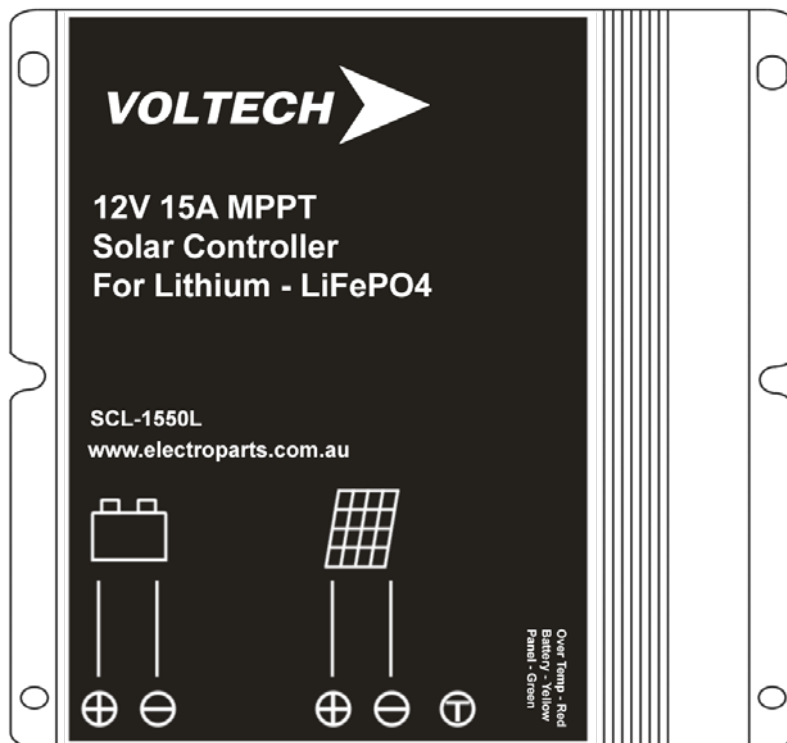




12V 15A

MPPT Solar Controller

Lithium Battery (LiFePO4) Compatible



SCL-1550L

User Manual

CE, Rohs, ISO9001:2015
Subject to change without notice.

Dear Clients,

Thanks for selecting the MPPT series solar controller. Please take the time to read this user manual, this will help you to take advantage of controller’s new features. This manual gives important recommendations for installation and so on. Read it carefully in your own interest please.

1.Description of Function

MPPT series Solar controller charging efficiency is about 20% higher than traditional PWM controllers.

- Innovative Max Power Point Tracking (MPPT) technology, tracking efficiency >99.9%
- Full digital technology, high charge conversion efficiency up to 97.5%,
- Preprogrammed for Lithium (LiFePO4) type batteries.
- Also suitable for AGM/Sealed Batteries.
- IP67, Strong and durable aluminum case
- Full automatic electronic protect function

2.Safety Instruction and Waiver of Liability

2.1 Safety

1. The solar charge controller may only be used in PV systems in accordance with this user manual and the specs of other module manufacturers. No energy source other than solar panels (PV), may be connected to the solar charge controller.

2. Batteries store a large amount of energy, never short circuit a battery under all circumstances. We strongly recommend connecting a fuse directly to the battery to protect any short circuit at the battery wiring.

3. Batteries can produce flammable gases. Avoid making sparks, fire or any naked flame. Make sure that the battery room is ventilated.

4. Avoid touching or short circuiting wires or terminals. Be aware that the voltages on special terminals or wires can be as much as twice the battery voltage. Use isolated tools, stand on dry ground, and keep your hands dry.

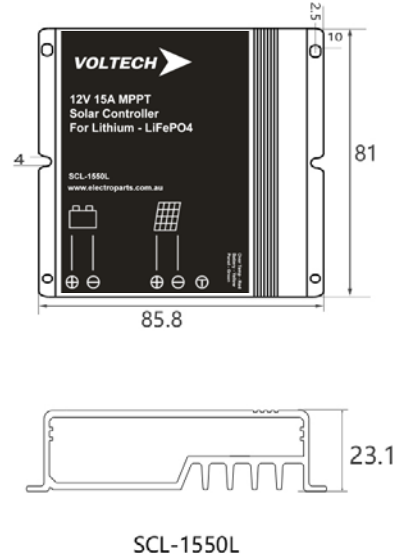
5. Keep children away from batteries and the charge controller.

