

USER MANUAL  
**WP-Suntrack 50**  
MPPT Solar Charge Controller



## User Manual

Dear customer,

This manual contains all relevant information necessary to install, use and maintain the *WhisperPower Suntrack MPPT 12V-48V / 50A Solar Charger*. Read this manual carefully before installing and using the product. In this manual, our Lithium batteries as described above, will be referred to as: WP-Suntrack 50 MPPT Solar Charge Controller.

This manual is meant for the installer and the user of the WP-Suntrack 50 MPPT Solar Charge Controller. Please consult the index at the start of this manual to read information relevant to you.

This is the original manual, keep it at a safe location!

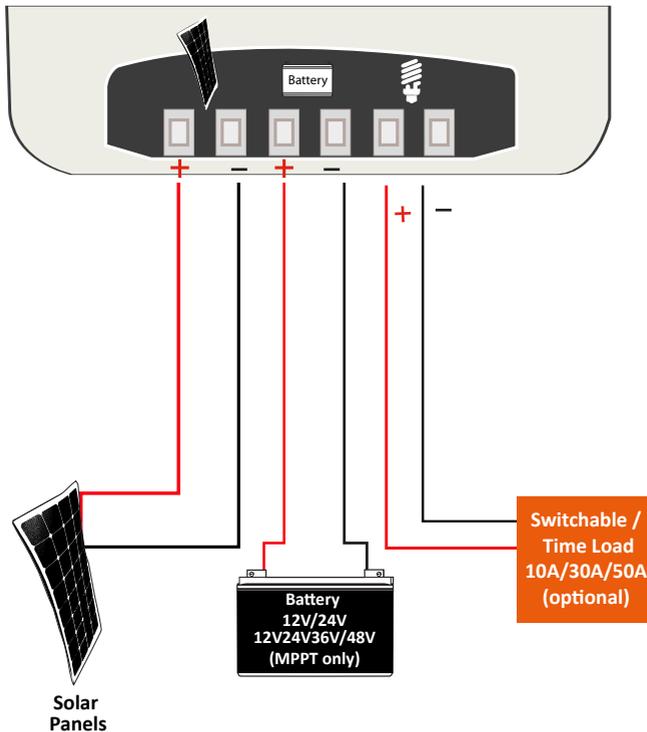
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## 1. Basic Installation

Wire the solar panels cable into the connector on the regulator; please make sure the solar panel input voltage DO NOT exceeds the max limit of the regulator. Wire up the battery's positive and negative terminals to the correct connector on the regulator (marked by the battery image). The regulator shall automatically detect which voltage scale it is connected to and charge. The switchable output, marked as a bulb, is optional. This output is designed to run a modest load(s), such as lights. Read the manual for the full workings of the load connector as you can adjust timings as to when it switches on and off - ideal for something like security lighting.

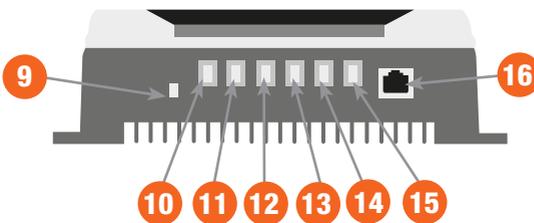
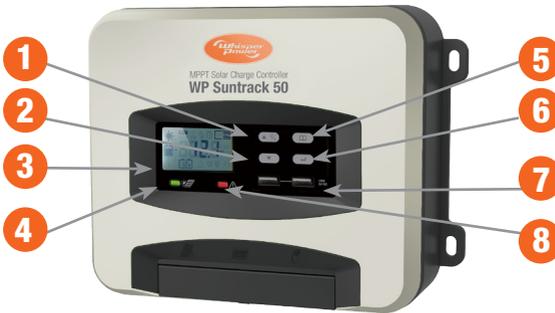


