

Connection & Setting Instructions for SEVEN Sensors to Goodwe Ezlogger Pro



1. Introduction

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

The following meteorological data can be provided by SEVEN Sensor Box. The communication is provided via RS85 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 (°)

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.

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

White and brown wires power up the sensor box as shown in Table 1.

Table 1: Communication and Power Cable Color Coding

A cable with magnetic field protection must 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.

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

SEVEN has the right to make modifications on this documentation without notice.







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 orientations module number to the configuration tool to monitor the total effective irradiance and total effective module temperature before configurating in Goodwe Monitoring System.



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.

Status Connection Fails SN Software Version Image: Software Version Set Time Set Time Set Time Set Time P 192 168 1 200 Subnet Mask 255 255 0 Connect Const Connect Cond Configuration COM 2 only for Amount Codd 2 only for Amount DNS 192 168 1 253 Set Codd 3 Device Amount Other Setting DNS 192 168 1 253 Set Other Setting Enable Only for Germany Ordine/Offline Amount Set Get Data Only for Germany Orline/Offline Amount Refresh		EzLogger Pro Info		Inverter List
LAN Configuration DHCP Enable P 192 1.68 1 200 Subnet Mask 255 255 0 Context 0 Gateway 192 168 1 253 Context 0 Gateway 192 168 1 253 Context 0 COM2 oncount 0 DNS 192 168 1 253 Set 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9	Status Connection Fails SN	Software Version Set Time	No. InverterSN Status
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Online/Offline Amount.		DRED R ARCE Seturg DRED Enable Only for Australia and New Zealand Total Capacity KW Power Limit KW Set Ratio of CT Set Get Data	Cot secting	
Online/Offline Amount Refresh	4			
Refresh	_Æ			Online/Offline Amount

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"** data will appear automatically as shown in Figure 3.

ProMate V1.0.8		
EzLogger Pro	ExLogger Pro Info SN 25000REW178R000 Software Version V1.03 Status Connection Succeeds SN 25000REW178R000 Software Version V1.03	Inverter List No. InverterSN Status
Power Setting Environment Setting	LAN Configuration DHCP Enable COM Configuration IP 192 .168 .1 .200 Scan COM1 Device Amount Subnet Mask .255 .255 .0 Command COM2 Device Amount	
	Gateway 192 168 1 254 DNS 208 67 222 222 DRED & ARCE Setting RCR Setting RCR Setting	
J.S.	Export Enable Only for Australia and New Zealand Total Capacity kW Power Limit Ratio of CT Set Get Data	
T		Online/Offline Amount
61/	Log Info Clear Log	Refresh
中文 English	Time Message	

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 adresses and select the resolution of the selected data.

Step 6 : Click on "Set" button.

ProMate V1.0.8	Ext.ogger Pro Info Inverter List	
GPRS Setting	Status Connection Succeeds SN 25000REW178R000 Software Version V1.03 No. InverterSN Set Time	Status
Power Setting	Parameter Set Environment monitoring RTU 1 Mode Chosen: Centralize 4 Number of environment register 5 Read Function 4	
	Enable Address Resolution Enable Address Resolution 5 Wind Speed: \overline{33} 0.1 \overline{33} \overline{33} 0.1 \overline{33} \overline{33} (III) \overline{33} (III) \overline{33} (III) (III)	
	Real Time Data Mind Speed: m/s Assembly °C Wind Direction: ° Radiation: W/m2 Environment °C Daly accumulated MJ/m2 radiation: Online/Offline Amount Refresh	
中文 English	Log Info Gear Log Time Message 17:01:25 Get environmental monitoring's setting parameter Successfully! 17:01:44 Set Environmental monitoring parameter Successfully!	

Figure 4: Seven Sensor Box Configuration Settings

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

zLogger Pro		
2000 0	Status connection succeeds SN 23000REW 1/8R000 Software version V1.03	No. InverterSN Statu
arks setting	Set 1	Time
ower Setting	Parameter Set	
	Environment monitoring RTI 1 Mode Chosen: Centralize	
nvironment Setting	Number of environment register 5 Read Function 4	
St. M.		
1 American	Enable Address Resolution Enable Address Resolution	
	Wind Speed: 53 0.1 m/s Assentity 21 0.1	
	Wind Direction: 52 0.1 • Radiation: 12 0.1 •	W/m2
	Environment 🗹 29 0.1 💌 °C Daily accumulated 🗌 👘	M3/m2
	RTU's Address Range: 1~255 Read Set Cancel	
	Environment Parameter Address Range:0~65535	
	Note:Our compatibility agreement type is Modbus_RTU.	
At-	Real Time Data	
TT /	Wind Speed: 0.0 m/s Assembly 0.0 °C Wind Direction: 0	•
	Radiation: 23 W/m2 Environment 0.0 °C Daily accumulated 0.002 !	MJ/m2 Online/Offline Amount
11/	temperature: radiation: Read	d 7 Refresh
11-16-1		
	Log Info Clear Log	
	Time Message	
	17:01:25 Get environmental monitoring's setting parameter Successfully!	
	17:01:44 Set Environmental monitoring parameter Successfully!	

