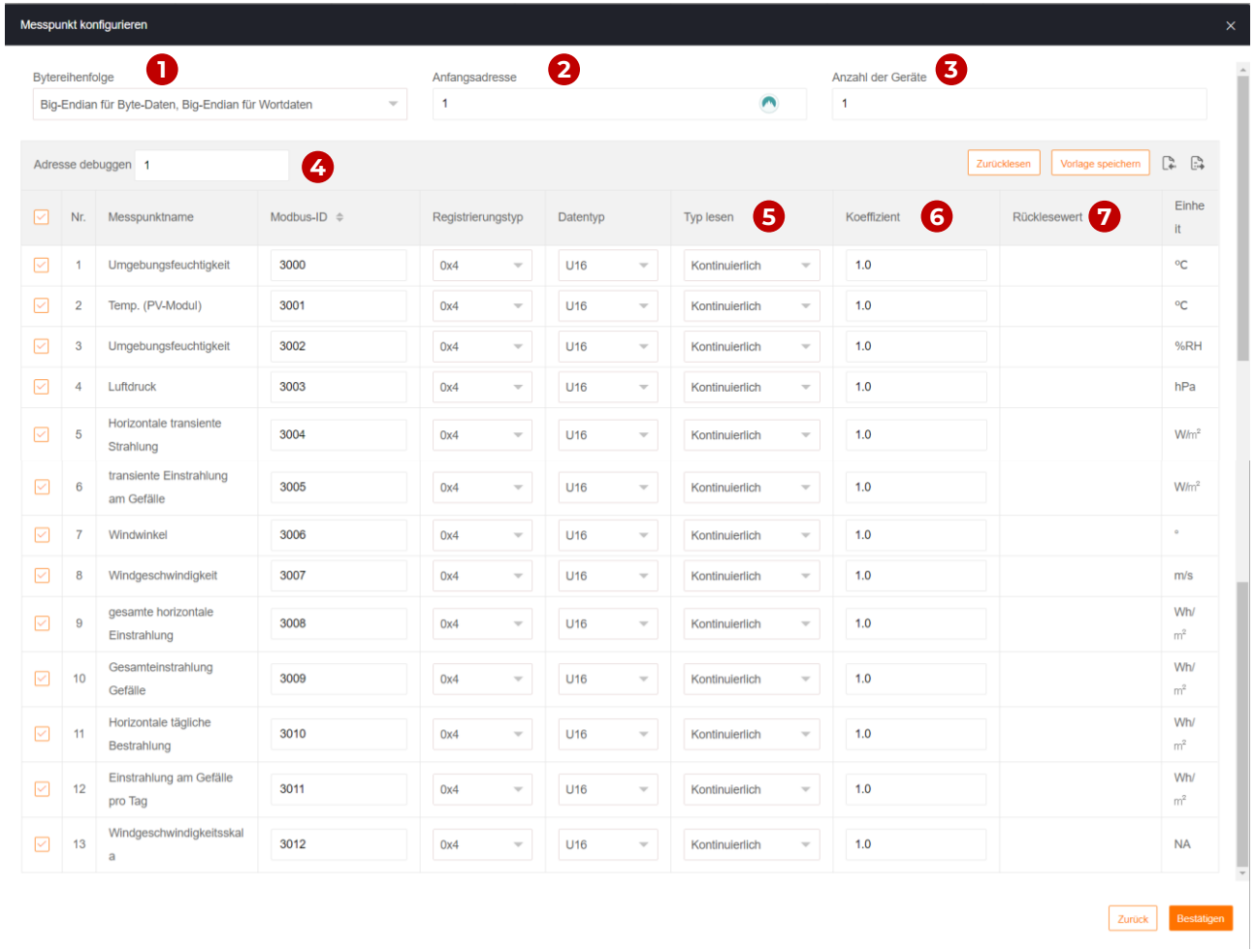


Connnecting 3rd-Party Devices Type 2



Type 2

Connecting 3rd-Party Devices Type 2



1. Byte sequence: Depending on Modbus protocoll of the 3rd-party device
2. Start address: device start address
3. Number of devices: device position at RS485-port
4. Debug address: The device address to be used read when clicking on „read“.
   (range: [(start address), (start address + number of devices(-1))]
5. Reading the „type“: frequency of data selection (once / all the time)
6. coefficient: depending on the Modbus protocoll of the 3rd-party device, multiplier of the value
7. Reading value: The value delivered from the measuring point after clicking on „Reading“