## 2. Product Specifications

	WP-Suntrack 50
Article Nr.	60111436
<b>PV INPUT</b>	
PV max open circuit voltage (VDC)	135 V
MPPT voltage	16-108 V
Max PV input power	12V Battery 700W; 24 -48V Battery 1400W;
Max MPPT current	(12/24 V) / 50 A; 36V / 35 A;48 V / 25 A
<b>DC OUTPUT</b>	
Battery voltage	12 V / 24 V / 36 V / 48 V
Battery capacity	≥50Ah
Output current	50A Max
Constant voltage charging voltage	STD:14.4 V/28.8 V/43.2 V/5 7.6 V - LI:14.5V - AGM:14.6V/29.2V/43.8V/ 58.4V
<b>LOAD OUTPUT</b>	
Output voltage	12V/24V/36V/48V
Output current	50A
Output protection current	55A
<b>USB OUTPUT</b>	
Output voltage	5V
Max output current	3.4A Max
Standby current	Battery input 12V
Solar charger	<60 mA
Solar charger + Wifi module	<160 mA
<b>PROTECTIVE FUNCTION</b>	
PV/Battery input high/low voltage protection	Yes
PV/Battery reverse connection protection	Yes
Load overcurrent/short circuit protection	Yes
Temp protection	Yes (90 <sup>o</sup> C)
Operation Temperature	-10— +40
<b>DIMENSIONS</b>	
Height (mm)	238 mm
Width (mm)	177 mm
Depth (mm)	73 mm
Weight	2.3 kg

### 3. Front Panel Key

1. Up for toggling through the menus
2. Down for toggling through the menus
3. LCD screen
4. Green LED light (off when not charging, flashing during charging, stay on when fully charged)
5. Red LED light (off when no error, on when error/alarms)
6. USB output 2 x 2.4 A
7. Enter/OK button
8. Menu



9. Temperature Sensor connecting point
10. PV+
11. PV-
12. Battery +
13. Battery -
14. Load +
15. Load -
16. RJ45 port. Connected to remote control board through the network cable  
(This port is reserved. Do not use)

## 4. Description of LCD screen



- A. Sun icon, displayed when solar panel is connected.
- B. Sunlight icon, 8 in total, display according to the charging current
- C. MPPT/PWM indication.
- D. WIFI icon; turn on WIFI through button settings, read product data and control load output through APP.
- E. Remote control icon; displayed when the remote control is connected (remote control optional).
- F. Settings icon; turn on when entering the setting parameters, and turn off when exit.
- G. WIFI icon; WIFI ON/OFF optional, default ON.
- H. Battery level icon; display the corresponding icon according to the battery voltage.
- I. Load icon; turn on when the load is turned on, synchronized with the load switch ON.
- J. Connections: Three segments. Top corresponding to PV, middle corresponding to battery, down corresponding to load.
- K. Currently identified battery type (12/24/36/48V).
- L. Protection icon. When this icon appears, it indicates that the machine has some protection, such as load overcurrent, short circuit protection, under-voltage protection, etc. (Refer to the fault code).
- M. Load timing clock 2.
- N. Load timing clock 1.
- O. Daytime and Night Icons. When PV > 12V it show half sun icon. When PV < 12V it show half moon icon.
- P. Numerical Display (8888 characters). Can be switched by the mode button to display Battery Voltage/Load Voltage/PV voltage/time

### 4.1. Menu Setting



**Menu**

**Enter**

Press the MENU button once,

and press again to hold the Menu button for 2 seconds to enter the setting interface.

Press the Menu button again to toggle the mode selection.

Press the Enter button to confirm the setting.



**Battery Type Selection:** There are 3 battery types to select from.

S = Standard lead Acid. L = Lithium. A = AGM battery. Use MENU button to toggle and use the ENTER button to confirm

**Wifi On/Off:** Default setting is Wifi On. Please use the MENU button to toggle and press ENTER to confirm

**Low voltage protection cut off:** When your battery goes down to this voltage level, the output load will be cut off. Use the UP/DOWN button to toggle through the voltages and press ENTER to confirm. Default at 10.0V

**Low Voltage recovery re-engage:** When your battery voltage charged up to this level, the output load will be re-activate. Default at 12.5V

**Time setting:** This is the time setting in 24 hour format Use UP/DOWN button to set and press ENTER to confirm.

**Factory Reset:**

- 1) Remove the battery positive cable that connects the regulator to the battery. Screen should be turned off
- 2) Press and hold the MENU button whilst reconnecting the positive battery cable, the screen shall be lighted up.
- 3) Then, you will see from the display "FFFF"
- 4) Now, all settings should be restored to default

## 4.2. Load Timing Setting

### ► Lo Mode: Load On/Off based on the PV input voltage (Day and Night)



When the PV input voltage drops below 10V (during the night time/bad weather) you can set the regulator to activate the load output automatically. Set the Off/On bar to ON by using the UP/DOWN and ENTER button



Clock 1 symbol on. The default is 60 minutes. This means when the PV input voltage drops below 10V, after 60 minutes and load output will be activated. Clock 1 is a power on timer, ranged from 0 – 120 minutes. Press ENTER to confirm



Next screen you will see the Clock 2 symbol on. The default is 30 minutes. When the PV input voltage rise up to 12.5V (Morning time), after 30 minutes the output load will be cut off. It is a power off timer, ranged from 0-120 minutes

### ► Ld Mode: Load On/Off based on a set length of time



It can allow you to set the load output to be activate for a set length of time



Clock 1 symbol on. The default is 3 hours. When the PV input voltage drops to 10V, the output load will be activate for 3 hours, ranged from 0 – 12 hours



Clock 2 symbol on. The timer will begin after the Clock 1 counting finished. In this case, after the PV input voltage drop to 10V (night time), the output load will power on for 3 hours, and then switch off for 4 hours, then it will on again until the PV input voltage rise to 12.5V, the load will be cut off.

