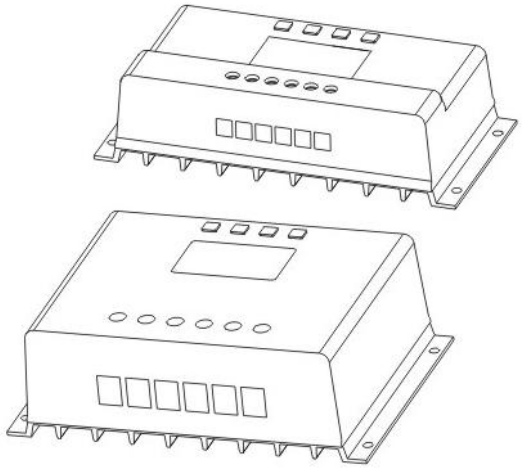
INTELLIGENT SOLAR CHARGING AND DISCHARGING CONTROLLER USERS MANUAL



This is a compatible MPPT charge controller PWM intelligent/ efficient / energy saving, he not only has efficient MPPT contreller charging function to automatically track the maximum power point, 10% -30% higher than the ordinary controller charging efficiency, also has standby energy saving, more than30% energy than ordinary controller, the standby power consumption of only 15mA.MPPT is the maximum power point tracking;PWM is an intelligent charging mode;

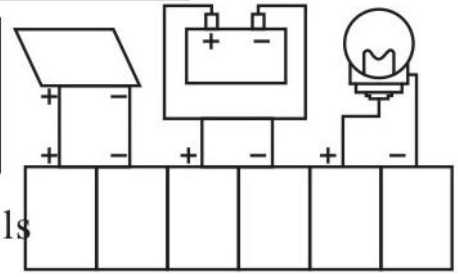
I :Product introduction

Solar LCD series a kind of intelligent,multi–purpose solar charge and discharge controller

LCD screen display	Battery reverse discharge protection
Easy operation interface	Battery reverse polarity protection
MPPT+PWM charging mode	Battery under voltage protection
Parameter user can reset	Overload,short–circuit protection
A key to open and close the load	A utomatic temperature compensation function
A key to restore the factory settings	USB 5V charging（for500mA) for mobile phone

II :Installation Instructions

Installation (Installing wires,first loosen the screw counterclockwise)



①Ready Qi installation tools and materials,and cable. Please matching suitable cable

②Ensure that the current density <4A/mm2 this will help reduce the line pressure drop.
Check the installation site meets the relevant safety requirements, avoid damp, dusty, flammable, explosive and corrosive gases

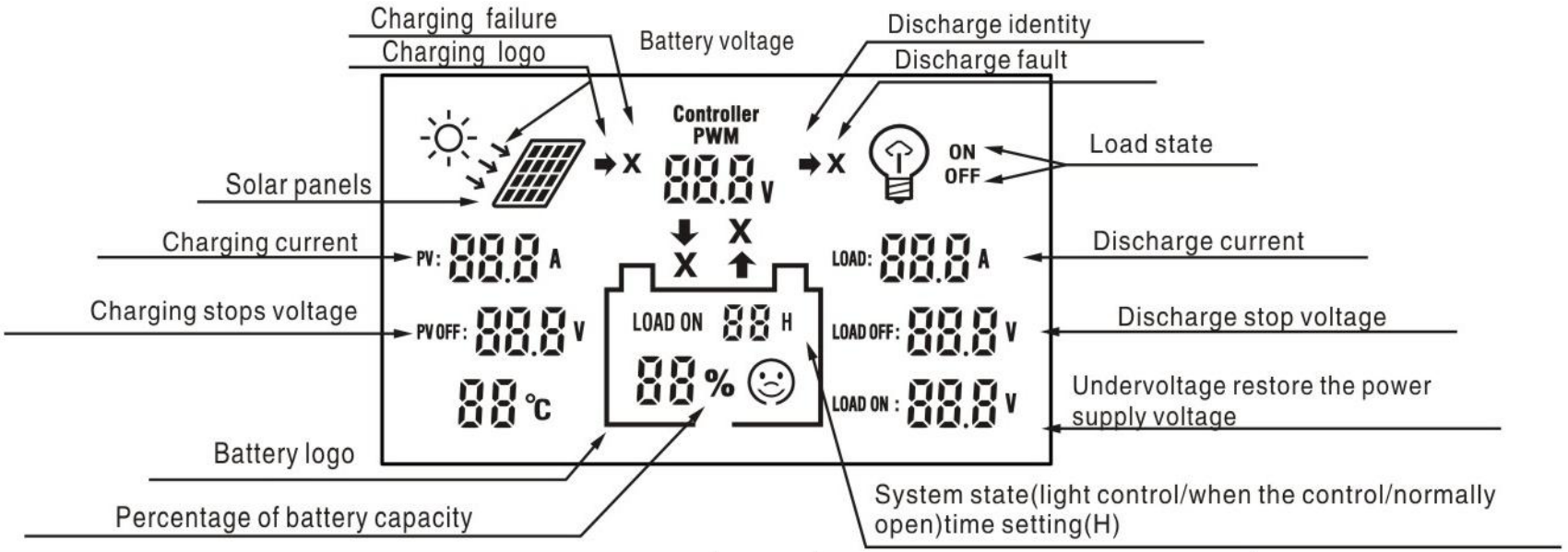
③Install the controller fixed to the vertical plane, see Section V mounting aperture and hole spacing. In order to ensure a good controller cooling conditions, the controller on the lx)ttom of each reserved 10cm space