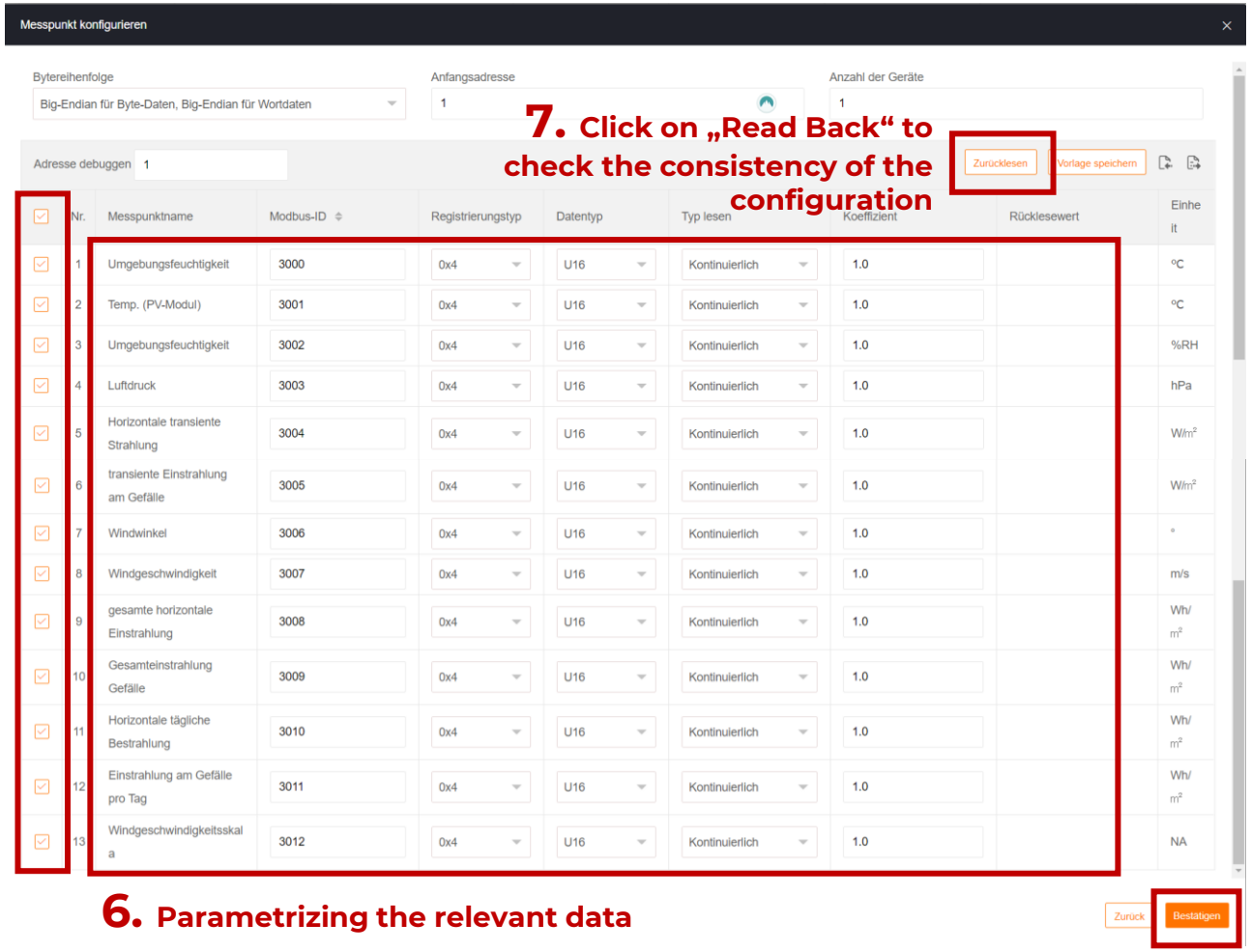
Type 2

(graphics currently partly available in German language only)

Connecting 3rd-party devices Type 2

5. Aselect data points which shall be measured

7. Click on „Read Back“ to check the consistency of the configuration



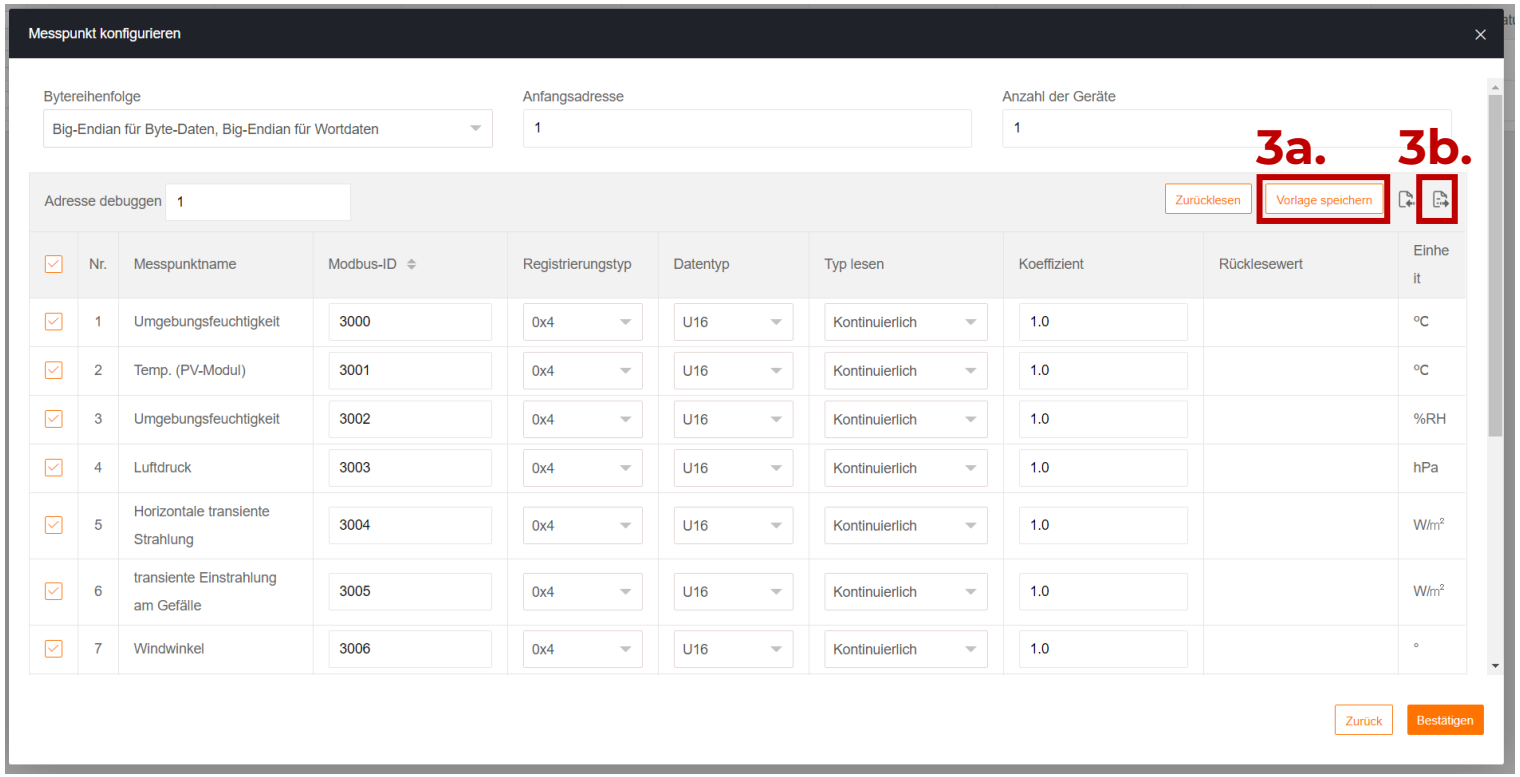
6. Parametrizing the relevant data

6. Adding the Meteostation to the list of devices by clicking „Confirm“

(graphics currently partly available in German language only)

Connecting 3rd-party devices Type 2 – template creation

When a certain Meteostation is used more often by the installer, the configuration can be saved and exported, for future use in other PV systems.



