




3S-2IS Seven Sensor Box



KEHUA TECH 3S-2IS Seven Sensor Box Instruction Manual

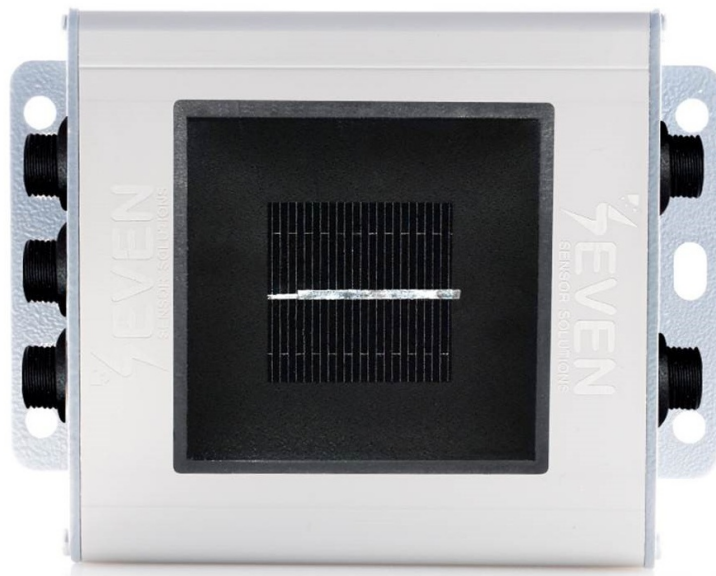
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KEHUA TECH 3S-2IS Seven Sensor Box



Introduction

This document is prepared for Kehua Tech E-Manager Pro users. The steps are explained below to connect SEVEN Sensor Box to Kehua Tech E-Manager Pro.

The following meteorological data are provided by SEVEN Sensor Box. The communication is provided via RS485 with Modbus RTU protocol.

1. 3S-IS, Irradiance Sensor (W/m²)
2. 3S-MT-PT1000, Module Temperature Sensor (°C)
3. 3S-AT-PT1000, Ambient Temperature Sensor (°C)
4. 3S-WS-PLS, Wind Speed Sensor (m/s)
5. 3S-WD, Wind Direction Sensor (°)
6. 3S-RH&AT, Relative Humidity Sensor (%)

Cable Connection

Connect the green wire of the output cable of the Sensor Box to 485-1/A (RS485 A / Data (+)) on the E-Manager Pro RS485 port, and connect the yellow wire of the output cable of the Sensor Box to 485-1/B (RS485 B / \Data (-)) on the E-Manager Pro RS485 port. Another free port also can be used for the same purpose.

White and brown wires of the output cable of the Sensor Box power up the Sensor Box as shown in Table 1.

Brown	Power (+)
White	Power (-)
Green	RS485 A / Data (+)
Yellow	RS485 B / Data (-)

- A communication and power cable with magnetic field protection must be used between the sensor and the datalogger. Please don't use CAT 6 cable.
- SEVEN Sensors are supplied with a voltage of 12-30 VDC. The recommended voltage value is 24 VDC. A high quality power supply must be used for the sensor supply.
- SEVEN has the right to make modification to this documentation without notice.

