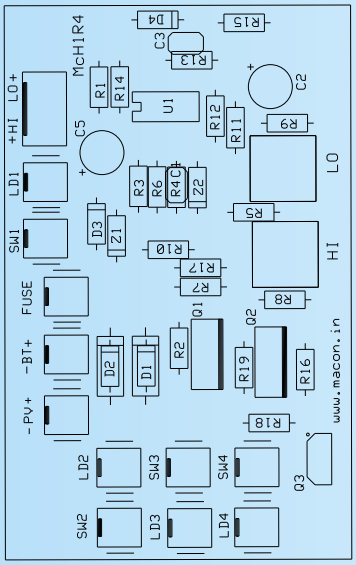

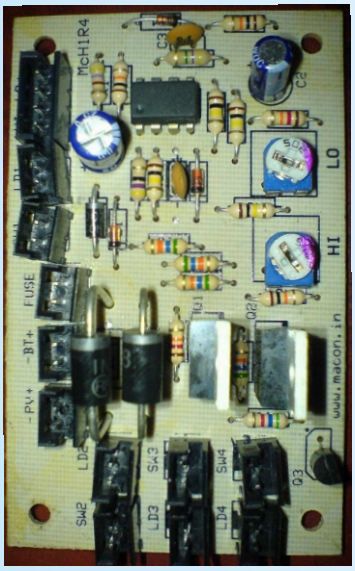

MACON™

McH1R4

PWM SOLAR CHARGE CONTROLLER

(12V/7.5Ah Bat and 10Wp panel based Solar Home Lighting Systems)

ALL RELIMATES FOR EASY ASSEMBLY

The economical solution for a low capacity requirement in PV system is met with this compact controller. It operates in shunt mode with high efficiency. It has very low IVD and OVD values to have full utilization of battery and panel. Its low quiescent current helps in having a longer shelf life of the system.

Relimates on board are provided to make connections to panel, battery and load. There are 4 independent output Relimates with respective switch Relimates. One rlimate for fuse is also provided. All relimate cables are also provided with the kit. Battery tags to a pair of relimate cables are presoldered. Bat Low indicator LED and Charging LED are provided with relimate cables so that these can be fixed on front panel of box. This kit can easily replace McH1 kit. It results in hassle-free connections of wires unlike the terminals in McH1. For mass production of home lighting system, this kit makes excellent choice. On-board adjustments for battery upper limit (while charging) and lower limit (while discharging) are provided for fine tuning by OEMs. These are set to default values before dispatch.

Battery charging is done with PWM mode. This has distinct advantages over conventional on-off type of charging. PWM charging gives better SOC of battery, utilizes full power from panel and totally eliminates gassing or over charge even with continuos charging.

One of the output relimate can be used to have controlled output available for add-on cards like mobile charging kit (McMB), led driver kit (McLD1) ,display etc.

A separate relimate cable for fuse holder is provided. This eliminates the trouble of inserting fuse in battery cable as in McH1 kit.

Salient Specifications:

SYSTEM:	12V
CAPACITY:	Panel 15Wp Max, Load 1 A Max
REGULATION:	LOW LOSS, SHUNT TYPE
NLC:	No Load Current/Quiescent current < 1 mA
OVD:	Output Voltage Drop < 100mV at 1 A load
IVD:	Input Voltage Drop < 300mV at 1 A charge
LVD:	Low Voltage Disconnect, 11 V
HVD:	High Voltage Disconnect, 14.4 V
LVR:	Low Voltage Reconnect, 12.7 V
HVR:	High Voltage Reconnect, 14.35 V

PROTECTIONS:
Reverse polarity of Battery and Panel
Reverse current flow from battery to panel

APPLICATION:	IN DOOR USE ONLY.
AMBIENCE:	Operating Temp 0 to 50 Deg C, 90% RH
DIMENSIONS:	80mm x 50 mm

Indicators and Controls:

CHRG : Green LED. 1. Green: When panel is connected properly and voltage is more than 12V. When battery is charged, it starts flickering on/off indicating the onset of PWM absorption mode.

BTLO : Red LED. When battery voltage is less than LVD level, it turns on and disconnects the supply to the load. It will be on only when battery is charged above LVR level.

When battery is connected for the first time, its voltage must be more than LVR to have supply at output. If BTLO is on, battery must be charged first through panel. Once in loop, battery will work between LVD and HVD as specified.

IMP:

It is recommended to use 1A external fuse in provided fuse relimate cable. This goes a long way in case of accidental shorts at load relimates. Also accidental connection of higher wattage panel will also blow this fuse protecting the circuitry.

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