



Connection & Settings Instructions  
for  
SEVEN Sensors to  
Solplanet Ai Logger



## 1. Introduction

This document is prepared for Solplanet Ai Logger 1000 users. The steps are explained below to connect SEVEN Sensor Box to Solplanet Ai Logger 1000.

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

1. 3S-IS, Irradiance Sensor (W/m<sup>2</sup>)
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 (°)

## 2. Cable Connection

RS485 isolator is used for connection of SEVEN Sensor Box with Ai Logger 1000. SEVEN Sensor Box is connected to the isolator. The data cables from the isolator are then connected to the Ai Logger 1000 COM port.

The green wire of the cable from the Sensor Box (RS485 A / Data (+)) is connected to section 9 of the RS485 isolator and the yellow wire of the cable from the sensor box (RS485 B / Data (-)) is connected to section 10 of the RS485 isolator.

The cable connected to the 1st part of the isolator is connected to the COM port (RS485 A/Data(+)) on the 1000 data logger, and the cable to the 2nd part of the isolator is connected to the COM port (RS485B/Data(-)) of the 1000 data logger.

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

<b>Brown</b>	<b>Power (+)</b>
<b>White</b>	<b>Power (-)</b>
<b>Green</b>	<b>Isolator (9) (RS485 A / Data (+))</b>
<b>Yellow</b>	<b>Isolator (10) (RS485 B / Data (-))</b>

Table 1: Communication and Power Cable Color Coding for SEVEN Sensor Box

<b>Isolator (3)</b>	<b>Power (+)</b>
<b>Isolator (4)</b>	<b>Power (-)</b>
<b>Isolator (1)</b>	<b>AI Logger (RS485 A / Data (+))</b>
<b>Isolator (2)</b>	<b>AI Logger (RS485 B / Data (-))</b>

Table 2: Communication and Power Cable Coding for AI Logger 1000-Isolator

 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 modifications on this documentation without notice.

