

Wind & Solar Hybrid Street Lamp Controller

USER MANUAL

1/ Futures

- 1.1 Batteries overcharge and over-discharge protection.
- 1.2 Protect batteries charge to solar panel at night.
- 1.3 Protect electric shock

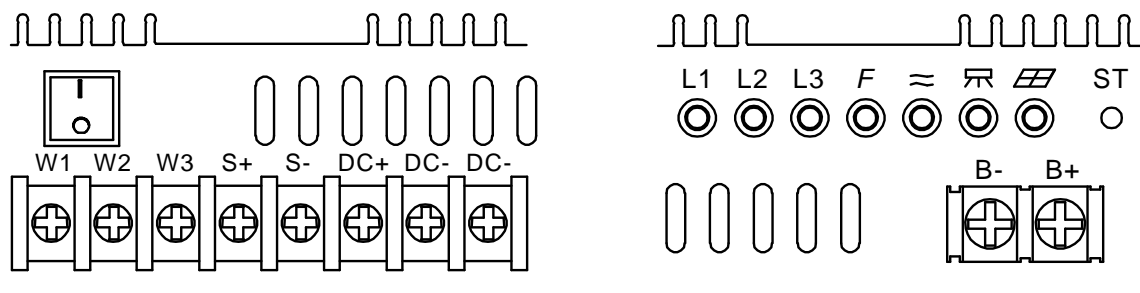
2/ Technical specifications.

Rated Voltage (V)	12V	24V
Wind Turbine Rated Power (W)	200 W	300 W
Solar Panel Rated Power (W)	200 W	300 W
Battery over discharge protection voltage	10.5 V	21 V
Battery over discharge recovery voltage	11.5 V	23 V
Final charge voltage (V)	14.1 V	28.2 V
Floating voltage (V)	13 V	26 V
Recover time of braking	30 minutes	
Allowable ambient temperature(°C)	- 10 +40 °C	
Dimension (mm)	208 x 140 x 74	
Weight (Kg)	1.6 Kg	

Wind Speed		3m/s	5m/s	7m/s	10m/s	12m/s	15m/s	18m/s	20m/s
12V	RPM (r/min)	610	820	860	1030	1130	1250	1350	Brake
	Output Voltage	12.3V	12.4V	12.5V	12.6V	12.8V	13.2V	13.5V	
	Charge Current	0.8A	5A	7A	12A	17A	23A	25A	
	Output Power	10W	62W	88W	151W	218W	304W	337W	
24V	RPM (r/min)	700	810	880	1030	1200	1300	1400	Brake
	Output Voltage	24.8V	25V	25.1V	25.5V	26.2V	26.5V	27V	
	Charge Current	0.4A	3A	4A	7.5A	10A	14A	16A	
	Output Power	10W	75W	100W	191W	262W	371W	432W	

3/ Installing steps

3.1 Panels:



3.1.1 Terminals in accordance with the label:

W1、W2、W3 : Input terminals of wind turbine generator (Regardless of sequence)

S + : Solar Panel Positive

S - : Solar Panel Negative

B + : Batteries Positive

B - : Batteries Negative

DC + : Street Lamp Positive

DC -(1) : Street Lamp Negative

DC -(2) : Street Lamp Negative

CAUTION: DO NOT CONNECT B+ TO BATTERY NEGATIVE AND B- TO BATTERY POSITIVE FOR EVEN A SECOND, OR ELSE WILL DAMAGE THE CONTROLLER AND VOID YOUR WARRANTY.

3.2 Installing steps

3.2.1 Controller based on its protection level, housed in indoor and outdoor drying, ventilation, the controller may not be around the inflammable and explosive materials.

3.2.2 Controller should be mounted vertically, hanging solid.

3.2.3 Before wiring, to put the first wind turbine brakes manually switch to the "I" position, when wiring to prevent electric shock accidents caused by running generators.

3.2.4 Check the wiring correct, then put the wind turbine brakes manually switch to the "O" position.

CAUTION: WHEN THE WIND TURBINE IS WORKING, NEVER DISCONNECT THE BATTERY FOR EVEN A SECOND, OR ELSE WILL DAMAGE THE CONTROLLER AND VOID YOUR WARRANTY.

Warning: Installation, disassembly, repair equipment, wind turbine will be sure to manually switch the brake to the " | " position.

Note: The battery power loss in severe cases, the system will automatically cut off the lamp output to power the next day will not resume before dark.

3.3 Running state indicator

LED Indication	State	Explanation
L1-L2-L3 (Green)	Lights	Full battery capacity
L1- L2 (Green)	Lights	Normal battery capacity
L1 (Green)	Lights	Low battery capacity
L1 (Green)	Blinks	Battery exhausted
<i>F</i> (Green)	Lights	Wind turbine is working
≈ (Red)	Lights	Wind turbine brake
☐ (Green)	Lights	PV Module is working
☐ (Green)	Lights	Street lamp working

3.4 load output mode setting

3.4.1 Setting conditions

3.4.1.1 Confirm the battery and the load the connect to the controller correctly.

3.4.1.2 Confirm the battery is fully charged.

3.4.2 Setting method

3.4.2.1 Pressing the Settings button, the corresponding indicator light will flash along, pressing a change in time, total of 8 states.

3.4.2.2 After the selected state must keep 5 seconds, the parameter automatically saved and the light stops blinking.

3.4.2.3 Setting mode (display status and the corresponding indicator function)

L1 L2 L3	Explanation
0 0 0	The street lamp always work
1 0 0	The street lamp work after dark
0 1 0	The street lamp work after dark and be closed 4h later
1 1 0	The street lamp work after dark and be closed 6h later
0 0 1	The street lamp work after dark and be closed 8h later
1 0 1	The street lamp work after dark and be closed 10h later
0 1 1	The street lamp work after dark and be closed 12h later
1 1 1	The street lamp work after dark and be closed 16h later

REMARK :

1/ "1" = Blink, "0" = OFF.

2/ " Dark " : When the Solar Panel output voltage drop to 10V, the controller will think the time is night (Dark).