

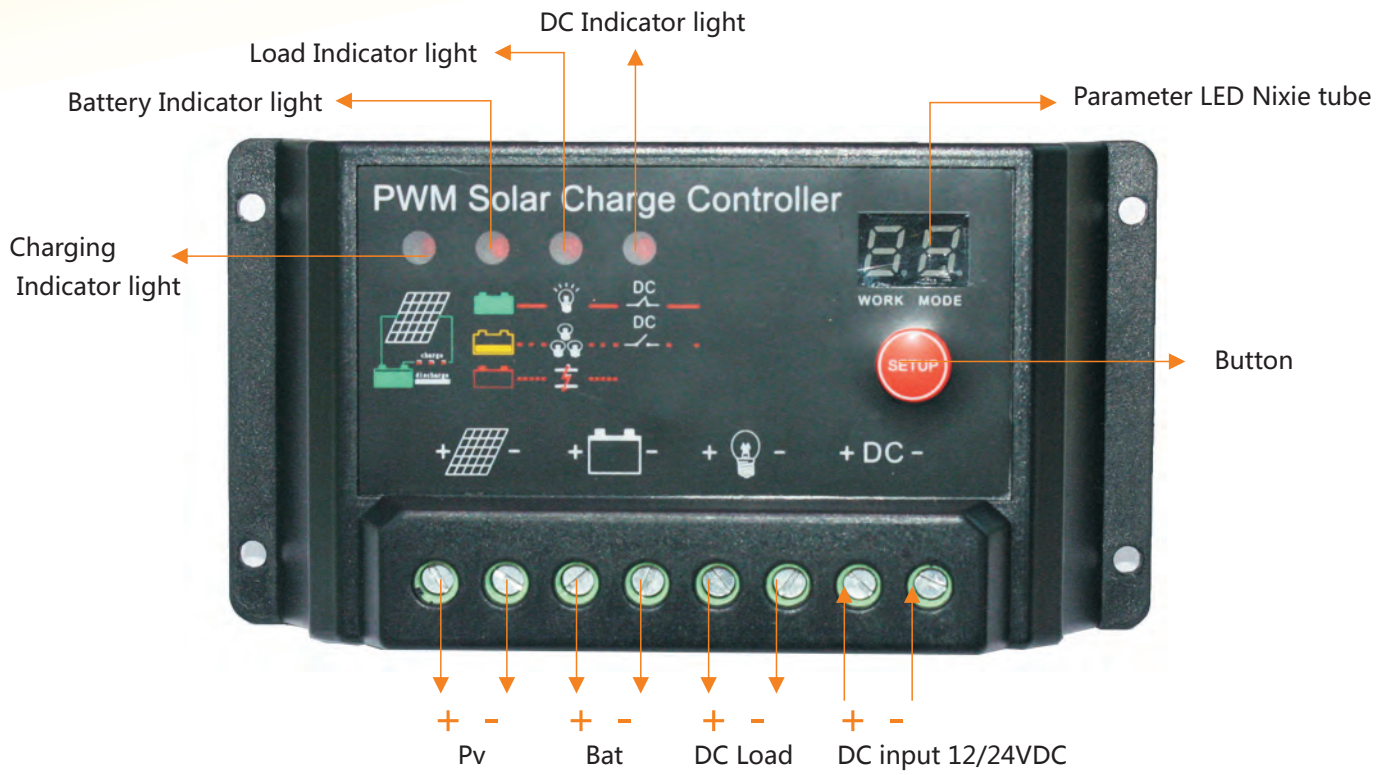
E Series solar power intelligent PV controller