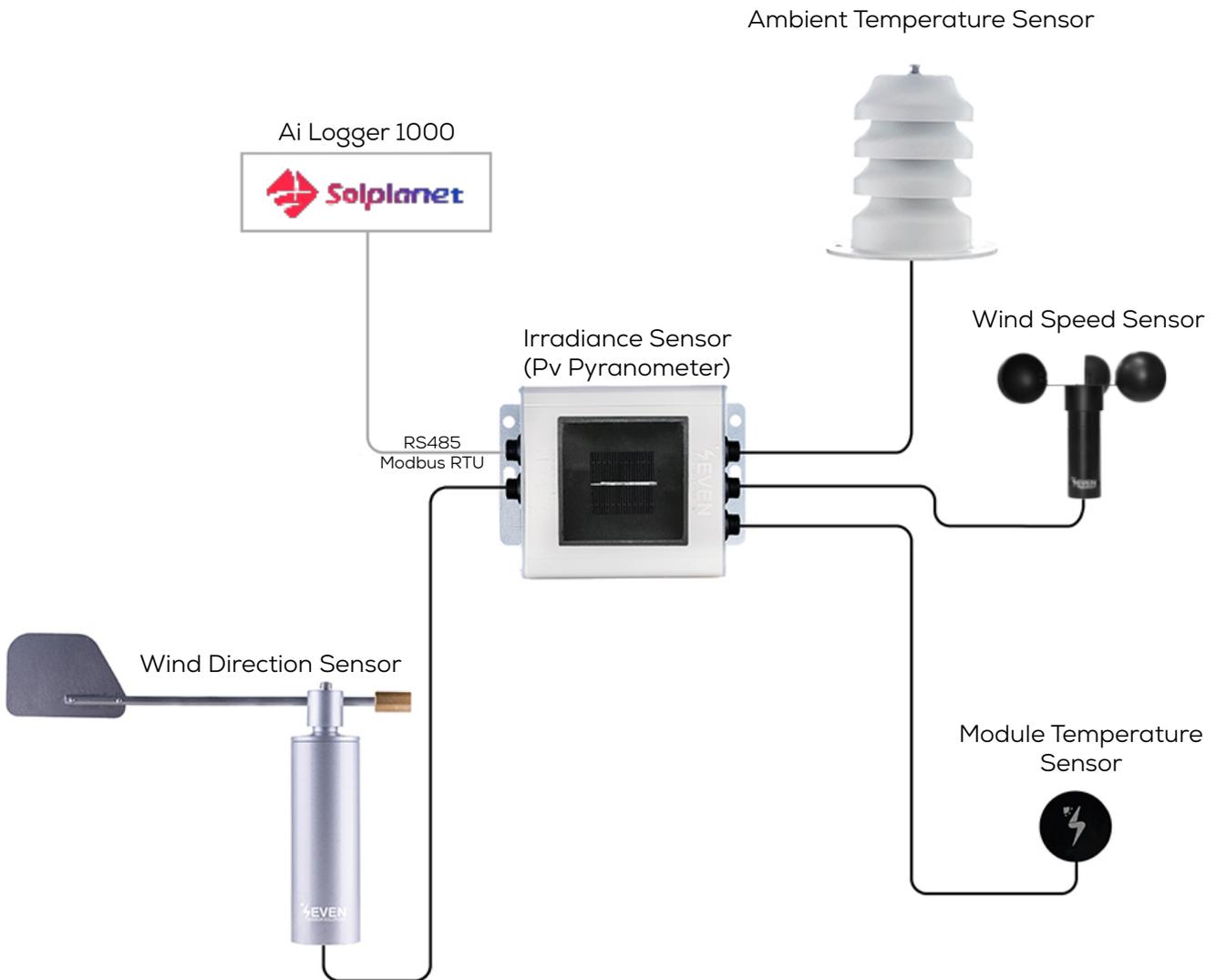


Figure 1: Solplanet Weather Station



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 Solplanet Monitoring System.

### 3. Ai Logger Interface Address

Connect the PC and the Ai Logger LAN port to the network port of the router through the network cable or PC and Ai Logger 1000 LAN ports must be connected to each other so that they are in the same network.

To log in to the Ai Logger 1000 configuration interface, the address `http://ailogger-XXX.local` must be entered in your computer browser using the last 3 digits of the serial number of the data logger.

 For example, if the last three digits of the serial number of the data logger are 013, this number should be entered instead of XXX and the address should be `http://ailogger-013.local`.

