

Solar & electricity net hybrid controller

----- EPRC-G Series

Instruction Manual



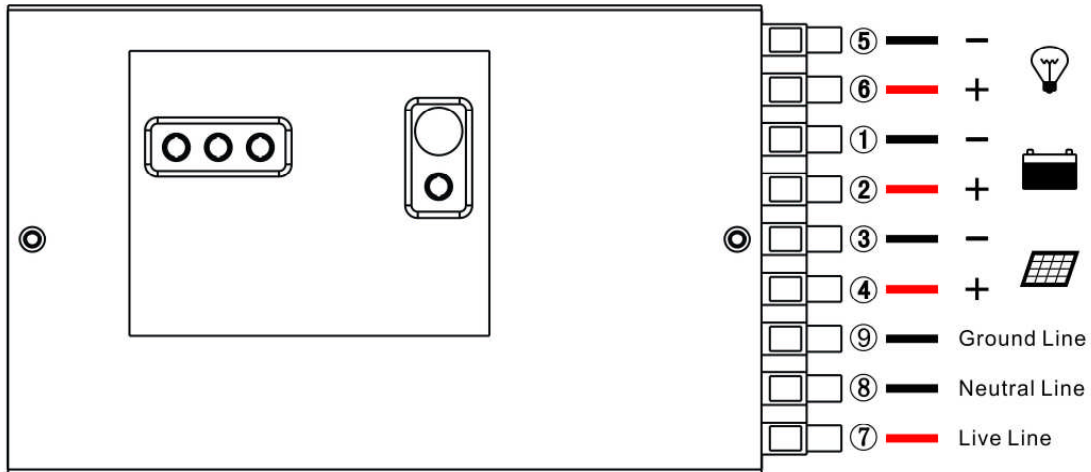
Features:

1. The controller provides the load power from solar or utility electricity, solar power supply first, and electricity feed will be the supplement of the system.
2. P W M charge mode and high efficiency
3. Electronic protection, over load, short circuit, reverse polarity
4. Temperature compensation

QUICK START INSTRUCTIONS

This section provides a brief overview of how to get started using the controller. However, please review the entire manual to ensure best performance and years of trouble-free service.

1. Mount the controller to a vertical surface. Allow space above and below the controller for air flow.
2. Make sure the PV and load currents will not exceed the ratings of the controller being installed.
3. It is recommended that the connections be made in order from 1 to 9. (see the following picture)