1. Navigate to „Configure data point“ (see previous slides)

2. Configure data point (see previous slides)

3a. „Save template“ for saving in the logger

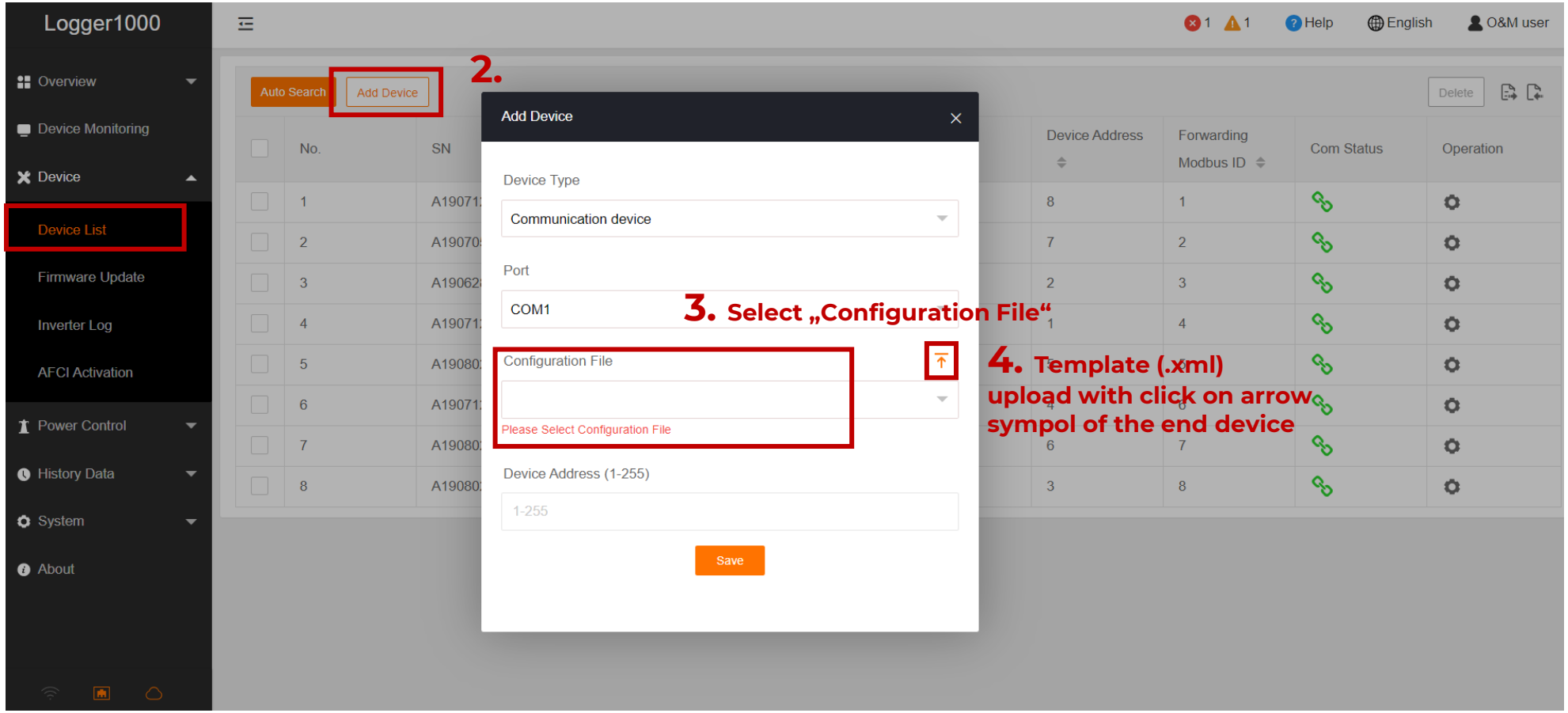
3b. „Export“ for the download to the final device (for useage at other loggers)

4. Create a template name (combination of numbers, letters, underscores and dash (max. 32 bit) and click „Confirm“

Type 2

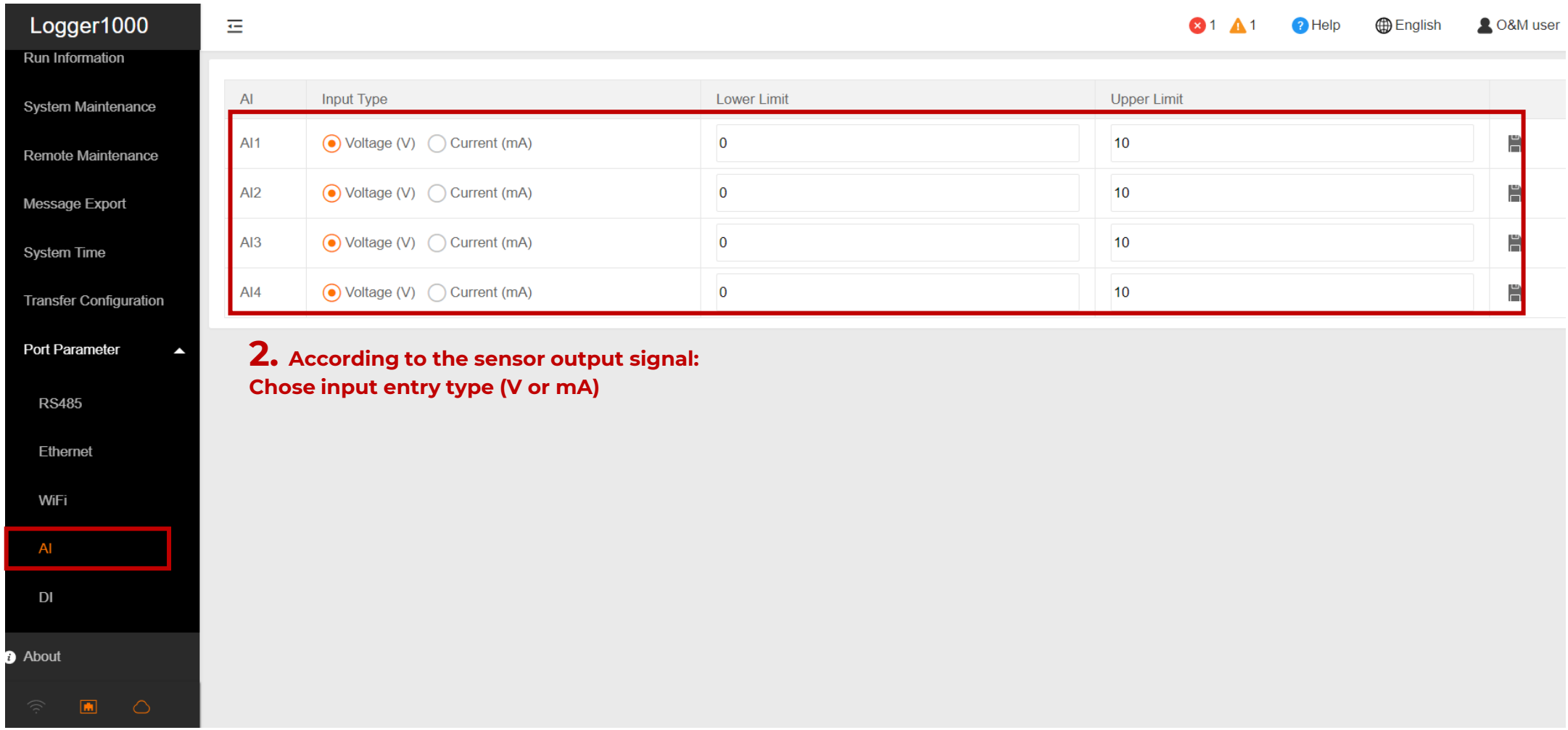
(graphics currently partly available in German language only)

