Data Logger FAQ

# How to connect external sensors to Logger1000

Applicable to: Logger1000

1. Log in to the Web interface of Logger 1000

## WiFi-login

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.


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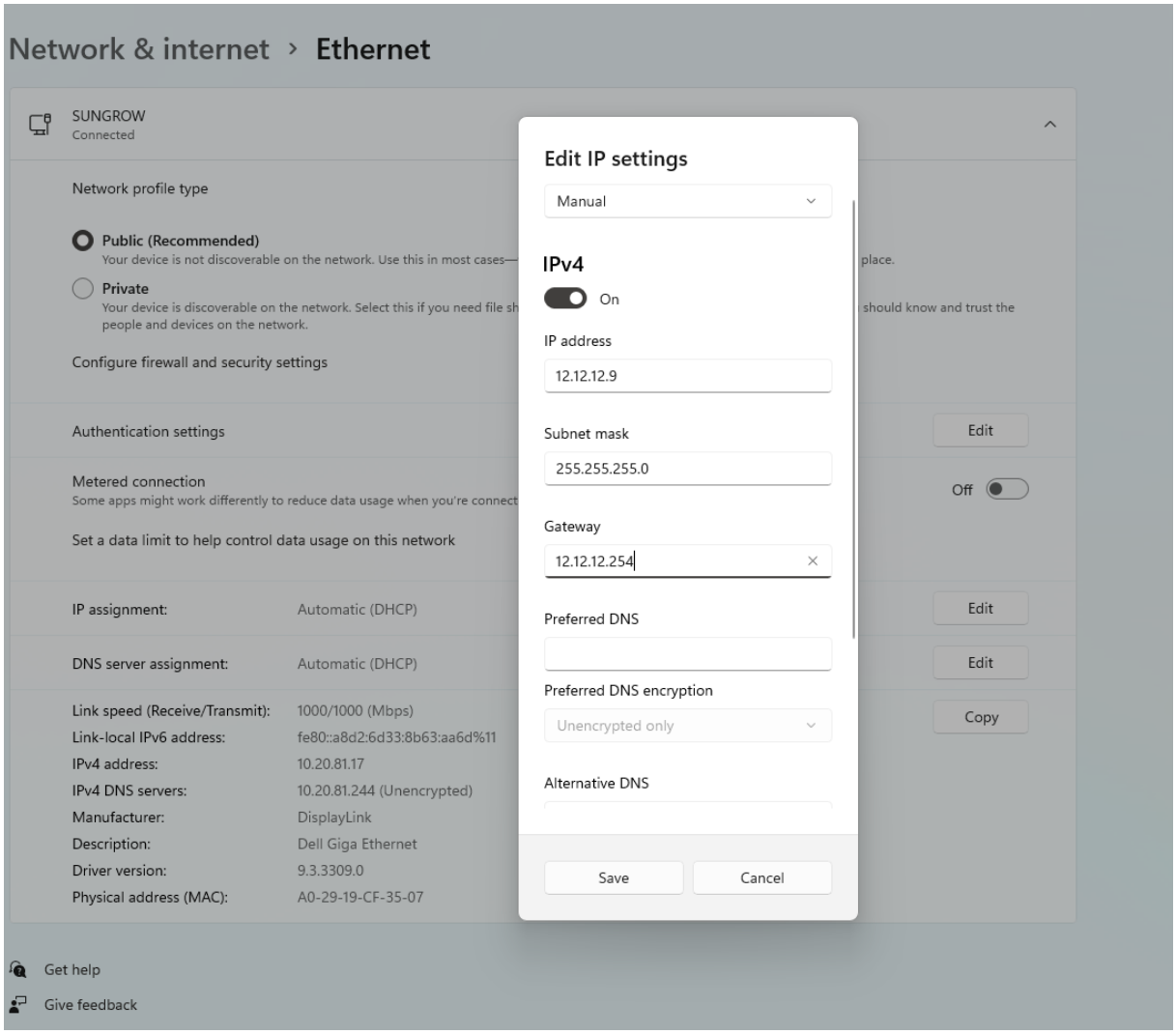
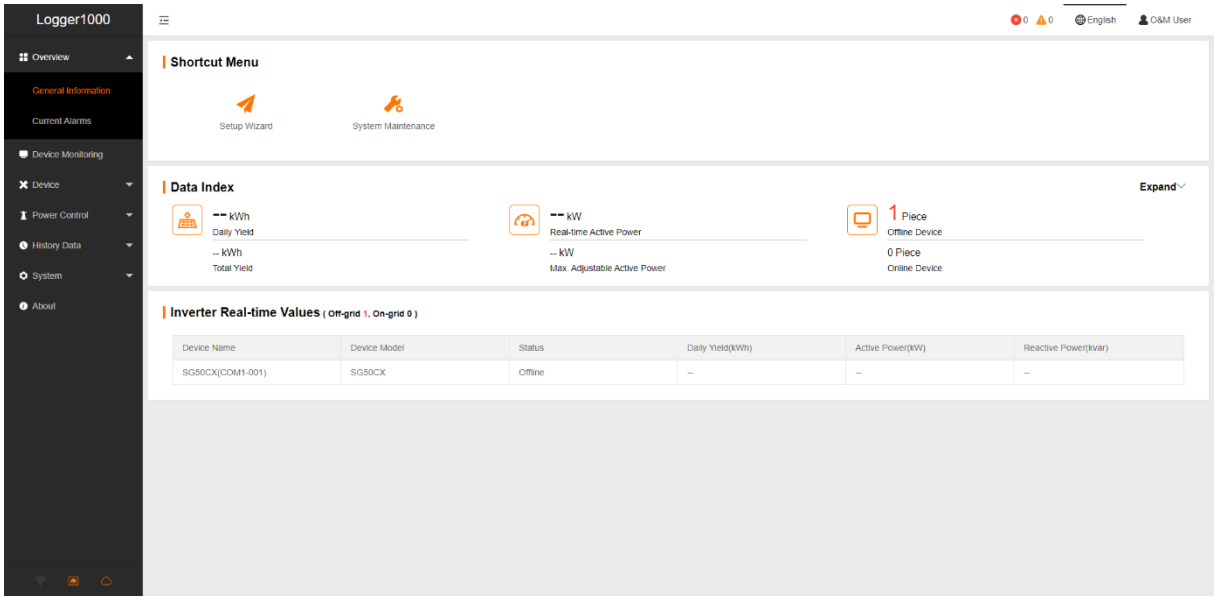
## Ethernet login