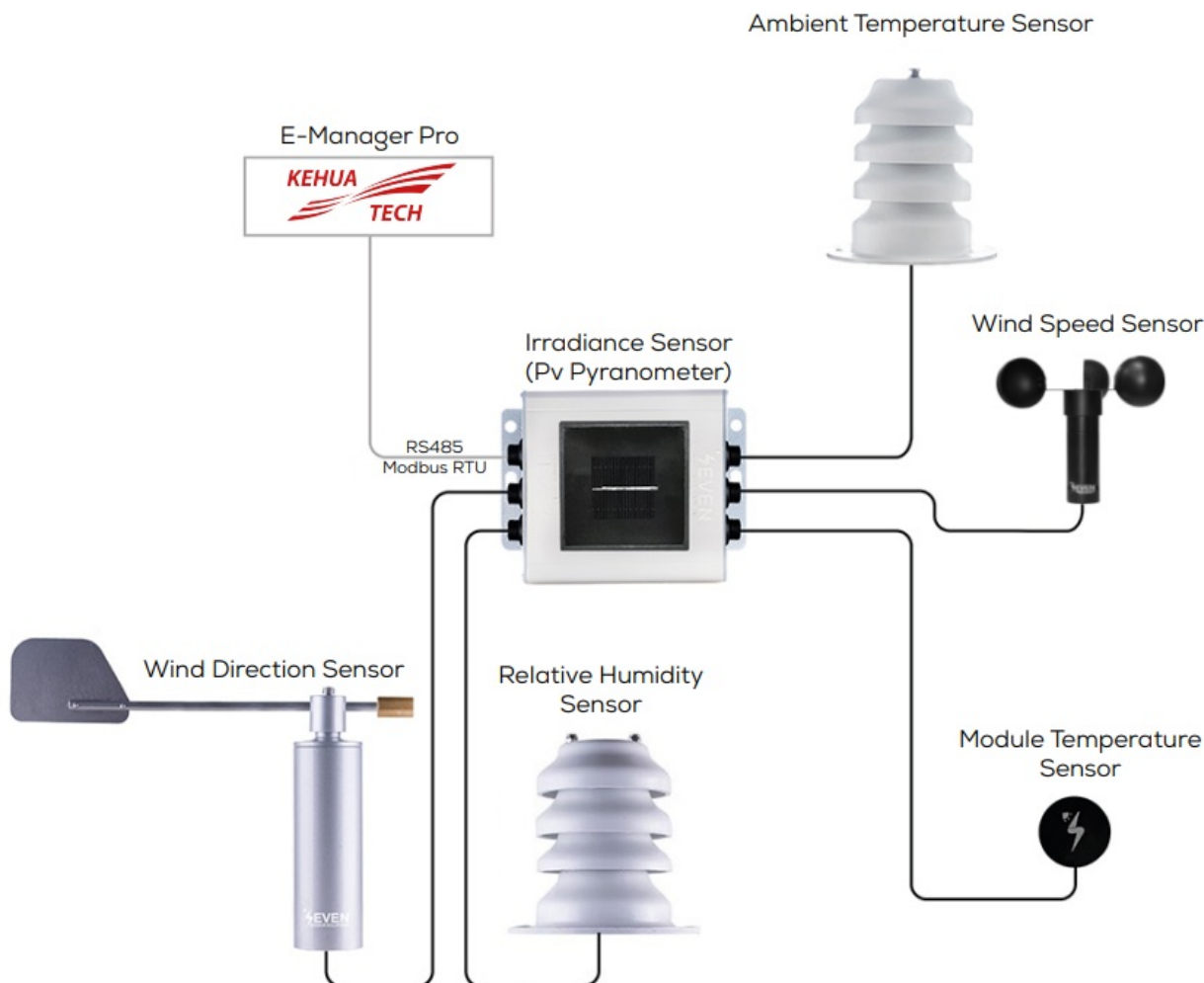


Figure 1: Kehua Tech Weather Station

- The sensor model can be different as per the customer's request.
- If your sensor model is 3S-2IS, 3S-3IS, 3S-4IS or 3S-CWS, enter each orientation's module number to the configuration tool to monitor the total effective irradiance and total effective module temperature before configuring in KehuaTech Monitoring System.

E-Manager Pro IP Address

Connect the PC and the E-Manager Pro LAN port to the network port of the router through the network cable or PC and E-Manager Pro LAN ports must be connected to each other so that they are in the same network. Go to the router management page and check the "Internet host list" to request the IP address of the E-Manager Pro. This IP address is the one assigned by the router to the E-Manager Pro.

In order for the router to assign an IP address to the E-Manager Pro, the automatic assignment (DHCP) must be enabled in the router.

Enter the E-Manager Pro IP address in the browser to log in to the configuration interface.

Settings

Step 1 and 2 : The port to be used by SEVEN Sensor should be active in the "Smart Device Setting" section. Values to be entered for the port to be active:

- Model Code: 9001
- Protocol Code: 2
- Protocol Ver: 1

Then select the port where the sensor box is connected. After entering the values, click on “Save” button.

The screenshot shows a web interface for device configuration. At the top right, there are buttons for 'English' and '中文'. The main content area is divided into several sections:

- Device Information:** Contains fields for Serial Number (E4C092280185), Register Key (CRGTGWDC), Hardware Version (AEM4-0021-00), and Software Version (4B70723609R_0722811R).
- Cloud Information:** Shows Connection Status as OK.
- Firmware Upgrade:** Includes a 'Dosya Seç' button, a progress bar labeled 'Dosya seçilmedi', and an 'Upgrade' button.
- Smart Device Setting:** Contains a table with columns: Model Code, Protocol Code, Protocol Ver., Address, Port, and Operation.

