

MACON® McUH272

20A Solar Charge Controller



Conforms to IEC 62093

McUH272 is another quality Solar Charge Controller with 20A current capacity for load as well as for charging the battery. It is available in two versions, 12V nominal or 24V nominal. The same controller can be used for different type of batteries by selection on board. The controller can be used for normal and dusk to dawn operation simply by selection on board.

PROTECTIONS:

- Full Electronic protection against over load or short circuits.
- Protections against deep discharge and over charge of battery.
- Protections against reverse flow of current from battery to panel during night.
- Protections against lightening.
- Epoxy coating of electronics for protections against humidity and dust.

SELF DIAGNOSTIC LED INDICATORS

- Bicolour LED for battery status
- Two different LED indicators for charge status and overload condition.

EASE OF INSTALLATION AND USE

- Industrial grade sheet metal enclosure.
- Easily accessible terminals for connections.

MODE OF OPERATION

User selectable on board

- Normal mode (Load will be on day and night.
- Dusk to Dawn mode (Load will be on only during night .

BATTERY TYPE SELECTION

Select the type of battery - Li Ion or LFP on board

LONGER BATTERY LIFE

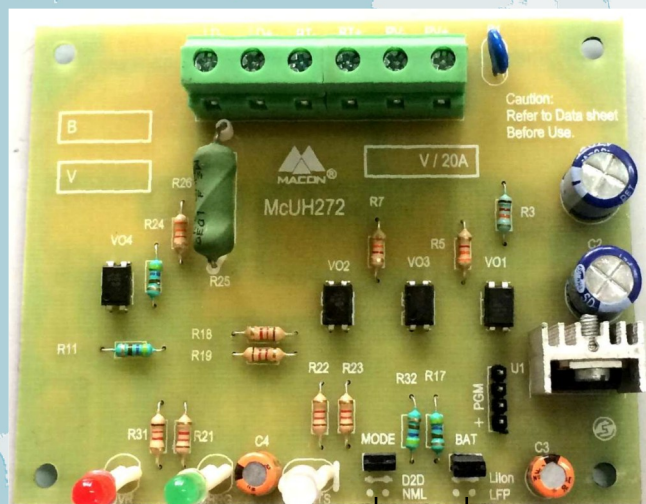
- PWM algorithm for SMF battery charging for better SOC
- Battery specific algorithm for charging Lithium batteries
- Low voltage disconnect of load from battery.
- Over voltage disconnect of battery from panel.

SAVES ENERGY

- High efficiency series control to regulate the battery and load.
- Extremely efficient and low loss Mosfets to save battery power.

QUALITY CONTROL AND CERTIFICATION

- 100% pre-shipment testing of each controller
- Conforms to IEC 62092 to assure the reliability



If link is put, D2D operation
If no link, normal operation

If link, Li Ion battery
If no link, LFP battery

TECHNICAL SPECIFICATIONS

CONTROLS AND INDICATORS:

CHARGING: Green LED.

Turns on when panel voltage is more than battery voltage to indicate positive charging, It starts blinking when battery is charged and goes in PWM mode of absorption.

BAT STATUS : BICOLOUR LED.

- ➔ Turns Red when battery reaches LVD and disconnects the load. (BAT LOW)
- ➔ RED blinks if battery voltage is between LVD and LVR (BAT RESERVE)
- ➔ Turns Green when battery is HEALTHY (between LVR and HVD)
- ➔ Alternates Red and Green when battery >HVDD . Load is disconnected. Charging is disabled.

6-WAY TERMINAL :

On board connector marked PV+, PV-, BT+, BT-, LD+ and LD- to make connections to respective inputs and outputs.

USER ACCESSIBLE SETTINGS:

BAT_SEL: If link is used, it selects Li Ion battery.
If link is not used, it selects LFP battery.
Custom settings available for SMF battery.

MODE: If link is used, it operates as Dusk to dawn controller; if no link, it operates in normal mode, day and night.



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SYSTEM:	12V Nominal 24V Nominal		
CAPACITY:	Input Panel 350Wp/12V, 20Amax 650Wp/24V, 20A max		
	Output 20A max		
REGULATION:	Low Loss, Series Type		
OUTPUT VOLTAGE DROP:	<250mV at 20A (OVD)		
INPUT VOLTAGE DROP:	<400mV at 20A (IVD)		
BATTERY OPERATION (Based on selection of Link) Or Customized as optional	BATTERY TYPE		
	Lead Acid 12V 24V	Li Ion 11.1V 22.2V	LFP 12.8 25.6V
LOW VOLTAGE PROTECT:	9.5 V 18.5V	8 V 16 V	10 V 20 V
LOW VOLTAGE DISCONNECT:	10.7 V 21.5 V	9.6 V 19 V	11.2 V 22.5 V
LOW VOLTAGE RECONNECT:	12.3 V 24.5 V	11.2 V 22.5 V	13.2 V 26 V
HIGH VOLTAGE DISCONNECT:	14.4 V 28.5 V	12.6 V 25.5 V	14.4 V 29 V
HIGH VOLTAGE RECONNECT:	14.3 V 28 V	12.3 V 25 V	13.8 V 27.5 V
HIGH VOLTAGE PROTECTION:	15 V 30 V	13.5 V 26.5 V	15 V 30 V
DUSK_SENSE	Panel Voltage <2V <5V		
DAWN_SENSE	Panel Voltage > 4V, 10sec delay >8V . 10 sec delay		
PROTECTIONS:	*Short Circuit / Overload *Reverse Battery *Reverse Solar Panel *Reverse flow of current from Battery to Panel during night *Lightening *No battery but panel connected. System disabled.		
Electronic shutdown	If load>20A, load off and checks after 5 seconds automatically		
APPLICATION;	In Door Use Only		
OPERATING TEMP RANGE;	0 to 60° C		
DIMENSIONS:	100 L x 80 W x 20 H (all dim in mm)		