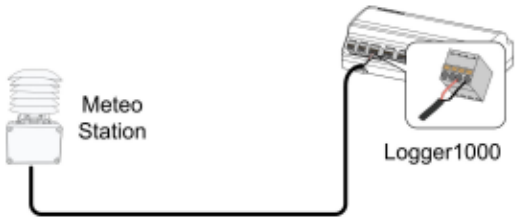
Logger 1000 also supports Ethernet login. The default IP address of Logger 1000 is 12.12.12.12. First, after the device is powered, use the network cable to connect it with the computer, and change the IP address of the computer to make it in the same network segment as the device, as shown in the following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



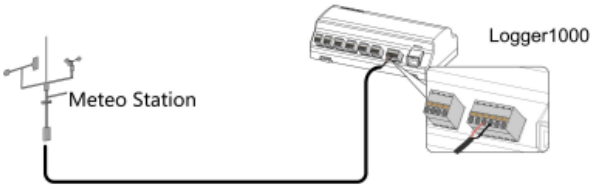
Enter the default IP address of Logger 1000 in the browser address bar after the device is connected: 12.12.12.12 to open the device management interface, and the initial password is pw1111. After logging in, the main interface of Logger1000 is shown in the following figure.




AI Connection




RS485 Connection



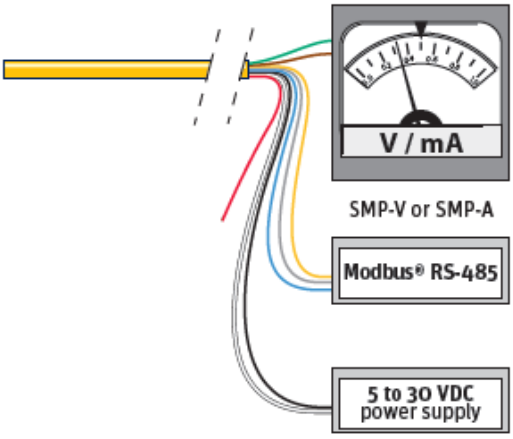

## 2. Add Modbus sensors

### 2.1 Add Kipp&Zonen sensors

Kipp&Zonen sensors mainly include SMP10 irradiation and RT1 temperature sensor, which are mainly used in combination with WS601 or other sensors. The factory default communication parameters for both SMP10 and RT1 are: Address 1, baud rate 19200bps, data bit 8, non parity, stop bit 1. The RS485 communication line of the sensor is connected with data collector RS485 terminal in reverse, A to B, B to A.