The 'Smart Device Setting' table has the following data row:

Model Code	Protocol Code	Protocol Ver.	Address	Port	Operation
9001	2	V1.00	1	485-1	- ~

Below the table, there are input fields for Model Code, Protocol Code, Protocol Ver., and Address, followed by a dropdown menu for Port (currently showing 485-1) and a '+' button. A red box labeled '2' highlights the 'Save' button at the bottom right.

Figure 2: Device Configuration Page

In case more than one device is connected to the port you have connected the sensor to, device ID's must be different while baudrate and parity values must be the same. You can change the device ID via SEVEN configuration tool.

Step 3 : To log in to the monitoring system, go to <https://energy.kehua.com> and log in by entering your username and password.

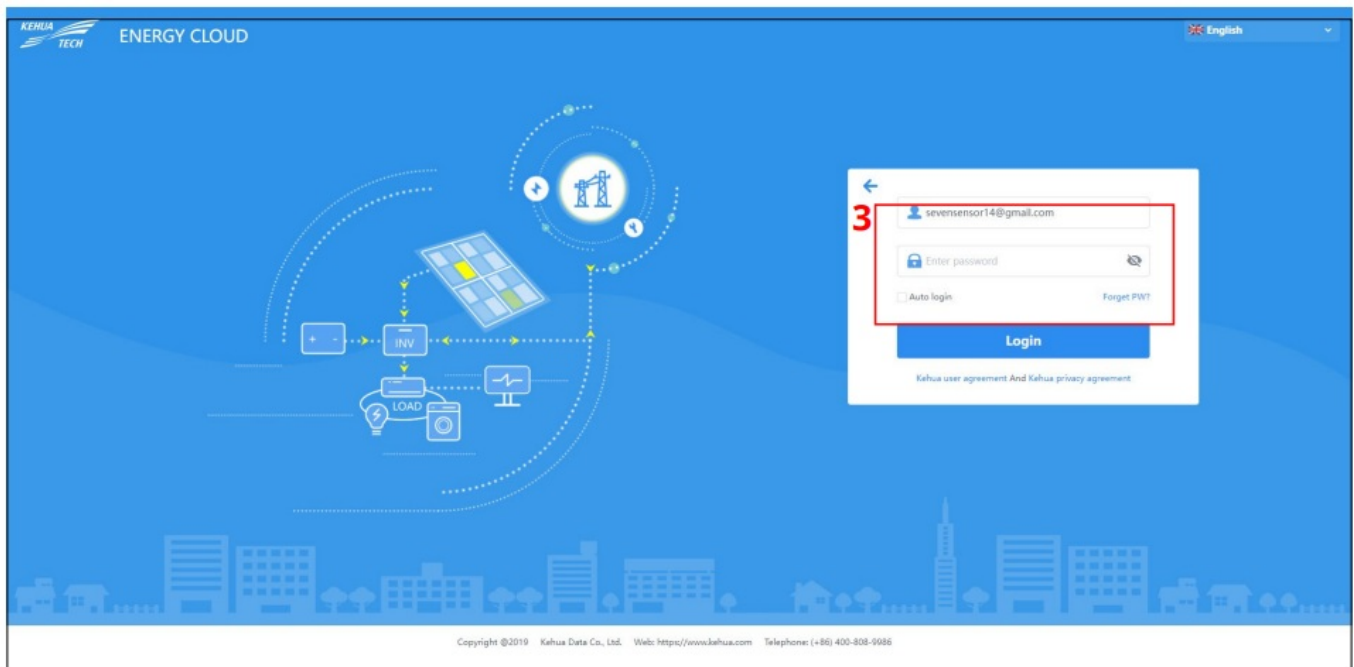


Figure 3: Login Screen

Step 4 and 5 : After logging in, click on the “Operation and Maintenance Mgr.” tab. From the tab, click on the “User Mgr.” button.

