



Connection & Settings of SEVEN Sensors to Growatt ShineMaster



1. Introduction

This document is prepared for Growatt ShineMaster users. The steps are explained below to connect SEVEN Sensor Box to ShineMaster.

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/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 (%)

- 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 A2 (RS485 A / Data (+)) on the ShineMaster RS485 port, and connect the yellow wire of the output cable of the Sensor Box to B2 (RS485 B / Data (-)) on the ShineMaster RS485 port. Another free port also can be selected for 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 (-)

Table 1: Communication and Power Cable Color Coding



It is recommended to use part A2/B2 when connecting SEVEN Sensor Box to the datalogger.



A communication and power cable with magnetic field protection must be used between sensor and 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.

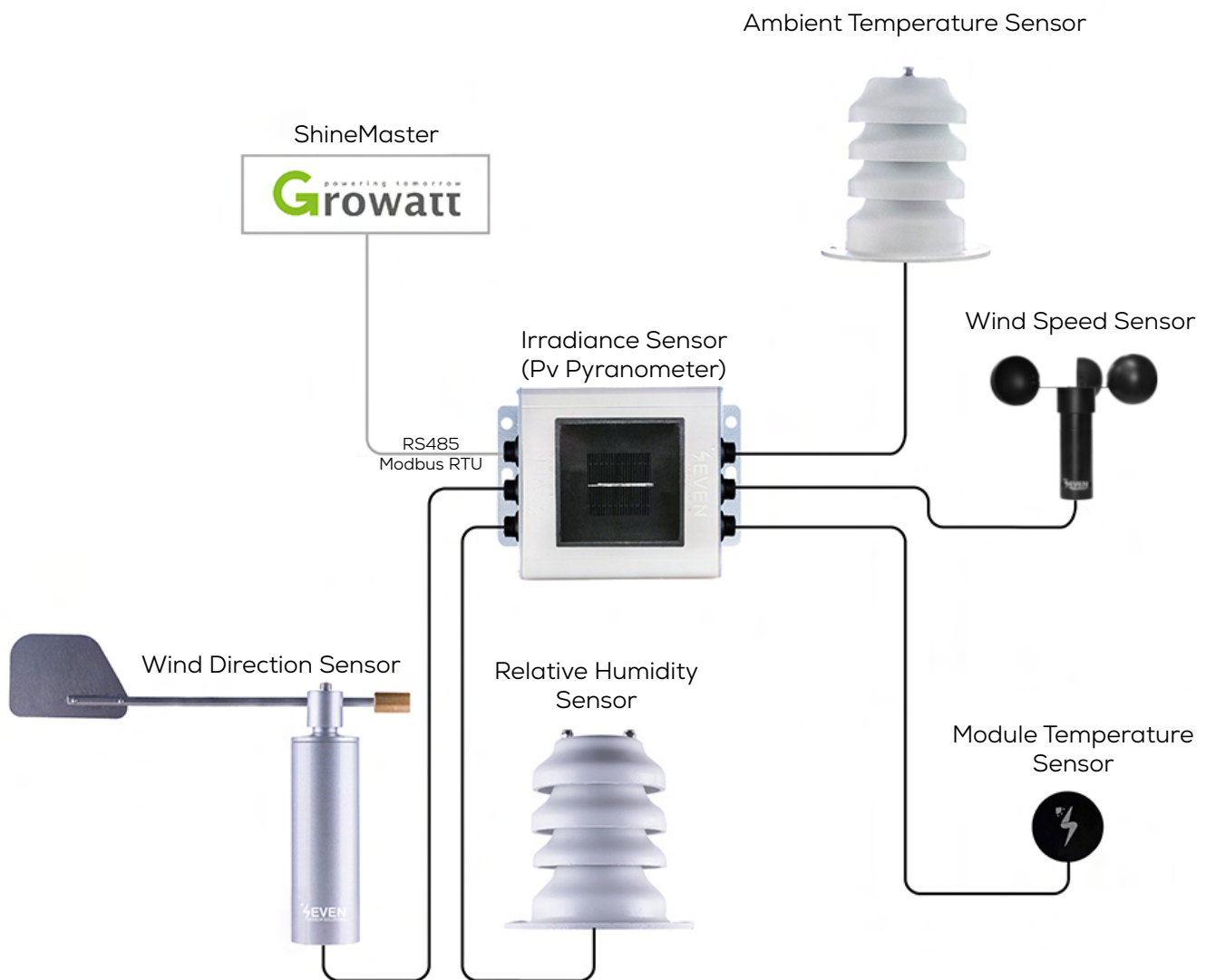


Figure 1: Growatt Weather Station

3. ShineMaster IP Address

Connect the PC and the ShineMaster LAN port to the network port of the router through the network cable 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 ShineMaster, with the serial number of the ShineMaster as device name. This IP address is the IP address assigned by the router to the ShineMaster.



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

After knowing the ShineMaster IP address, you can log in to the configuration interface by entering ShineMaster's IP address in the browser search bar.

4. Settings

Step 1 : Enter the Username and the Password (the default login Username: admin, Password: admin) then click on "**Login**" to access the Growatt ShineMaster system page.



Username : admin, Password : admin in the factory default.

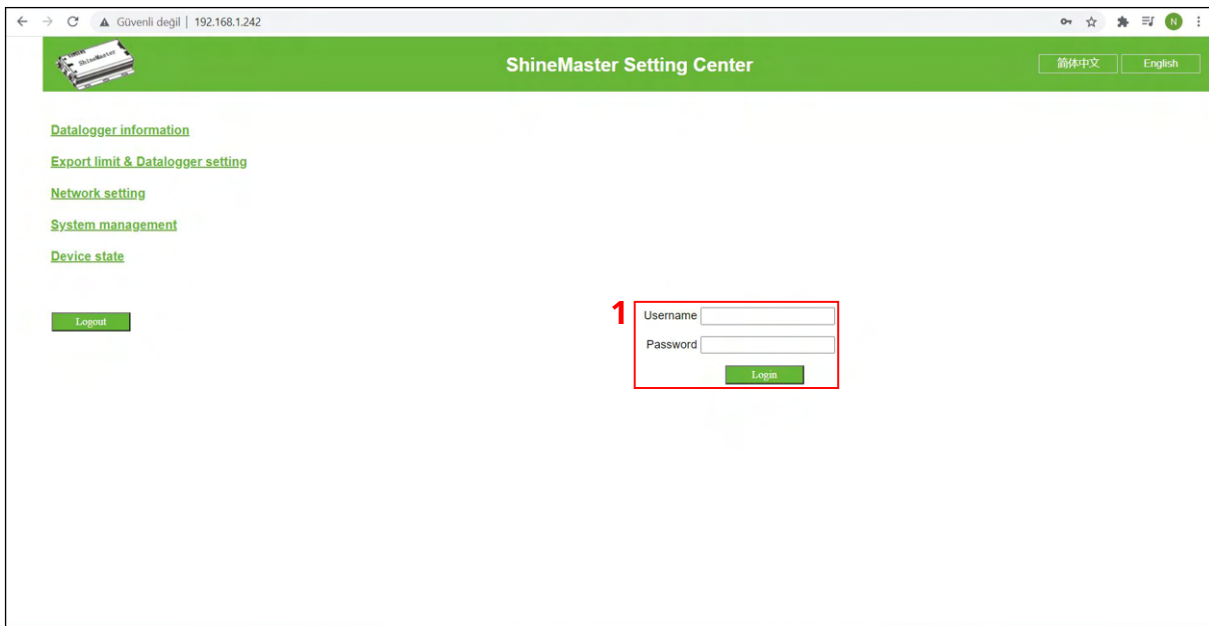
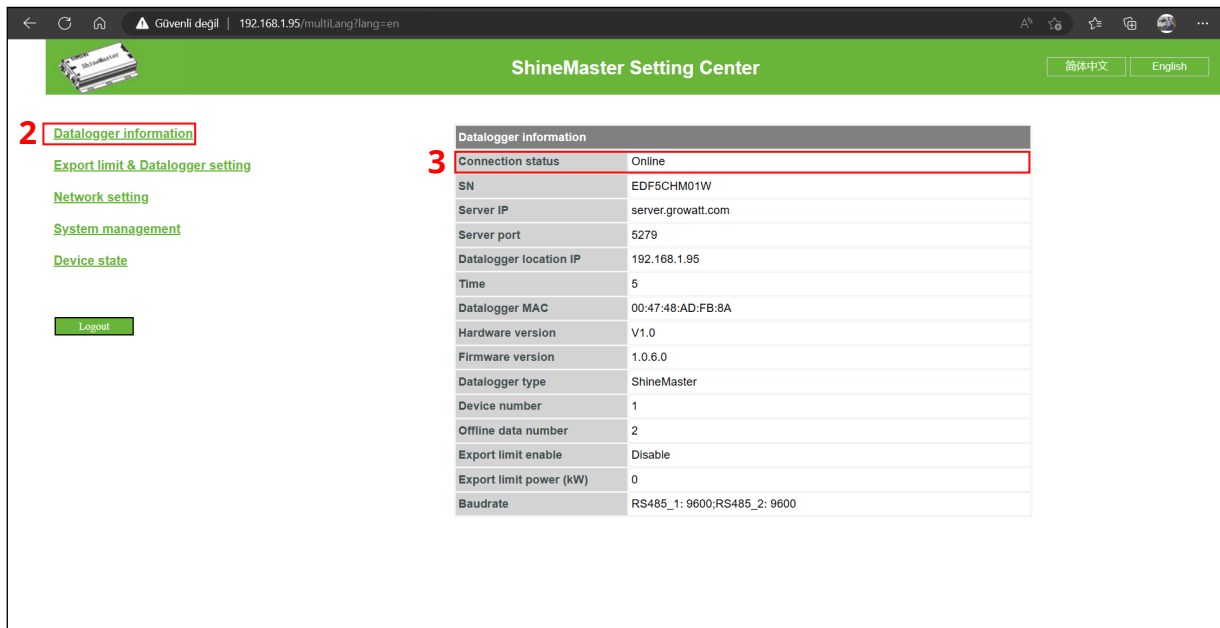


