



McUD20Z 24V



62093

*MPPT based Solar Charge Controller
For Street Lights, High Mast, Flood Lights
Solar Panel upto 650Wp/24V
Lighting Load upto 160 W
Driver with dimming option
Data output for monitoring parameters*

- *McUD20Z is MPPT based Solar Charge Controller for LED street light for upto 160W load and 650Wp solar panel*
- *User selectable load from 100W to 160W*
- *User selectable dimming options*
- *User selectable timer options for dimming*
- *Motion sensor compatible*
- *Data output of battery, solar panel and lamp available*
- *Bluetooth compatible (optional)*

SALIENT FEATURES

- **24V solar panel to charge 24V battery in MPPT mode.**
- Suitable for all types of batteries, SMF, LFP, LITHIUM ION.
- Full electronic protections.
- State of art design to save energy, extend battery life and self diagnosis.
- LED Indicators for battery and solar panel status.

PROTECTIONS:

- Full Electronic protection against
 - 1 Over load
 - 2 Short circuits.
 - 3 Over charge
 - 4 Deep discharge
 - 5 Reverse flow of current from battery to panel during night.
 - 6 Lightening.
- Epoxy coating of electronics for protections against humidity and dust.

LED INDICATORS

- Battery Low indicator
- Charging indicator

SAVES ENERGY

- High efficiency MPPT control to regulate the battery and load.
- Extremely efficient LED driver and low loss devices to save battery power.
- Negligible IVD and OVD
- Negligible no-load current

LONGER BATTERY LIFE

- Charging as per battery chemistry.
- Low voltage disconnect of load from battery.
- Over voltage disconnect of battery from panel.

QUALITY CONTROL AND CERTIFICATION

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

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.

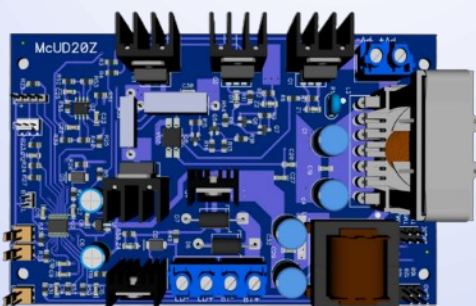
BAT LO:

- ➔ RED LED Stable.(BAT LOW, Load Off)
- ➔ RED LED Blinks (BAT RESERVE)
- ➔ OFF if battery is healthy

TERMINALS :

PV+/PV- : Solar Panel
BT+/BT- : Battery
LD+/LD- : Load

DATA
MS: Motion sensor



24V Battery	Solar Panel: 650Wp/24V, 15Amax (Voc<=60V)		
LED WATTAGE	100W, 120W, 140W, 160W		
REGULATION:	MPPT Low Loss, Series Type, 97% efficiency		
OUTPUT VOLTAGE DROP:	<300mV at 15A (OVD)		
INPUT VOLTAGE DROP:	<300mV at 15A (IVD)		
BATTERY OPERATION	BATTERY TYPE		
	Lead Acid 24V	Li Ion 22.2V	LFP 12.8V/25.6V
LOW VOLTAGE DISCONNECT:	21.5V	19.5V	22.5V
LOW VOLTAGE RECONNECT:	24.5V	22.5V	26V
HIGH VOLTAGE DISCONNECT:	28.8V	25.2V	29V
HIGH VOLTAGE RECONNECT:	28.5V	24.5V	27.5V
HIGH VOLTAGE PROTECTION:	30V	27V	30V
DUSK_SENSE	Panel Voltage < 8V 1 sec delay		
DAWN_SENSE	Panel Voltage > 10V, 10 sec delay		
PROTECTIONS:	<ul style="list-style-type: none"> * Short Circuit * Overload * Reverse Battery * Reverse Solar Panel * Reverse flow of current from Battery to Panel during night * Lightening 		
Electronic shutdown	If load>overload, load off and checks after 5 seconds automatically		
Motion Sensor	Full light for 30 sec then reverts to set dim mode		
OPERATING TEMP RANGE	0 to 60 C		
PCB DIMENSIONS:	142L x 90W x 35H (All dimensions in mm)		
MOUNTING HOLE :	134 x 70 (Centre to centre in mm)		

CUSTOMISATION

MODE SELECTION

NML
TM1
TM2



No Link: Battery saver mode



NML: 100% light right from dusk to dawn.



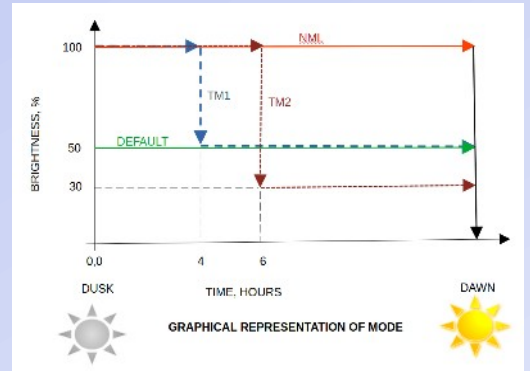
TM1: 100% light for first 4 hours. Then 50% light till dawn



TM2: 100% light for first 6 hours. Then 30% light till dawn.

MODE

NOTE: Motion Sensor, if used, is enabled during Dim operation.



LOAD SELECTION

120
140
160



80W No Link



120W.



140W



160W

LOAD

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

BAT_SEL (battery selection)



If short link is placed here, controller will select Li Ion battery 22.2V nominal.



If no short link is placed here, controller will select LiFePO4 battery 25.6V nominal.

BAT_SEL



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