Step 6 : Click on “Add”

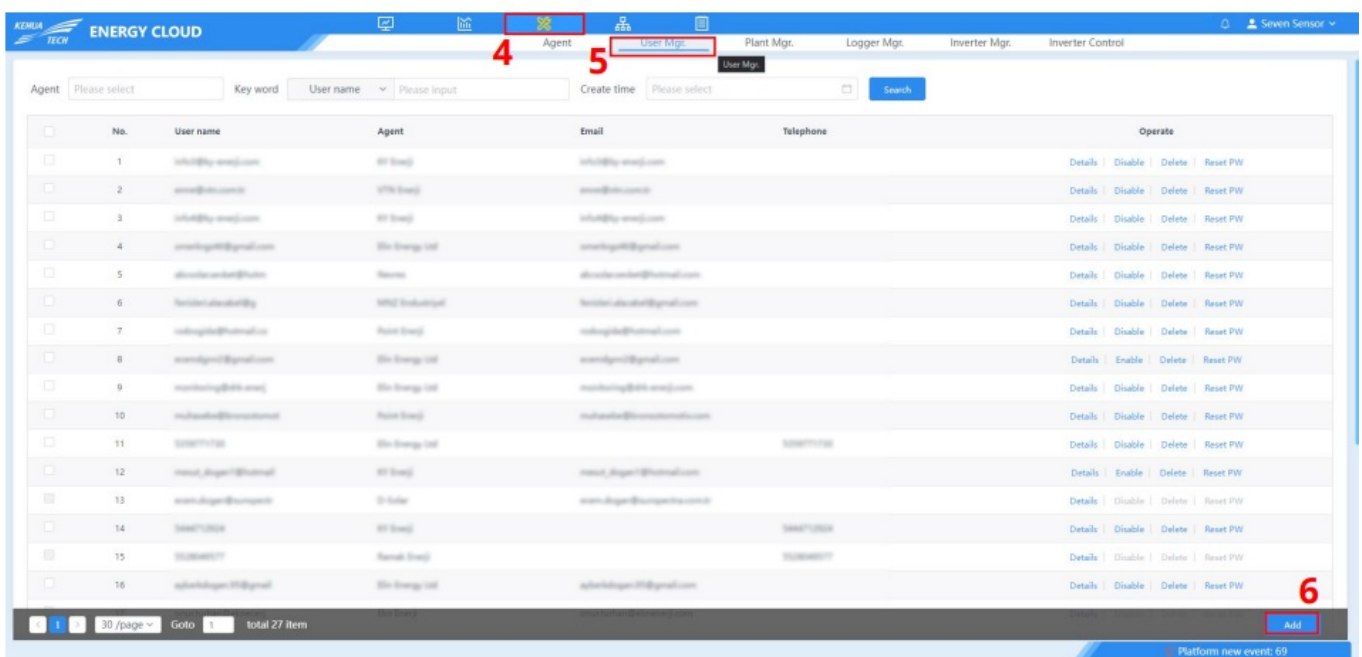


Figure 4: Site Installation

Step 7 and 8 : Select the site and enter the e-mail address. Then click on “Save and continue creating the plant”.

