

**GOODWE**

Connection & Setting  
of  
SEVEN Sensors to  
Goodwe Ezlogger Pro



**1. Introduction**


This document is prepared for Goodwe EzLogger Pro users. Steps are explained below to connect SEVEN Sensor Box to EzLogger Pro.

Following meteorological data to be provided by SEVEN Sensor Box. Communicaiton is provided via RS85 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 (°)
- SEVEN has the right to make modifications without notice.

**2. Cable Connection**


Connect the green wire of the output cable of the Sensor Box to COM4 (+) (RS485 A / Data (+)) port of the EzLogger Pro and connect the yellow wire of the output cable of the Sensor Box to COM4 (-) (RS485 B / Data (-)) port of the EzLogger Pro.


 Only COM4 port can be used to connect the SEVEN Sensor Box to GoodWe EzLogger Pro.


White and brown wires 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>RS485 A / Data (+)</b>
<b>Yellow</b>	<b>RS485 B / Data (-)</b>

*Table 1: Communication and Power Cable Color Coding*

 A cable with magnetic field protection can be used as communication and power cable 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. If the datalogger has 12 VDC or 24 VDC output, it can be used as a power source.

 Only 1 set Seven Sensor Weather Station can be connected to Goodwe Ezlogger Pro.

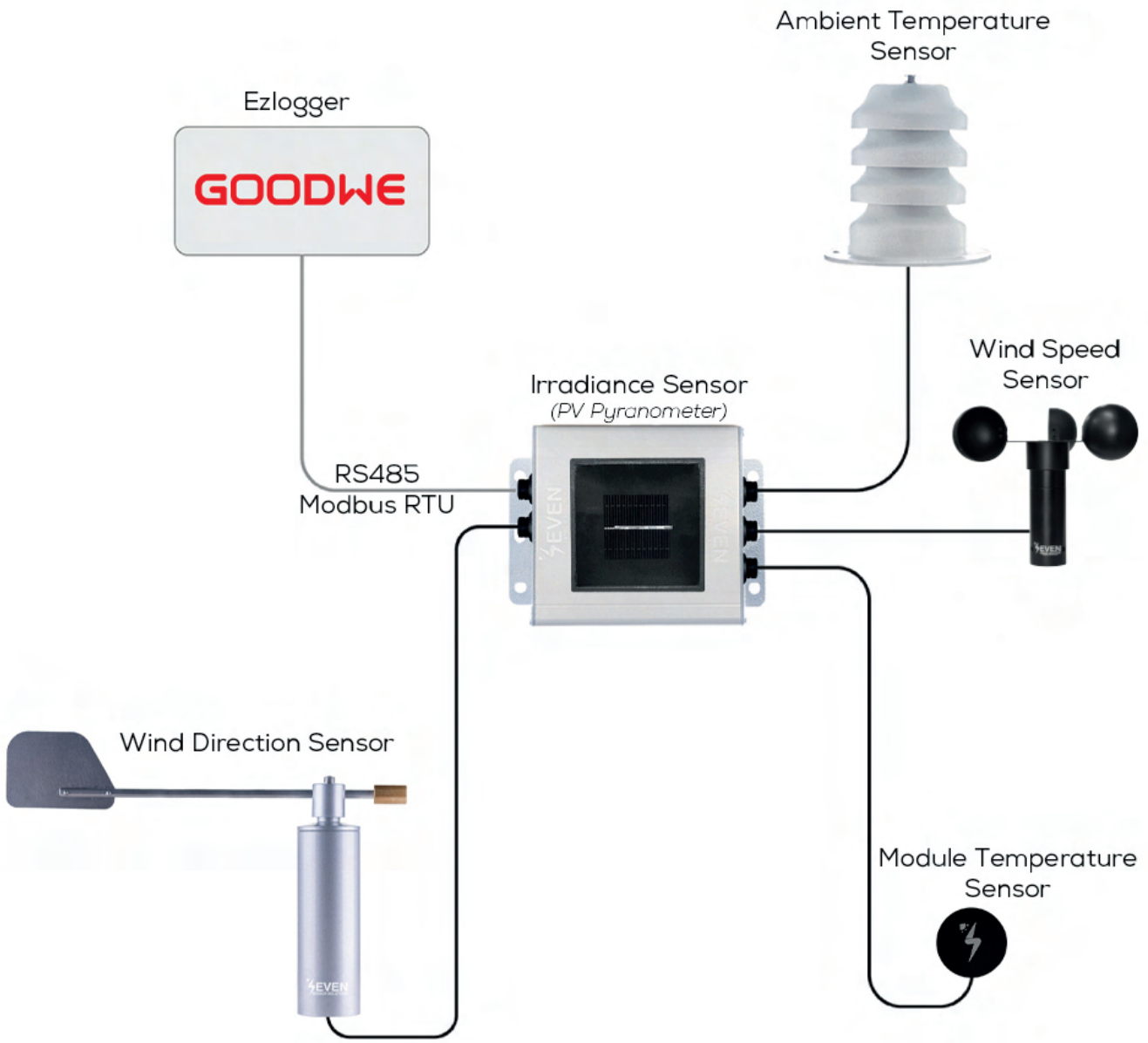


Figure 1: Goodwe Weather Station

### 3. Settings

SEVEN Sensor Box will not be automatically detected by EzLogger Pro. Therefore, the settings shall be proceeded manually.