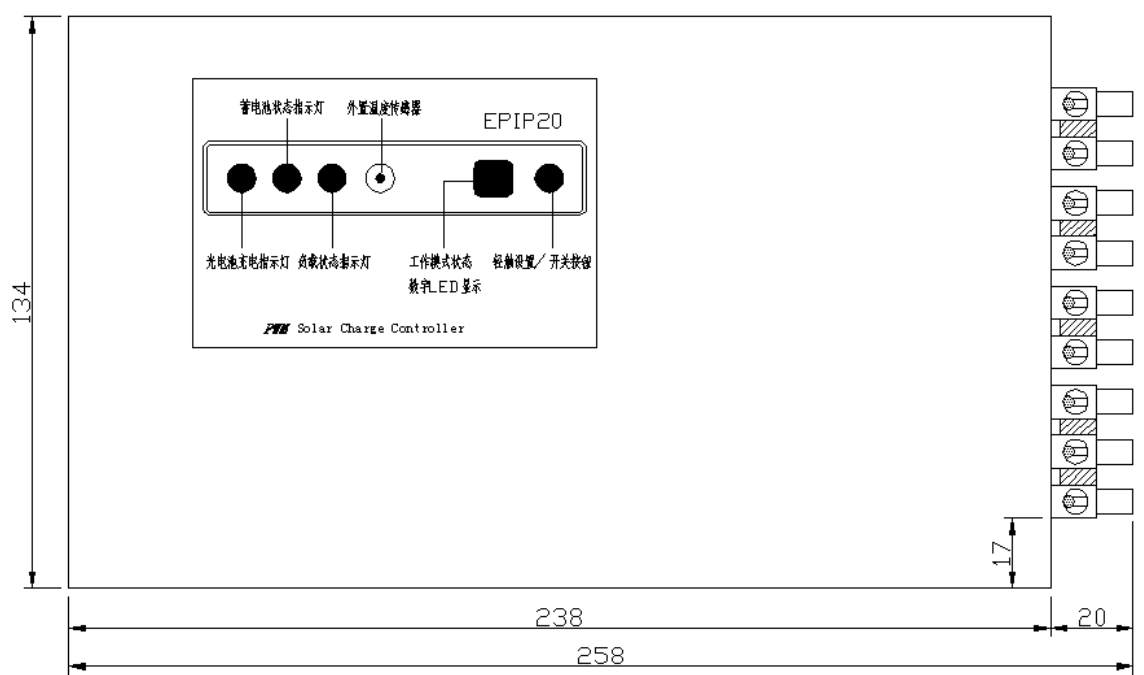
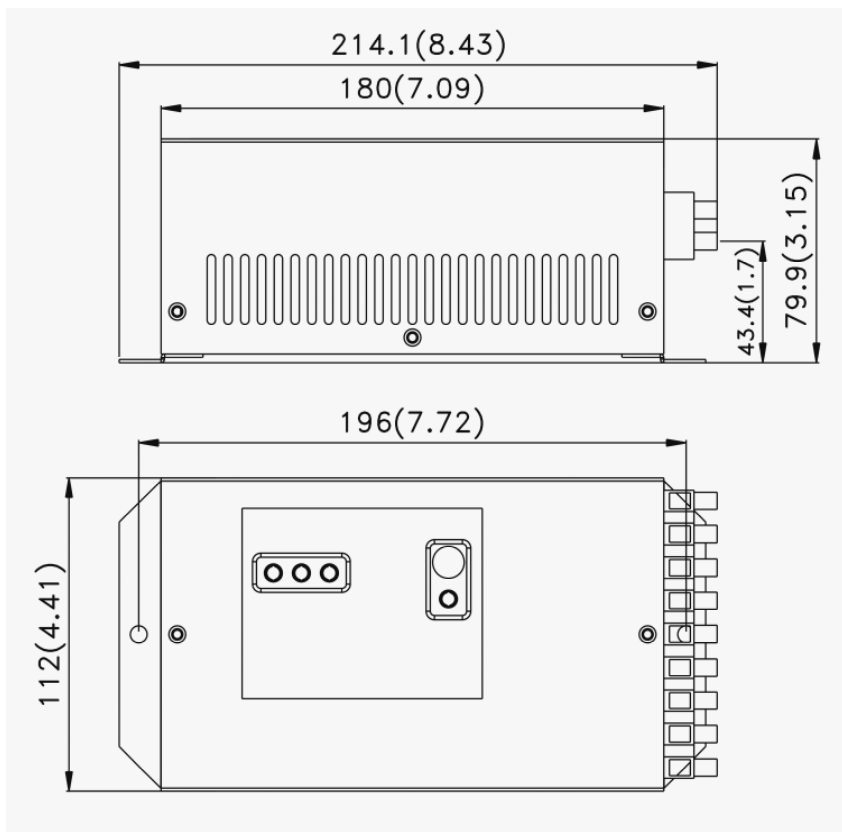
- Use with 12V or 24V batteries only
- Use with 12V or 24V systems only
- Terminals up to 6mm²