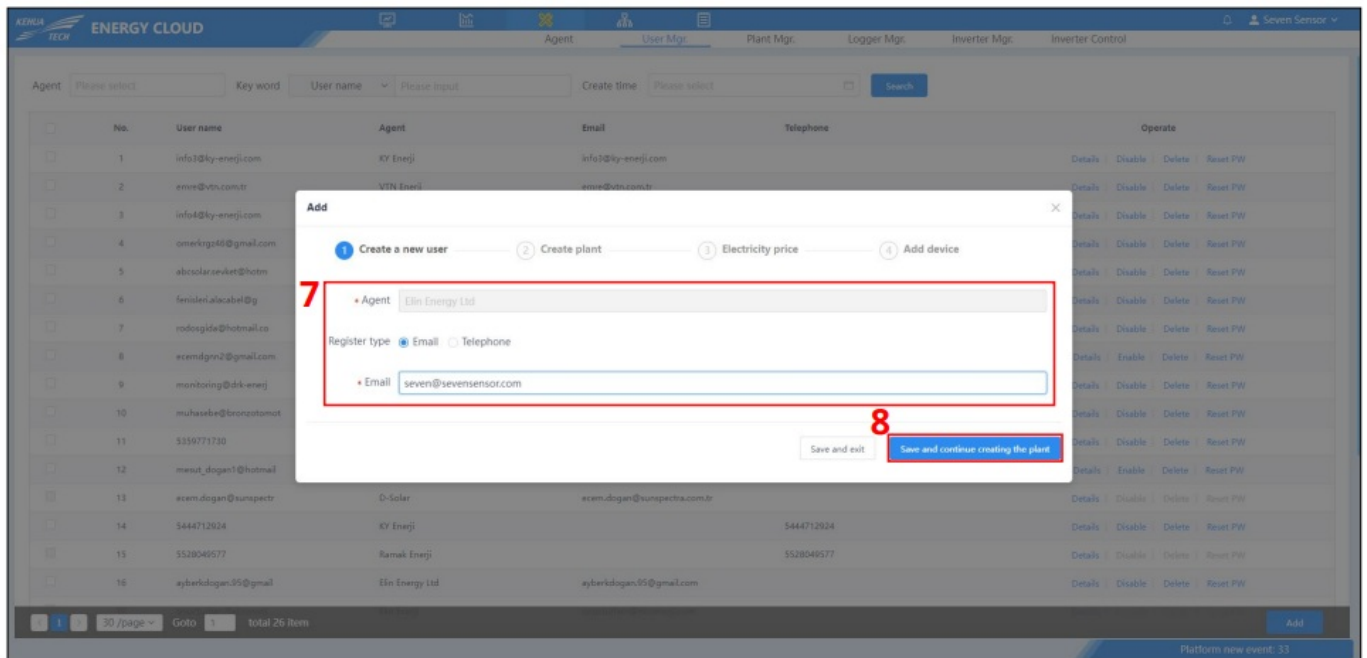


Figure 5: Site Installation

Step 9 and 10 : Enter site information in the relevant fields. Then click on “Save and continue electricity price setting”.

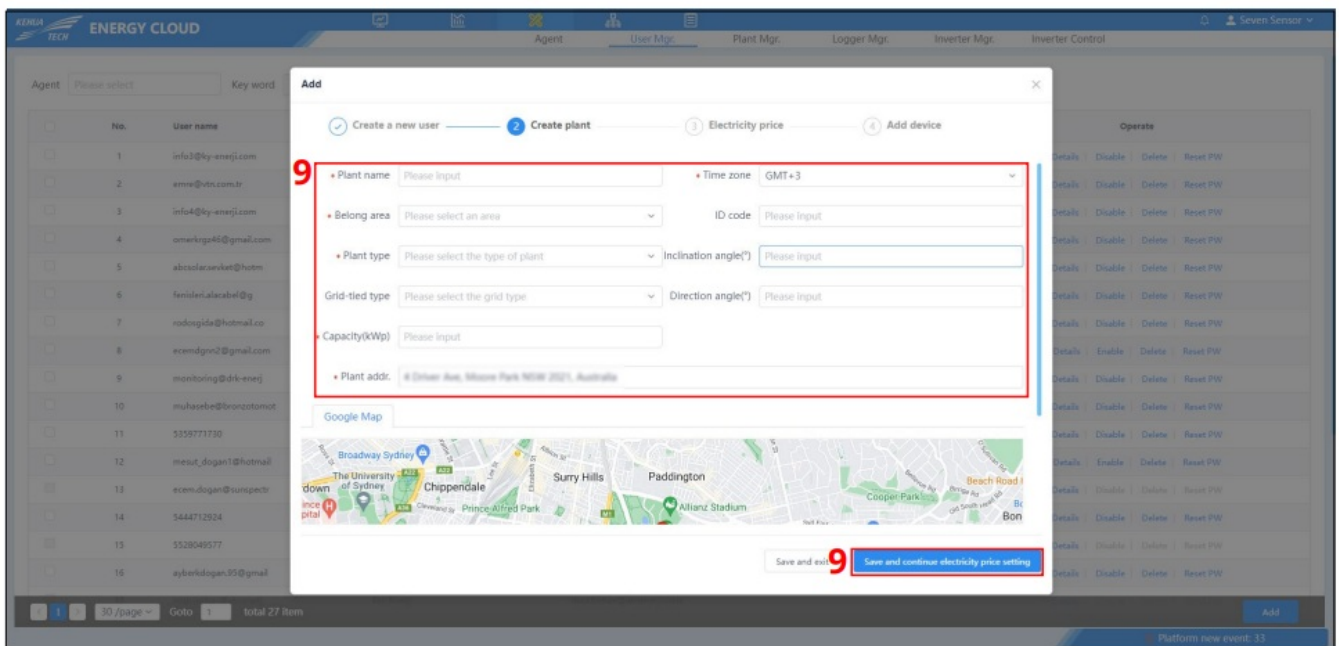


Figure 6: Site Installation

Step 11 and 12 : Click the “Edit” button for adjustments related to electricity fee. Then click on “Save and continue adding devices”.