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

### 4. Settings

**Step 1 :** To log in to the Solplanet Ai Logger 1000 interface, select the user type and enter the password.

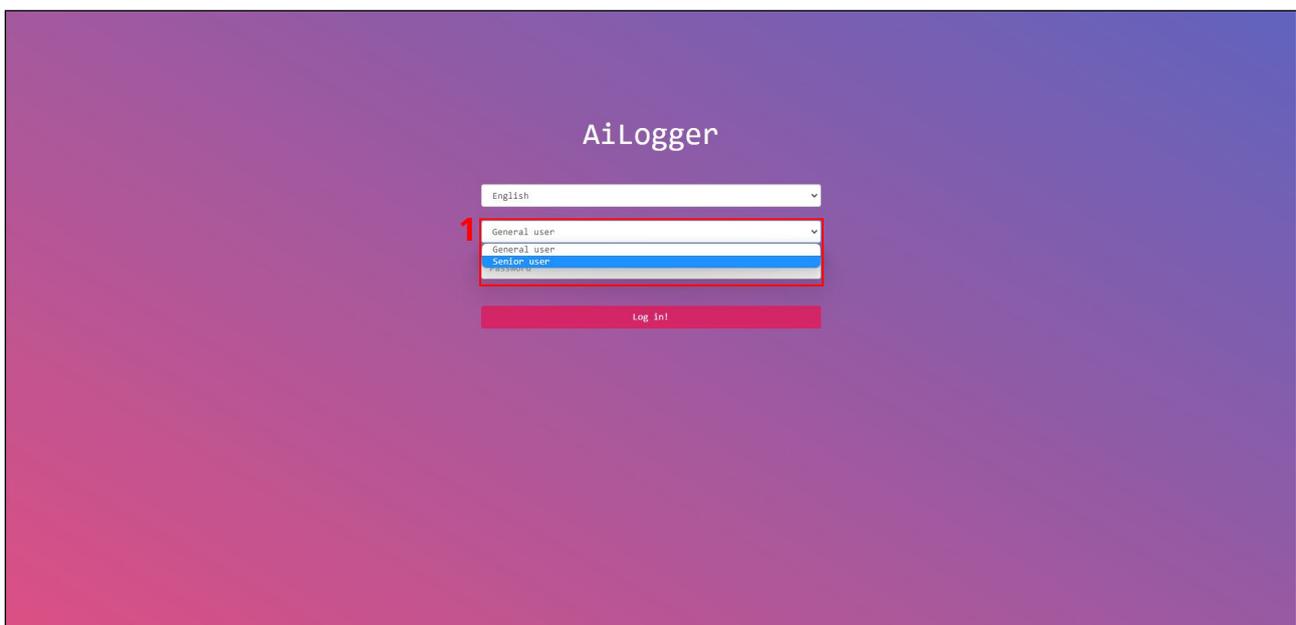


Figure 2: Solplanet Ai Logger Interface

 For the configuration interface you must select "Senior user" as User. Password should be "12345" by default.

**Step 2 and 3 :** After logging in, click on the **"Maintain"** tab and open the **"Device Management"** page.

**Step 4 :** Click on **"Add device"**.

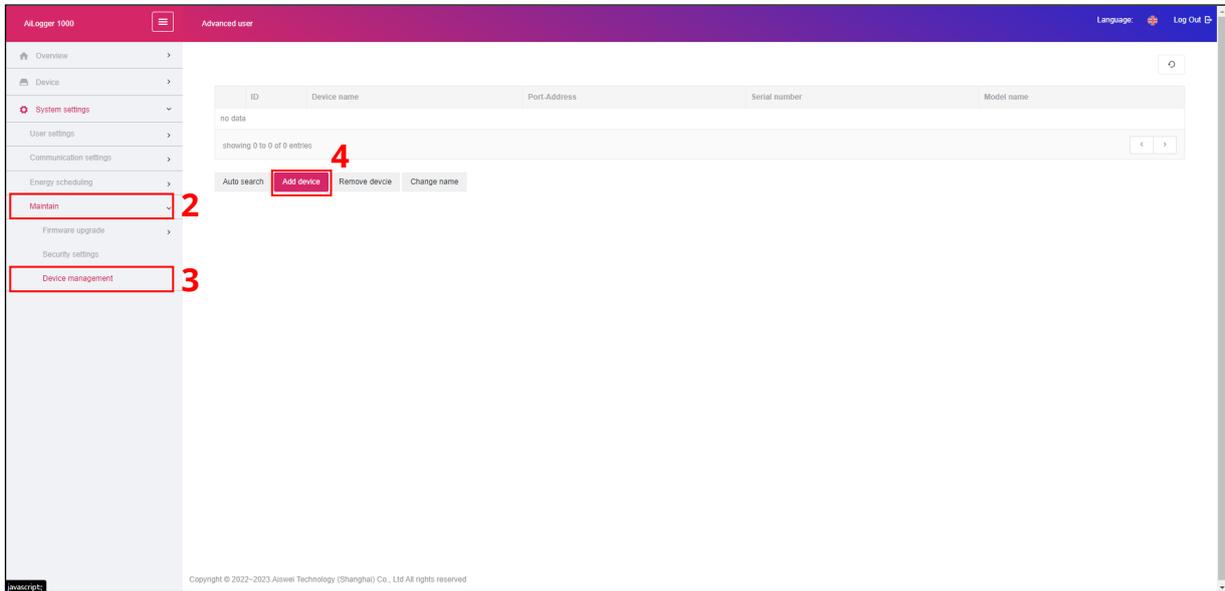


Figure 3: Add Device Location

**Step 5 and 6 :** To add the SEVEN Sensor Box, select Weather Station from **"Device type"**. Select Modbus from the **"Communication Protocol"** section. Select SEVEN Sensor 3S-IS as **"Device Model"**. Select the RS485 port to which SEVEN Sensor is connected to from the **"Communication Port"** section. In the **"Communication address"** section, enter the ID address of the device and click the **"Submit"** button.