Figure 2: Growatt ShineMaster Interface

Step 2 and 3 : Open the "Datalogger information" page. Check the connection status of the ShineMaster on this page.



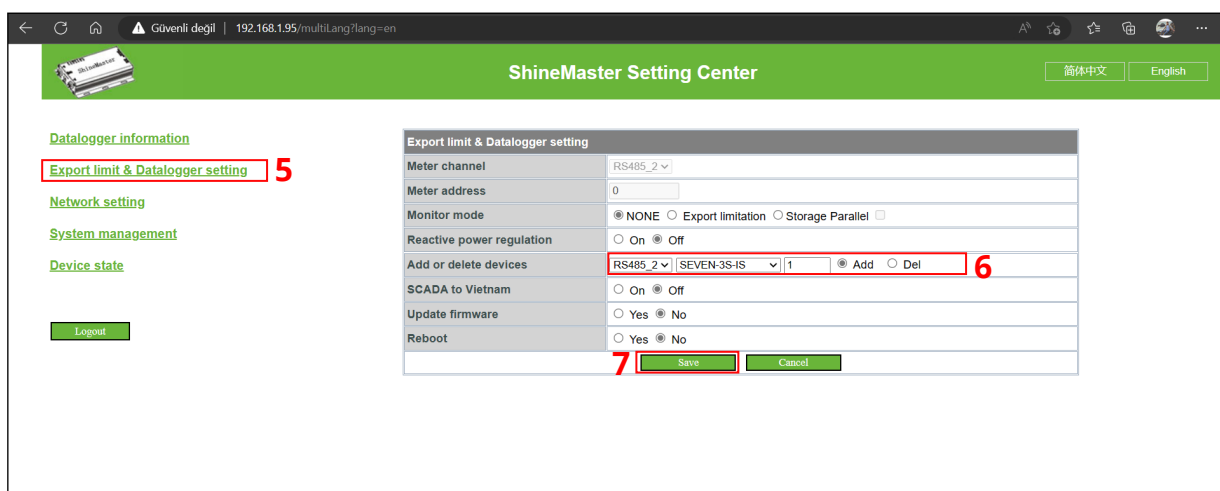
Datalogger information	
Connection status	Online
SN	EDF5CHM01W
Server IP	server.growatt.com
Server port	5279
Datalogger location IP	192.168.1.95
Time	5
Datalogger MAC	00:47:48:AD:FB:8A
Hardware version	V1.0
Firmware version	1.0.6.0
Datalogger type	ShineMaster
Device number	1
Offline data number	2
Export limit enable	Disable
Export limit power (kW)	0
Baudrate	RS485_1: 9600; RS485_2: 9600

Figure 3: Datalogger Information

Step 5 : Go to "Export Limit & Datalogger setting" page.