To login to the EzLogger Pro user interface, download and run EzLogger Pro configuration tool ProMate on your PC that is on the same network as Ezlogger Pro. (*You can download ProMate from Goodwe official website.*)

**Step 1 and 2 :** Click the “Connect” button in the “LAN Configuration” section of the “EzLogger Pro” menu as shown in Figure 2.

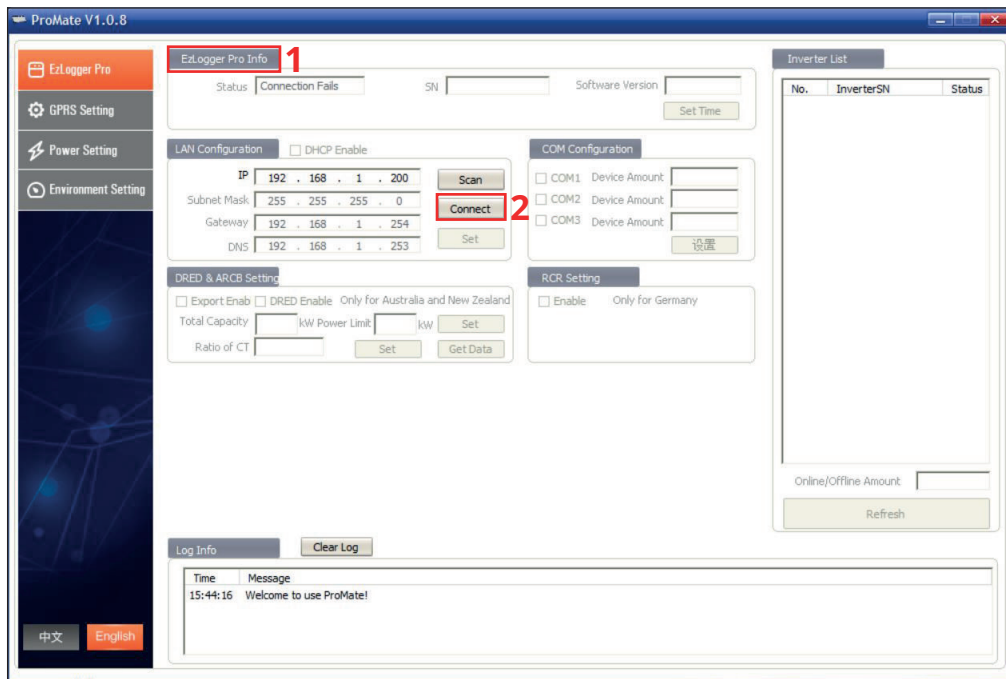


Figure 2: EzLogger Pro User Interface ProMate

When the Ezlogger Pro is connected to ProMate, the PC LED on the datalogger will light continuously and the "Status", "SN" and "Software Version" informations will appear automatically as shown in Figure 3.