Connecting 3rd-party devices
Type 2 – template re-use



Type 2

Connecting 3rd-party Devices Type 3

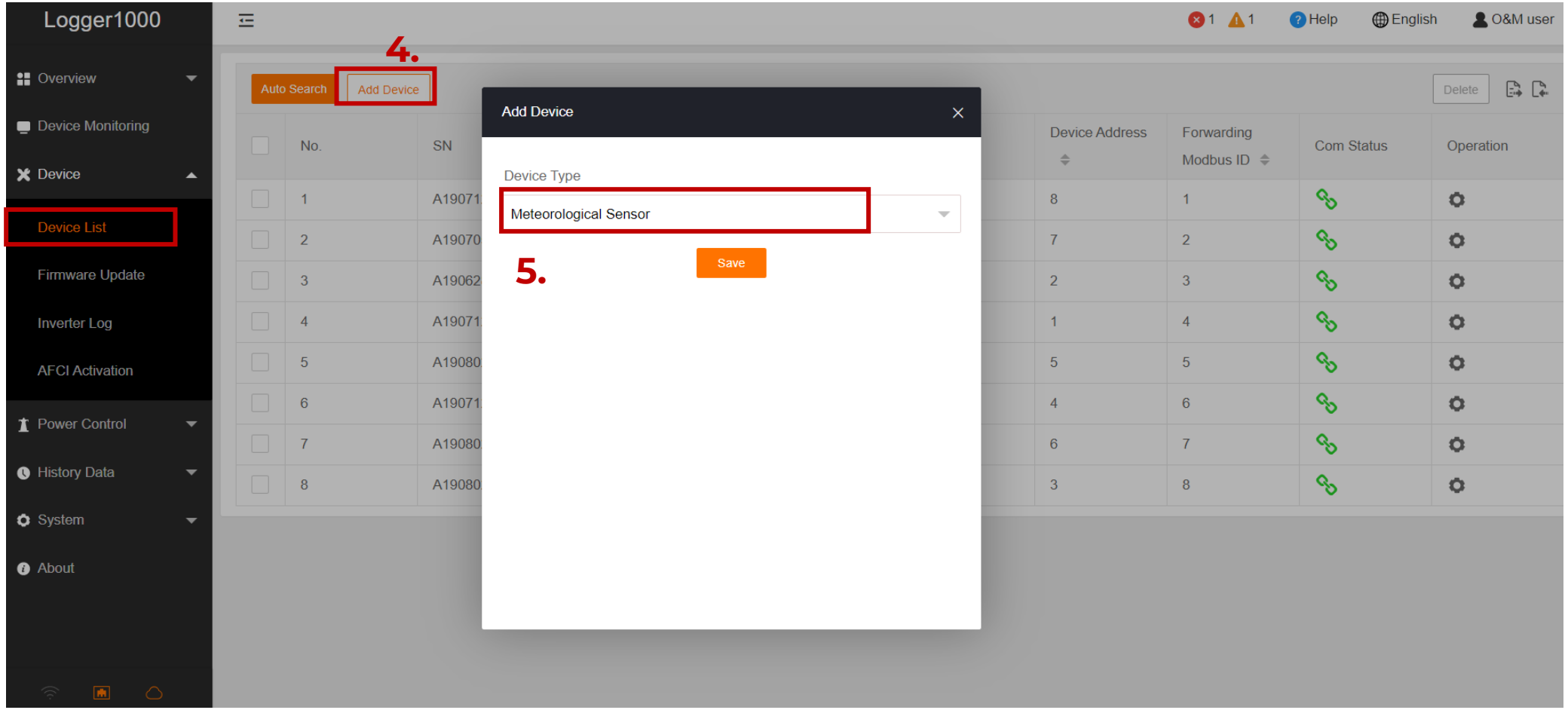


1.