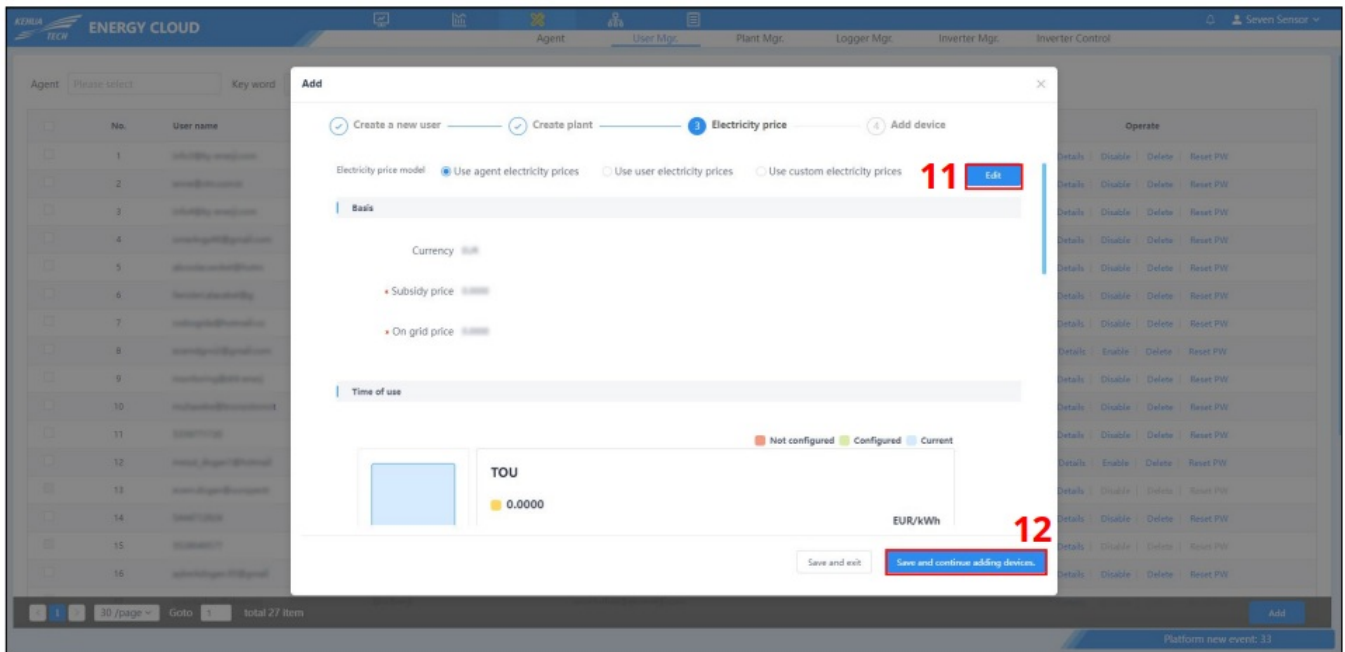


Figure 7: Site Installation

Step 13 and 14 : Click on the “Monitoring center” tab and click on the “Monitoring” button.

Step 15 and 16 : Select the site where the sensor box is installed from the tab on the left and select the site on the screen.