④As shown on the right wiring sequence: load, battery, solar Battery plate is connected to the controller to be taken to ensure that the load, battery, The polarity of the solar cell panel and controller

⑤Before use:external temperature sensor probe into the left of the controller temperature probe interface probe placed in similar battery temperature. (Line extension) must be built-in devices of the external temperature probe coextensive Otherwise, the controller will control parameters of the temperature compensation of the error

⑥Warning:In order to prevent accidents from occurring, install: non-professionals can not be engaged in loading and nuloading operations

Ⅲ: LCDoperating interface description



1、LCD graphic symbol description

LOAD ON 1 H---23H
Load control (1hour — 23hours canbe set)

LOAD ON 24H 24 hour–is normally open state	
0h–light control mode,power supply load after dark closed after daybreak the load 24h represents a normal mode,in the case of no fault,the load is always in the power supplystate. 1h~23h light control delay mode, after dark began to power the load,andelay to set the time to close the load.	
PV: 88.8 A Charging current	PV: 88.8 A Discharge current
PV OFF: 88.8 V Voltage charging station (can be set)	LOAD OFF: 88.8 V Undervoltage protection voltage (can be set)
88 ℃ Temperature display(around the probe)	LOAD ON : 88.8 V Undervoltage recovery voltage (can be set)

2、Function keys:

⇐⇒ Toggle key	"+"Set parameters: "plus"	"+"Set parameters: "Minus"	Manual switch load
Long press and hold this button for 5 seconds to restore the factory settings			
" "error or system failure, click this button, you can troubleshoot or eliminate" "			

3 Parameter settings
⩾**5**seconds Keystrokes,parameters are saved automatically)

⇐⇒ PVOFF:88.8V➡LOAD ON: 24H➡LOAD OFF:88.8V➡LOAD ON:88.8V (Set order(automatic cycle)	
✚ Patameters " " setting	▬ Patameters " " setting
This button can be"manually"open load or manually close the load. Long press and hold this button for 5 seconds to reatore the factory settings "x"error or system failure,click this button,you can troubleshoot or eliminate"x"	

IV.Common fault with processing methhods

Battery under-voltage protection	Battery normal power supply

a) Undervoltage protection and handling: screen display as shown on the right indicates the battery voltage is below the undervoltage protection coltage, the controller has entered undervoltage
b) Retaining state, disconnect the load citcuit. Using solar panels or charger to charge the battery when the accumulator
c) After the battery voltage reaches the undervoltage recovery voltage, the controller will restore power to the load, into normal working condition

1)Overload protection and processing methods:

The screen shown at right load circuit current is greater than the rated current or load short-circuit,overload state controller has entered. Reduce the load troubleshooting,press the button, restore power to the load

× OFF System fault	OFF or ON Fault has ruled out

2)To charging failure handling method

a)Solar energy to battery charging,if there is no correct configuration solar pancls of power or exceed rated charging current,voltage,will appear charge fault,the checking and debugging,press the button,recoverability work.k

× Charge fault	Fault has ruled out

3)Solar panels fault and proccssing:

a)24hours in the case of sun light, the controller is not charging, the solar energy is not connected or not connected correctly,check the solar panel to the connectiong cable of the controller is open, troubleshooting,recoverability work.

No solar charge	Are charging

V.Paramcter table

Parameters/Model	Mp30	MP50	MP60	Mp80
Maximum power current	30A	50A	30A	80A
Installation Lin (mm^2)	10mm^2	15mm^2	20mm^2	25mm^2 / 3AWG
Weight	380g	750g	800g	850g
Dimensions	188X93X50(mm)	188X128X61(mm)		
System load loss	≤13mA			
Loop Buck	≤100mV			

Battery float voltage	13.8V(12V system) /27.6V(24V system)
Battery(under voltage)protection	10.6V(12V system) /21.2V(24V system)
Battcry(undcr voltage)rccovcry voltage	12.6V(12V system) /25.2V(24V system)
Charge mode	MPPT+PWM MODE
Opcrating Tcmpcrature	-10℃~60℃
Storage Tcmpcraturc	-30℃~70℃
Humidity rcquircmcnts	≤90%, No condensation
Tcmpcraturc compcnsation	-4mV/Cell/℃
Temperature Probe(built components)	NTC 100K thermistats
Maximum open circuit voltage of the solar panel	18V-24V(12V system) 36V-48V (24V system)
olar panels maximum open circuit voltage(V)	≤48V