

CONTROLLER



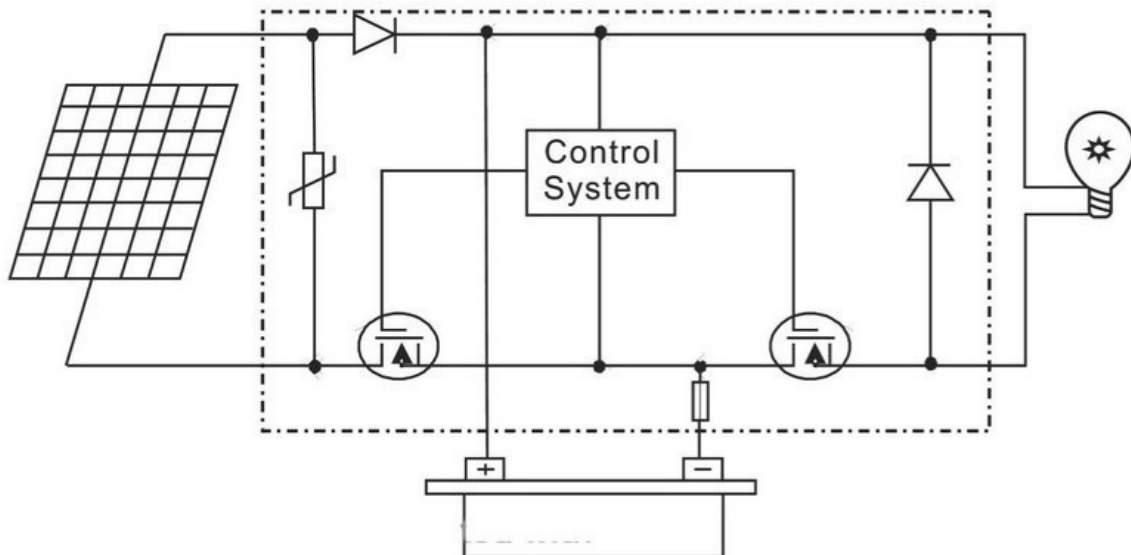
Please read this instruction carefully before operation !

BRIEF INTRODUCTION

Sun-generated electric power is a power converted from solar energy and stored in the solar battery. It can be used for illumination in pasturing area, frontier defence, island, and also can be used as DC power for mobile communication base stations, microwave stations, etc. One of the key parts of the solar power system is the solar controller, the performance of which directly influences the service life of the system, especially that of the battery. In any case, over-charging & over-discharging will be severely harmful to the solar battery, thus, greatly affecting the cost performance of the overall system due to frequent replacement of the batteries.

Model SLC Solar power controller adopts unique electric circuit and non-contact control technology as well as has various protection functions. The battery will turn to floating status automatically when over charging. Followings are its characteristics:

- Prevent against battery open circuit
- Protection against over-load voltage
- Balanced charge
- Prevent the battery from over-charging/over-discharging
- Prevent from reverse charging during nights
- Protection against wrong polarity connection of the solar battery
- Protection against wrong polarity connection of the battery
- Protection against output short-circuit



