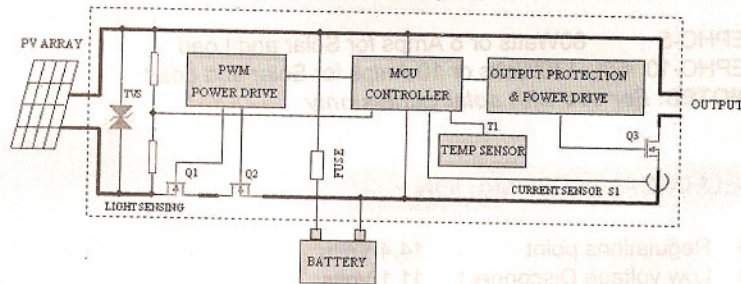
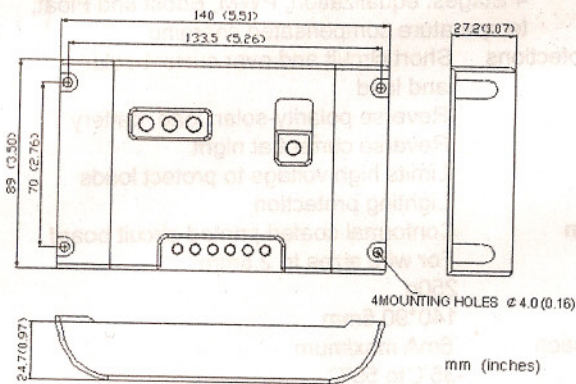


## SYSTEM MAIN CIRCUIT DIAGRAM



## MECHANICAL DRAWING

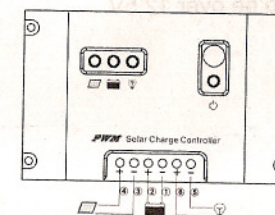


## INSTRUCTIONAL MANUAL

- For solar charge controller
- EPHC series



## INSTALLATION



- Connect wires in order indicated 1-6
- Use with 12V batteries only
- Use with 12V systems only
- Do not exceed Solar and Load ratings (5A or 10A), depending on version

## 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 its over load  
(the load amp is 1.25 times of rated current for  
60 seconds, or the load amp is 1.5 times of  
rated current for 5 seconds)  
Red blink when the load is short-circuit.



Red ON when the switch is ON.  
Red OFF when the switch is OFF.

### Please note:

1. the output will cut off once there is over load or short circuit. While short circuit for 1st time, the controller will resume to work automatically after 30 seconds. Check the load, press the switch to start when it happened again.
2. After over discharged, the controller will resume to work when the battery is charged to 13.1V. (for 12V system only, for 24V, use 2X)  
After over discharged, the controller will resume to work while you press the power switch, note the battery voltage needs to be over 12.5V.

### 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)

EPHC-5      80Watts or 5 Amps for Solar and Load  
EPHC-10     170Watts or 10 Amps for Solar and Load

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

### TECHNICAL INFORMATION

- Regulations point      14.4 Volts
  - Low voltage Disconnect   11.1 Volts
  - Low voltage Reconnect    13.1 Volts
- Note: all is for 12V system only, use 2x for 24 Volt system**
- Microcontroller digital accuracy
  - Type of Charging      Series PWM & stat of charge(SOC)  
4 Stages: equalization, PWM, Boost and Float,  
temperature compensated charging
  - Electronic protections    Short circuit and over current-solar  
and load  
Reverse polarity-solar, load, battery  
Reverse current at night  
Limits high voltage to protect loads  
Lighting protection
  - Tropicalization      Conformal coated printed circuit board
  - Terminals              For wire sizes to 2.5mm<sup>2</sup>
  - Weights                250g
  - Dimension             140\*90.5mm
  - Self-consumption      6mA maximum
  - Temperature          -35°C to 55°C
  - Enclosure              IP22
  - Warranty                1 years
  - Compliance            CE