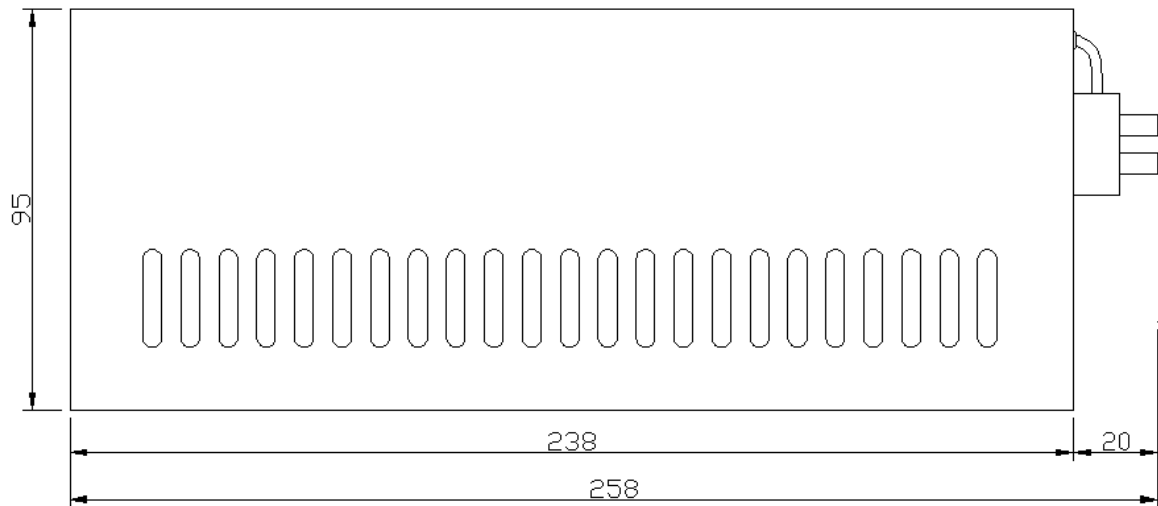
1. Connect the BATTERY first. Use care that bare wires do not touch the metal case of the controller.
2. Connect the SOLAR(PV array) next. The green LED indicator will light if sunlight is present.
3. Connect the DC LOAD next. If the red LED indicator lights, the battery capacity is low and should be charged before completing the system installation
4. Connect the Grid last.
 - L: Live line
 - N: Neutral line
 - G: Ground line

Solar controller terminals



MECHANICAL:





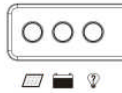
LIGHTING CONTROL OPTIONS

5. Press the power switch for 5 seconds, and select the desired LIGHTING CONTROL option. The LED is on, which confirmed you have selected the right one.
6. The controller requires 10 minutes of continuous transition values before it starts to work. These constraints avoid false transitions due to lightning or dark storm clouds.
7. 10 minutes off before the controller start to work.
8. A brief description follows below:

Numbers:	Work mode
0	Dusk-to-Dawn, light is on all light
1	4 hours light is turn on after sundown
2	6 hours light is turn on after sundown
3	8 hours light is turn on after sundown
4	10 hours light is turn on after sundown
5	12 hours light is turn on after sundown
6	Lights remain turned off, ON/OFF mode
7	Test mode, lights on after it detects no light, lights off after it detects light.

Protections: over charging, over discharging, short circuit, over load, reverse polarity connection.

LED INDICATOR



Green ON when solar is charging battery
Green blink when the system is over voltage