Principle Diagram of the Controller

MAIN TECHNICAL DATA

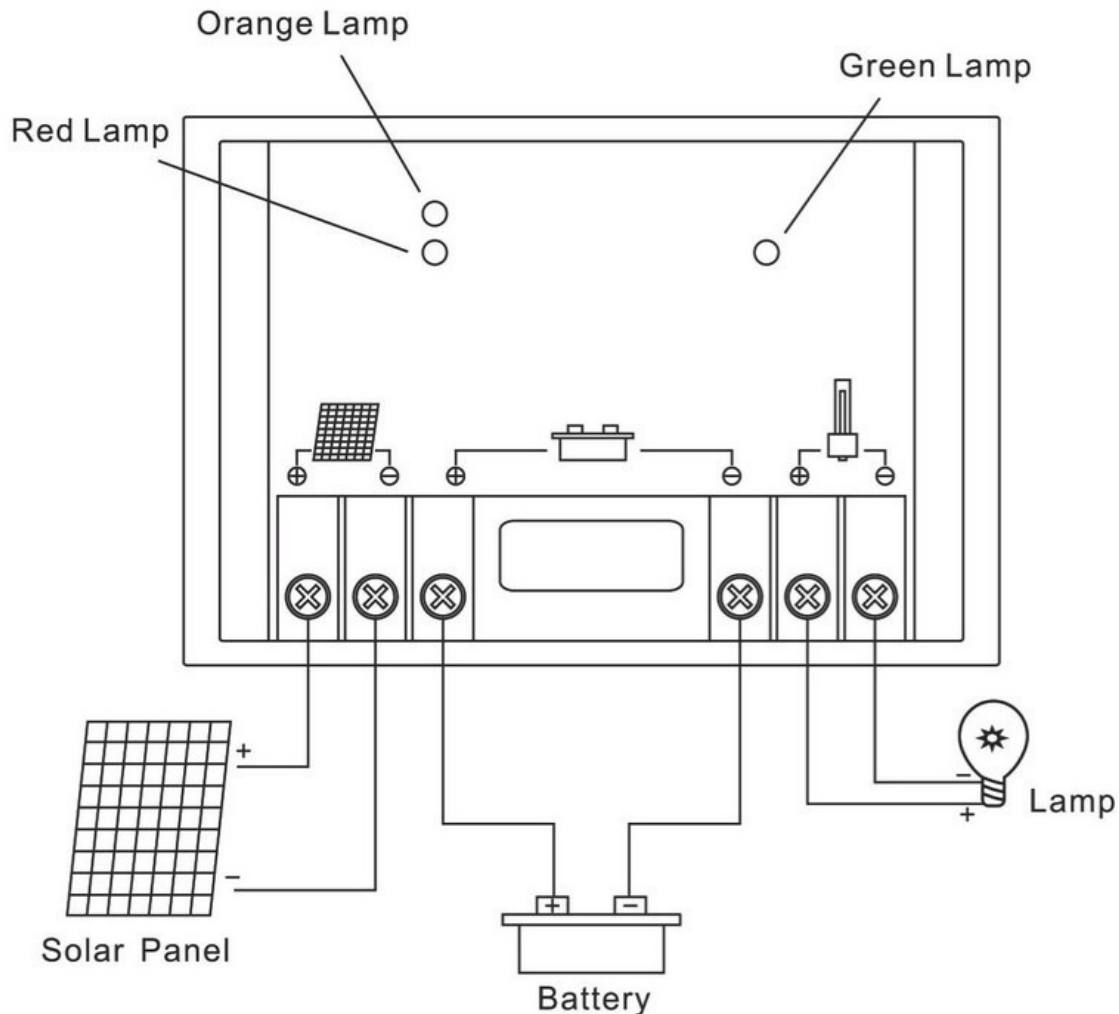
Item	Model	TP-SC24-8
Rated voltage(V)		12/24(Automatic Switching)
Rated current(A)		8
Permissible max. solar charge current(A)		8
Permissible max. solar charge voltage(V)		25/50
Max. power of solar panel(W)		120 / 240
Final maintaining charging Voltage(V)		13.8±0.2/27.6±0.2
Over-charging protection voltage(V)		14.4±0.2/28.6±0.2
Over discharge voltage(V)	Off	11.0±0.2/22.0±0.2
	On	12.4±0.2/24.8±0.2
Non-load current(mA)		<10
Voltage drop between solar power and battery(V)		<0.3
Voltage drop between battery and load(V)		<0.3
Operation ambient temperature (°C)		-20°C~+50°C
Operation altitude (m)		≤5,500

PROTECTIVE FUNCTIONS

Protective Function	Description
Protection against reverse polarity connection of the battery	When the polarities of the battery (+ & -) are connected reversely, the controller doesn't work. Make correction for continuous operation.
Protection against reverse polarity connection of the solar power system	When the polarities of the solar power system (+ & -) are connected reversely, make correction for continuous operation.
Over-load current & short-circuit protections	When the load current exceeds the maximum permissible one, or short-circuit occurs, the fuse will be blown. Replace the fuse for continuous operation.
Protection of battery open circuit	When battery is open-circuit, the controller will not work due to there's no electrical power.

SETUP & USE

Please connect wires according to the connection terminal scheme of the controller box. Pay attention to the polarities of + and -. Connections of the battery should be made first and then that of the solar cells. The last connections are made to the load. For disassembling, first disconnect the load and then the solar cells. Finally, disconnect the battery!!



- Orange Lamp: ON ---- The controller connects well
Flash---- Controller is under charging
- Red Lamp: ON ----Battery is fully charged
- Green Lamp: ON----- load output is OK

After completing the connections, the whole system can work normally. If the green lamp is OFF, it means battery voltage is too low. After charging, It can work properly again.

SAFETY WARNING AND MATTERS FOR ATTENTION



Don't connect any voltage stabilizer or charger to solar panel's terminals to avoid damage to the controller.



Don't connect battery directly to the solar panel's terminals!



Pay attention to the polarity of solar panel, battery and load. It is not allowed to have connection reversely!

TROUBLESHOOTING

Trouble	Troubleshooting
No indication/ No output	Make sure if the battery is well connected. Make sure if the fuse is broken. Make sure if the solar panel is well connected.
Charging lamp is OFF	Make sure if the solar panel is well connected. Make sure if the solar panel's output voltage is normal.

COMMON ACCESSORIES

Name	Type
Fuse	7,5A/32V

Tycon Power Systems	PH: 801-432-0003
693 Draper Heights Way	FAX: 801-618-4220
Draper, UT 84020	http://tyconpower.com