

Product voltage: 12V/24V 24V/48V
20A 30A 40A 50A 60A: ah

Dear user: Thank you for choosing our product. Please read it carefully before you use this product

1、Major function

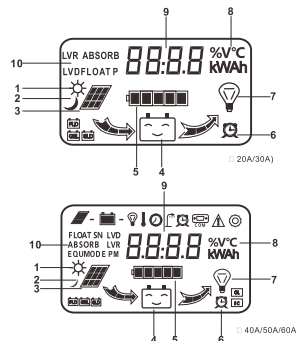
The characteristics are as follows:

- 1) voltage automatic identification system
12V/24V or 24V/48V automatic identification
- 2) humanized LCD display and double bond operation man-machine interface
- 3) full use of technical data set and modify
- 4) efficient smart PWM three charging
- 5) can choose the loading control template, in the evening time can be set on the street
- 6) reliable protection: overvoltage, short circuit, overload, overcharge, over discharge protection function
- 7) accurate temperature compensation, correct charging and discharging voltage, automatically prolong the service life of the battery
- 8) input terminal positive and negative extreme reverse connection protection
- 9) power set parameters of the controller can be reset to default.

2、Safety recommendations

- 1) the controller will check the ambient temperature to accommodate the charging voltage, so the controller should be as close as possible (in 30~100cm) battery.
- 2) 18V solar panel connect with 12V battery, 36V solar panel connect with 12V battery .
- 3) in order to make the terminal firm, using copper wire twisting body as much as possible. Loose connection to the power supply and/or corrosion of the wire.It can cause electrical connections, melting wires, insulation, burning materials around, and even causing fires
- 4)The controller is only applicable to a variety of lead-acid batteries, do not use other batteries (lithium batteries, nickel hydrogen batteries)

3、LCD features

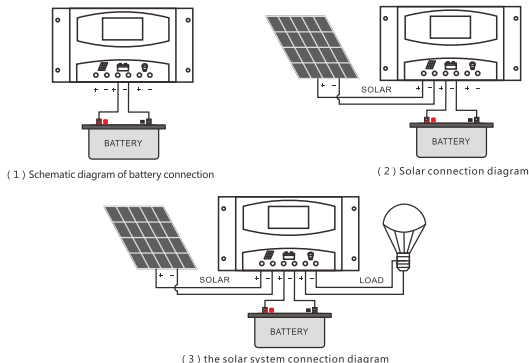


- 1) day mode
- 2) evening mode
- 3) solar panel
- 4) battery
- 5) battery power display
- 6) time setting
- 7) load
- 8) unit
- 9) digital display
- 10) setting parameter items

4、Control and connection installation instructions

- 1) the controller should be installed in a well ventilated place, avoiding direct sunlight and high temperature, should not be installed in the Water can penetrate into the controller.
- 2) select the correct screw to install the controller on the wall or other platforms, M4 or M5 screw, screw cap The diameter should be less than 10mm.
- 3) keep enough space between the wall and the controller for cooling and smooth connection
- 4) the mounting hole distance is 20-30A (178*60mm), 40A (80*185mm), 50-60A (98*178mm), the diameter of the mounting hole is 5mm.
- 5) in order to better connect, when packaging, all terminals are very tight, linked together, please first All terminals are loose

6) As shown in Figure, positive and negative first properly connected battery and controller. In order to avoid short circuit, the battery Screw onto the controller, then connect the solar panel, and then connect the load



*** warning: please according to the above (1) (2) (3) are connected in sequence, otherwise it will damage the battery and the controller of the consequences!**

* if a short-circuit occurs at the controller terminal, it will cause fire or leakage, and must Be very careful. (we strongly recommend connecting the battery side fuses to the control 1.5 times the rated current of the instrument)

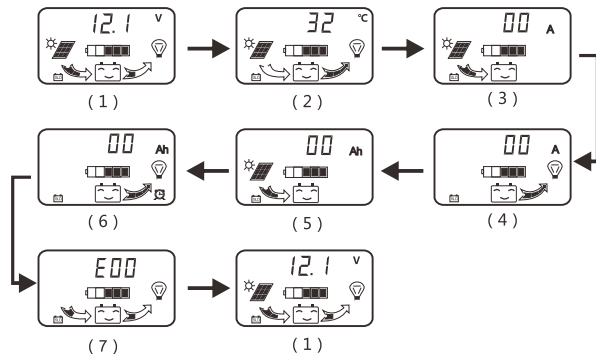


* after the proper connection is successful, the sun is bright enough and the LCD screen will show the solar panel from the sun An arrow that can hook the battery to the battery will light up

5、Operation instruction

20A/30A operation instructions

* the power on, press the "menu" button in the main interface, will turn into the next menu in the main interface short press The "function" key can turn on and off the load output. (Note: the controller that sets the parameter can be reset after power failure is the default)



1) The main interface display settings

Figure (1); this interface long press "menu" button to enter the 3S above, after the selection of three types of battery press Mode (FLD closed lead acid battery mode, SLD open lead acid battery mode, GEL colloid battery mode), The default is GEL battery mode.

