



## McDD5i DUSK TO DAWN PWM SOLAR CHARGE CONTROLLER

**McDD5i** is Solar Charge Controller with dusk to dawn operation. It charges the battery during day time and turns on the load at dusk. It turns off the load at dawn. 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.

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 75Wp Max, Load 5 A Max
REGULATION:	LOW LOSS, SHUNT TYPE
NLC:	No Load Current/Quiescent current < 5 mA
OVD:	Output Voltage Drop < 300mV at 5 A load
IVD:	Input Voltage Drop < 300mV at 5 A charge
LVD:	Low Voltage Disconnect, 10.7 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 :** 10A

**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 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. If overload conditions, it turns Red. RST switch will bring back it to Green under proper loads.

*(Note: When it is dawn, this bicolour led will be off and remains off throughout the day. At dusk, it turns green.)*

**CHRG** : Green LED. 1. Green: When panel is connected properly and voltage is more than 12V. Slow flicker continuous.

*(Note: At dawn, this will be off as in the night. At dawn this led as well as NML/OVR both will be off.)*

**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.

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