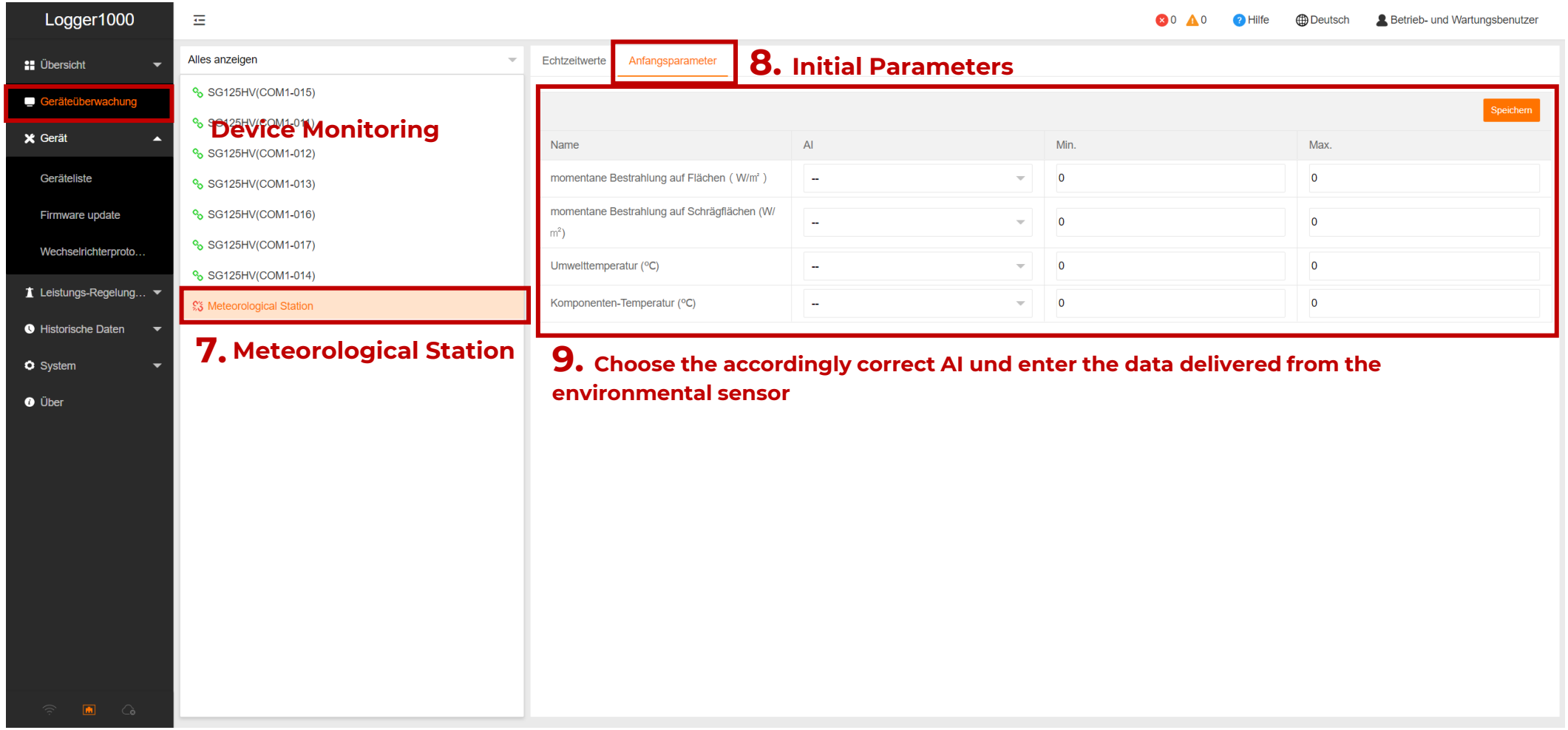
2. According to the sensor output signal:
Chose input entry type (V or mA)

Type 3

Connecting 3rd-party Devices Type 3



Connecting 3rd-party Devices Type 3



6. **Device Monitoring**

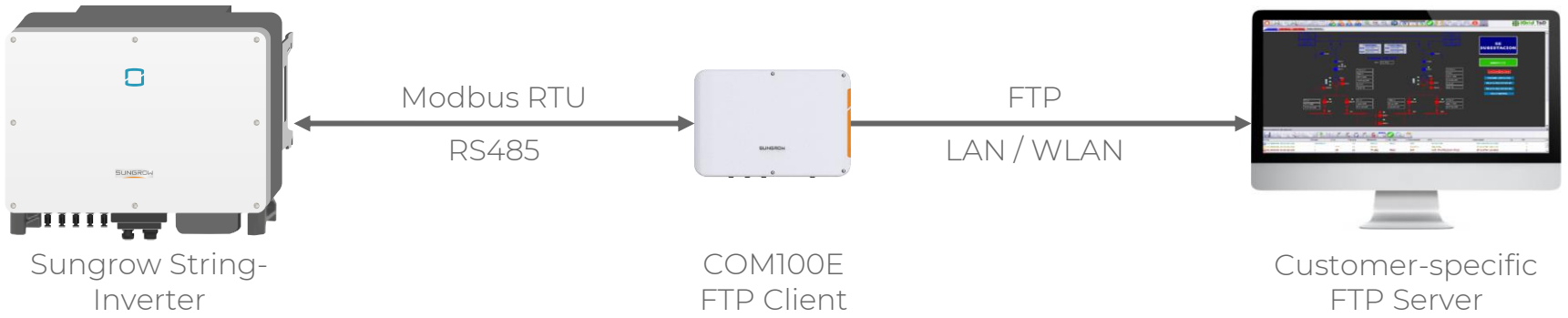
7. **Meteorological Station**

8. **Initial Parameters**

9. **Choose the accordingly correct AI und enter the data delivered from the environmental sensor**