2) Temperature display interface

Figure (2); the temperature of the working environment of the controller can be viewed at this interface.

3) Charging current interface

Figure (3), this interface parameter allows you to see the value of the charge current of the solar panel to the battery "The above menu" button after entering 3S, can adjust the voltage value of solar three charging modes. (FLOAT Float voltage, ABSORB charging voltage, charging voltage EQU equilibrium)

4) Load current interface

Figure (4), this interface parameter allows you to see the value of the discharge current of the battery to the load More than a single "key after entering the 3S, you can set the battery low voltage protection * (LVD) *, battery low voltage reset Voltage (LVR), *1-24 hour light control with delay setting mode (detail setting method seventh points)

(detail setting method seventh points)

5)Cumulative charge power (An)

Figure (5), this parameter is the charged AH counter, which shows the total power output of the solar panel The interface is long, press the menu key more than 5S, and the counter will be zero

6)The cumulative discharge of power (An)

Figure (6); the parameter to discharge power meter, it shows the load energy consumption, long press this interface The menu key gauge will be zero.

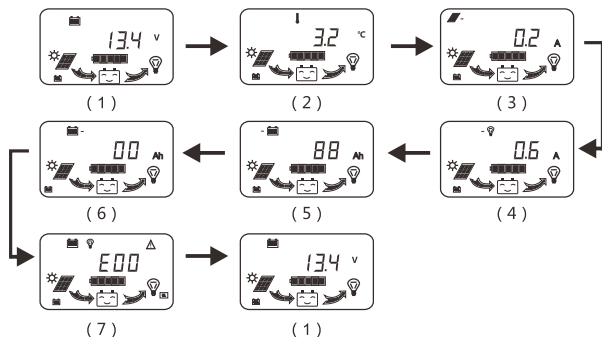
7)Warning display interface

The warning interface displayed after the protection circuit is started

40A/50A/60A operating instructions

*The controller will have 1s in power after the initialization interface, and then enter the main interface. (Note: set up parameters The controller can be reset to the default power)

* press the "menu" button in the main interface, will turn into the next menu in the main interface, short press "function" button, You can open and close the output load.



(一)The main interface display settings

1.Set the ABBORB (solar charging voltage)

Figure (1), the main interface in the long press "menu" button above 3S, enter the ABSORB setup, press "menu" When the number starts to flash, press the "function" button to set the solar charging voltage. After setting, press the button again The "menu" button can be locked out. Press the "menu" button to exit (3S exit is arranged under the same operation).

2.Set the FLOAT (solar float voltage)

Figure (2), press the "menu" key 3S above the main interface, and then click "function" after entering the ABSORB settings interface"Key, display the FLOAT settings interface, press a menu key, and when the numbers begin to flash, press the function button again Set the solar float voltage, after setting, press the "menu" button to lock.

3.Set the LVD voltage (battery low voltage protection voltage)

Figure (3), press the "menu" key 3S above the main interface, then enter the ABSORB settings interface, and press the two function" Key, display the LVD settings interface, press a menu key, and when the numbers begin to flash, press the function button. The battery low voltage protection, setup is complete, click a menu button lock.

4.Set the LVR (battery low voltage reset voltage)

Figure (4), press the "menu" key 3S above the main interface, then enter the ABSORB settings interface, and press the three function" Key, display the LVR settings interface, press a menu key, and when the numbers begin to flash, press the function button The battery low voltage reset, setup is complete, click a menu button lock.

5.Choose the battery charging mode

Figure (5), press the "menu" key 3S above the main interface, then enter the ABSORB settings interface, and press the four function" Button to display the battery mode setting interface, press the menu key, and the letters start flashing, then press "function" Button select battery mode (press function key to select three battery type mode) (FLD closed lead-acid battery mode,SLD Open type lead-acid battery mode,GEL colloid battery mode, the default is GEL), battery mode setup is complete, then Press "menu" button to lock.

