

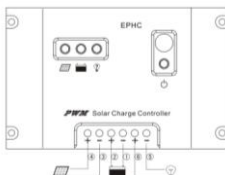
# INSTRUCTION MANUAL

-----For solar charge controller

-----EPHC10-EC series



## INSTALLATION



- Connect wires in order indicated 1—6
- Use with 12V or 24V batteries only
- Use with sealed batteries only
- Use with 12V or 24V systems only
- Do not exceed Solar and Load ratings 10A

**Note:** carefully check before making each connection to be certain the polarity is correct

## LED indicator



Green ON when solar is charging battery

Green *blink* when the system 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 slowly flashing when it's 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 fast flashing when the load is short-circuit.



Red ON when the switch is ON.

Red OFF when the switch is OFF.

The default status is ON

### Please note:

1. The output will be cut off once there is over load or short circuit. While short circuit occurs, the controller will have 4 automatic loads reconnect attempts. There will be 10s between the first three attempts and 20s between the 3<sup>rd</sup> and 4<sup>th</sup> attempts. For the fifth short circuit, the load can be only reconnected after 24hours. Anytime, please check the load and

press the switch to reset the controller immediately.

While the over load occurs within 20s, press the switch and the load will be reconnected after 10s.

While the over load occurs over 20s, press the switch and the load will be reconnected immediately.

2. After over discharged, the load will be reconnected automatically when the battery is charged to 13.1V. (For 12V system only, for 24V, it is 26.2V)

After over discharged, the load will be reconnected while you press the power switch. Please note the battery voltage needs to be over 12.5V. (For 12V system only, for 24V, it is 25V. )

## **To correct problem**

1. Check wires
2. Reduce amps if needed
3. Reset controller
  - Disconnect battery +
  - Reconnect battery +

## **RATINGS (12V or 12/24V auto work)**

EPHC10-EC 170W or 10 A for Solar and Load

**NOTES: For use with solar panels only**

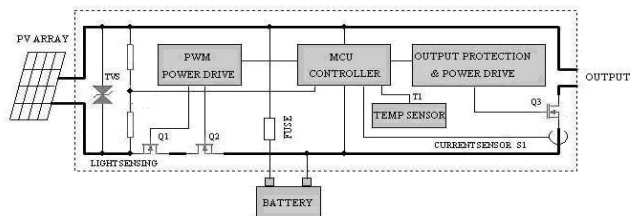
## **TECHNICAL INFORMATION**

- Equalization voltage (60 minutes) 14.8 V
- Boost voltage (60 minutes) 14.4 V
- Float Voltage 13.7V
- Low voltage Disconnect 11.1 V
- Low voltage Reconnect 13.1 V

**Note: all is for 12V system only, use 2x for 24 V system**

- Microcontroller digital accuracy
- Type of Charging                      Series PWM  
    Temperature compensation charging
- Electronic protections              Short circuit and over current- load  
    Reverse polarity- battery  
    Reverse current at night  
    Limits high voltage to protect loads  
    Lightning protection
- Tropicalization                      Conformal coated printed circuit board
- Terminals                              For wire sizes to 2.5mm<sup>2</sup>
- Weights                                250g
- Dimension                            140\*89mm
- Self-consumption                    6mA maximum
- Temperature                        -35°C to +55°C
- Enclosure                            IP30
- Warranty                              1 year
- Compliance                         CE

## SYSTEM MAIN CIRCUIT DIAGRAM



## MECHANICAL DRAWING