## 2.2 Add SMP10 irradiator

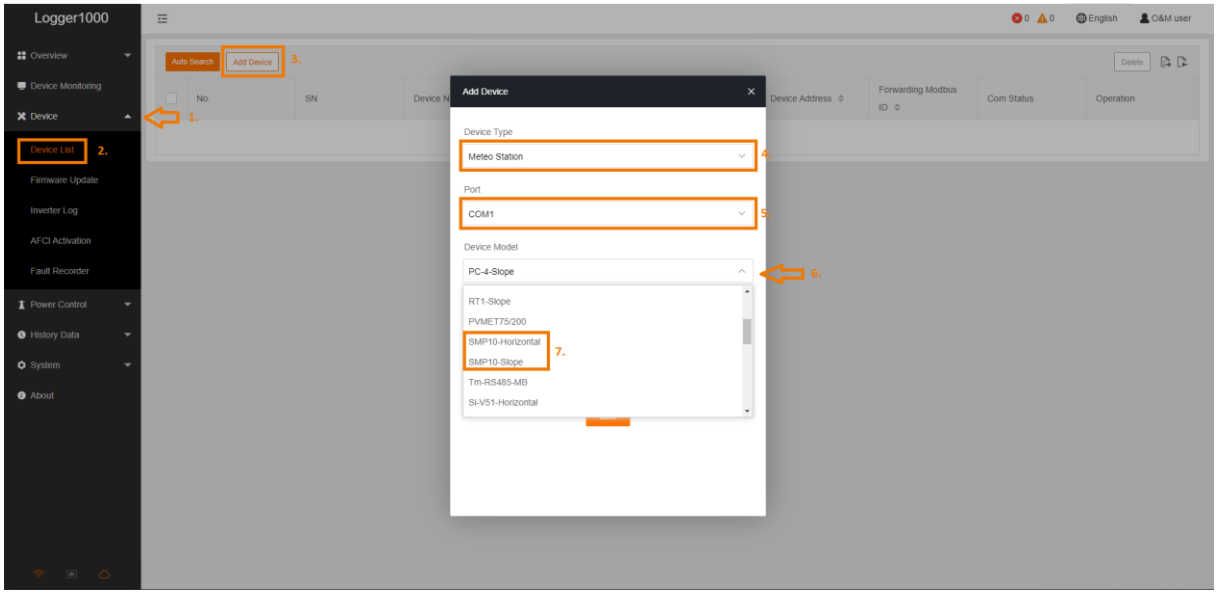
Electrical connection:




| Radiometer Connection | | |
|---|---|---|
| Wire | Function | Connect with |
| 3 Green | Analogue out | V+/4-20 mA(+) |
| 6 Brown | Analogue ground | V-/4-20 mA(-) |
| 4 Yellow | Modbus® RS-485 | B/B'/+ |
| 5 Grey | Modbus® RS-485 | A/A'/- |
| 7 White | Power 5 to 30 VDC (12 V recommended) | |
| 8 Black | Power ground / RS-485 Common | |
| 1 Red | None | Not connected |
| 2 Blue | Modbus® common / Ground | |
| Shield | Housing | Ground * |

* Connect to ground if radiometer not grounded

Add SMP10 irradiator, and the device model SMP10-Horizontal refers to horizontal irradiator and SMP10-Slope refers to slope irradiator:



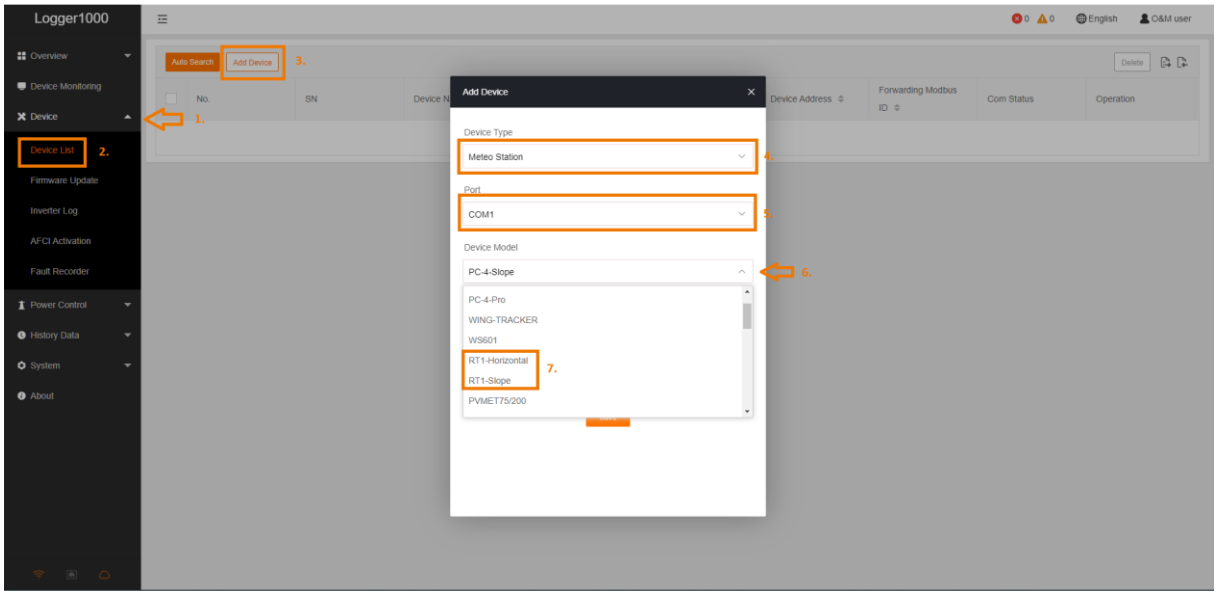
## 2.3 Add RTI temperature sensor

Electrical connection:

| Wire | Function | Connect with |
|---|---|---|
| Yellow | Modbus® RS-485 | B/B`/+ |
| Grey | Modbus® RS-485 | A/A`/- |
| Green | Modbus® common / Ground | |
| White | Power 5 to 30 VDC (12 V recommended) | 60 mW max. |
| Black | Power ground | |
| Shield | Housing | Ground * |
| * Connect to ground if radiometer not grounded | | |

*Table 1 RT1 connection*

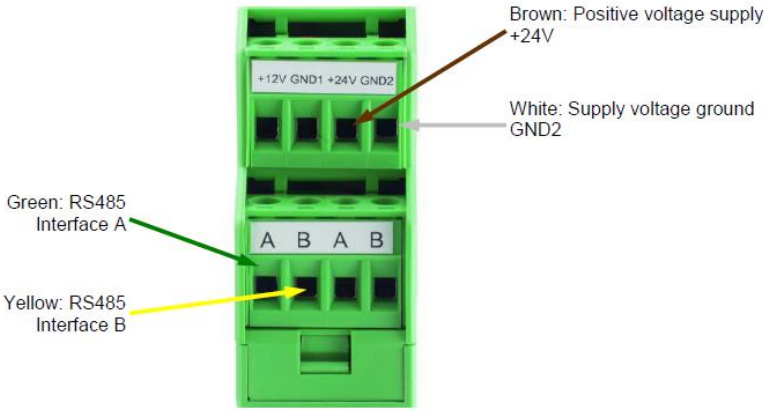
Add RTI temperature sensor, and the device model RTI-Horizontal refers to horizontal sensor, RTI-Slope refers to slope sensor:



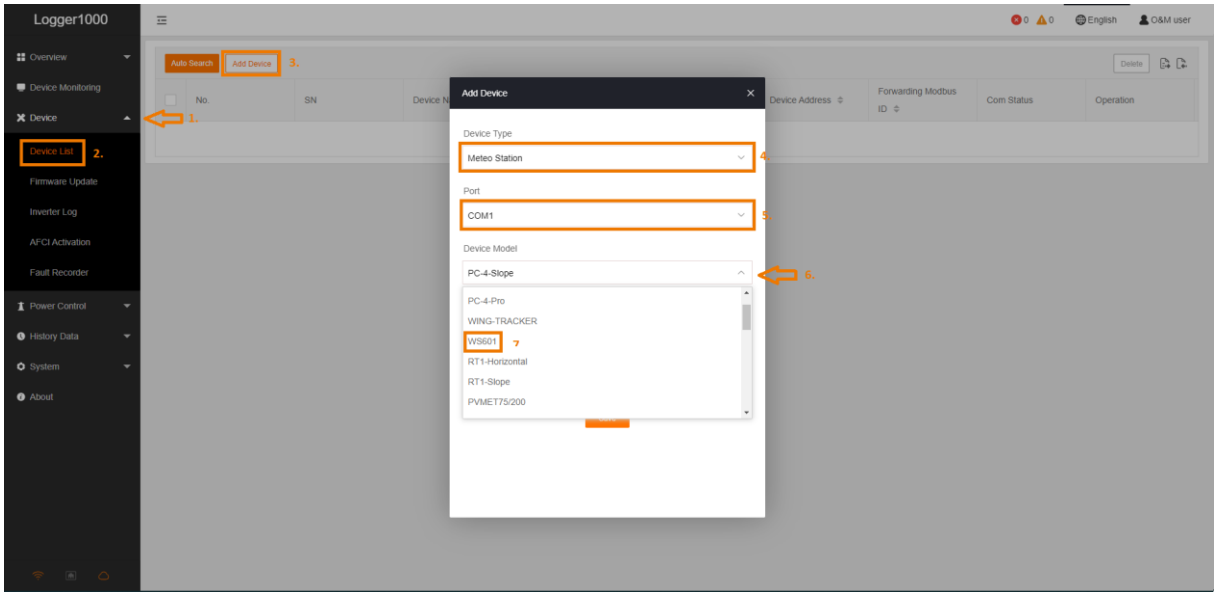
## 2.4 Add Lufft WS601 intelligent meteorological sensor

WS601 intelligent meteorological sensor mainly includes the sensors for rainfall, wind direction, wind speed, air temperature, relative humidity, atmospheric pressure and compass, which are mainly integrated with Kipp&Zonen SMP1 irradiator and RT1 temperature sensor. Factory communication parameters: Address 1, baud rate 19200bps, data bit 8, non parity, stop bit 1.

Electrical connection:




Add WS601:

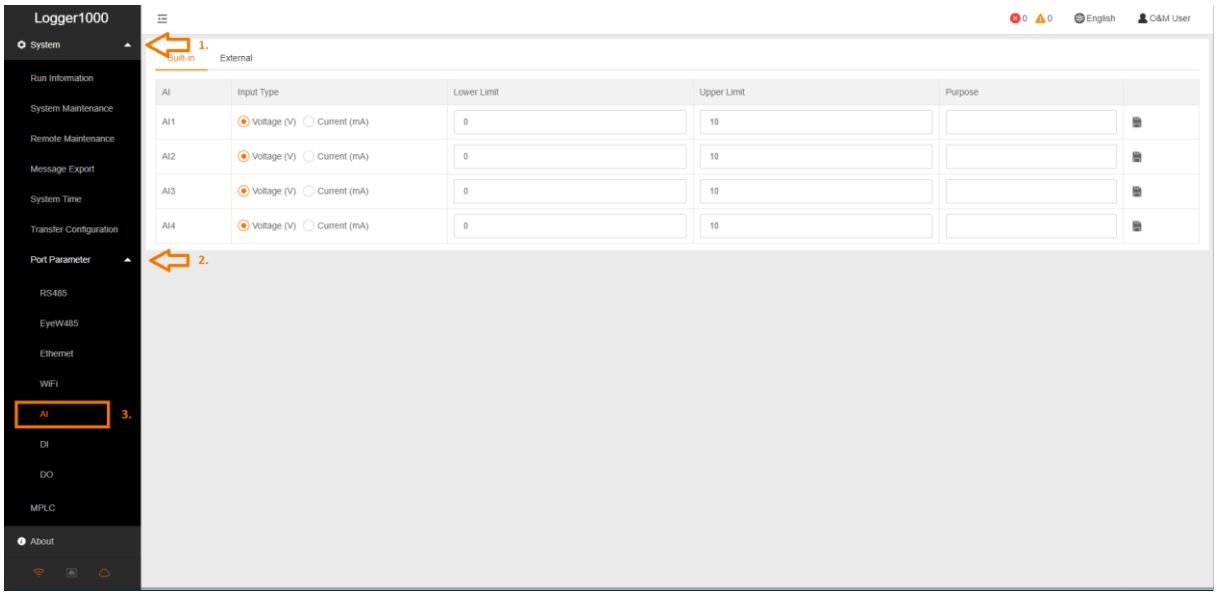



Please be aware that if more than 2 irradiance sensors are added, the first one will be taken into the calculation for plant performance ratio (PR).