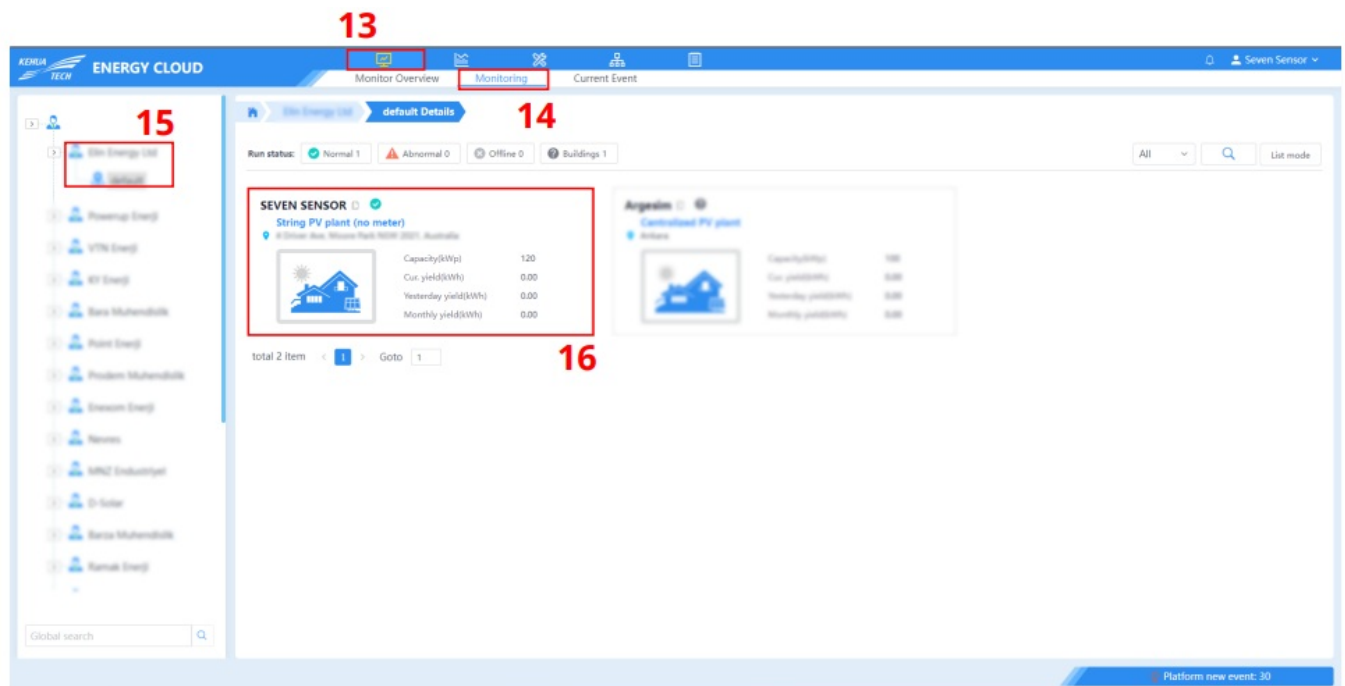


Figure 8: Monitoring System

Step 17 : On the screen that opens, click on the box with the E-Manager Pro serial number in the “Inverter Details” section below.

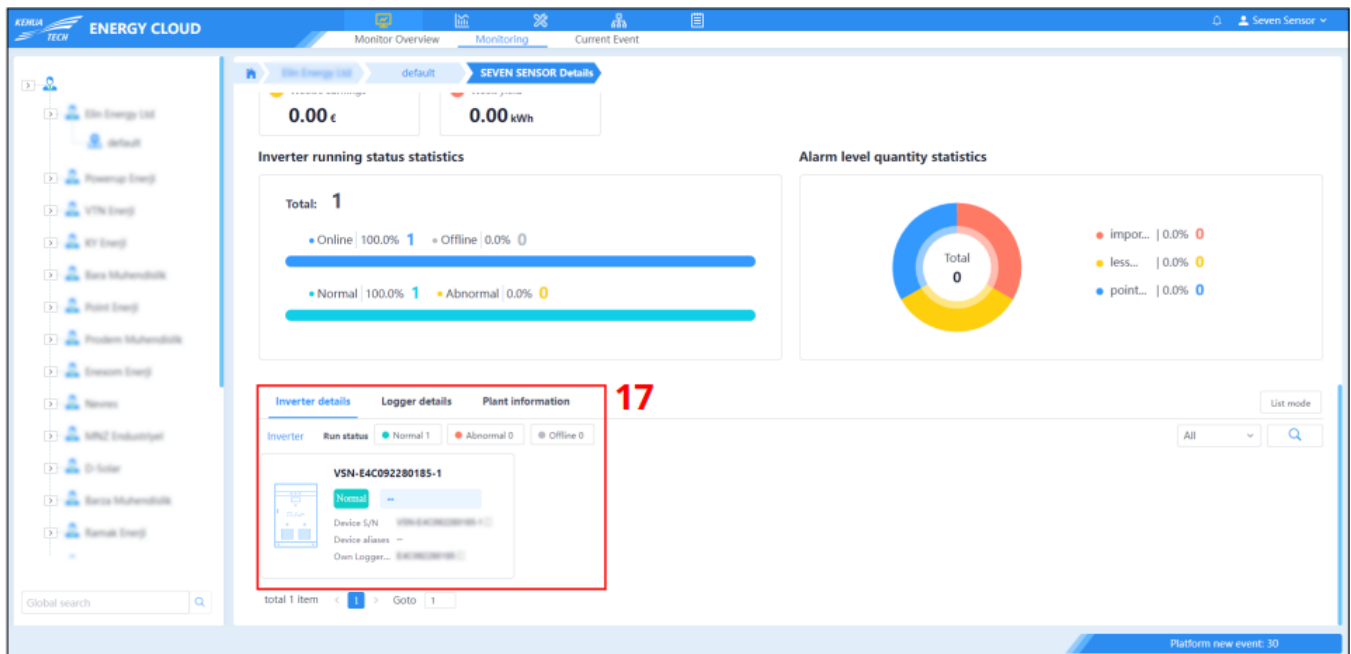


Figure 9: Monitoring System

Step 18 : You can see the meteorological data provided by SEVEN Sensors in the “Device Data” section.