Figure 5: Seven Sensor Box Data

*The Modbus Map can be different as per the software version of the sensor.



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.

EzLogger Pro	ExLogger Pro Info ExLogger Pro Info For firmware update, please do the settings in Prome	ate after SEC firmware is updated. Thank you!	No InvestorShi Status
GPRS Setting	Status Connection Fails SN	Software Version	No. Invertersiv Status
Power Setting	LAN Configuration	COM Configuration	
Environment Setting	IP 192 . 168 . 1 . 200 Scan	COM1 Device Amount	
Environment octany	Subnet Mask 255 . 255 . 0 Connect	COM2 Device Amount	
	Gateway 192 . 168 . 1 . 254	Comp Device Amount	
	DRED & ARCH Setting	RCR Setting	
	Total Capacity kW Power Limit kW Set	Enable Only to demany	
	Ratio of CT Set Get Data		
			Online/Offline Amount
			Refresh
	Los Info		
	16:07:55 Get real time environmental monitoring parameter Successful	ully!	
	16:07:56 Get real time environmental monitoring parameter Successful 16:09:34 Open DHCP Successfully!	ily!	E

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

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

Plants 13	Location : Q Global		$\mathbb{Q}_{\mathbf{k}}$ Please enter plant / SN / en	nail Search	Create
Devices	Plant Name	Classification	Capacity	Creation Date	Operation
Operation Records	Argesim_GES	Commercial rooftop	128 kW	25.07.2019	Device Management

Figure 9: SEMS Portal Device Management

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

	Reports management			(A) Log out	ද်္လြှဲ Settings	¢
Argesim_GES Çorum Organize Sanayi 18. Cd.,	9040 Pınarçay Osb/Çorum Merkez/Çorun), Turkey	Detect other devices	To add	5	
Converter Micro Inverter	Data Logger					
Converter Modification Histo	У					
situation name	SN Model	Capacity Created date	Data Logger Operation			

Figure 10: SEMS Portal Device Management

Step 16 :

- 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 "D	etect other devices'	' to add SEVEN Sensor	r Box which is connec	ted to the EzLogger Pro.
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Plants Repor	ts Managemen	ıt						
	Argesim_G Çorum Organize	ES Sanayi 18. Cd., 19040 Pınaı	rçay Osb/Çorum Merkez/Çorum, Turk	ey.			18	t other devices Add
I	Inverter Rep	placement History						
	Status	Name	SN	Model	Capacity	Creation Date	Data Logger	Operation
				No	o Data			
							Previous 1 Ne	it Jump to 1 Page Submit
I	Data Logger Re	placement History						
	Status	Name	SN			Model	Creation Date	Operation
	Offline	SEVEN	25000REW	178R0008		EzLogger Pro	27.11.2021	Modify Replace Delete

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.

GOODWE	Plants Reports	Management	(A) Logout	දිලි} Settings 🚊
	Argesim_GES Çorum Organize Sanayi 18. Cd., 190	40 Pinarçay Osb/Çorum Merkez/Çorum, Turkey Detect other devic	as Add	
	Inverter Replacement History	New Devices		
	Status Name	Discoverable equipment types: Inverter, EMI		
	Data Logger Replacement History	Inverter No new devices were found when scanning. If the device is installed, please check that it is working properly. Next Jump to	1 Page Submit	
	Status Name	Cancel Add 19 Date Operation		er
	Offline SEVEN	25000REW178R0008 ExLogger Pro 01.12.2022 Modify R	place Delete	





After completing all the settings, the 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	
53	0x35	Wind Speed, 06000, 1/100 m/s	US
12	0x0C	Temperature Compensated Irradiance Value, 01600 in 0.1 W/m ²	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, 0100 [%] in 1%	US
52	0x34	Wind Direction, 0359 in 1°	US

Table 2: Modbus Map*

*This Modbus Map is valid for Software 8 and newer versions.

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

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