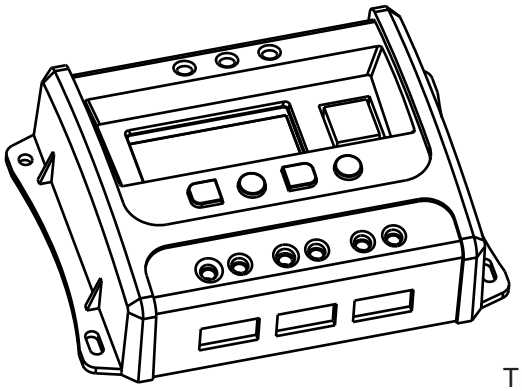


Solar Charge Controller

User Manual

SM-2024DU

Thank you very much for buying our product ,Please read thoroughly before using the prouuct

Description of Functions

1. The charge controller automatically recognize 12V or 24V system.
2. Mainly suitable for small off-grid solar power system, for example: home solar power systems, ships, self-service base stations, outposts, etc.
3. LCD display various parameters of charge and discharge.
4. Boost charge voltage and battery low voltage protection point can be adjustable
5. The three-stage PWM charging mode
6. Load output can be manually controlled。
7. With high-precision temperature compensation function.
8. With electronic protection

Attentions

The charge regulator is intended for use in photovoltaic systems with 12V or 24V nominal voltages, It shall be used with vented or sealed (VRLA) lead acid batteries only.

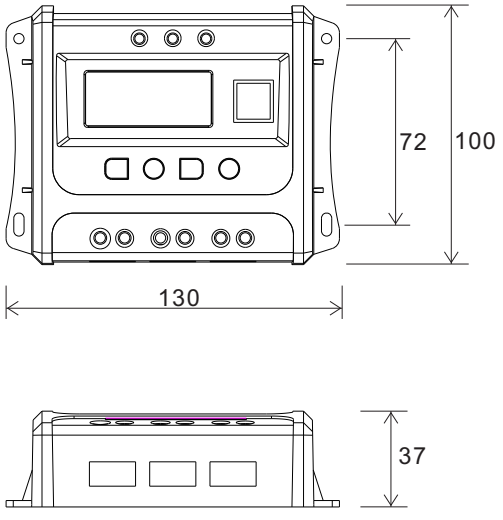
Safety Recommendations:

1.Batteries store a large amount of energy. Never short circuit a battery whatever.

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

3.Avoid touching or short circuiting wires and terminals. Be aware that the voltages on specific terminals and wires can be up to double of battery voltage. Use isolated tools. Stand on dry ground and keep your hands dry.

安装方法



Please installed in the room, avoiding direct-clearance, do not install in the wet environment, when use it outdoor, please install controller and batteries in the same place, and the batteries installed in the same place, the controller can measuring the battery temperature, charge voltage regulation.

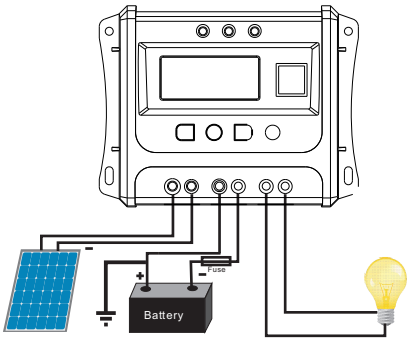
Attention:

1. Screws specifications M3 × 10
2. Make sure heat-location were not l blocke

Connecting

1. Connect sequence 1. battery --2. solar array --3.loads
2. Wier size: 10A: Min2.5mm^2
   20A: Min4mm^2

3. Grounding the solar system: Be aware that the positive terminals of the SEC controller are connected internally and therefore have the same electrical potential. if any grounding is required ,always do this on the positive wires.



