



30Amp PWM Charge Controller

Introduction:-

30A series controller is a kind of intelligent, multi-purpose solar charge and discharge controller.

The family use the fixed LCD display, with a very friendly interface; various control parameters can be flexibly set, fully meet your various application requirements.

Features:-

- Simple button operation
- Intelligent PWM charge mode
- Automatic Temperature Compensation
- Settable Operating mode of Load
- Battery reverse-discharge protection
- Battery Low Voltage Disconnection (LVD)
- Accumulated function of charge and discharge Ampere hours
- Image of LCD graphic symbol
- Automatic Identification System Voltage level
- Adjustable charge-discharge control parameters
- Overload, Short Circuit Protection
- Remote monitoring and control function (custom)
- Battery reverse connection protection

Specification:-

Rated Current	30A
Rated Voltage	12V/24V
Open Circuit Voltage	$\leq 17.4V(12V) / < 34.8V(24V)$
Low Voltage Disconnection (LVD)	10.7V/21.4V
Float Voltage	13.7V/27.4V
Low Voltage Reconnection (LVR)	12.6V/25.2V
No Load Loss	$\leq 3\text{ mA}$
Load Voltage Drop	$\leq 1\text{ 70mA}$
Charging Mode	PWM
Installation Cable Area	$\geq 7\text{ #AWG } (\leq 1\text{ 6MM}^2)$
Operating Temperature	$-20\text{ }^\circ\text{C} \sim 60\text{ }^\circ\text{C}$
Storage Temperature	$-30\text{ }^\circ\text{C} \sim 70\text{ }^\circ\text{C}$
Humidity Requirements	$\leq 9\text{ 0\%}$, no condensation
Temperature Compensation	$-4\text{ mV/cell/}^\circ\text{C}$
Mounting Hole Spacing	60mm*178mm- $\Phi 5$
Size	186*90*50mm
Weight	360g



US OFFICE:

Sungen Power
111 Charlotte Place Suite 101A
Englewood Cliffs, NJ 07632
Office Tel: 201-568-1424



Installation:-



- ① Ready tools and cables. Encourage you to matching the right cables. Ensure that the current density $<4\text{mm}^2$ that is conductive to reducing the line voltage drop. Recommended: 30A with 10mm^2 cable. Check weather the installation sites compliance with the relevant safety requirements. Please avoid the damp, dusty, there is a place flammable, explosive and corrosive gases use the controller to install.
- ② Install the controller into a fixed vertical plane. See section 5 of the pore size and pore spacing. In order to ensure a good thermal control conditions, please set aside each 10cm below the controller space.
- ③ As shown on the right, connect the (1) Load, (2) Battery and (3) Solar Panel to the controller according to the order of (1) (2) (3). Pay attention to the load, battery, solar panel and controller of same polarity.
- ④ Put into the external temperature sensor on the left of the controller (probe port). The temperature sensor should be similar space with battery. (Otherwise, the controller will control the parameters of all wrong temperature compensation.)
- ⑤ If you have remote monitoring and control function, please insert one end of the included communication wire on the right of the controller (communication port), the other end to connect to the host computer.

Demolition: To prevent accidents, please order the demolition of solar panels, battery and load disconnect with controller.
 Note : Battery polarity will not damage the controller, but you will have a load equipment security risk.

Operation:-

1 Description of LCD graphic symbol

- :- Stop-powered Status for Loads
- :- Power to the load status, the load circuit without current
- :- The load circuit with current
- :- Load
- :- Solar Panel
- :- Load sensor control
- :- Stop the battery charging
- :- Bulk charging the battery
- :- Float charging the battery
- :- The system is working correctly
- :- The system is not working properly
- :- Battery charge capacity instruction
- :- Battery
- :- Load timer control

2 Description of Button Function:

- : Interface loop switch button, use the button to cycle between pages in each switch cycle sequence shown in (figure 1)
- : Adjustment of parameters plus buttons. In addition, at the state in the parameter view, long press the button more than 5 seconds, all parameter to restore factory setting.
- : Adjustment of parameters minus button. In addition, in the main interface, click this button to switch the load.

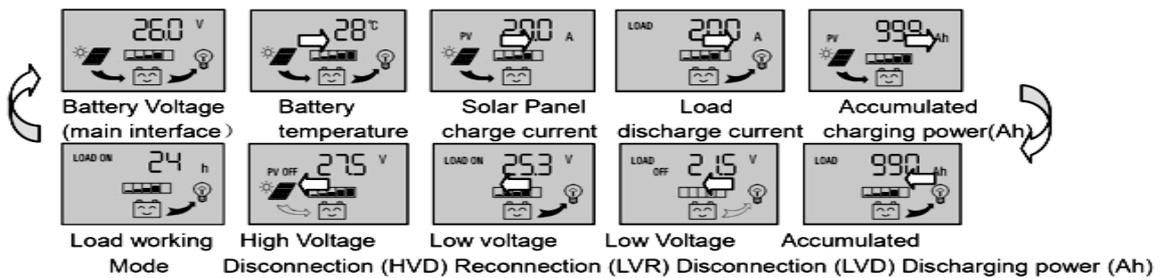


Figure 1



3 View and set the parameters:

The controller will default entry "battery voltage" interface after correct power-on. This is the main interface. Use the button could in turn visit the following parameters interface. If that interface could be set, long press the button (>5seconds, numbers start flashing) To enter the parameter setting interface; set out the parameter interface after long press the button again. (The numbers stops flashing)

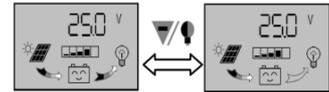
3.1 Battery Voltage of View

As shown on the right, displays the value for current battery voltage. This interface (based interface) displays charge status, discharge status, battery capacity and battery voltage.