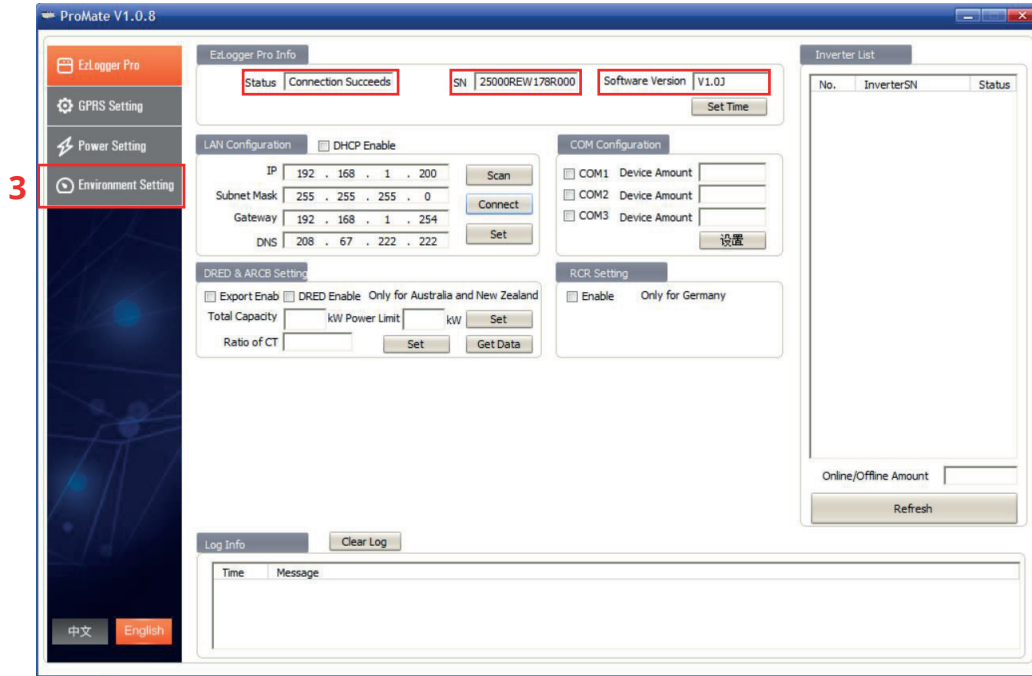


Figure 3: EzLogger Pro Connection With ProMate

**Step 3 :** Go to the "Environment Setting" menu.

**Step 4 :** From the "Parameter Set" section ;

- Enter the Modbus ID of the SEVEN Sensor Box in the "Environment monitoring RTU",
- Enter the number of registers to be read from the Sensor Box in the "Number of Environment register" section,
- Enter the "Read Function" section as "4" (Read Input Register),
- Select "Mode Chosen" as "Centralize".

**Step 5 :** According to the Sensor Box register map as shown in Figure 4, enter the register addresses and select the resolution of the selected data.