Step 6 : To add the SEVEN Sensor Box as shown in Figure 4, select the RS485 port which the SEVEN Sensor is connected to and select "**SEVEN-3S-IS**" for automatic configuration from "**Add or delete devices**" section. Then enter the ID of the Sensor and select "**Add**" option.

Step 7 : Click on "**Save**" button.



Export limit & Datalogger setting	
Meter channel	RS485_2
Meter address	0
Monitor mode	<input checked="" type="radio"/> NONE <input type="radio"/> Export limitation <input type="radio"/> Storage Parallel
Reactive power regulation	<input type="radio"/> On <input checked="" type="radio"/> Off
Add or delete devices	RS485_2 SEVEN-3S-IS 1 <input checked="" type="radio"/> Add <input type="radio"/> Del
SCADA to Vietnam	<input type="radio"/> On <input checked="" type="radio"/> Off
Update firmware	<input type="radio"/> Yes <input checked="" type="radio"/> No
Reboot	<input type="radio"/> Yes <input checked="" type="radio"/> No
<input checked="" type="button" value="Save"/> <input type="button" value="Cancel"/>	

Figure 4: Export Limit&Datalogger Setting

TECHNICAL DOCUMENT - GROWATT SHINEMASTER CONNECTION & SETTINGS

Step 8 and 9 : To check if the sensor connection is successful, open the "**Device State**" page and check the "**Device State**" section in the table. If the sensor connection is successful, this section will be "**Normal**", if the sensor connection is not successful, it will be "**Suspend**".

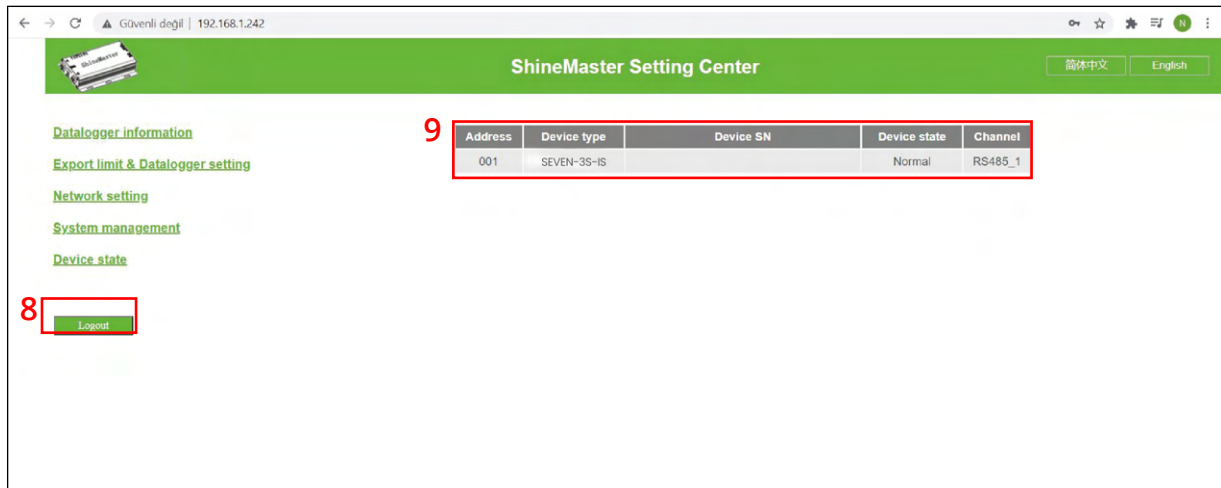


Figure 5: Sensor Connection State

5. ShineServer Interface

To access the Growatt ShineServer monitoring system enter the server address on the browser of your PC. (server.growatt.com)

Step 10 : Enter the Username and Password then click on "**Sign In**" button.

