



AN ISO 9001-2008 CERTIFIED COMPANY

McUHM



Conforms to IEC 62093

McUHM is developed with the view to providing easy and ready-to-use solution for solar home lighting system upto output load of 40W and panel input of 40Wp. Its fuse-less design comes with all protections electronically for output short, overload and reverse connections. It is suitable for all types of batteries, SMF, LEAD ACID, TUBULAR, LITHIUM ION or LITHIUM IRON PHOSPHATE depending upon the desired software provided as required at the time of dispatch.

Microcontroller Based
Solar Charge Controller 12V/3.5A
Dimmable output.
Mobile Charging
On-board Battery type selection
Electronic over-load protection

It is preinstalled with two types of batteries. Version 11 comes with battery type LEAD ACID 12V and Lithium Ion 11.1V. You can select any of the two types. Version 12 comes with preinstalled software for Lithium Ferro Phosphate 12.8V and Lithium Ion 11.1V.

DC output is fully protected against over current or short circuit electronically without fuse. This output can be controlled to dim the LED bulbs in four steps of 25%.

High efficiency Mobile charging output is provided with 700mA charging current.

The controller has 8-way terminal for making connections to panel, battery and outputs with polarities marked on it.
PV+ /PV- : Solar panel upto 40Wp/12V can be connected with proper polarities marked.

BT+ /BT- : Any battery of type Li Ion 11.1V or LFP 12.8V or SMF/TUBULAR 12V can be connected based on the relevant software for specific battery only.

DM+ /DM- : Any dc load like LED bulbs can be connected to these terminals which can be controlled for dimming with SET_DIM switch provided.

MBL+ /MBL- : Terminals for mobile charging. Output is 5.6V/700mA

INDICATORS/SWITCHES:

SET_DIM: Push switch. When pressed multiple times, bulbs will dim in steps of 25%

CHR: Green LED to indicate charging, ON only if panel voltage is more than battery voltage. Turns off when battery is fully charged.

OVR: Red LED. If the combined load exceeds 3.5A, it will be instantly on and loads are disconnected. Controller will again check after 5 sec if load is reduced. If yes, load will be on again.

BAT_STS (bicolour led) : If battery goes below LVD, it will be RED and loads are disconnected. If RED is on-off alternately, battery is in lower reserve mode.

If battery is above LVR, it will be GREEN. For loads to be on for the first time, this LED must be GREEN.

Once loads are on, operation will continue till it reaches LVD.

NOTE: If battery voltage is dangerously high, Bicolour LED will be alternately Green and Red. Entire circuitry is disabled.

Although the controller is the same for all types of batteries, software is different for different types of batteries depending upon charge/discharge algorithm of battery.

Salient features:

- ✦ 16-bit microcontroller based 12V / 3.5A continuous capacity.
- ✦ Independent high efficiency mobile charging output
- ✦ Switch to select the dimming of the load
- ✦ Electronic over load / short circuit protection with auto recheck.
- ✦ 40Wp panel in and 3.5A load output
- ✦ Best suited for small solar home lighting system.

Specifications:

Panel Input: 40Wp max/ 12V nominal
 Battery: 12V Lead Acid, 11.1V Li Ion, 12.8V LFePO4
 Output: 3.5A max, total current including load+mobile
 Mobile Out: Mobile charging out, 5.6V/700mA
 Indicators: **Battery status-**

BICOLOUR: GREEN-- Normal (LVR)
 RED Blink---Rreserve
 RED--Low Battery (LVD)

Over Load (RED)- Auto resets after 5 sec delay

Charging (GREEN)- when panel is sufficient to charge

Set_Dim: Switch to select dimming of load