

CAUTION

1. **SAVE THIS INSTRUCTIONS-** This manual contains important safety and operating instructions of this unit.
Please read the caution of batteries or devices you want to charge firstly!
2. When charging, batteries can emit explosive gases, therefore it is essential to prevent flames and sparks. The charger is designed for charging 24V lead-acid batteries from 50 to 200 Ah. Do not use for any other purpose.
3. Always provide good ventilation when charging.
4. Use of an attachment not recommended or sold by Green-Digital Power-tech may result in a risk of fire, electric shock or serious injury to persons.
5. Please use a defined PV solar panel, please see specification of this manual.
6. Please make sure your load device working current is less than 30A.
7. Do not wired this unit and power system with a incorrect cable gauge or damaged cord.
8. Never operate the charger if it has received a sharp blow, been dropped or otherwise damaged in any way; take it to a qualified serviceman.
9. Do not disassemble the charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electrical shock or fire.
10. When Solar charger controller is working, Please DO NOT touch it because the temperature is too high.
11. Working in the vicinity of lead-acid batteries is dangerous. Batteries produce explosive gasses during normal battery operation. To reduce risk of battery explosion, follow these instructions by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery.

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SCM2420-SLA MPPT Solar Charge Controller

User's Manual



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Green Digital Power-tech Co., Ltd.

Brief Introduction

SCM-2420-SLA Solar charger controller is a 300Watt 24 voltage Maximum Power Point Tracking (MPPT) photovoltaic (PV) battery charge controller. Through the use of MPPT technology, Solar charger controller can increase charge current up to 30% or more compared to conventional controllers.

SCM2420-SLA has a sophisticated charge control system for many kinds of 50Ahr~200Ahr 24V Lead-Acid battery type, such as AGM, GEL or Liquid. The unit is fully protected against over temperature, over current, short circuit, reverse battery and reverse PV connections.

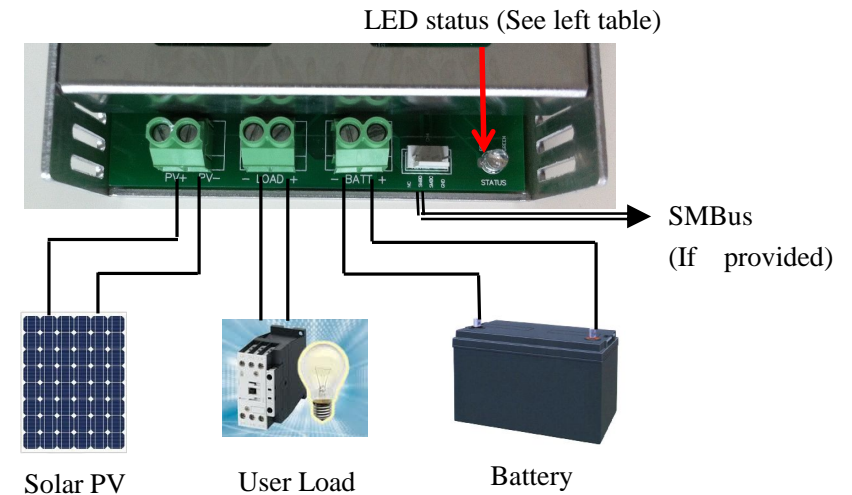
Series pass Pulse Width Modulation (PWM) charge voltage control combined with a multistage charge control algorithm in SCM2420-SLA. It can easily install in parallel connection of output, so it also suitable for large system current application condition.

Specification for SCM-2420-SLA

Input solar PV Panel	OCV:35V~55V, PMPP: 200W~300W				
Suitable Battery	24V 50~200Ahr, Lead Acid battery. Gel, AGM or Liquid types				
Idle consumption	<10mA				
Charge voltage	Main charging: 28.4V Floating charging:13.8V				
Charge current	Up to 15A				
Discharge current	<30A				
Low voltage cut-off	<=22V				
Low voltage release	>=24V				
Communication*1	Standard SMBus Protocol.				
LED status information	All Off	Green Flash	Green Solid	Red Solid	Red Flash
	No battery	No PV	Float charge	Main charge	Low voltage
Operate Temperature	-20°C~50°C,				
Cooling	Natural convection. Do not cover the charger.				
Size	120X67X41mm				
Enclosure	IP54 (Dust protected, Water splashing resistance)				
Weight	0.6Kg				

Note: *1. If SMBus port provided, it will work in slave mode and address is 0x16

Diagram for circuits connection



How to use:

1. First, please fix SCM2420-SLA on a metal chassis of your solar power system box, and always provide good ventilation for your system.
2. Then, connect battery poles with the SCM2420's "- BATT +" terminals, please make sure polarity is corrected. When battery wired correct, the LED will be "Green Flashing" status. Please use AWG 16 or better gauge.
3. Next, wired PV solar panel with the SCM2420's "+ PV -" terminals. Polarity should be correct. When PV panel is connected in daytime, the LED will be enter "Green solid" or "Red solid" status.
4. Last, please connect terminal "- LOAD +" with your load device (such as a DCAC inverter). Also please keep in mind the polarity should not be wrong.
5. Depend on your load working current, the cable between Load and SCM2420 should be AWG14 or better.
6. When the battery voltage is too low, SCM2420 will cutoff load output, in this condition the LED will "Red flashing". When battery is charged to a normal level, please switch off then switch on your LOAD switcher, this reset action is necessary, otherwise, your load will not work even the battery is full.