**Step 6 :** Click on **“Set”** button.

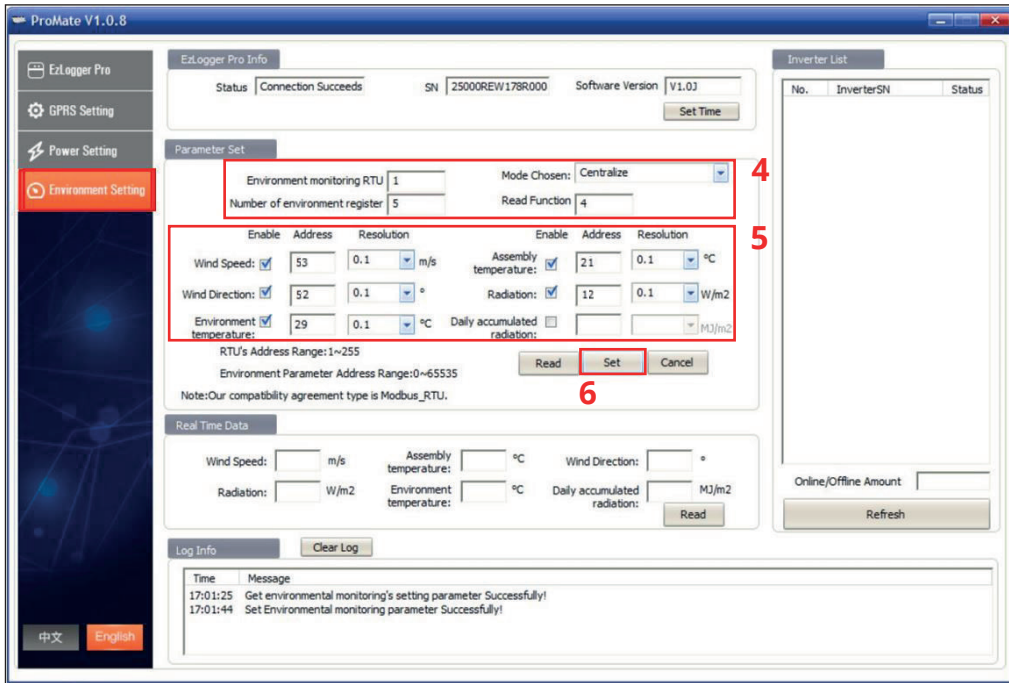


Figure 4: Seven Sensor Box Configuration Settings

**Step 7 :** Click on **“Read”** button to view the sensor data in **“Real Time Data”** section.

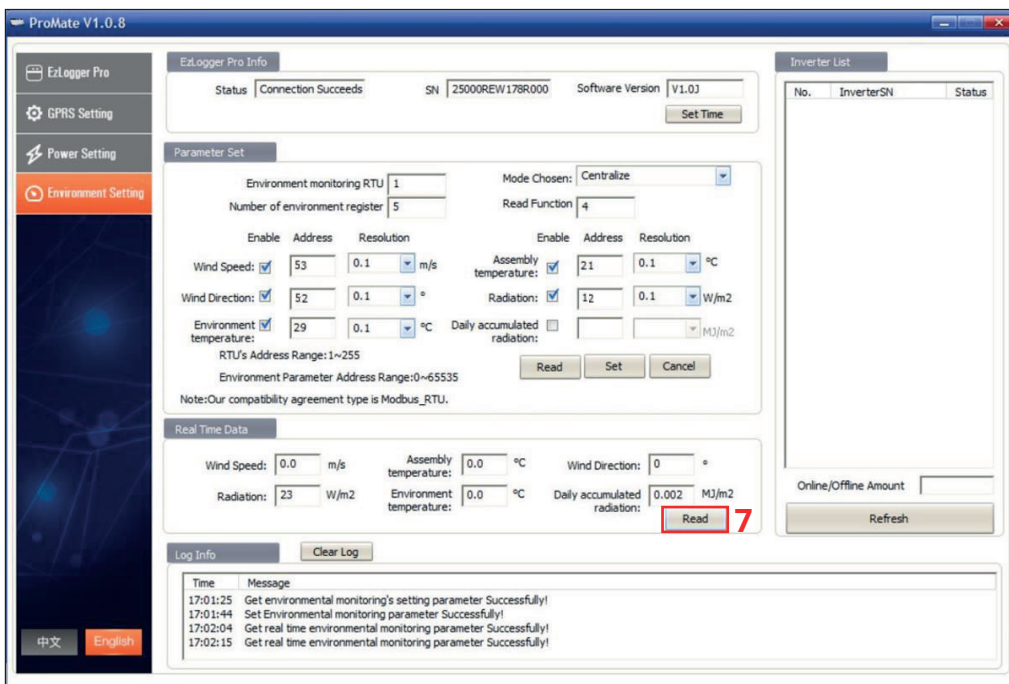


Figure 5: Seven Sensor Box Data

**Step 8 and 9 :** To be able to view the data in GoodWe monitoring system SEMS Portal, EzLogger Pro must have a Dynamic IP. To switch the IP from Static to Dynamic, tick off the “DHCP Enable” option in the “**EzLogger Pro**” menu.

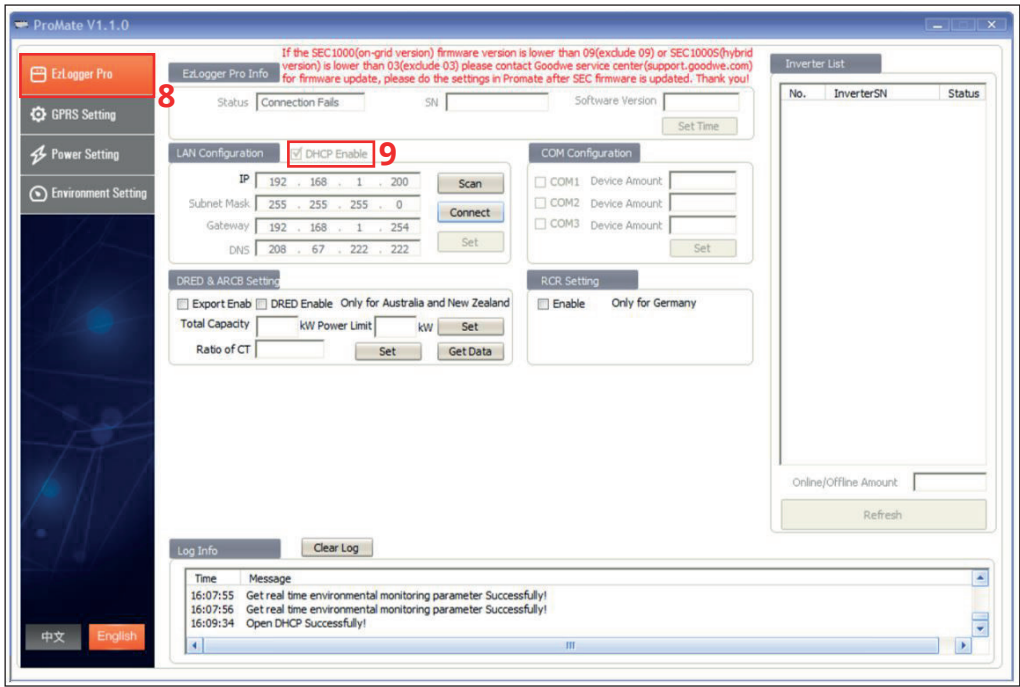


Figure 6: EzLogger Pro DHCP Enable

**4. SEMS Portal**

**Step 10 :** To log in the GoodWe Sems Portal monitoring system enter the server address <https://www.semsportal.com> on the browser of your PC.