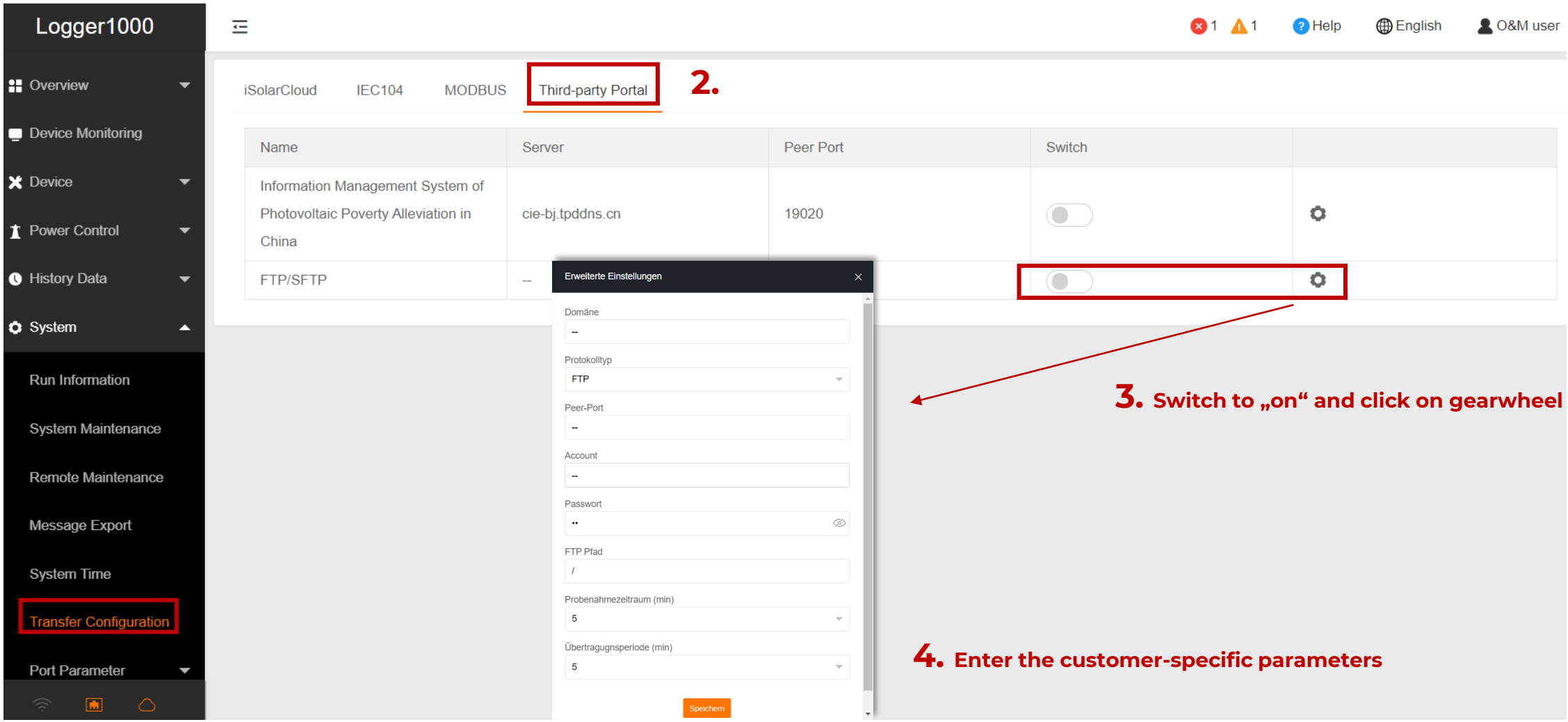
(graphics currently partly available in German language only)

FTP/SFTP



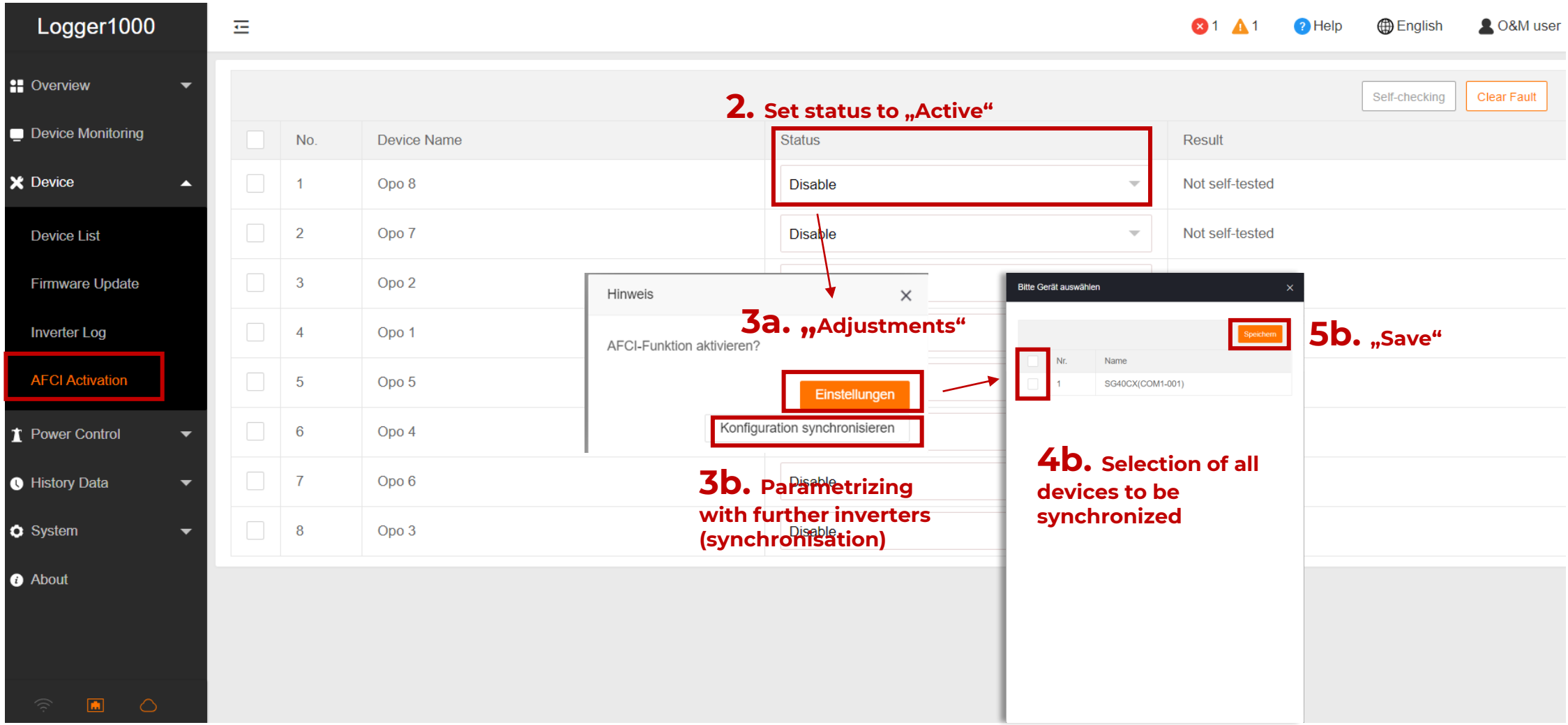
Provided by Sungrow: FTP protocol
Provided by customer: Domain, Port, Account, Password, FTP path