2.2 Liability Exclusion

The manufacturer shall not be liable for damages, especially on the battery, caused by use other than as intended or as mentioned in this manual or if the recommendations of the battery manufacturer are neglected. The manufacturer shall not be liable if there has been service or repair carried out by any unauthorized person, unusual use, wrong installation, or bad system design.

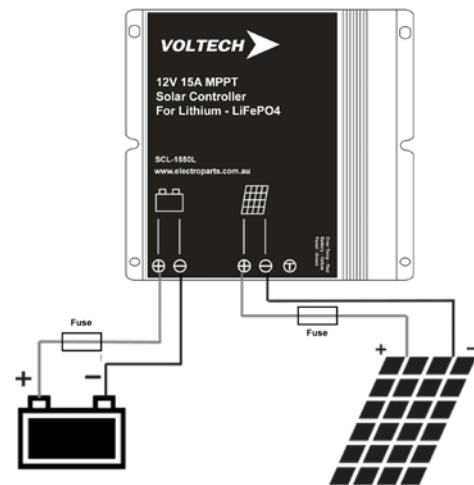
3.Dimensions (Unit:mm)

3.1 Controller dimensions



4. Installation

Connection diagram example



1. Connect battery with the corresponding red (positive) and black(negative) cables.
2. Connect panel with the corresponding red (positive) and black/green (negative) cables, the load will be off after 5s, and the controller begins charging.
3. Refer to 6.1 LED indications and Faults & Alarms to confirm the LED display status.

- Make sure the wire length between battery and controller is as short as possible.
- Recommended minimum wire size:4 mm².

5. Starting up the controller

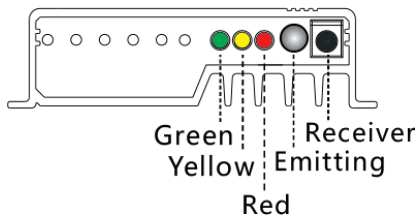
5.1 Self Test

As soon as the controller is connected to the battery, it starts self test. If all OK it then changes to normal operation.

5.2 Battery Type

This Controller is pre-set for Lithium (LiFePO4), But can also be used on AGM/GEL, & other types of Battery which require a Boost Voltage of 14.4V. As there is no actual Float Stage the Controller will resume Boost Charging when Battery Voltage falls to 13.5V as specified.

6. LED Indications and Faults & Alarms



6.1 LED Display Explanation (LiFePO4)

LED	Status	Function
Green LED	On	Ready/Battery Full
	Fast flash (0.1/0.1s)	Charging to CVT
	Flash (0.5s/0.5s)	Boost Charging
	Slow flash (0.5/2s)	Charging final stage
Yellow LED	Off	Over voltage protection
	On	Battery is normal
	Slow flash (0.5/2s)	Battery voltage is low
	Fast flash (0.1/0.1s)	Low voltage protection
Red LED	Off	Work normal (Standard version)
	Flash (0.5s/0.5s)	Over temperature

6.2 Faults & Alarms

Fault	Status	Reason	Remedy
High voltage at battery terminal	Over voltage protection	High battery voltage >15.5V	Check if other sources overcharge the battery. If not, controller is damaged.
		Battery wires or battery fuse damaged, battery has high resistance.	Check battery wires, fuse and battery.
Can't recognize system voltage	All LED fast flashing	Battery voltage is not in right range	Charge or discharge, make battery voltage in the right range.
Battery is empty after a short time.	Low voltage protection.	Battery has low capacity	Change battery
Battery can't be charged	Green LED is on	PV panel fault or reverse connection	Check panels and connection wires

7. Technical Data

Item	SCL-1550L
System Voltage	12V
Max Charging Current	15A
Max volt on Battery Terminal	25V
Battery Type	Lithium (LiFePO4)
Charging Voltage target	14.4V
Charging Voltage recovery	13.5V
Max volt on PV terminal (Voc)	35V
Max input power (Watts)	200W
Max tracking efficiency	>99.9%
Max charge conversion	96.50%
Self-consumption	6mA
Ambient temperature	-35°~+60°C
Ambient humidity	0~100%RH
Protection degree	IP67
Max Altitude	4000m
Dimensions	85.8*81*23.1mm
Weight	260g