**Step 11 :** Enter your Email Address and Password then click on **"Log in"**.

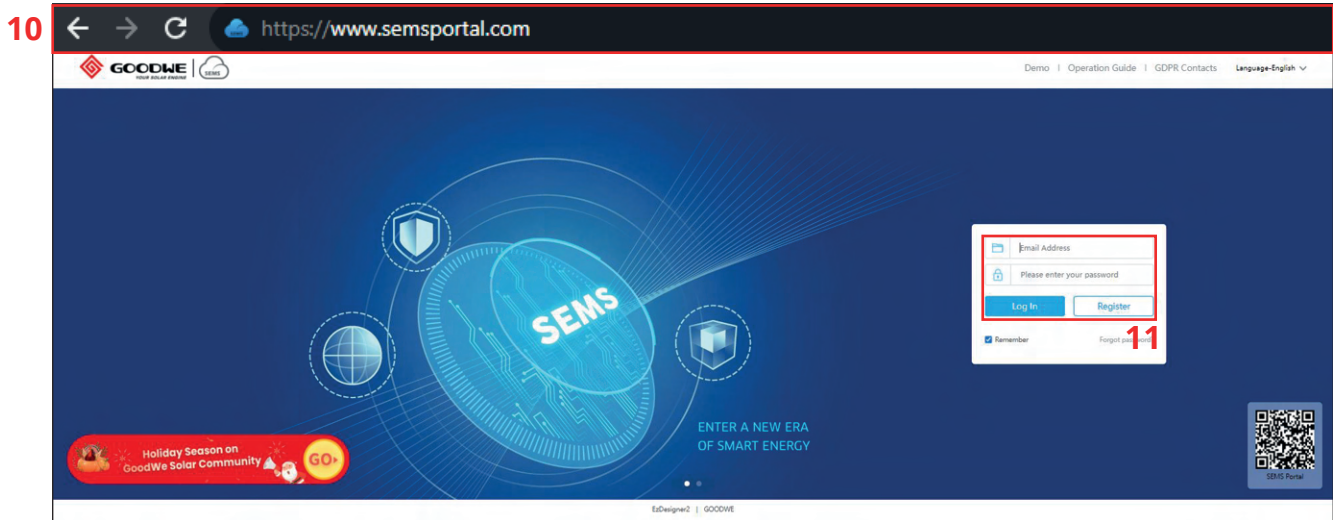


Figure 7: SEMS Portal Login Interface

**Step 12 :** Go to **"Management"** page.

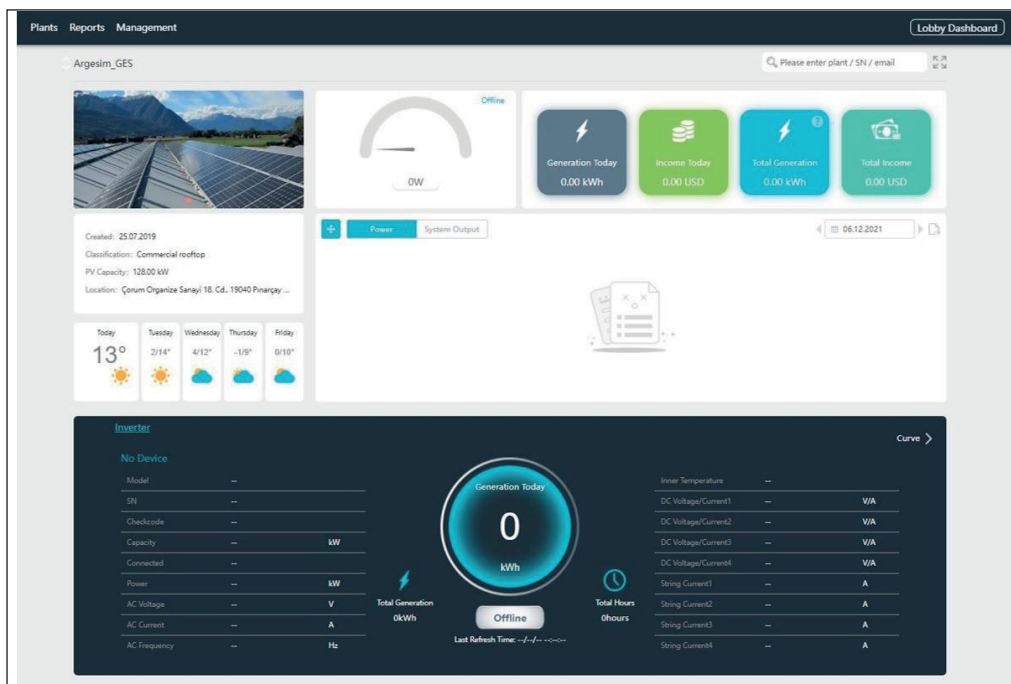


Figure 8: SEMS Portal Interface



**Step 13 and 14 :** Select **"Plants"** in **"Management"** page menu then click on **"Device Management"**.

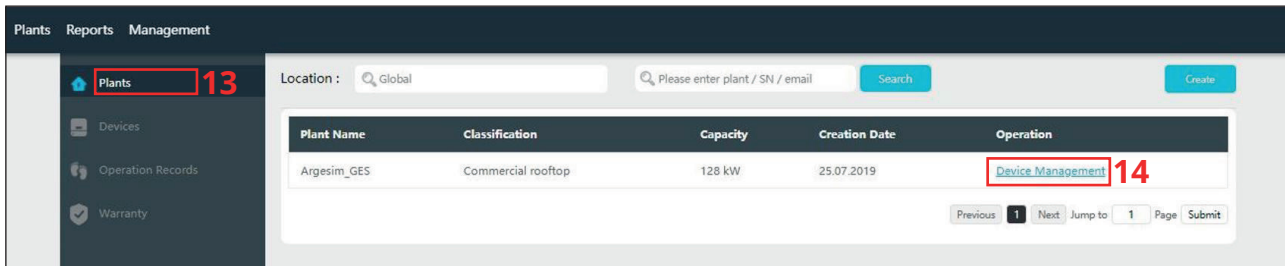


Figure 9: SEMS Portal Device Management

