



AN ISO 9001-2008 CERTIFIED COMPANY

## McUH15

**Microcontroller Based  
Solar Charge Controller  
12V/12A Continuous  
Surge upto 15A**

**USB PORT FOR MOBILE CHARGING: NORMAL OR DUSK TO DAWN OPERATION  
BATTERY STATUS BAR GRAPH DISPLAY: FULL ELECTRONIC PROTECTIONS WITHOUT FUSE**

**McUH15** is developed with the view to providing easy and ready-to-use solution for solar home lighting system upto output load of 150 W and panel input of 200Wp. 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.

For lead acid types, temperature compensation for charging and equalization mode are provided as an option if needed.

It doesn't stop here. By default, it can operate in normal mode as well as dusk-to-dawn operation by pressing the switch on display board itself.

DC output is fully protected against over current or short circuit electronically without fuse.

Mobile charging is another feature normally required in home lighting system. On-board USB is provided with high efficiency mobile charging circuitry built-in.

LED bar graph display on board to indicate the battery status- low, reserve, normal and full.

Available in open frame or in enclosure.

The controller has 6-way terminal for making connections to panel, battery and output with polarities marked on it.

PV+/PV- : Solar panel upto 200Wp/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.

LD+/LD- : Any dc load like fan, bulbs, sound system, radio etc can be connected.

MBL : USB port for mobile charging. Output is 5.6V/700mA

#### INDICATORS/SWITCHES:

SET\_D2D: Tact switch. If put on D2D, entire operation will be D2D for all the loads. Else, it will be normal controller.

When pressed if D2D LED is on, the operation is D2D. If pressed agains, D2D LED is off and operation is normal.

D2D: Red LED. If on, the operation is dusk to dawn. If off, operation is normal.

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

OVR: Red LED. If the combined load exceeds 15A, 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.

If load is more than 12A but less than 15A, load will be on only for 3 sec and then it will go to overload condition and operation will be as above.

Thus starting surge of 15A for less than 3 sec is acceptable for normal working.

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. Turns on-off if battery is in upper reserve mode. 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.

FUL: Green LED. If battery is full.

*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 / 12A continuous capacity.
- ✦ USB port for mobile charging. High efficiency charger.
- ✦ Switch to select normal mode or dusk-to-dawn mode.
- ✦ Bar graph display to show battery status.
- ✦ Temperature compensation for battery charging (optional).
- ✦ Electronic over load / short circuit protection with auto recheck.
- ✦ 200Wp panel in and 12A load output
- ✦ Best suited for solar home lighting system.

### Specifications:

Panel Input: 200Wp max/ 12V nominal  
 Battery: 12V Lead Acid, 11.1V Li Ion, 12.8V LFePO4  
 Output: 12A max, total current including load+mobile  
 USB Port: Mobile charging out, 5.6V/700mA  
 Indicators: **Battery status-**

**BICOLOUR:** GREEN-- Normal (LVR)  
 GREEN Blink--Upper reserve  
 RED Blink---Lower reserve  
 RED--Low Battery (LVD)

**GREEN:** Battery fully charged

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

**Charging (GREEN)-** when panel is sufficient to charge

**D2D (RED)-** On when mode is dusk to dawn

D2D: Switch to select normal or d2d mode



**MFG BY:**  
**MACON POWER (P) LTD**  
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