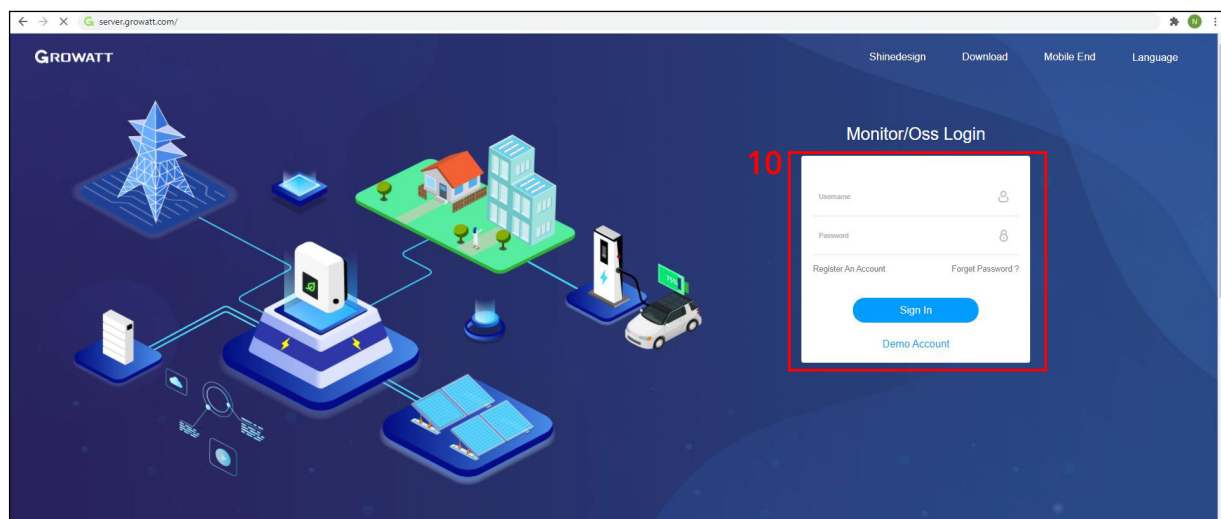


Figure 6: ShineServer Monitoring System

Step 11 : In the "**Dashboard**" screen, choose your PV plant then go to "**All Devices**" in "**My Photovoltaic Devices**" section as shown in Figure 7.

