McUD173

Solar Street Light Controller

User selectable LED wattage 30 to 50W
Remote Monitoring System RMS
Solar Panel support of 275Wp
Second output of 2A capacity for blinker / CCTV
Battery Saver Mode

62093

- McUD173 is Solar Charge Controller for LED street light for upto 50W load and 275Wp 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.**
- On-board selectable loads. 30W, 36W, 40W and 50W
- 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
- Second output provided with 2A max capacity
- Unique feature of Battery Saver Mode for optimal use of battery.

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 full 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

- Red colour LED for battery status
- Green LED indicator for charge status
- Fault indication by the same LEDs blinking alternately

EASE OF INSTALLATION AND USE

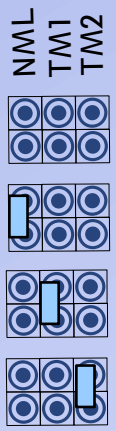
- Easily accessible terminals for connections.
- Open frame controller for LED loads suitable
- for fitting in housing

QUALITY CONTROL AND CERTIFICATION

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

CUSTOMISATION

MODE SELECTION

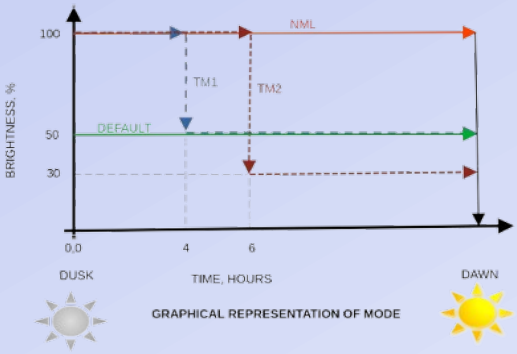


No Link Battery Saver Mode. For selected load, brightness is automatically adjusted between 100% and 30% depending upon the battery capacity available . Motion sensor is disabled.

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

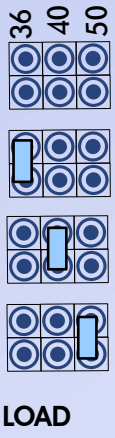
TM1 100% light for first 4 hours. Then 50% light till dawn. Motion sensor enabled during dim mode.

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



GRAPHICAL REPRESENTATION OF MODE

LOAD SELECTION



No Link. 30W

Wattage selected is 36W.

Wattage selected is 40W.

Wattage selected is 50W.

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

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 : Red LED.

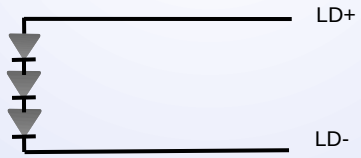
- Turns On when battery reaches LVD and disconnects the load.(BAT LOW)
- RED blinks if battery voltage is between LVD and LVR (BAT RESERVE)
- Turns Off when battery is HEALTHY (between LVR and HVD)
- Alternates Red (Bat Lo) and Green (Chrg) when battery >HVDD or over load. Load is disconnected. Charging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

6-WAY TERMINAL :

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

2-Way Aux: Bat out put available with 2A max (Unprotected)

LED load connection



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

(Forward voltage of LEDs: 8.2V to10 V)

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 275Wp/12V, 14Amax	
	Output 30W, 36W, 40W, 50W Customisable upto 50W	
REGULATION:	Low Loss, Series Type, 97% efficiency	
OUTPUT VOLTAGE DROP:	<150mV at 5A (OVD}2	
INPUT VOLTAGE DROP:	<350mV at 15 A (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>6A, load off and checks after 5 seconds automatically	
APPLICATION;	In Door Use Only	
OPERATING TEMP RANGE;	0 to 60 C	
PCB DIMENSIONS: MOUNTING HOLE :	72(L)x72(W)x20(H) in mm 64X64 CtoC in mm, DIA 3.1 mm	