12/24V 20A Solar Charge Controller With USB

N 2018

Manual

Overview

Featuring intelligent charge control, adjustable parameters, LCD screen and USB charging outputs this solar regulator represents outstanding value. It is suitable for permanent installations of lead acid and gel battery solar panel systems. The LCD allows for easy selection of charging parameters such as PV switch off voltage, load switch on voltage, low voltage disconnect and night mode run time. Suitable for 12V or 24V systems, the charger automatically detects the connected battery voltage.

Features

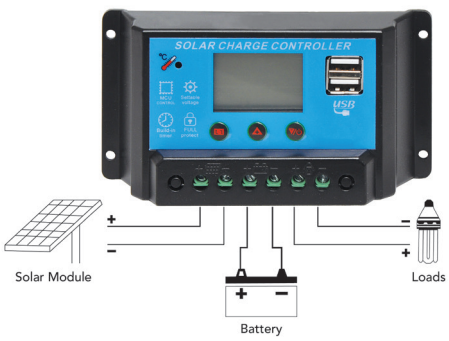
- Visual LCD graphic symbol
- Brief key operation
- Automatic identification system voltage level 12/24V d.c.
- Intelligent PWM charge mode
- Adjustable charge-discharge control parameters
- Settable operating modes of loads
- Battery over temperature protection
- Battery low voltage protection
- Battery reverses polarity protection
- Overload & short circuit protection
- With Dual USB 5V output

Specifications

Model	N 2018 (lead-acid battery)
Charge current (Max.)	20A
Discharge current (Max.)	20A
Solar Panel input voltage (Max.)	≤50V
Rated Voltage	12V/24V auto work (lead-acid battery)
Stop Charge Voltage	14.7V ; 29.4V

Low voltage recovery	12.2V ; 24.4V
Low voltage protection	10.5V ; 21.0V
USB output voltage/current	5V 2A
Characteristic	No load loss: ≤10mA; Temperature compensation: -3mV/cell/°C
Operation Temperature	-20°C ~ 60°C

Installation Instructions



As shown in the installation connection diagram, the battery, solar panel, load and controller should be connected in sequence as follows: battery first, then the solar panel or load.

Setting Instructions and Parameters Display

Parameters setting and checking button

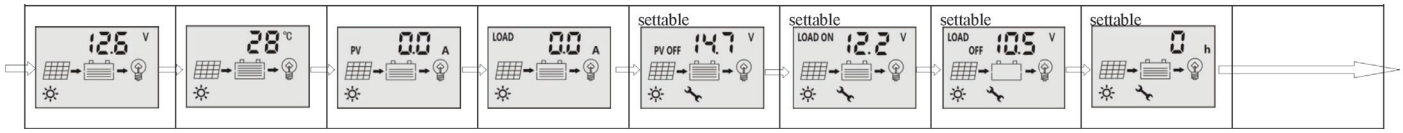
Setting Method:

At the setting interface, keep pressing the button for 5 seconds. When, the figure flickers, it means the controller has entered into the settings mode. After setting the required parameters, press the button and the controller will save the set parameters automatically.

At this interface, when there is no operation for 20 seconds, it will automatically exit the setting mode to save the parameters and return to the main interface.

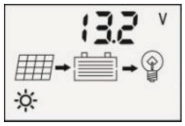
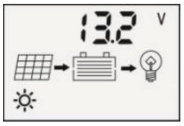
Parameters plus button Parameters minus button (load ouput switch)

Lead acid battery + current display



Battery Voltage | Ambient Temperature | Charge Current | Discharge Current | Stop charge voltage | Low voltage recovery | Load working mode | Battery Type

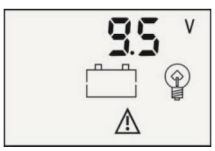
Load working mode (settable) **[0h] Manual Mode** **[1-23h] Light control delayed mode** **[24h] Light control mode**

	
As shown above, the left arrow static display means it is in direct charge; the left arrow flickers means it is in float charge. If the left arrow without display means it is no charge.	The load output switch default ON. At the battery voltage interface, you can press the button to turn on or turn off the load. After pressing the button, the load is disconnected and the load output is stopped.

Note:

When there is no sunshine, the light intensity decreases to starting point. After six minutes, the controller recognizes the start / open signal. The load will start to work according to the parameter settings. When there is enough sunshine, the light intensity rises above the starting point threshold, and then after six minutes, the controller recognizes the close signal. The load will then stop working.

Trouble Shooting

	Low Voltage Alarm	When the battery voltage drops below; 10.5V (12V system); 21.0V (24 system), the controller engages low voltage protection. The WARNING icon appears at the bottom of the LCD, and the BULB icon flickers. The load is disconnected in order to prevent it from over discharging. The battery needs to be properly recharged. When the battery voltage exceeds the low voltage recovery threshold; 12.2V (12V system); 24.4V (24 system) - the controller can restart.
	Short Circuit	When short circuit occurs, it shows as the right figure. The controller will not recover after trying to recover for ten times. At this time, you need to shortly press the button to turn off the load output, and then the system return to normal work.