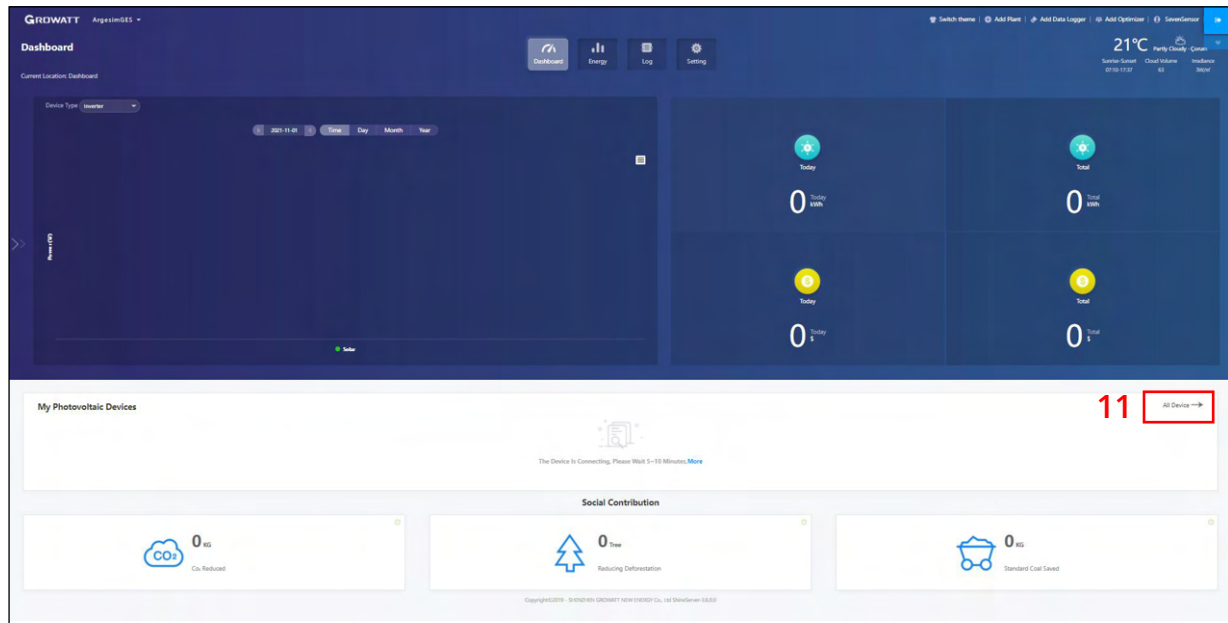


Figure 7: ShineServer Dashboard

Step 12 and 13 : Click on "**Data Logger**". Then click on "**Add**" to add the ShineMaster datalogger to the ShineServer.

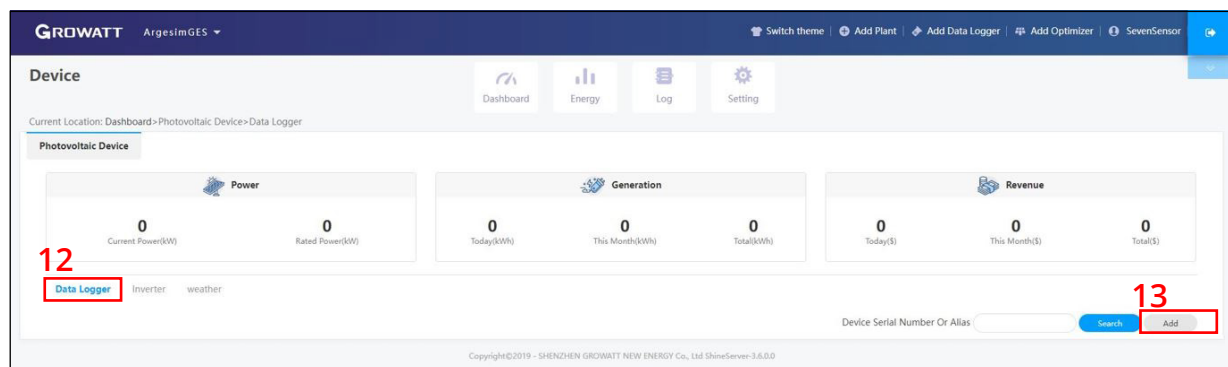


Figure 8: ShineServer Device Screen

TECHNICAL DOCUMENT - GROWATT SHINEMASTER CONNECTION & SETTINGS

Step 14 and 15 : On the page that opens, write the serial number of the datalogger in the **"Datalogger Sn"** section and the check code written on the back surface of the datalogger in the **"Check Code"** section. Finally, select your PV Plant from **"Assigned Plant"** drop-down list then click on **"Yes"** button.