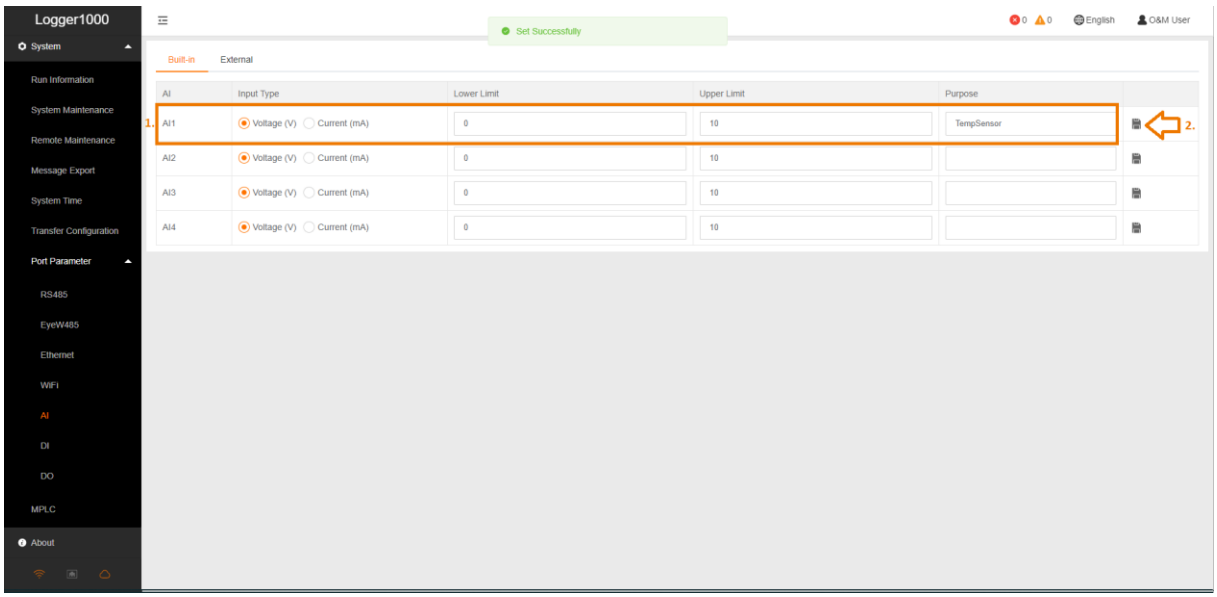
## 3. Add analogue sensors

To add an analogue sensor, please see the pictured steps below, be aware, that this is an example of a temperature sensor. If you need to install a different type of analogue sensor, please refer to the corresponding options in the settings as well as the values, written on the label of the sensor.

