MEDI’s Chocolate MPPT

MEDI’s latest product is called Chocolate MPPT which is an advanced MPPT solar charger with cutting edge features.

REQUIRED VOC AND VMP for 500W MPPT

VOC -

Maximum VOC should be less than 100V
If VOC is above 100V, the unit will go to HV cut. The unit can withstand a maximum of 400V in HV cut. Beyond 400V the MPPT can damage.

VMP –

Application	Minimum VMP	Maximum VMP
12V	16	33
24V	32	66
36V	48	80
48V	64	80

Maximum output current = 25A
Maximum panel current = 10A

Separate battery current limit can be from 0A to 25A (optional) – This option is required only if the required battery current limit is less than 25A.

Highlights –

* Auto tracking with tracking efficiency > 99%
* 12V /24V /36V /48V automatic selection
* Output and input current limiting at 25A
* Auto-select battery and panel
* Separate battery current limiting
* Temperature compensated charging
* Dusk to dawn (optional)
* LED and LCD
* LCD for all parameters including KWH

All on-board power supply is through SMPS, making it drop-less and heat-less.
No spark while connecting battery and panel because of no surge current during connection.

Topology - High efficiency drop-less SMR (Switch Mode Rectifier) – This is a PWM buck MPPT with SMR, there is no diode drop during flyback energy transfer. This will improve the efiiciency.
Hence negligible heatsink is enough which will make the MPPT look like a thin slab.

Automatic panel and battery selection – If you connect a 12V /24V / 36V / 48V battery or panel 40V /80V / 160V , the resistance divider will automatically change to get the maximum scaling in that voltage.
Using only one divider for the entire range will give less sensitivity in lesser voltage.

Temperature compensated charging for lead acid battery

Charger active signal for priority solar charging provided for integrating with MEDI's sine wave inverter

Separate battery current limiting – If the total output current of the MPPT is 25A but you are using only 40AH battery then if 25A is charging the battery, the battery will get damaged. Because only 4A can charge a 40AH battery, the balance 21A can go to the load. When the load is switched off, the total 25A should not flow to the battery. In this MPPT, we have a separate battery current limiting to avoid this. We can set the battery current limiting to 4A or 5A or whatever is needed depending on the battery used.

Dusk to dawn – This is an optional feature.
The MPPT software comes with this feature, however if you wish to use it, you must add an external dusk to dawn PCB.

This dusk to dawn PCB provides night automatic switch on the load and day automatic switch off the load, along with battery low cut-off and short circuit cut-off from the battery to the load.

Nowadays, the panel VMP is much higher than the battery full charge. For example : a 250W panel having a VMP of 32V so a simple diode charger or zero drop, you will get charging current around 15% more than the maximum current of the panel (IMP). But if you use our MPPT you will get more than three times or 300% of the IMP.

Protections :

- Battery reverse
- Panel reverse
- Battery high voltage
- Panel high voltage
- Battery & panel reverse same time
- Battery & panel high voltage same time
- Both battery & panel are high & reverse same time
- Overload and Short circuit

Price :

500W Chocolate MPPT with LED – Rs.3700

Extras :
Four-line LCD – Rs.500
Dusk to dawn PCB – Rs.300
Wifi – Rs.300

Taxes extra as applicable.
Please note the MPPT will be supplied as tested cards and no cabinet shall be supplied.