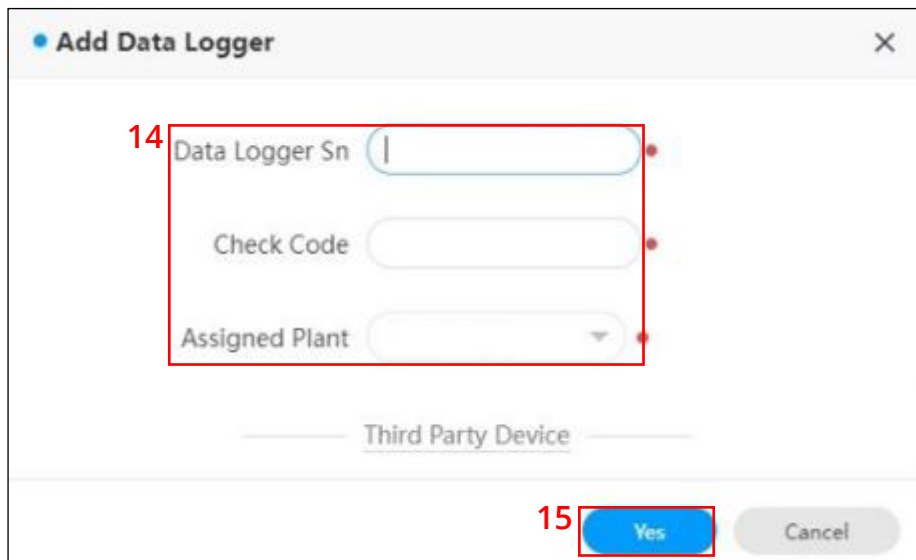


Figure 9: Adding ShineMaster Datalogger Information

Step 16 and 17 : After adding the device, device information will appear in **"Data Logger"** menu as shown in Figure 10.

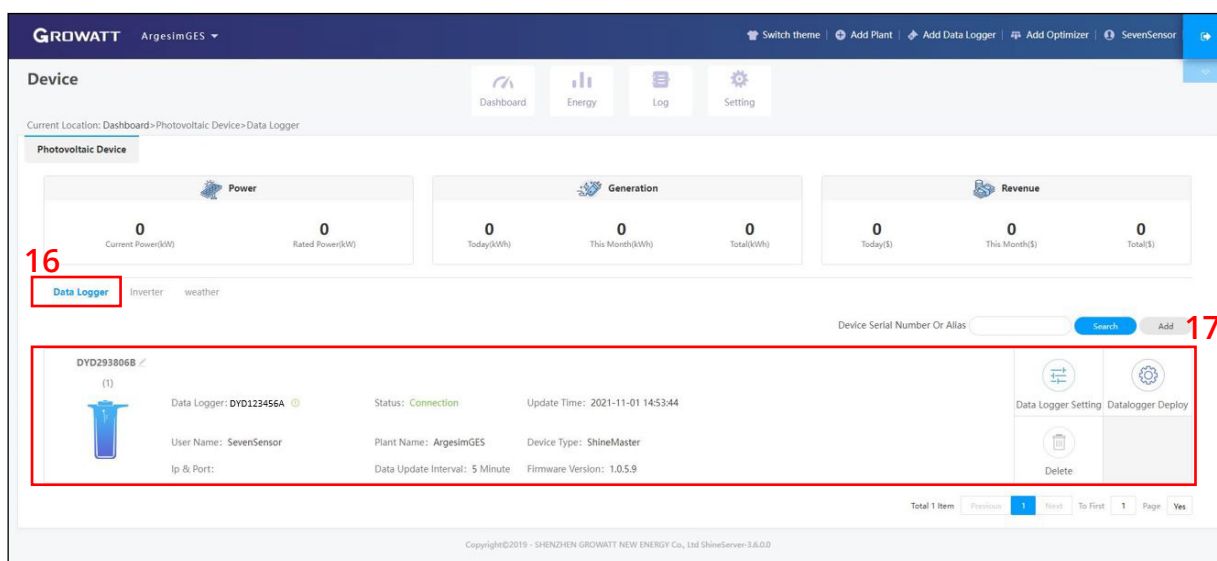


Figure 10: Added Datalogger Devices

TECHNICAL DOCUMENT - GROWATT SHINEMASTER CONNECTION & SETTINGS

Step 18 and 19 : In "**Weather**" menu all meteorological data will appear as shown in Figure 11.

Step 20 : Click on "**History Data**" to view the history of meteorological data as shown in Figure 11. You can watch the old data of sensors as shown in Figure 12.