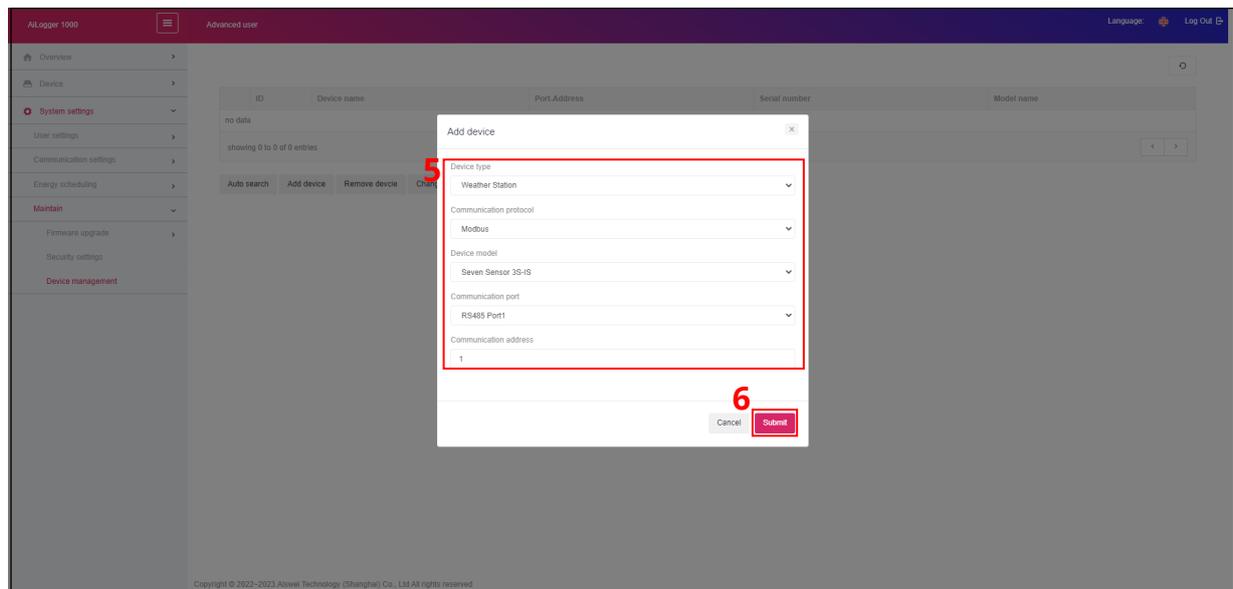


Figure 4: Add Device Settings



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.

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**Step 7 :** After adding the sensor, the SEVEN Sensor Box will appear on the screen.

