4. Indicators Description and Operation

Indicator	Status	Instruction
PV	On Solid	Photovoltaic(PV) connection normal but low voltage (irradiance) from PV, no charging
	Off	NO PV voltage(night time) or PV connection problem
	Slowly Flashing	Charging
	Fast Flashing	System over Voltage
BATT	On Solid	Normal
	Off	No connection
	Double Flashing	Full
	Slowly Flashing	Under voltage
	Fast Flashing	Over discharged
LOAD	On Solid	Load ON
	Off	Load OFF
	Slowly Flashing	Over Load
	Fast Flashing	Short Circuit

(2) Operation

Step 1: Long press key switch for 3 seconds, the mode number will flash.

Step 2: When indicator flash, press key switch to select suitable mode number. Mode number shows battery type as below table.

Step 3: Press key switch for 3 seconds to confirm battery type.

Step 4: Controller will re-start automatically.

• The key can be used to operate switching on/off the load.

• Default setting for loading is off.

Mode	Battery
1	Seal lead-acid battery
2	Gel lead-acid battery
3	Flooded lead-acid battery
4	LiFePO4-4S
5	LiFePO4-8S

5. Troubleshooting

Faults	Possible reasons	Troubleshooting
Charging LED indicator off during daytime when sunshine falls on PV modules properly	PV array disconnection	Check that PV and battery wire connections are correct and tight
Charging Status LED indicator fast flashing	Battery voltage higher than over voltage protection.	Disconnect the solar array and measure the battery voltage to see if it is too high
Load indicator fast flashing and load not working	Short circuit	Clear short circuit.
Load indicator slowly flashing and load not working	Over load	Remove over load.

6. Technical Specifications

Nominal system voltage	12VDC	
Max. PV input voltage	50V	
Rated current	20A	
Over Voltage Disconnect Voltage	Lead-acid battery	17V(12V)
	Lithium battery	16.6V(12V)
Low Voltage Reconnect Voltage	Lead-acid battery	12.5V(12V)
	Lithium battery	12V(12V)
Low Voltage Disconnect Voltage	Lead-acid battery	11V(12V)
	Lithium battery	10V(12V)
Working temperature	-30˚C~+55˚C	
Enclosure	IP67	

7. Disclaimer

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

20A PWM
SOLAR CONTROLLER

PLU637047 CODE:SL2420
Manufactured & packaged for SRGS PTY LTD
ABN 23 113 230 050
6 Coulthards Avenue Strathpine QLD 4500, Australia
MADE IN CHINA

1. Safety Information

- Read all of the instructions in the manual before installation.
- DO NOT disassemble or attempt to repair the controller.
- Do disconnect the solar module before installing or moving the controller.
- Power connections must remain tight to avoid excessive heating from a loose connection.
- Only charge batteries that comply with the parameters of controller.
- Battery connection may be wired to one battery or a bank of batteries.
- Risk of electric shock due to the high voltages produced, from the photovoltaic (PV) and load when controller is in use.

2. Overview

This solar charge controller adopts the most advanced digital technique and operates fully automatically.

It is ideal for extreme environments with corrosion, dust, water etc and has various unique functions.

Features:

- Electronic protection: Over charging, over discharging, overload, short circuit and reverse protection of solar module.
- High efficient Series PWM charging, increase the battery lifetime and improve the solar system performance.
- Battery LED indicate battery status.
- Industrial design, wide application range

3. Features And Mounting

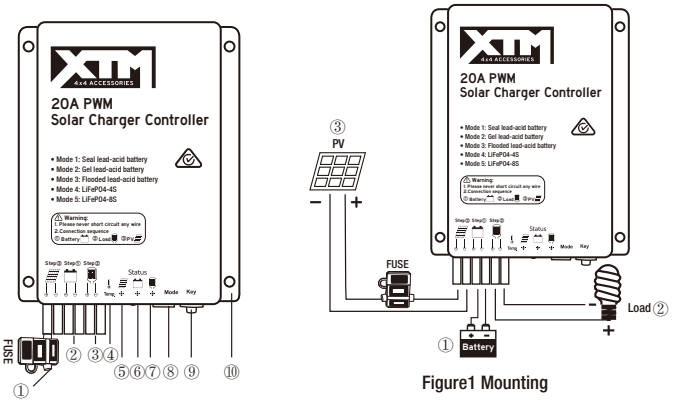

Figure1 Mounting

①	Solar Module Terminals With Fuse	⑥	Battery Status LED Indicator
②	Battery Terminals	⑦	Load Indicator
③	Load Terminals	⑧	Mode Display
④	Temperature Sensor	⑨	key
⑤	Charging Status LED Indicator	⑩	Aluminum Housing

● Mounting

1) First connect the battery then connect load, if using a 12VDC load connect to the charge controller. Finally connect the solar panel to the charge controller. Note the "+" and "-" when connecting.

Incorrect connection will damage the controller

(2) The battery will be powered when the battery LED indicator turns red. If it does not turn red refer to point 5. Troubleshooting