Features

1. Intelligent control is realized by using microprocessor and dedicated control calculation.
2. Five working modes: Pure light control, Light control + Time control, Manual mode, Debug mode and Normal ON mode.
3. Advanced switching function of commercial power complementation. By connecting commercial power with the load directly instead of linking with battery, the damage to the battery and current source is decreased to a large extent. Besides, the allocation for the current source of commercial power will be optimized. This soft switching makes no impact to the load and battery, thus no influence to the performance of load.
4. Detection of commercial power. The battery voltage decrease to the switching point voltage and the commercial power is on. While without the commercial power, battery discharges till the charge resumption set-point and the output is off.
5. Scientific management of battery: as it is overcharged, the battery will get booster tension charge. As a result compulsory maintenance is available for the battery. In normal working state, the direct charge and floating charge are both available, so that the battery life-span is increased. Besides, the adoption of high precision temperature compensation makes the charging more accurate.
6. Comparing with the charging loops using diodes, the one that adopts double MOS series circuit control makes the voltage loss dropped by 50%. With the PWM fuzzy control in charging, the charge efficiency is improved a lot.
7. LED screen shows the working state of solar battery, storage battery and load. LED shows the adjusted parameter. In this way, users can learn the operation state in real time. Besides, there are various choices for parameter; users can select the proper working mode based on the different conditions.
8. Various protections include over-charge, over-discharge and over-load, as well as unique electron short circuit protection and connection-reverse protection. All the protections are harmless to any parts and fuse. TVS thunder proof protection is also available. Non wire jumpers design improves the reliability and durability of the products.
9. Technical grade chips and precision components are adopted for all the controls. Therefore, the controller performs well in very low and high temperature, as well as humid environment. At the same time, with the use of crystal timing control, the timing function of controller is much more reliable.
10. Double digital LED display.

Appearance picture is as below



Product Detail



Working mode setting table

Data in LED	Mode	Data in LED	Mode
00	Dusk-to-Dawn, light is on all light	09	9 hours light is turn on after sundown
01	1 hours light is turn on after sundown	10	10 hours light is turn on after sundown
02	2 hours light is turn on after sundown	11	11 hours light is turn on after sundown
03	3 hours light is turn on after sundown	12	12 hours light is turn on after sundown
04	4 hours light is turn on after sundown	13	13hours light is turn on after sundown
05	5 hours light is turn on after sundown	14	14 hours light is turn on after sundown
06	6 hours light is turn on after sundown	15	Manual mode
07	7 hours light is turn on after sundown	16	Test mode, lights on after it detects no light, lights off after it detects light.
08	8 hours light is turn on after sundown	17	Load open all times

Installment and use

1. The controller must be well fixed. The dimension of the controller is as following:
Outside dimension: 133.5×70×34 (mm); installation dimension: 126×50 (mm)
2. Leads: the leads must be matched with the current. The length of stripped leads at the end of controller should be about 5mm. The longer the leads, the more the loss.
3. The connection to storage battery: Pay attention to the "+" and "-" in case of reverse connection. If it is connected well, the indication light will be on. Otherwise, please check the connection.
4. The connection to solar panel: Pay attention to the "+" and "-" in case of reverse connection. If it is connected well, the indication light will be on. Otherwise, please check the connection.
5. The connection to load: connect the leads with load of controller. The two interfaces are in parallel connection, and the total current must be less than rated current. Pay attention to the "+" and "-" in case of reverse connection which may damage of the device.
6. The connection to DC: Pay attention to the "+" and "-" in case of reverse connection. If it is connected well, the Dc indicator light will flash.

Parameters

Model	E series	
Rated current	□5A □10A □15A □20A	
Working Voltage	□12V ; □24V ; □12V/24V Auto	
No load losses	<5mA ;	
Charging circuit voltage drop	Less than or equal to 0.20V	
Discharge circuit voltage drop	Less than or equal to 0.20V	
Over voltage protection	17V ; ×2/24V ;	
boost charge voltage	14.6V; ×2/24V (time of duration: 30 minutes)	
Direct charge voltage	14.4V ; ×2/24V (time of duration: 30 minutes)	
Float charge voltage	13.6V ; ×2/24V	
Charge recover voltage	13.2V ; ×2/24V	
Over discharge recover voltage	12.5V ; ×2/24V	
Lower voltage indication	12.0V ; ×2/24V	
Switch voltage	11.5V ; ×2/24V	
Over discharge voltage	11.1V ; ×2/24V	
Temperature compensation	-4.0mV/°C/2V(boost voltage, direct charge, float charge and charge return voltage compensation)	
Control method	PWM Smart Charging	
Working temperature	From -35°C to +65°C ;	
Over-load and short circuit protection	Over-load protection: when the current of controller is 1.25 times of the rated current, the controller works for 30 seconds; 1.5 times of rated current, works for 5 seconds Short circuit protection: when the current of controller is more than or equal to 3 times of rated current, the protection starts.	
Circuit protection	Over-charge, over-discharge, short circuit and over-load protection.	All the protections are harmless to any parts and fuse of controller.
	Anti- connection-reverse protection for solar battery and storage battery.	