**Step 15 :** Click on **"Add"** button to add the EzLogger Pro to SEMS Portal monitoring system.

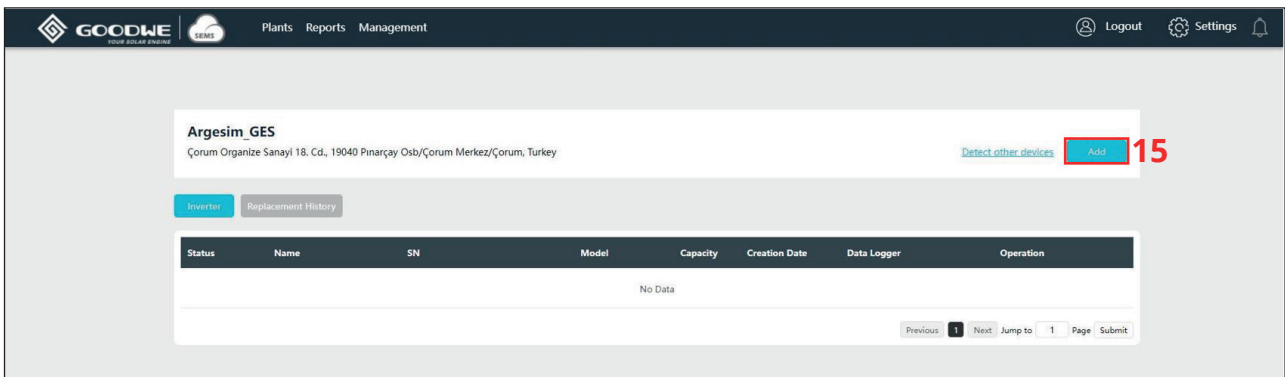


Figure 10: SEMS Portal Device Management

**Step 16 :** Opened window ;

- Enter the name of EzLogger Pro as you want to be shown in the **"name"** section.
- Enter the serial number on the back of EzLogger Pro in the **"SN"** section.
- Enter the check code on the back of EzLogger Pro in the **"CheckCode"** section.