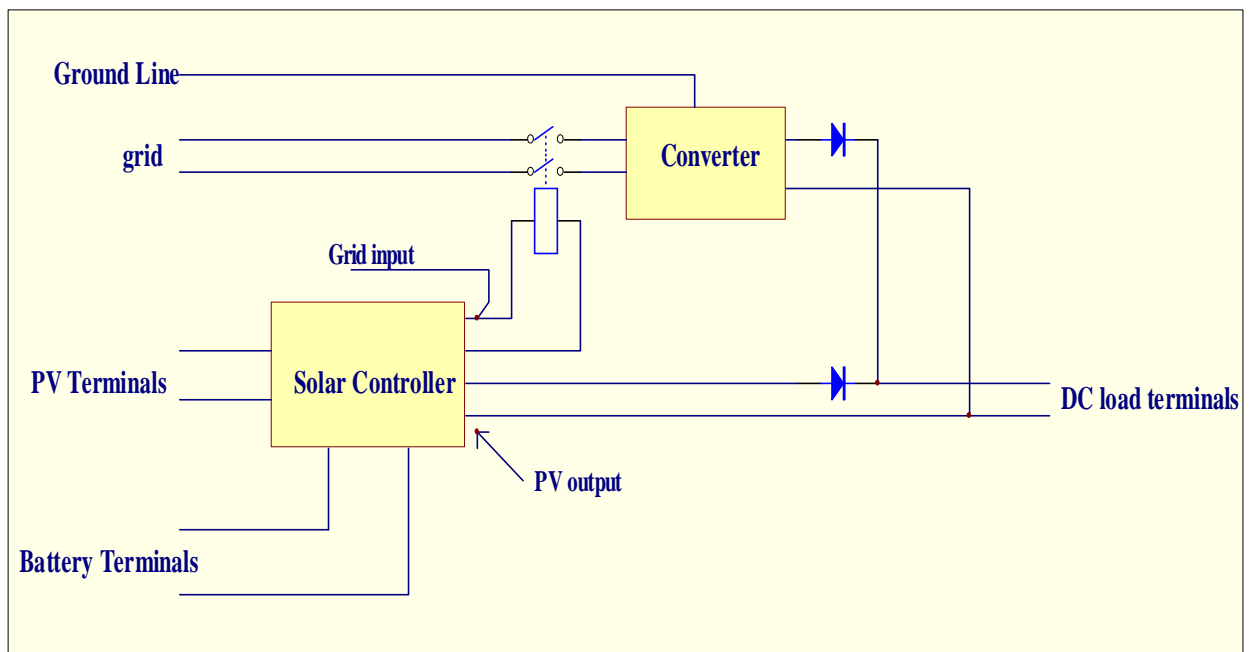


Green ON when battery level in the right range
Green slowly flashing when battery level full
Yellow ON when battery level low
Red ON when loads cut off



Red ON when the output is on.
Red slowly flashing when its over load
(the load amps is 1.25 times of rated current for 60 seconds,
or the load amps is 1.5 times of rated current for 5 seconds)
Red blink when the load is short-circuit.

Schematic Diagram



SPECIFICATION

Specification	Mode	EPRC-G-1 (12V, 10A, 60W)	EPRC-G-1 (24V, 10A, 60W)	EPRC-G-1 (12V, 10A, 100W)	EPRC-G-1 (24V, 10A, 100W)
Rated working voltage		DC 12V	DC 24V	DC 12V	DC 24V
Output voltage		DC 11.1-14.4V	DC 22.2-28.8V	DC 11.1-14.4V	DC 22.2-28.8V
Rated Charging current		10A			
Rated load current		5A	2.5A	10A	5A
Max.output power		60W	60W	100W	100W
Overload capacity		105%-150% (200ms, 50ms, 20ms)			
AC input voltage		AC 170-264V			
AC input frequency		47-63Hz			
PV voltage drop		$\leq 0.26V$			
grid supply voltage		DC 11.1V	DC 22.2V	DC 11.1V	DC 22.2V
PV supply voltage		DC 12.6V	DC 25.2V	DC 12.6V	DC 25.2V
Equalisation voltage		DC 14.6V	DC 29.2V	DC 14.6V	DC 29.2V
High voltage disconnect		DC 14.4V	DC 28.8V	DC 14.4V	DC 28.8V
Float voltage		DC 13.6V	DC 27.2V	DC 13.6V	DC 27.2V
PV Charging return voltage		DC 13.2V	DC 26.4V	DC 13.2V	DC 26.4V
Temperature compensation		- 5mv/°C/2V			
Charging mode		PWM			