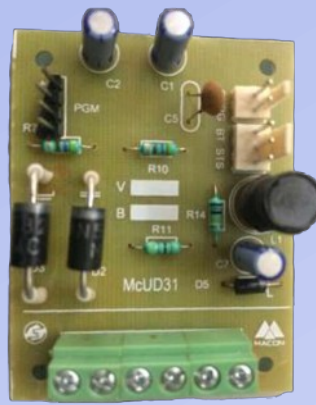




McUD31



McUD31L



McUD31

*Microcontroller Based
12V/2.5A Solar Charge Controller*

McUD31 is Solar Charge Controller with 2.5A current capacity for load as well as for charging the battery. It is available in two versions,

McUD31 as solar charge controller in metal casing and
McUD31L in open frame with built-in LED driver with dusk to dawn and dimming option for solar LED lights.

SALIENT FEATURES

- Suitable for all types of batteries, SMF(LEAD ACID, TUBULAR), LITHIUM / LFP.
- Full electronic protections against faults
- State of art design to save energy, extend battery life and self diagnosis
- Ease of installation/use and 100% pre-shipment checks
- LED display on board to indicate the battery status and charging status.

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.

SAVES ENERGY

- High efficiency series control to regulate the battery and load
- Extremely efficient and low no-load current to save battery power

SELF DIAGNOSTIC LED INDICATORS

- Bicolour LED for battery status
- Fault indication by the same LED
- Green LED indicator for charge status

LONGER BATTERY LIFE

- Battery charging management for better SOC
- Battery specific charging as per SMF/Lithium batteries
- Low voltage disconnect of battery
- Over voltage disconnect of battery

EASE OF INSTALLATION AND USE

- Industrial grade sheet metal enclosure.
- Easily accessible terminals for connections.
- Open frame controller for LED loads suitable for fitting in housing

QUALITY CONTROL AND CERTIFICATION

- 100% testing of each controller
- Conforms to IEC 62093 to assure the reliability



62093

TECHNICAL SPECIFICATIONS

CHARGING: Green LED.

Turns on when panel voltage is more than battery voltage to indicate positive charging, It starts blinking when battery is charged.

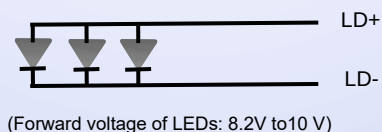
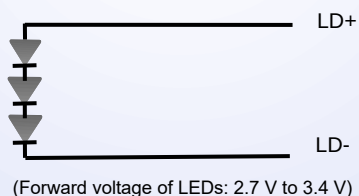
BAT STATUS : BICOLOUR LED.

- ➔ 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 or over load. 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.

LED load connection



Recommended LED configuration on Aluminium LED PCBs. Please note the built-in LED driver is high efficiency of 97% Buck driver with constant current to the load.

SYSTEM:	12V Nominal	
CAPACITY:	Input Panel 40Wp/12V, 2.5Amax	
	Output 2.5A max (McUD31)	
	Upto 12W drive for LED load (McUD31L)	
REGULATION:	Low Loss, Shunt Type	
OUTPUT VOLTAGE DROP:	<100mV at 2.5A (OVD)	
INPUT VOLTAGE DROP:	<300mV at 2.5A (IVD)	
BATTERY OPERATION (Based on customization)	BATTERY TYPE	
	Lead Acid 12V	LFP 12.8
LOW VOLTAGE PROTECT:	9.5 V	10 V
LOW VOLTAGE DISCONNECT:	10.7 V	11.2 V
LOW VOLTAGE RECONNECT:	12.3 V	13 V
HIGH VOLTAGE DISCONNECT:	14.4 V	14.4 V
HIGH VOLTAGE RECONNECT:	14.3 V	13.8 V
HIGH VOLTAGE PROTECTION:	15 V	15 V
DUSK_SENSE	Panel Voltage < 0.4V	
DAWN_SENSE	Panel Voltage > 1V, 10 sec delay	
PROTECTIONS:	*Short Circuit / Overload *Reverse Battery *Reverse Solar Panel *Reverse flow of current from Battery to Panel during night *Lightening	
Electronic shutdown	If load>2.5A, load off and checks after 5 seconds automatically	
APPLICATION;	In Door Use Only	
OPERATING TEMP RANGE;	0 to 60 C	
DIMENSIONS:	60X48X16 (mm) McUD31L Open Frame	
	75x68x27 (mm) McUD31 Metal Housing	