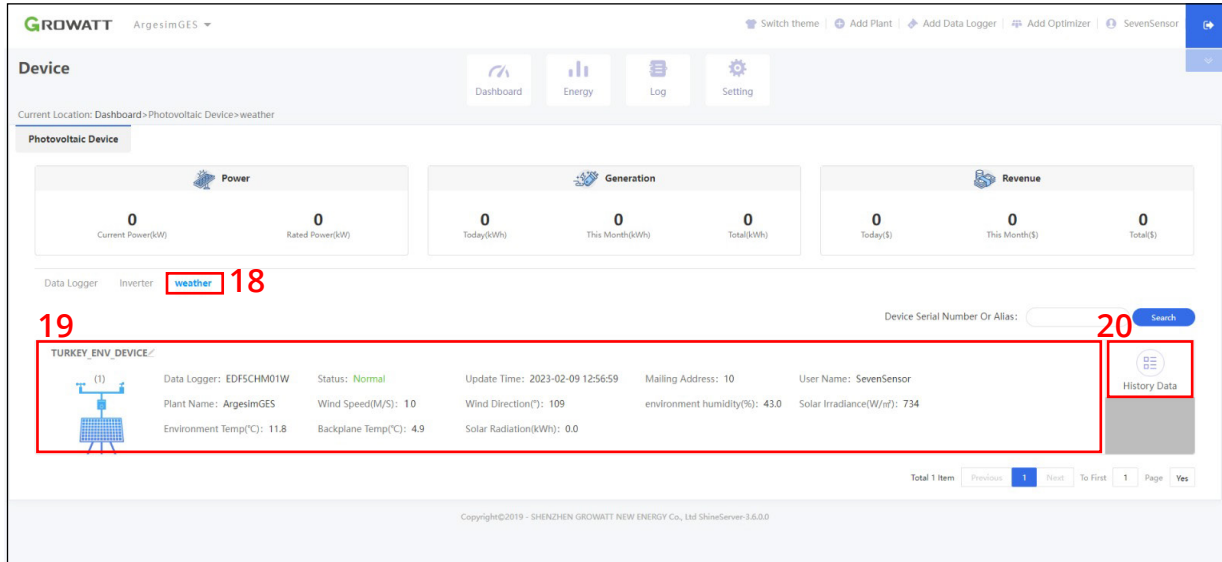


Figure 11: Added Weather Station

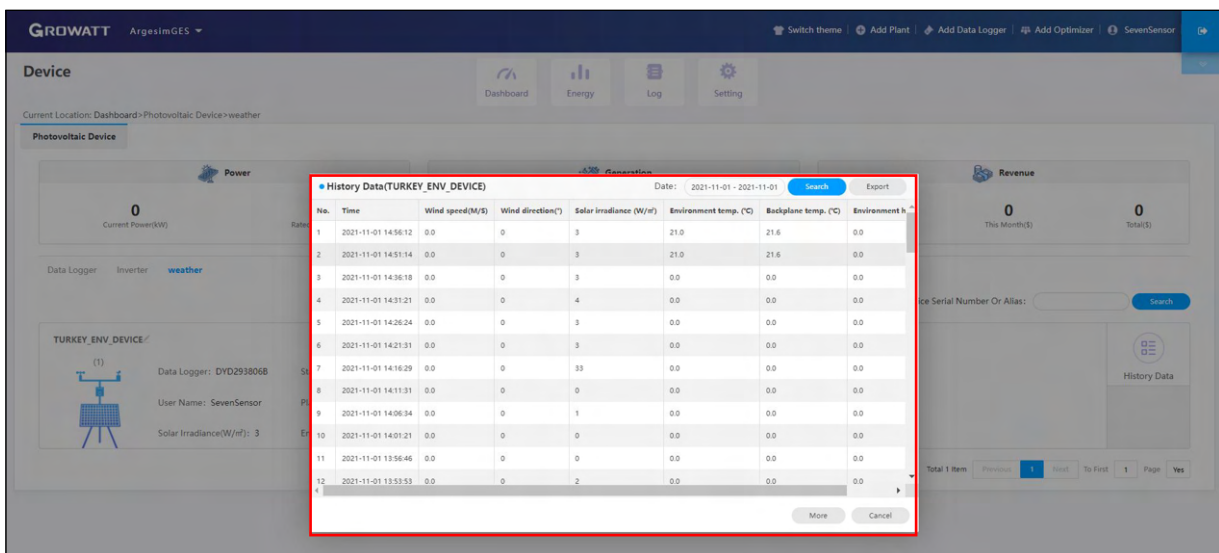


Figure 12: Weather Station History Data

After completing all the steps, you can monitor the data provided by SEVEN Sensor in the monitoring system.

TECHNICAL DOCUMENT - GROWATT SHINEMASTER CONNECTION & SETTINGS

Contact Informations:

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

Can GÜNDÜZ

Cep: +90 530 425 33 19

E-mail: teknik@sevensensor.com