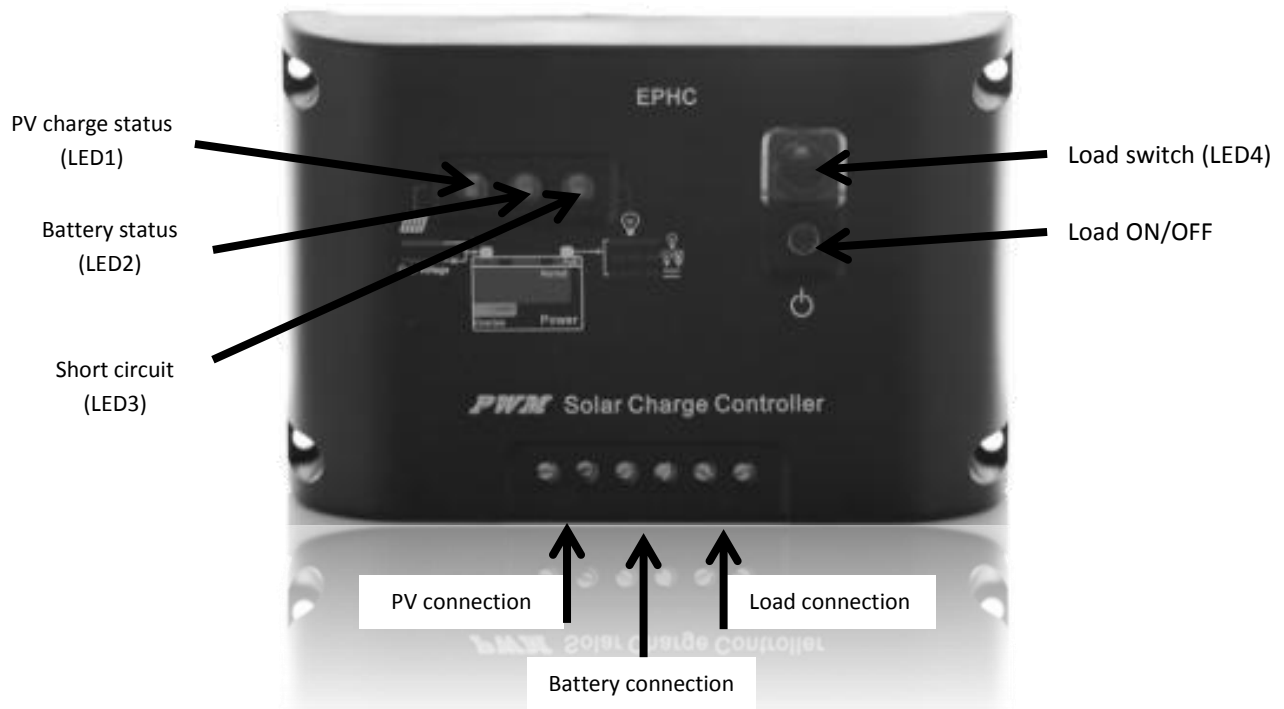


## EPHC 10A 12/24V Solar Charge Regulator



### 1 - Features

- *Suitable for 12V or 24V solar panels with a current rating up to 10A.* Automatic battery voltage detection.
- *High efficiency Pulse Width Modulated charging.* Boost, recovery and float charging modes keep your battery optimally charged.
- *No moving hardware.* Flash memory protects against temperature and vibration problems.
- *High level of self-protection.* Protection against overload, short circuit, reverse connection, lightening, overcharging, overdischarging and PV reverse current.
- *LED condition indicators.* LED indicators for charging status, battery status, short-circuit and overloading.
- *Temperature range -35°C - 55 °C;* temperature compensation charging
- *Low voltage disconnect feature* for loads up to 10A

Weight: 250g

Regulation Point 14.4v

Float charge: 13.6V

Self-consumption: 6mA

Low voltage Disconnect: 11.1V

Warranty: 1 year

Dimensions: 140 x 90.5mm

Low voltage reconnect: 13.1V (all 12V)

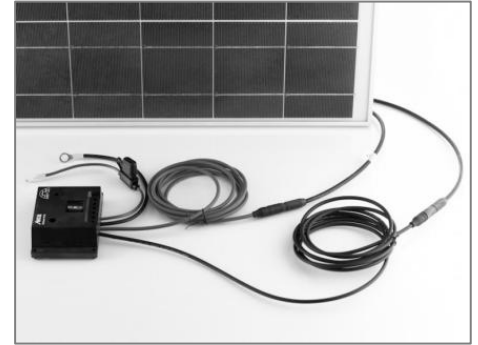
CE certified

## 2- Mounting

- The charge regulator should be fitted in a dry, ventilated environment as close as possible to the battery, to reduce voltage drop. The controller can be mounted using the four corner screw holes.
- Controller size is 140 x 90.5mm; distance between screw holes is 133.5 x 70mm.

## 3 - Wiring

- Keep cable lengths as short as possible and use a multi-strand insulated copper wire, 2.5mm<sup>2</sup>
- *Ensure correct polarities throughout.*
- First connect the regulator to the battery, wiring into the screw terminals marked with a battery symbol and connecting to the battery with clamps or ring terminals. It is good practice to fit a fuse between the battery and regulator.
- Next, connect the cable from the solar panel into the screw terminals marked with a solar panel symbol on the regulator. If the connection is correct and the panel is in sunshine the charging LED will be either a solid or flashing green.
- Finally, if you are using the optional low voltage disconnect feature, connect a load to the load terminals on the controller (marked with a lightbulb symbol).



## 4- LED Indicators and troubleshooting

### *PV Charge indicator (LED1):*

- Solid green – the solar panel is charging the battery and everything is working correctly.
- Flashing green – system overvoltage or battery open circuit; check connections ratings and polarity.
- No light – check connections with solar panel and light levels falling on the panel.

### *Battery status indicator (LED2)*

- Solid green – normal power level
- Flashing green – fully charged
- Solid yellow – battery level low
- Solid red – low voltage, load has been disconnected; wait for voltage to return to normal

### *Load Short Circuit indicator (LED3)*

- Solid red – the load is running through the regulator and everything is working correctly
- Slow Flashing red – the load current has been 1.25 times higher than 10A for 60 seconds, or 1.5 times higher for 5 seconds and the load will be shut down. The first time this happens the controller will automatically restart without any further intervention.
- Fast flashing red – there is a second short circuit in the load and the controller has shut down the load. This time you will need to disconnect the load and push the Load ON/OFF button; charging will start again after 30 seconds.

### *Load Switch (LED4)*

- Solid red – load switch is ON
- No light – load switch of OFF

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