

Instruction manual

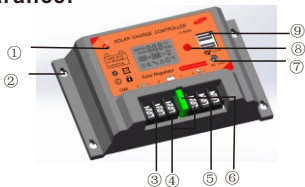
N 2019A

This series of controllers is an intelligent, multi-purpose solar charge and discharge controller, each parameter can be flexibly set to meet your different application needs.

Features:

- Display interface automatically switches.
- Can set daytime start, night off mode.
- System voltage automatic identification.
- Intelligent PWM charging method.
- Temperature compensation function.
- Light control and time control mode.
- Lead acid, lithium battery optional.
- Load output: battery voltage + DC12V + USB5V.
- Overload, short circuit protection.
- Reverse battery connection, undervoltage protection.

Appearance:



No.	Name	No.	Name
①	Temperature Sensor	⑥	Insurance seat
②	Mounting locating holes	⑦	DC12V output interface
③	Photovoltaic array interface	⑧	Switch / setting button
④	Battery interface	⑨	USB 5V output interface
⑤	Load interface		

Note: Due to the needs of the back power supply, the product will delay when it is turned on.

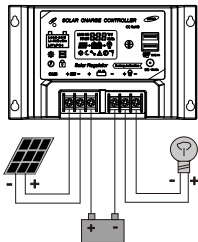
Parameter:

Model			N 2019A	
Maximum charging current			30A	
Maximum discharge current			30A	
Maximum photovoltaic panel withstand voltage	$\leq 55V$			
USB output	LOAD+DC12V/2A+USB5V/2A			
Feature	No-load loss: $\leq 10mA$; Temperature compensation: $-3mV/cell/^{\circ}C$			
Working temp	$-20^{\circ}C \sim 60^{\circ}C$			

Parameters Battery type	Nominal voltage	PV charge cut-off voltage	Battery discharge cut-off voltage	Recovery discharge voltage
Lead acid*2	12V/24V	14.5V/29V	10.5V/21V	12V/24V
Ternary lithium battery*3	11.1V	12.6V	9V	11.1V
Ternary lithium battery*6	22.2V	25.2V	18V	22.2V
Lithium iron phosphate battery*4	12.8V	14.6V	11.2V	12.8V
Lithium iron phosphate battery*8	25.6V	29.2V	22.4V	25.6V

* Parameters can be customized

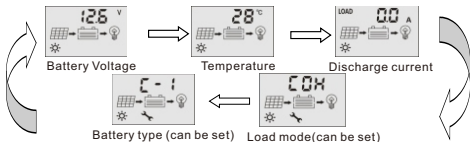
Installation Notes:



As picture, the connection of solar energy, battery, load, please pay attention to the connection, Please pay attention to connect the battery first, then connect the solar panel and DC load.

Setting instructions and display

⊕ Parameter setting, save and view button, press this button for 5 seconds on the interface, the number flashes, indicating that the setting mode has been entered. After setting, press 5S to save and exit; no operation will not save after 60 seconds. Back to Home page. (Note: when there is no operation, the interface will enter the automatic cycle)



Load mode:

[C0H] Manual switch mode (on by default).

[LOH] Light control mode [1-12H] Light control+delay mode

[POH] Daytime start mode

Battery type:

[C-1] Lead acid is maintenance-free [C-2] colloid

[C-3] Lead-acid openings








[L-3] Ternary lithium battery*3pcs

[L-6] Ternary lithium battery*6pcs

[F-4] Lithium iron phosphate battery*4Pcs

[F-8] Lithium iron phosphate battery*8pcs

Common faults and methods

Fault phenomenon	Possible cause	Method
	Under-voltage alarm	<p>When the battery voltage is lower than the undervoltage protection voltage of 9.0V (three-string lithium battery); 10.5V (12V system); 21.0V (24V system), the controller has entered the undervoltage protection state, and the icon  will appear below the LCD interface. The icon  will flash and the load circuit will be disconnected to prevent the battery from being over-discharged. At this time, the solar panel is used to charge the battery. When the battery voltage reaches the undervoltage recovery voltage of 11.1V (three-string lithium battery); 12.2V (12V system); 24.4V (24V system), the controller will resume power supply to the load.</p>
	Discharge overload	<p>When the discharge is overloaded, the LCD screen is as shown on the right. At this time, you need to manually press the button  to close the output switch, and the system will resume normal operation.</p>
	Battery voltage is not within battery type	<p>When the battery voltage is not within the battery range, as shown on the right, the LCD screen will appear below . At this time, please unplug the battery and replace it with a suitable one.</p>
Display flash	Unconnected battery	<p>Unconnected battery, but display flash. At this time, check if the battery is connected, if there is any contact failure. If everything is normal, please contact the factory for repair.</p>

Note:

The analysis of product terminology, product application parameters and other related issues can be found through the official website or publicly available.