Navigate: System -> Port Parameter -> AI

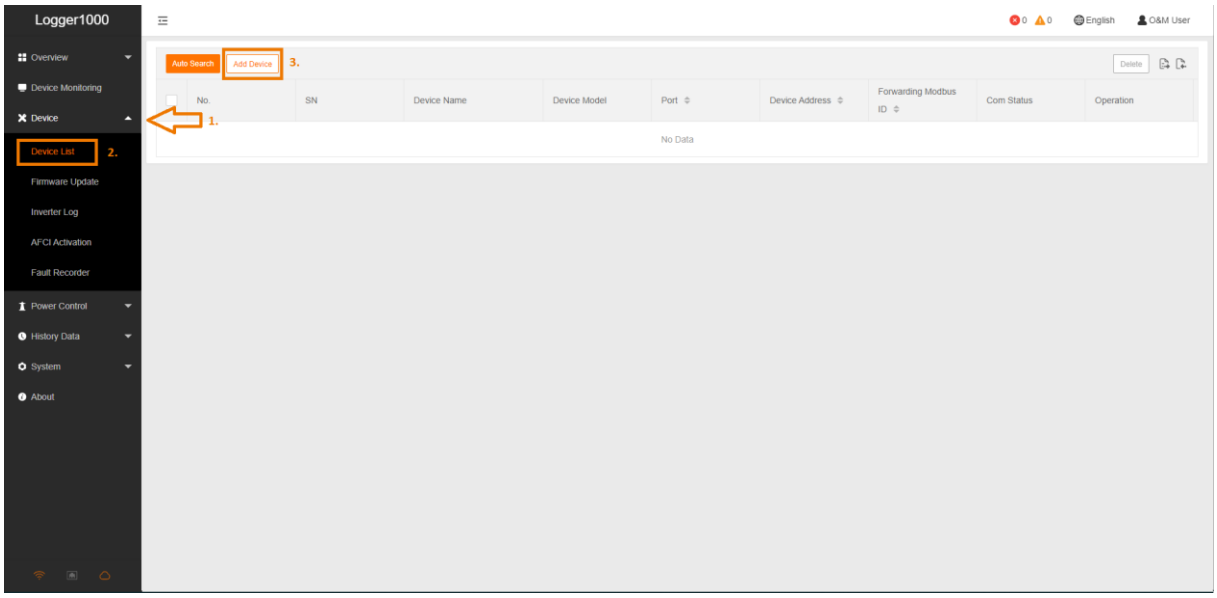



Now, you have the option, to configure four AI-ports, depending on which one you connected. Set Voltage/Current and corresponding values.

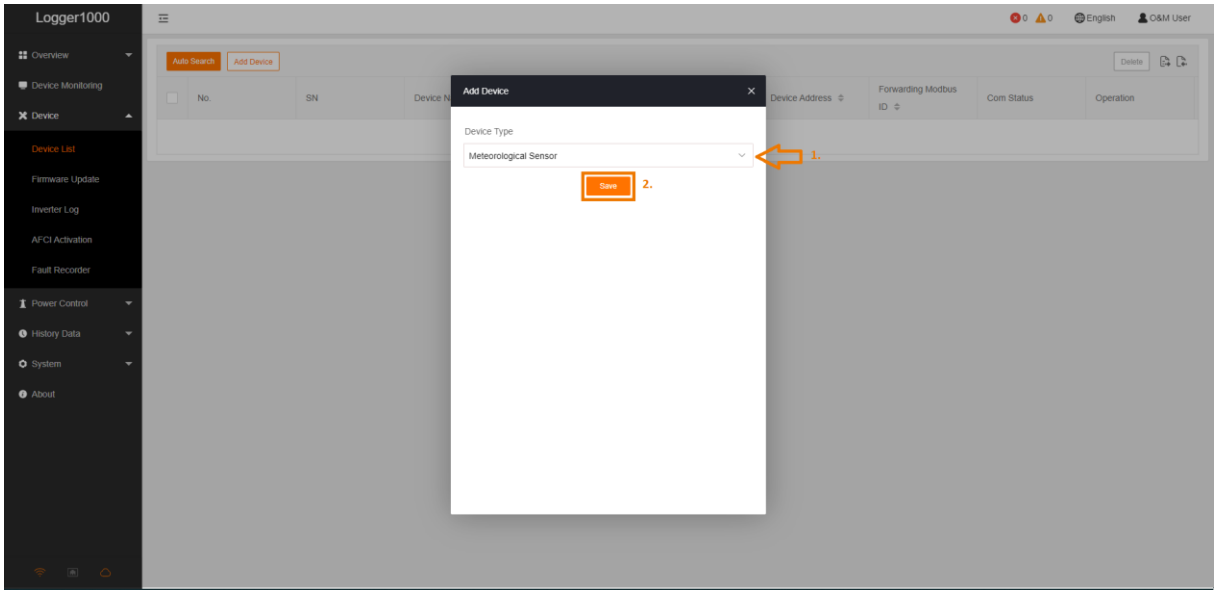


After the AI-port is configured, you need to add the sensor.