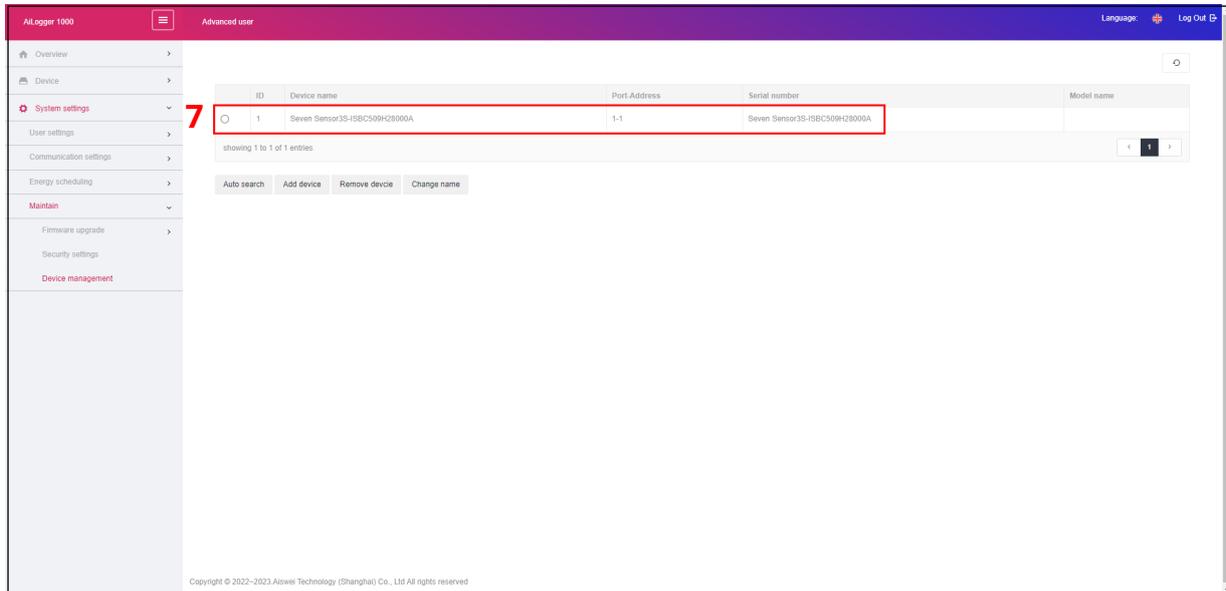


Figure 5: Seven Sensor Status

**Step 8 and 9 :** Click on the "Device" tab and open the "Weather station" page.

**Step 10 :** By clicking on the "Weather station" menu, you can see the meteorological data provided by SEVEN Sensors.

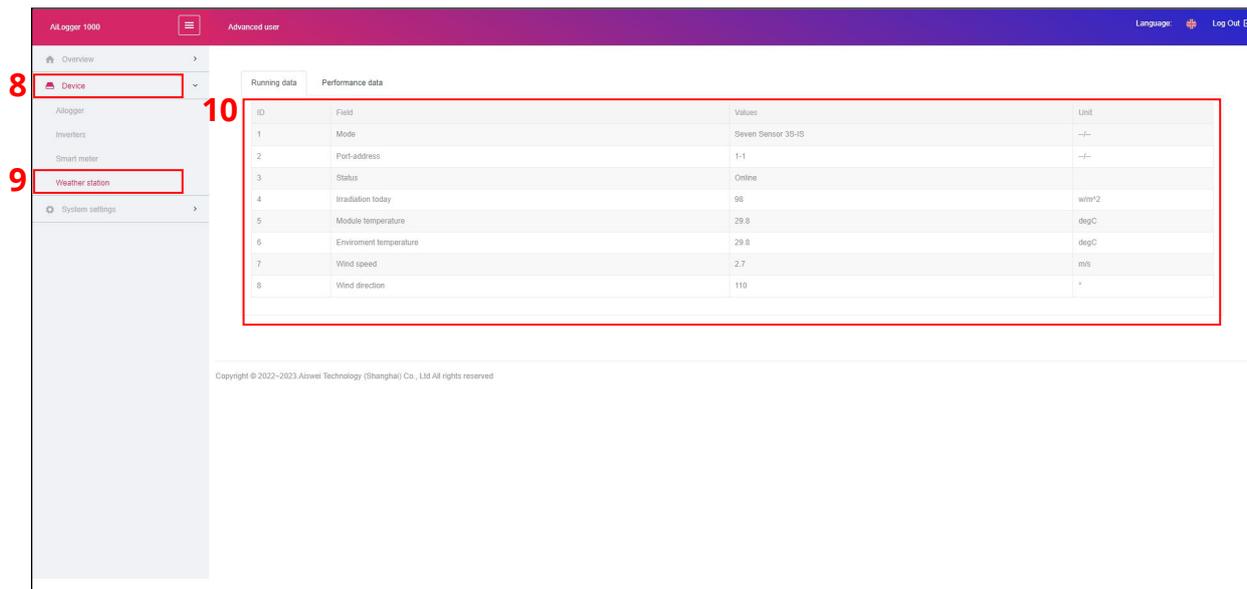


Figure 6: Weather Station Data

### Contact Informations:

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

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