### ► To mode: Load On/Off based on the real time



It can allow you to set the load on/off based on the real time



Clock 1 symbol on. It is a power on timer, the output load will be activated at 18:00. Press ENTER to confirm. It is a 24 hour format.



Clock 2 symbol on. It is a power off timer, the output load will cut off at 6:00. Press ENTER to confirm. It is a 24 hour format.

## 5. Fault Codes

- E1 Battery reverse connection / reverse polarity (please correct).
- E2 Battery open circuit protection / low DC voltage (battery not connected / or battery voltage too low..
- E3 Battery over current protection (circuit has constant current function; the machine may be damaged if there is a problem).
- E4 Load over current / short circuit protection (error 10S, turn on the load after eliminating the error).
- E5 Battery over voltage (battery damaged or battery voltage too high).
- E6 PV (solar) input over voltage protection. (PV voltage exceed the limit)
- E7 Over temperature protection, automatically stop charging when heat sink temperature  $\geq 90^{\circ}\text{C}$ ; resume when temperature  $\leq 60^{\circ}\text{C}$ .
- E8 PV reverse connection (please check voltage and fix) - please ensure polarity is correct.

**Remark: Please eliminate the fault according to the error code. If the regulator does not respond after the error is eliminated remove the power source (battery). If the error still persists the device may be damaged and may need after sales service.**

## 6. Temperature Compensation/Temp sensor (Only for AGM/Lead Acid battery)

1. The system will automatically adjust the float voltage according to the ambient temperature. If the external temperature probe is not connected (or the external temperature is  $<40^{\circ}\text{C}$ ), use (temperature  $\geq 20^{\circ}\text{C} - 5^{\circ}\text{C}$ ) by default.
2. The voltage may vary when the input energy is insufficient to stabilize the energy required for the float charging.
  - i. For 12/24/36/48V batteries, when the external probe temperature  $\leq 0^{\circ}\text{C}$ , the float charging voltage is 14.1/28.2V/42.3V/56.4V
  - ii. For 12/24/36/48V batteries, when the external probe temperature is  $0^{\circ}\text{C}\sim 20^{\circ}\text{C}$ , the float charging voltage is 13.8/27.6V/41.4V/55.2V
  - iii. For 12/24/36/48V batteries, when the external probe temperature  $\geq 20^{\circ}\text{C}$ , the float charging voltage is 13.5/27V/40.5V/54V.

**Remark: If internal head sink temperature exceeds 80 Deg C, the device shall go into approximately half power mode. Shall resume normal operation when internal head sink drops below 75 Deg C. If internal head sink exceeds 90 Deg C, the device shall turn off. Shall resume charging again when temperature drops below 60 Deg C.**

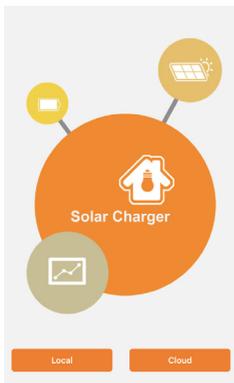
## 7. Wifi & APP

### Connect via Cloud (with internet)

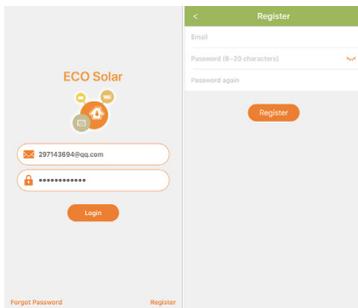
1) Download the APP by searching ECO SOLAR in Google play/IOS APP store.



2) Open the APP, and select Cloud and turn on the Wifi function on your regulator.



3) Register your account, and then login (Email, password)



4) Turn on Bluetooth of your smart device.