Navigate: Device -> Device List -> Add Device



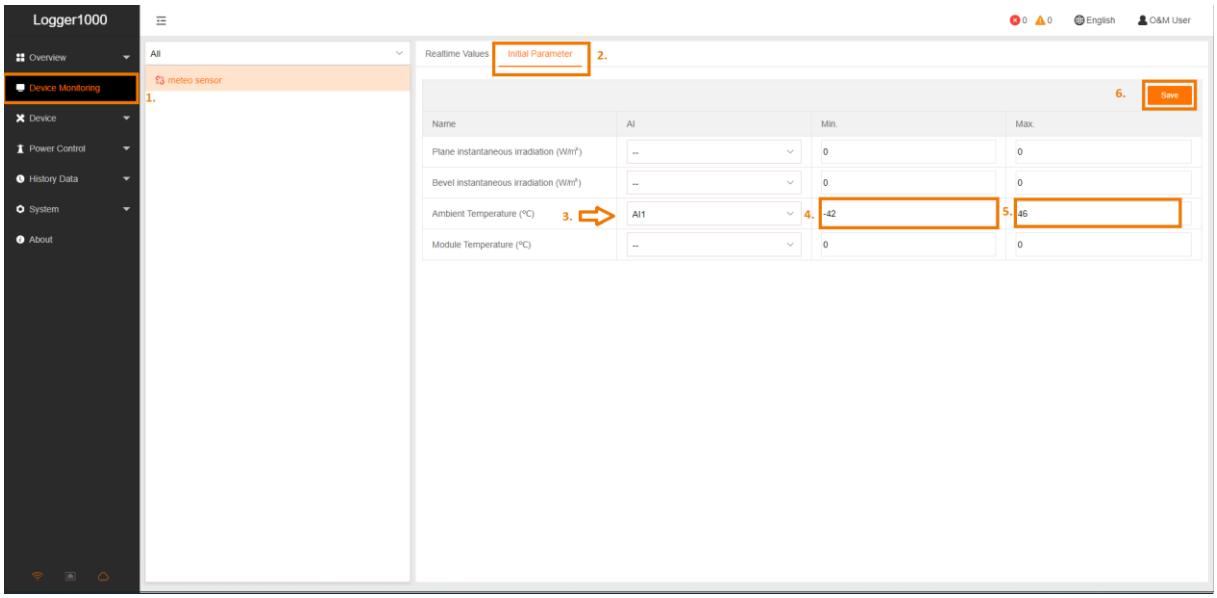

Select Meteorological Sensor and Save the setting.



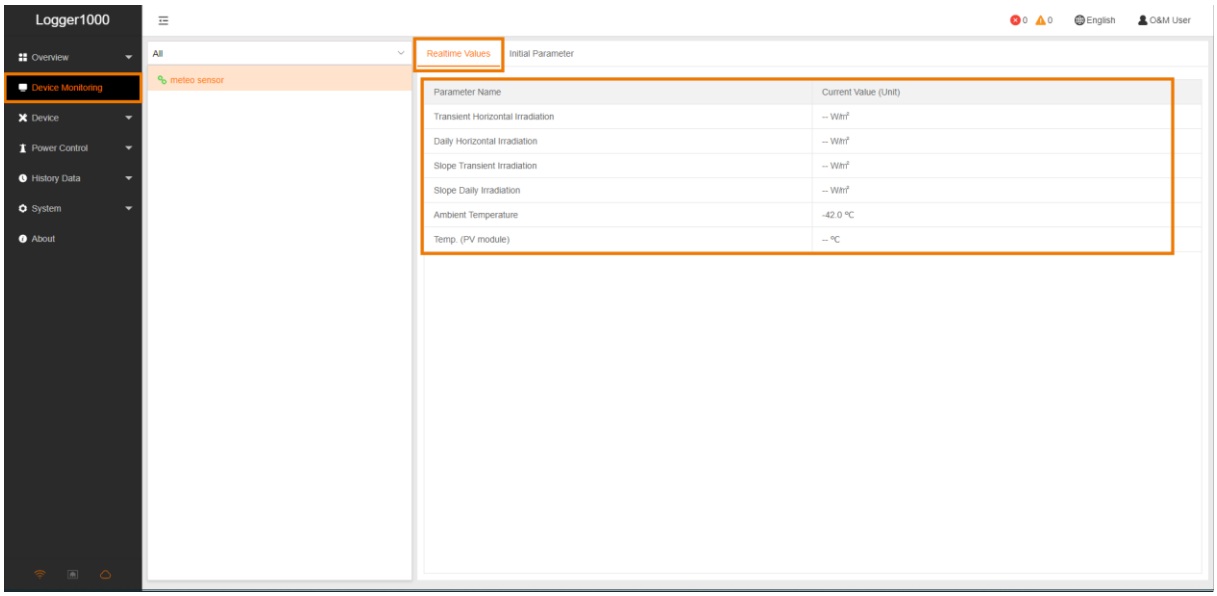
Set up your sensor, by navigating to Device Monitoring -> Initial Parameters.

Set the analogue input as well as minimum and maximum values of the sensor.

To save the settings, click Save and your sensor is set up.




You can see, if you set it up correctly, by checking the Realtime values.




For further information, please download the user manual here.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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.


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