

# User's Manual

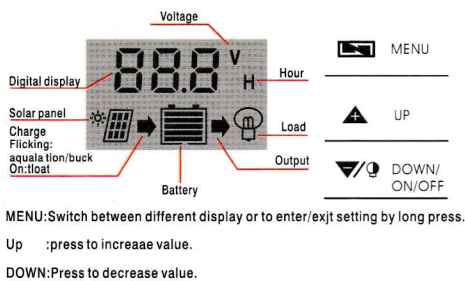
## SAFETY INSTRUCTIONS

1. Make sure your battery has enough voltage for the controller to recognize the battery type before first installation.
2. The battery cable should be as short as possible to minimize loss.
3. The regulator is only suitable for lead acid batteries: OPEN, AGM, GEL. It is not suited for nickel metal hydride, lithium ions or other batteries. Never connect another charging source to the charge regulator.
4. The charge regulator is only suitable for regulating solar modules.

## PRODUCT FEATURES

1. Build-in industrial micro controller.
2. Big LCD display, all adjustable parameter.
3. Fully 3-stage charge management.
4. Build-in short-circuit protection, open-circuit protection, reverse protection, over-load protection.
5. Dual USB output, the maximum current of 2.5A, to support Apple's mobile phone charging.
6. Dual mosfet Reverse current protection, low heat production.

## LCD DISPLAY/KEY

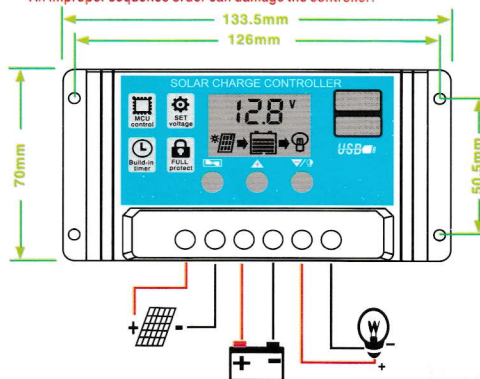


## SYSTEM CONNECTION

1. connect the battery to the charge regulator-plus and minus.
2. Connect the photovoltaic module to the regulator-plus and minus.
3. Connect the consumer to the charge regulator-plus and minus.

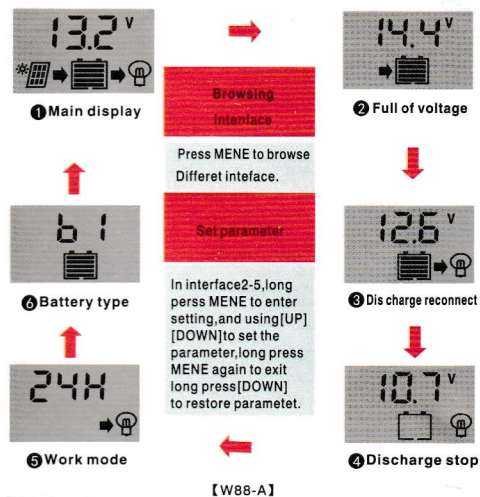
The reverse order applies when deinstalling!

An improper sequence order can damage the controller!



Note : 12V battery with 18V solar panel, 24V battery with 36V solar panel

## LCD DISPLAY/SETTING



Attn:

1. Press the [DOWN] button to ON/OFF load manually at main display.
2. The work mode is working as below.

[24H] load output 24 hours

[1-23H] load on after sunset and dosed after setting hours

[OH] Dusk to dawn

## TROUBLE SHOOTING

Situation	Probable cause	Solution
Charge icon not on when sunny	Solar panel opened or reversed	Reconnect
Load icon off	Mode setting wrong	Set again
	Battery low	Recharge
Load icon slow flashing	Over load	Reduce load watt
	Short circuit protection	Remove short circuit, 1 minutes or so automatic recovery
Power off	Battery too low/reverse	Check battery/connection

## TECHNICAL PARAMETER

Batt voltage	12V/24V auto					
MODEL	W88-A	W88-B	W88-C	W88-D	W88-E	W88-F
Charge current	10A	20A	30A	40A	50A	60A
Discharge current	10A	10A	10A	30A	30A	30A
Max solar input	12V battery, the highest 23V; 24V battery when the highest 46V					
Equalization	B1 sealed 14.4V		B2 gel 14.2V		B3 flood 14.6V	
Float charge	14.4V (default,adjustable)					
Discharge stop	10.7V (default,adjustable)					
Discharge reconnect	12.6V(default,adjustable)					
Charge reconnect	13.2V					
Voltage of open light	Solar panel 8V(Light lights delay)					
Voltage of close light	Solar panel 8V(Light off delay)					
USB output	2 way USB output. 5V/2.5A(MAX)					
Self-consume	<10mA					
Operating temperature	-35 ~ +60C					
Size/Weight	133.5 * 70 * 35mm / 165g					

\*All red color voltage x2 while using 24V system

\*This instruction is a general manual, such as a slight difference in the physical.

\*Product specifications are subject to change without prior notice