Indicator LED light

Charging state（green）

ON: Boost Charging

Slow flash: Constant voltage charging or floating charging

Fast flash: PV overvoltage or overpower

Off: no charging

Load state（red）

ON: LVD or HVD

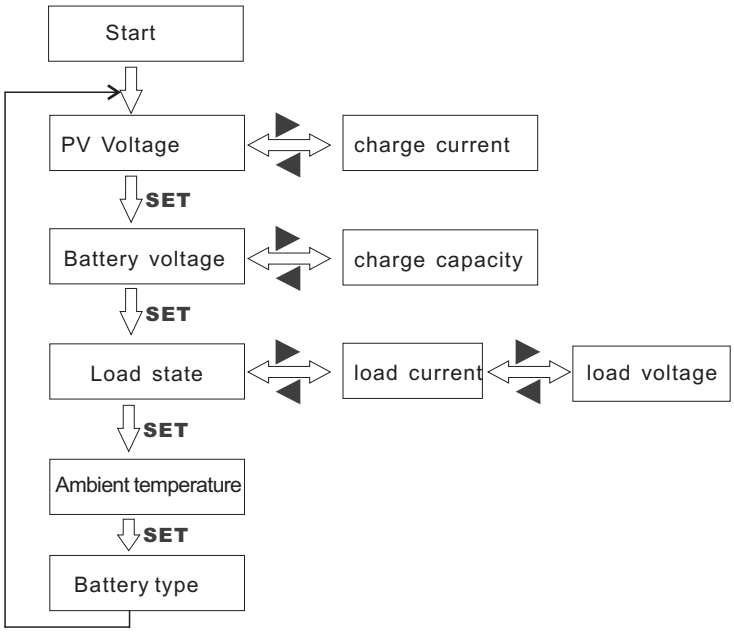
Flash: Load short circuit or overload

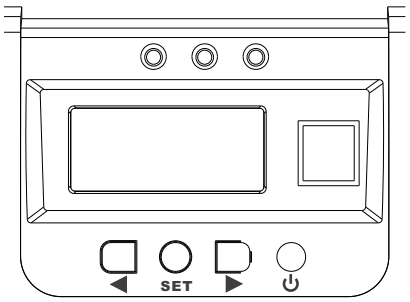
OFF: Load output is normal

Battery type

code	battery type
b1	Lead-acid (AGM,GEL,Sealed)
L3	3 series Ternary lithium battery (11.1V)
L4	4 series Ternary lithium battery (14.8V)
P4	4 series LiFePO4 battery (12.8V)
P5	5 series LiFePO4 battery (16V)