**Step 17 :** Click on **"Submit"**.

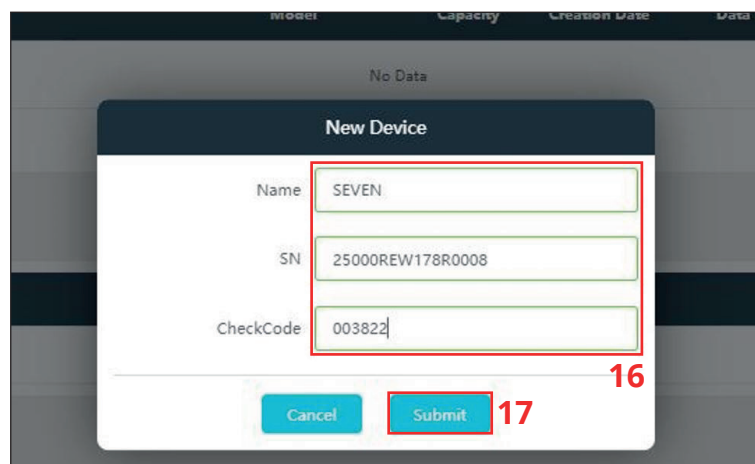


Figure 11: EzLogger Pro Device Informations

**Step 18 :** Click on **“Detect other devices”** to add SEVEN Sensor Box which is connected to the EzLogger Pro.

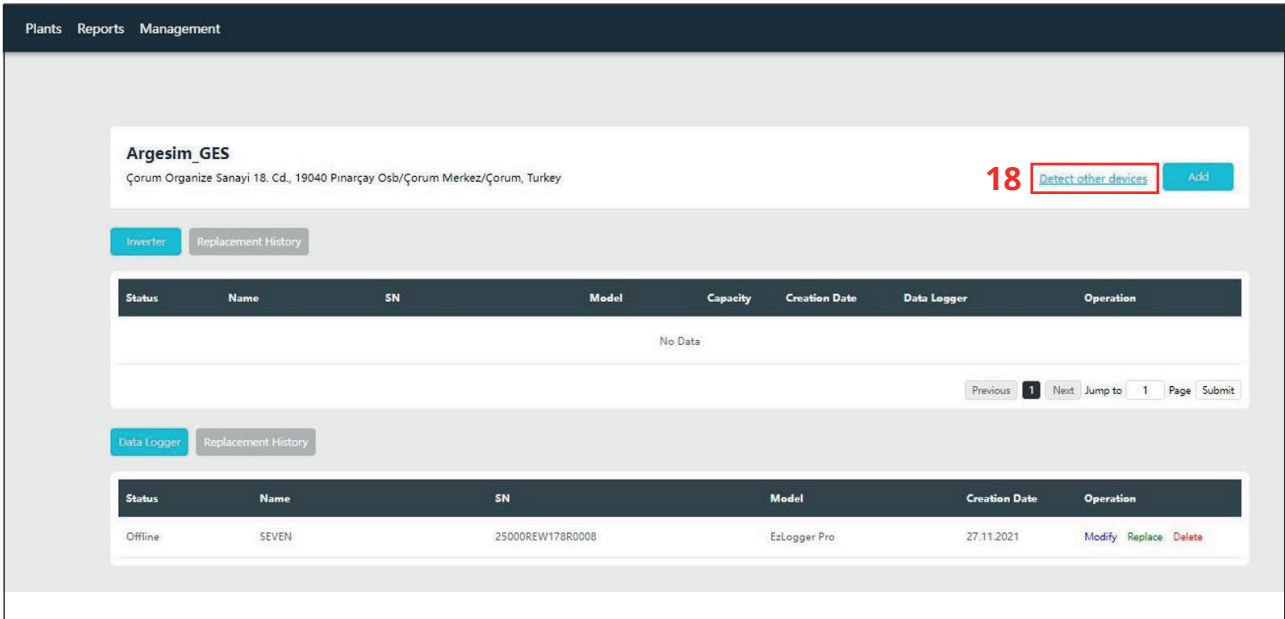


Figure 12: Adding SEVEN Sensor Box

The connected SEVEN Sensor Box will appear as shown in figure 13.