FTP/SFTP



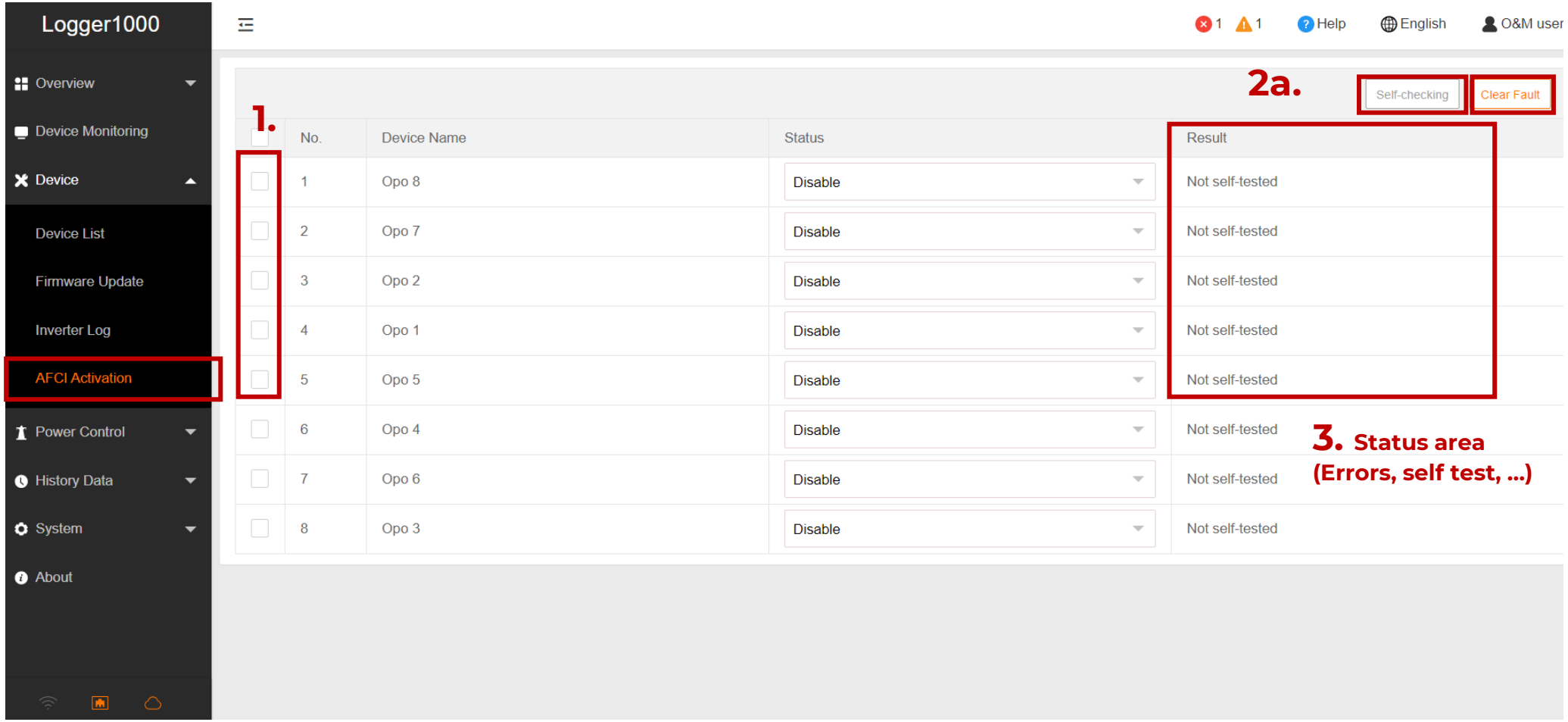
(graphics currently partly available in German language only)

AFCI Activation (V112 CX)



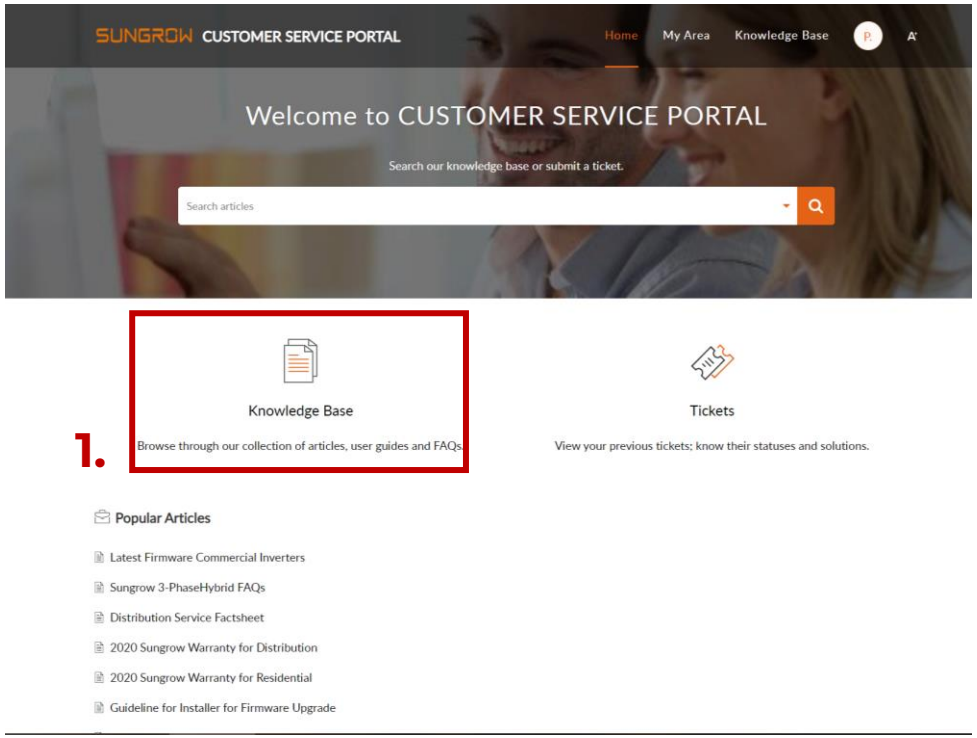
(graphics currently partly available in German language only)

