



McHMB4

**PWM SOLAR CHARGE CONTROLLER
(WITH MULTIPLE OUTPUTS)
MOBILE CHARGING OUTPUT
ELECTRONIC SHUT DOWN**

McHMB4 is the newest Solar Charge Controller kit with shunt regulation. It has built-in mobile charging output as well to charge any mobile. Its control circuitry is extremely efficient. It not only charges the battery from solar panel in the optimum way using the fullest power without loss but maintains the highest SOC of the battery under charge. Input losses are practically negligible due to high efficiency charging in shunt mode. Similarly battery loss in load circuit is less than 3% making it better than 97% efficient. Quiescent current is less than 3mA to meet stringent requirements for better life of battery. Kit comes with independent four outputs with four independent on/off switch pins. Every connection to the kit is done by relimates. Panel, battery and all loads with their switches can be connected with relimate cables provided to be plugged in the kit. External fuse can be connected through relimate.

Provision of presets is made for setting HVD and LVD which are set to default values but can be changed by user.

It comes with indicator leds for charging and bat low in relimate cable assembly to directly plug in. Additional input is provided on board to connect to mains charging by an optional compatible charger unit. During times when solar power is not available, charging from grid power can be implemented easily.

What is new?

The kit has additional bicolour LED which is Green when supply is available at load terminals. It turns Red when any output is overloaded/short circuited; supply is disconnected from the loads. A microswitch is provided to reset this condition after the fault is addressed. There are no fuse blown conditions due to shorts. Unlike in McHM4, mobile output is independently provided with smps circuitry on board.

The kit comes in ready to use form for OEM purpose.

Salient Specifications:

SYSTEM: 12V
 CAPACITY: Panel 10 Wp Max, Load 1 A Max
 REGULATION: LOW LOSS, SHUNT TYPE
 NLC: No Load Current/Quiescent current < 3 mA
 OVD: Output Voltage Drop < 300mV at 1 A load
 IVD: Input Voltage Drop < 300mV at 1 A charge
 LVD: Low Voltage Disconnect, 11.0V
 HVD: High Voltage Disconnect, 14.4V
 LVR: Low Voltage Reconnect, 12.5V
 HVR: High Voltage Reconnect, 14.35V
 (Charging by default is kept for PWM operation)
 PROTECTIONS: Reverse polarity of Battery and Panel
 Reverse current flow from battery to panel
 Electronic Over load / output shorts

MOBILE OUTPUT: smps output to charge any mobile
 APPLICATION: IN DOOR USE ONLY. FOR OEMs
 AMBIENCE: Operating Temp 0 to 50 Deg C, 90% RH
 DIMENSIONS:

Indicators and Controls:

CHRG : Green LED. 1. Green: When panel is connected properly and voltage is more than 12V. .
 2. Green flickering: Battery voltage has reached HVD and PWM absorption started.

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.

NML/OVR: Bi-colour LED. Green when supply available at outputs. Turns Red when output overloaded/shorted. Supply disconnected.

RESET: Micro-switch to reset the overload condition (faults must be addressed first)

2-Way Relimates: 4 independent outputs, 4 independent on/off, PV input, Battery Cable with presoldered tags, Light load/Mobile selector

AUX IN: A two-way relimate base for giving input from compatible mains charger unit (optional).

(Only specially designed mains charger from us can be connected as it is built with isolation and protection for shunt regulation purpose. No other mains charging unit is recommended as it may damage the kit.)