**Step 19 :** Click on **“Add”** to add SEVEN Box.

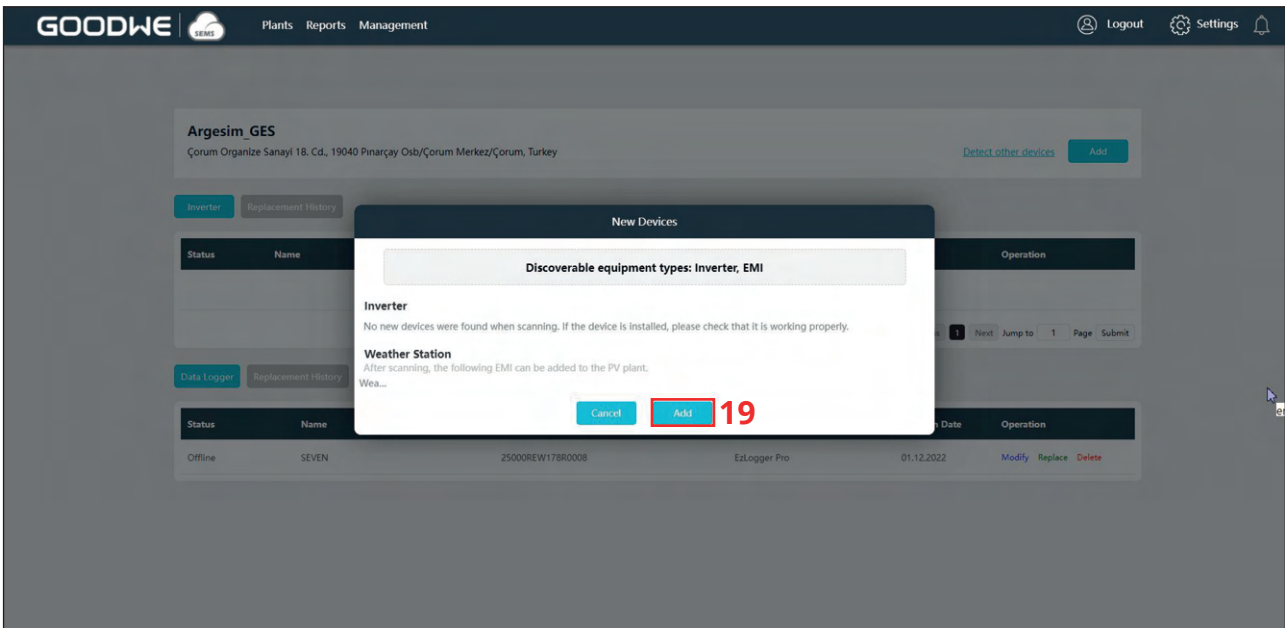


Figure 13: Adding SEVEN Sensor Box

After doing all the settings, meteorological data of the PV Plant will appear on Plants status screen of GoodWe SEMS Portal monitoring system as shown in Figure 14.

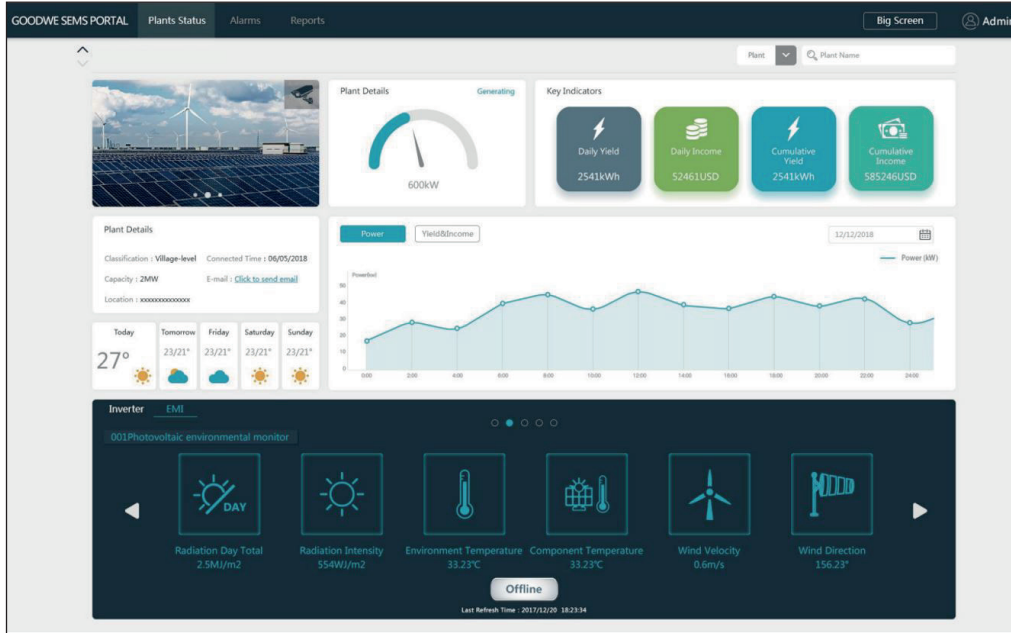


Figure 14: SEMS Portal Monitoring System

## Modbus RTU Specifications

### Supported Bus Protocol

**BaudRate:** 3800, 9600, 19200, 38400

**Parity:** None, Even, Odd

**Stop Bit:** 1, 2 (only at no parity)

**Factory Default:** 9600 Baud, 8N1, Address: 1

**Transmission mode:** MODBUS RTU

**Supported function codes:** 0x04: Read Input Register

### Register Map:

The following Modbus data can be read individually or in blocks.

ID-Dec.	ID-Hex	Value	Data Type
53	0x35	Wind Speed, 0...6000, 1/100 m/s	US
12	0x0C	Temperature Compensated Irradiance Value, 0...1600 in 0.1 W/m <sup>2</sup>	US
15	0x0F	Cell Temperature, -400 ... +850 [range -40 ... +85°C] in 0.1°C	S
21	0x1D	External Temperature 1, -400 ... +850 [range -40 ... +85°C] in 0.1°C	S
29	0x15	External Temperature 2, -400 ... +850 [range -40 ... +85°C] in 0.1°C	S
33	0x21	Relative Humidity, 0...100 [%] in 1%	US
52	0x34	Wind Direction, 0...359 in 1°	US

Table 2: Modbus Map

### Contact Informations:

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

**Can GÜNDÜZ**

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