Parameter Browse





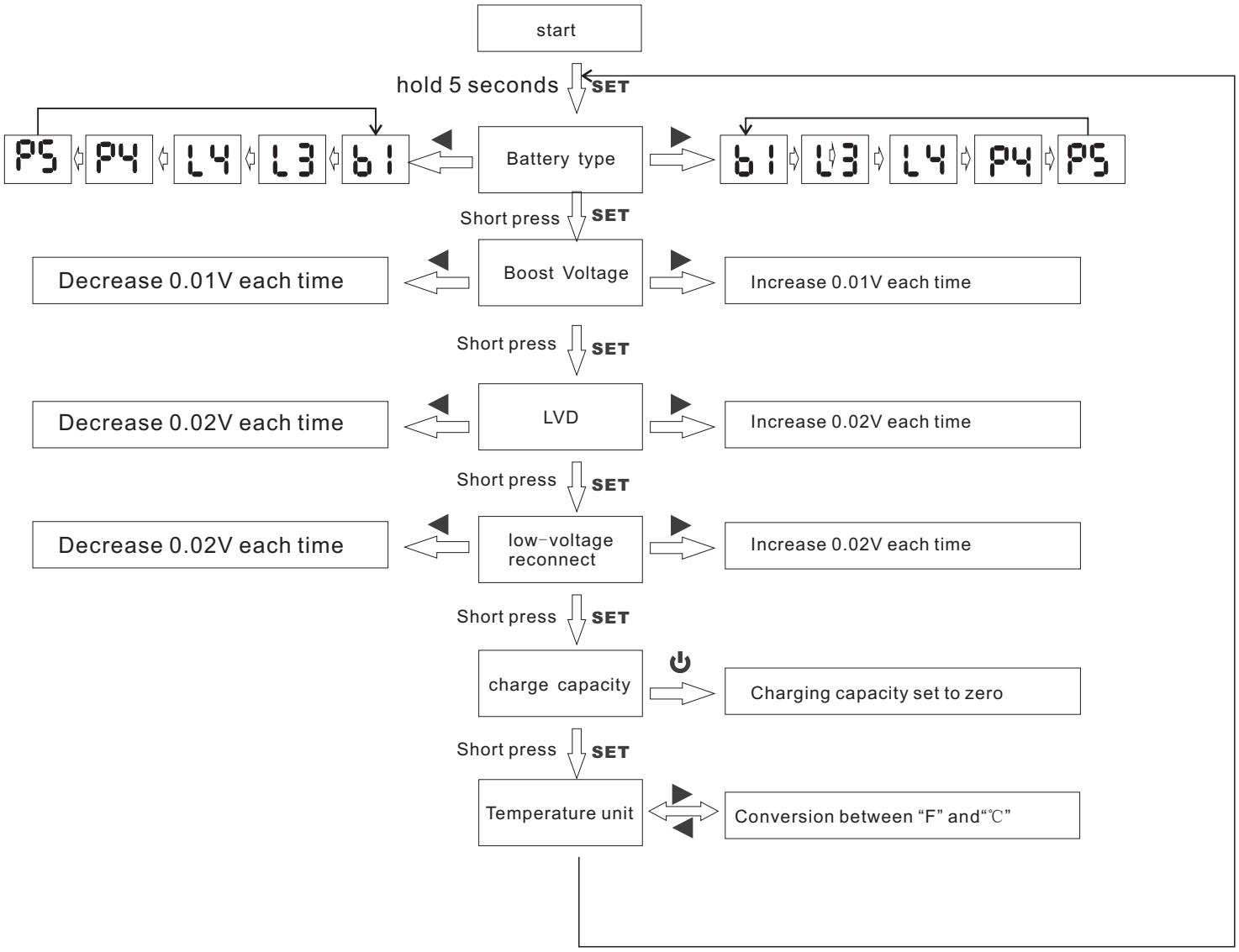
Key Description

◀	Previous
SET	Function key, cycle display main menu
▶	Back
⏻	Load ON/OFF

Setting

1. The controller user can modify:
   - ●Battery type , Boost voltage ,
   - ●Load low-voltage protection voltage
   - ●load reconnected voltage
   - ●Temperature units.
   - ●Charging capacity cleared
2. When you are make setting operation, the related number will twinkle. After you finish the setting, the twinkle will stop and the related number will save.
3. **The type of battery can be changed only if it is not charging**
4. Lithium battery charging parameters are not modifiable

Setting



Parameter

Model		SM-2024DU			
Charge Current		20A			
Load Current		20A			
System Voltage	12V/24V Automatic Recognition				
Battery Type	Lead Acid	Ternary Lithium Battery		LiFePO4	
battery rated voltage	12V	11.1V(3 series)	14.8V(4series)	12.8V(4 series)	16V(5 series)
Over-voltage Disconnected	16v	14v	18.5v	16v	19v
Over-voltage Off Charging	15.5v	13.5v	18v	15.5v	18.8v
Boost Voltage (2 Hours)	14.4v(settable)	12.6v	16.8v	14.6v	18.2v
Floating Voltage	13.8	12.5 V	16.7v	14.4v	18v
Low-voltage Protection	11v(settable)	9.3 V	12.4v	10.5v	13.1v
Low Voltage Reconnected Voltage	12.5v(settable)	11 V	14.6v	12.5v	15.6v
Temperature Compensation	3mv/2V/℃				
Working Temperature	-20℃--50℃				
Demension	130*100*37mm				

24V system, parameter value * 2