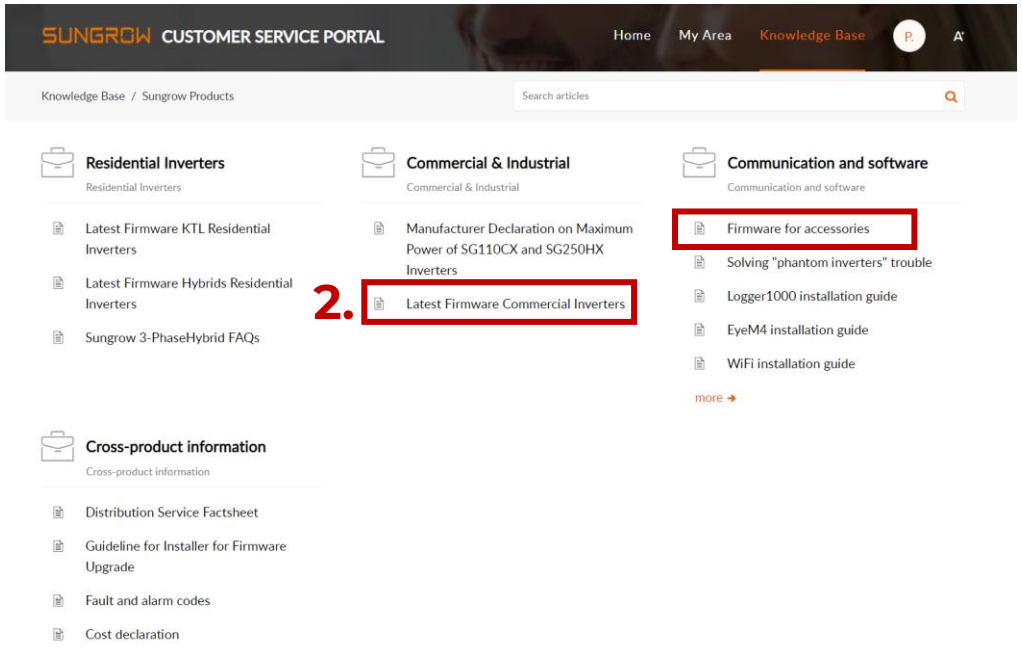
AFCI (V112 CX) – Selftest and Error Reset



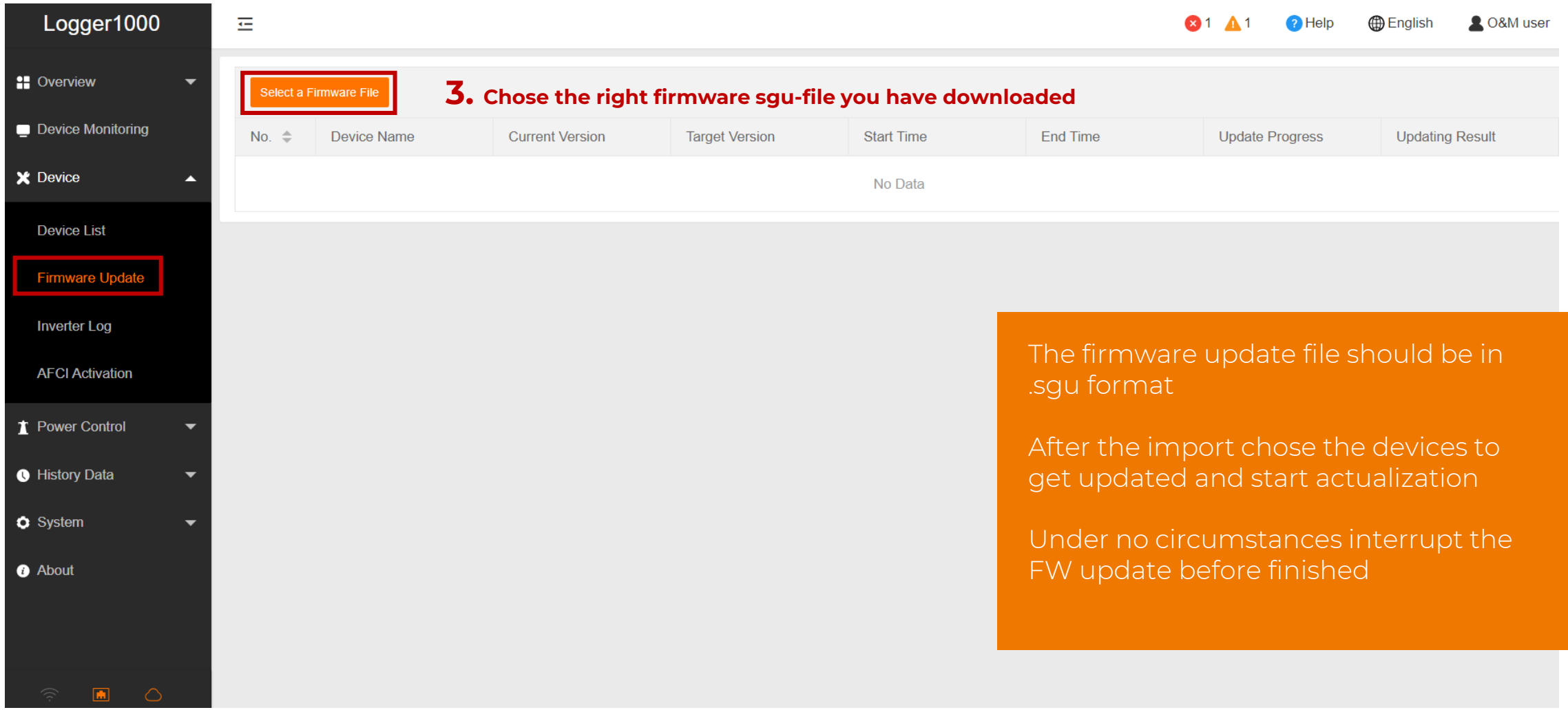
Firmware-Updating Sungrow Units

1. Download of latest firmware files from Sungrow Customer Service Portal:
   https://support.sungrow.co/portal/en/kb/articles/firmware-for-accessories
   https://support.sungrow.co/portal/en/kb/articles/latest-firmware-commercial-inverters





Firmware-Updating Sungrow Units



The firmware update file should be in .sgu format

After the import chose the devices to get updated and start actualization

Under no circumstances interrupt the FW update before finished