6.Setting temperature trim

Figure (6), press the "menu" key 3S above the main interface, then enter the ABSORB settings interface, and press the five function" Key, display temperature adjustment setting interface, press "menu" button, letters start flashing, press "function" Key setting temperature adjustment, after setting is finished, press again "menu" key lock

7.Set light control mode

Figure (7) , press the "menu" key 3S above the main interface, then enter the ABSORB settings interface, and press the six function" Button, display light control mode settings interface, press the "menu" key, the letters begin to flash, and then press "function""Key set light control mode, *00 is pure light control mode, *01-15 is hour light control plus delay mode, and 24 is load constant Open mode. After setup is complete, click a menu button lock.

Temperature display settings

This interface can view controller working environment temperature.

Charging current interface

This interface parameter allows you to see the value of the charge current of the solar panel to the battery

Load current interface

The numerical interface parameters can view the battery discharge current to the load.

Cumulative charge power (AH)

This parameter is charging AH counter, which shows the power output of the solar plate is full

The cumulative discharge of power (AH)

This parameter is the discharge power meter, which shows the energy consumption of the load

Warning display interface

A warning interface that occurs after the boot of the protection circuit

6、defensive function

1)Low voltage reconnection voltage

When the voltage of the battery is very low , the controller will stop providing energy to the load, if the controller needs and outputs. Load reconnection, the battery voltage must be higher than the LVD voltage, or press the return key to force to leave .

When the battery voltage is higher than LVD, the user must charge the battery or press the return. key to force it out. The output will be back to work.

4)Battery low voltage protection (LVD)

When the battery voltage is lower than 11V, the battery low voltage protection will be activated at the same time,the battery output will cut off. The signs and warnings appear, please increase the charging current and charging time. When the battery voltage exceeds 12.6V, the protection function will be switched off and the output supplied for the load will be re operated. Press the return key, or forced to return to the main interface.

5)Overvoltage protection of battery voltage

When the battery voltage exceeds 15V, the overpressure protection will start.

6)Load over current protection

When the load is short or overload, the output will be off, and the load and warning sign will appear. No, the load terminal is short circuited and the energy of the load is decreased. After 30s, the controller will restart automatically or press back. Forced to return back key sub interface.

7、Light mode setting

In optical setup interface in 00h, pure light mode (daytime, night lights).

01 - 24h light control plus delay mode (automatic turn on light at night (closed during the day) and closed after set time), 24h. Load normally open mode (except under battery voltage).

The system default load normally open mode, control mode need to re set, must wait 3 minutes later set to be effective. If the reset time is longer than the actual night time, the output of the load will begin when the sun rises cut off the job.

8、Daily problems and disposal methods

Problem	Possible reason	Solution
After connecting the battery, LED does not show	Battery low battery, the battery is not connected, the connection is disconnected	Please confirm the battery voltage, re-link the controller and battery correctly
Solar direct solar panels, no solar symbols and no charge symbols	The solar panel connection circuit is open, shorted, or backlinked	Please check the operation of the battery can be connected, if it will be connected together.
The controller displays LVD	Excessive battery discharge	Please check whether the system is reasonable, and whether the power consumption is more than the amount of charge.
The controller displays over current protection	Load short circuit, high power	Please check whether the load is short, the power of the load exceeds the designed power, surging power is too high.

Contact Us

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9、Technical data

Model	20A	30A	40A	50A	60A
System voltage	12V/24V,24V/48V,(Automatically switch)				
The maximum voltage of the solar panel input	50V(12V/24V),100v(24V/48V)				
Self loss	≤13mA				
Maximum charge current	20A	30A	40A	50A	60A
Maximum discharge current	20A	30A	40A	50A	60A
LVD	10.5V(9-11V),21V(18-22V),42V(36-44V)				
LVR	12.6V(11-13.5V),25.2V(22-27V),50.4V(44-54V)				
Floating voltage	13.8V(13-15V),27.6V(26-30V),55.2V(52-60V)				
Increase the charge	14.4V/28.8V/57.6V The battery voltage is below 12V/24V/48V Start extra charge for 2 hours.				
Battery overpressure protection	15V/30V/60V				
Input reverse connection protection	Yes				
Load over current protection	Yes, every two seconds to restart				
Charging mode	PWM				
Temperature compensation	-24mv/°C,-48mv/°C,-96mv/°C, Relative to 12V/24V/48V system.				
Operating temperature	-20°C-+55°C				
Terminal scale	28-10AWG				
Waterproof level	IP32				
Product Size(mm)	20-30A(187*90*47mm)		40A(195*107*50mm)		50-60A(187*122*57mm)
Packing size(mm)	200*102*53mm		210*118*59mm		200*132*63mm
Weight	780g			850g	