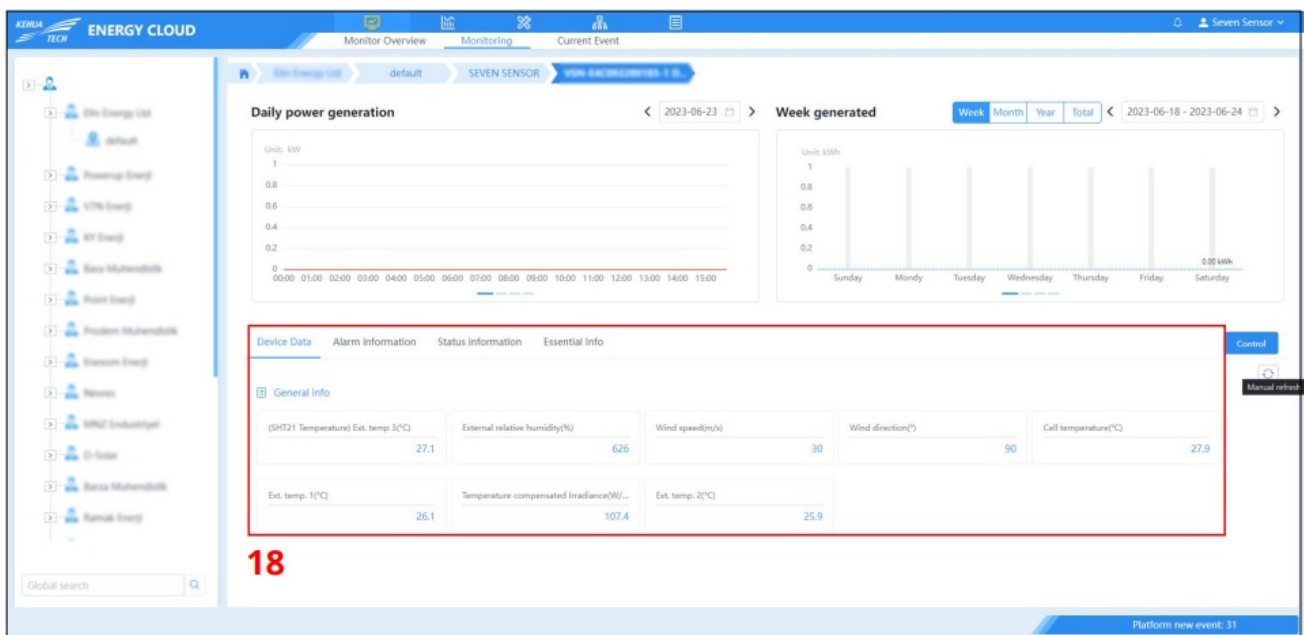


Figure 10: Meteorological Data

Contact Information:

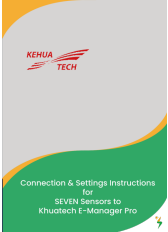
Please feel free to contact our technical team if you face any difficulties during settings.

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FAQ

- **Q: What cable should I use for communication and power between the sensor and datalogger?**
 - A: Use a cable with magnetic field protection and avoid using CAT 6 cable for this purpose.
- **Q: Can the sensor model be customized according to customer requests?**
 - A: Yes, the sensor model can be different based on customer requirements.

Documents / Resources

	KEHUA TECH 3S-2IS Seven Sensor Box [pdf] Instruction Manual 3S-2IS, 3S-3IS, 3S-4IS, 3S-CWS, 3S-2IS Seven Sensor Box, 3S-2IS, Seven Sensor Box, Sensor Box, Box
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References

- [⚡ Seven Sensor for solar PV plants | Seven Sensor](#)
- [🏠 energy.kehua.com](#)
- [User Manual](#)

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