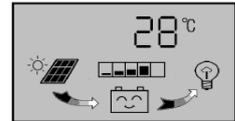
3.2 The load on/off control

View the interface in the battery voltage could be used key On, off the load In other interface, the key there is no such feature.



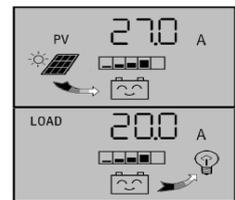
3.3 Environment Temperature of View

As shown on the right, displays the ambient temperature of the controller, the value used for temperature compensation on LVD function. The sensor must be plug in before using the controller.



3.4 Solar Panel charging current of View

As shown on the right, display the value of charging current from solar panel.

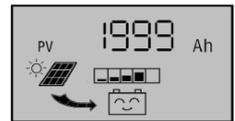


3.5 Load discharging current of View

As shown on the right, display the value of discharging current for Loads.

3.6 View the Accumulated charging power (Ah) by solar panel and back to zero

As shown on the right, display the accumulated charging power from solar panel (Total ampere hour), long press the button more than 5 seconds; the value will back to zero.



3.7 View the Accumulated discharging power (Ah) by Load and back to zero

As shown on the right, display the accumulated discharging power for loads (Total ampere hour), long press the button more than 5 seconds; the value will back to zero.



3.8 View and set the Low Voltage Disconnection Protection

As shown on the right, shows the values for the LVD protection voltage. When the battery voltage is lower than protection voltage, the controller will disconnect the load circuit to prevent battery over-discharge. Long press the button (> 5seconds) in this interface, numbers start flashing, that has entered the LVD setup interface, you can use the key to adjust the parameter. After long press the key (> 5seconds) to exit parameter setting interface, the controller will save the settings.



3.9 View and set the Low Voltage Reconnection

As shown on the right, shows the values for the LVR voltage. Under the LVD protection in the controller, when the battery voltage is restored to the higher voltage than LVR voltage, the controller will re-connect the load circuit.



Long press the button (> 5seconds) in this interface, numbers start flashing, that has entered the LVR setup interface, you can use the key to adjust the parameter. After long press the key (> 5seconds) to exit parameter setting interface, the controller will save the settings.

3.10 View and set the High Voltage Disconnection

As shown on the right, shows the values for the HVD voltage. When the battery voltage is reach to HVD voltage, the controller will cut off the charging circuit to prevent over-charging battery. Battery voltage drops under the value the charging circuit will be re-connected. Long press the button (> 5seconds) in this interface, numbers start flashing, that has entered the HVD setup interface, you can use the key to adjust the parameter. After long press the key (> 5seconds) to exit parameter setting interface, the controller will save the settings.





3.11 View and set Load Working Mode

As shown on the right is Load working mode interface, different values represent different load working patterns.

24h said Normal Mode; in case of no fault state of the load is always in power.

1h~ 23h said Light Control with Time Control Mode, Load power after dark, and close the load according to the timer setting.

0h—said Light Control Mode, Load power after dark, turn off the load after drawn.

Long press the button (> 5seconds) in this interface, numbers start flashing, that has entered the Load Working Mode setup interface, you can use the key to adjust the parameter. After long press the key (> 5seconds) to exit parameter setting interface, the controller will save the settings.



4. Common Fault and Handling

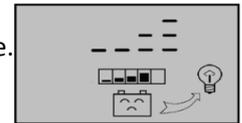
LVD Protection and Treatment:

Screen display as shown in the figure that the battery drops below the LVD protection voltage. The controller has entered the LCD protection state, load circuit has been disconnected. Use the solar panels recharge the battery or charger when the battery voltage reaches LVR voltage, the controller will resume on the load power supply, into the normal working state.



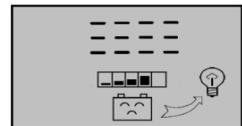
Overload Protection and Treatment:

Screen display (see the figure) and flashing expressed load loop circuit current sustained 60seconds than 1.5times rated current, the controller has entered into overload protection state. After reduce the load, press the button to restore power to the load.



Short Circuit Protection and Treatment:

Screen display (see the figure on the right) and flashing expressed there is short circuit on the load loop circuit. The controller has enter into Short Circuit Protection state. Check the load if there is damage or not, if there is cable short circuit or not, after trouble shooting short press the button for restoration.



Solar Panel Fault and Treatment:

Symbol flashing represent the controller was not detected solar panels within 24hours. Check if there is a connection from solar panel, check if there is an open circuit between solar panels with controller.

Load Shock Fault :

Open load if the flashing, that indicate the load impulse current is more than twice rated current of the controller. Controller is restarting the load in action many timers do.

Application:-

Residential and Commercial rooftops:-



Awning & Canopies:-



Solar Farming:-



Street lights:-



Car ports:-



Solar Mobile Van:-



Balconies:-



Solar Boat:-



Fences:-



Solar Kit:-

