



McUD85

Solar Street Light Controller



62093

User selectable wattage from 12W to 30W
Remote Monitoring System RMS
Solar Panel support of 125Wp
Battery Saver Mode

- McUD85 is Solar Charge Controller for LED street light for upto 30W load and 125Wp panel
- **Bluetooth Monitoring: Parameters of battery charging status, battery voltage, solar panel voltage, LED wattage can be seen on mobile app using Bluetooth.**
- **Remote Monitoring System RMS: All parameters of solar street light, battery and solar panel can be seen on mobile app and website from anywhere. Note that 4G network is required at place of installation of solar street light with RMS.**
- Microcontroller based for stability and accuracy
- On-board selectable loads. 12W/30W, 15W, 20W and 25W
- Automatic dusk to dawn operation
- On-board selectable dimming options
- On-board selectable timer options for dimming
- Motion sensor compatible
- Data of battery voltage, panel voltage and load wattage available
- Awakens battery if BMS disconnects
- Unique feature of Battery Saver Mode to utilise battery optimally.

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 with each controller undergoing quality control
- 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

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

SELF DIAGNOSTIC LED INDICATORS

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

EASE OF INSTALLATION AND USE

- 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

CUSTOMISATION

MODE SELECTION

NML
TM1
TM2



No Link Battery Saver Mode. For selected load, brightness is automatically adjusted between 100% and 30% depending upon the battery capacity available . Motion sensor is disabled.



NML. 100% light right from dusk to dawn. Motion sensor disabled.

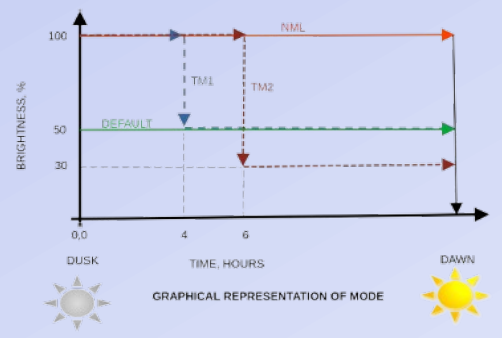


TM1 100% light for first 4 hours. Then 50% light till dawn. Motion sensor enabled during dim mode.



TM2. 100% light for first 6 hours. Then 30% light till dawn. Motion sensor enabled during dim mode.

MODE



LOAD SELECTION

15 20 25



No Link. 12W or 30W (optional)



Wattage selected is 15W.

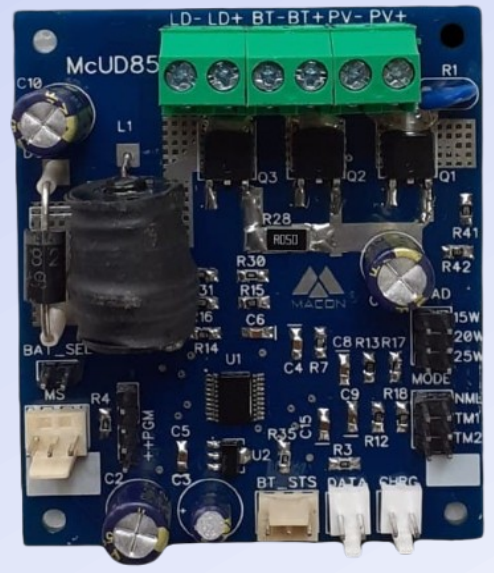


Wattage selected is 20W



Wattage selected is 25W.

LOAD



Please note
USING MORE THAN ONE LINK AT LOAD / MODE SELECT MAY
RESULT IN UNPREDICTABLE OPERATION.

BAT_SEL (battery selection)

Please see that battery selection is done before you proceed for other connections. Else it will result in erroneous operation of the controller.



With Link, 12V SMF



No Link, 12.8V LiFePO4

BAT_SEL

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.

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.

LED load connection



(Forward voltage of LEDs: 2.7 V to 3.4 V)



(Forward voltage of LEDs: 8.2V to 10 V)

SYSTEM:	12V Nominal	
CAPACITY:	Input Panel 125Wp/12V, 7Amax	
	Output 12W, 15W, 20W, 25W Customisable upto 30W	
REGULATION:	Low Loss, Series Type, 97% efficiency	
OUTPUT VOLTAGE DROP:	<100mV at 2.5A (OVD)2	
INPUT VOLTAGE DROP:	<300mV at 7A (IVD)	
BATTERY OPERATION (Based on customization)	BATTERY TYPE	
	Lead Acid 12V	LFP 12.8
LOW VOLTAGE DISCONNECT:	10.7 V	11.2 V
LOW VOLTAGE RECONNECT:	12.3 V	12.8 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 < 4V	
DAWN_SENSE	Panel Voltage > 5V, 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>4A, load off and checks after 5 seconds automatically	
APPLICATION;	In Door Use Only	
OPERATING TEMP RANGE;	0 to 60 C	
PCB DIMENSIONS:	72(L)x60(W)x20(H) in mm	
MOUNTING HOLE :	64X52 CtoC in mm, DIA 3.1 mm	