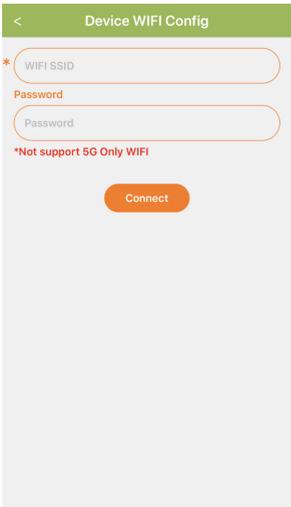
5) Bind device

you can click the box on the right corner to scan the QR code, or input the regulator ID directly.



6) Click "Device Wifi Config"

input your Wifi SSID and password, and then the regulator can be connected to the internet.

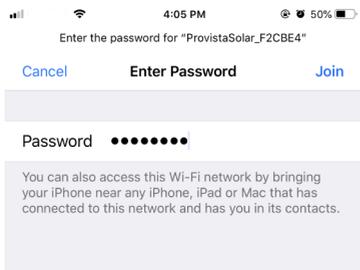


## 8. Connect via Local (without internet)

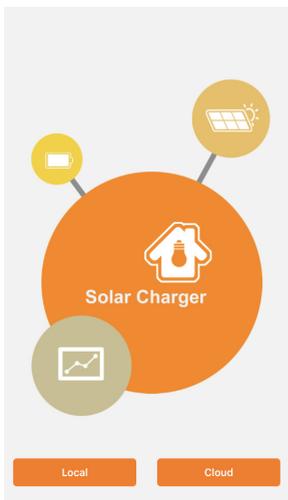
1. Search the name of the Wifi device



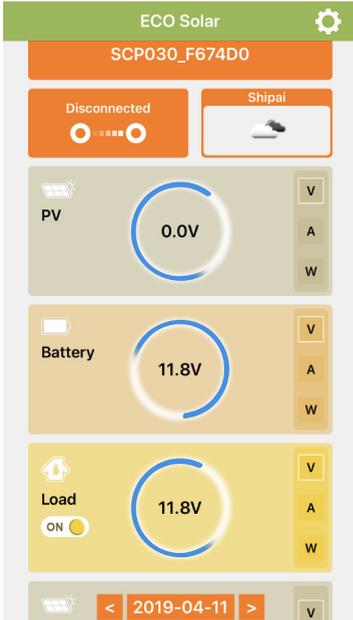
2. Connect it and enter the password the default password is 12345678



3. Select "LOCAL" from the home screen



4. You shall now get the data from the device



**Remark: If you cannot connect your smart device to the regulator please discount your 3G/4G data internet connection and try again.**

**First time to connect internet,due to permissions, IOS only supports manual input of WiFi name, and does not support selection of WiFi**

## 9. Customer Service & Warranty

**Your 100 % satisfaction is our goal.** We realise that every customer and circumstance is unique. If you have a problem, question, or comment please do not hesitate to contact us.

### **Product Warranty:**

Each product manufactured by WhisperPower comes with at least a 2 year limited factory warranty. Each product is guaranteed against defects in material or workmanship from the date of purchase. At our discretion, we will repair or replace free of charge any defects in material or workmanship that fall within the warranty period of the WhisperPower product. The following conditions do apply:

- **The original receipt or proof of purchase must be submitted to claim warranty. If proof cannot be located a warranty is calculated from the date of manufacture.**
- **Our warranty covers manufacture and material defects. Damages caused by abuse, neglect, accident, alterations and improper use are not covered under our warranty.**
- **Warranty is null and void if damage occurs due to negligent repairs.**
- **Customer is responsible for inbound shipping costs of the product to WhisperPower either in the USA or England.**

If your order was damaged in transit or arrives with an error, please contact us ASAP so we may take care of the matter promptly and at no expense to you. This only applies for shipping which was undertaken by our company and does not apply for shipping organised by yourself. Please do not throw out any shipping or packaging materials.

All returns for any reason will require a proof of purchase with the purchase date. The proof of purchase must be sent with the returned shipment. If you have no proof of purchase call the vendor who supplied you and acquire the appropriate documentation.

Please review the documentation included with your purchase. Our warranty only covers orders purchased from WhisperPower. We cannot accept warranty claims from any other WhisperPower distributor. Purchase or other acceptance of the product shall be on the condition and agreement that WhisperPower shall not be liable for incidental or consequential damages of any kind. Some states may not allow the exclusion or limitation of consequential damages, so, the above limitations may not apply to you. Additionally, WhisperPower neither assumes nor authorizes any person for any obligation or liability in connection with the sale of this product. This warranty is made in lieu of all other obligations or liabilities. This warranty provides you specific legal rights and you may also have other rights, which vary from state to state. This warranty is in lieu of all other, expressed or implied.



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