



McHM5i PWM SOLAR CHARGE CONTROLLER

McHM5i is Solar Charge Controller with a difference. 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. It comes with all protections in input and output circuitry in the worst case fault conditions. Battery charging with temperature compensation is available as optional.

It does not stop here. By default, it comes with Mobile charging output available with plug and play arrangement. A DC socket is independently provided which continuously provides a conditioned voltage to charge any mobile set. This output is fully protected against any accidental shorts like the main output.

Its PWM mode of charging keeps the battery in excellent SOC to have prolonged life of battery. Optional temperature compensation further enhances the charging.

Salient Specifications:

SYSTEM:	12V
CAPACITY:	Panel 75 Wp Max, Load 5 A Max
REGULATION:	LOW LOSS, SHUNT TYPE
NLC:	No Load Current/Quiescent current < 3 mA
OVD:	Output Voltage Drop < 300mV at 5 A load
IVD:	Input Voltage Drop < 500mV at 5 A charge
LVD:	Low Voltage Disconnect, 11.4 V
HVD:	High Voltage Disconnect, 14.4 V
LVR:	Low Voltage Reconnect, 12.7 V
HVR:	High Voltage Reconnect, 14.35 V

PROTECTIONS: Short circuit and overload at load
Over current from panel
Reverse polarity of Battery and Panel
Reverse current flow from battery to panel
Lightening protection in panel circuit

ON BOARD BACK UP FUSE: 7A5

APPLICATION: IN DOOR USE ONLY.

AMBIENCE: Operating Temp 0 to 50 Deg C, 90% RH

DIMENSIONS: 145 L x 98 W x 30 H (all dim in mm)

WEIGHT: 200 gms

Indicators and Controls:

RST : Reset switch. When load exceeds the rated capacity, supply to the output terminals including mobile output is disconnected. Remove the fault condition of overload or short. Press RST to restore the supply.

NML/OVR : Bicolour LED. When battery voltage is available at output terminals, it turns Green. In overload conditions, it turns Red. RST switch will bring back it to Green under proper loads.

CHRG : Green Charging LED. When panel voltage is more than 12V, this will be on indicating charging of the battery. When battery is fully charged and controller switches to PWM mode, it starts flickering. It is in the absorption mode now. When in this mode even for extended periods, battery will never be over charged. It will always limit to HVD specified.

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.