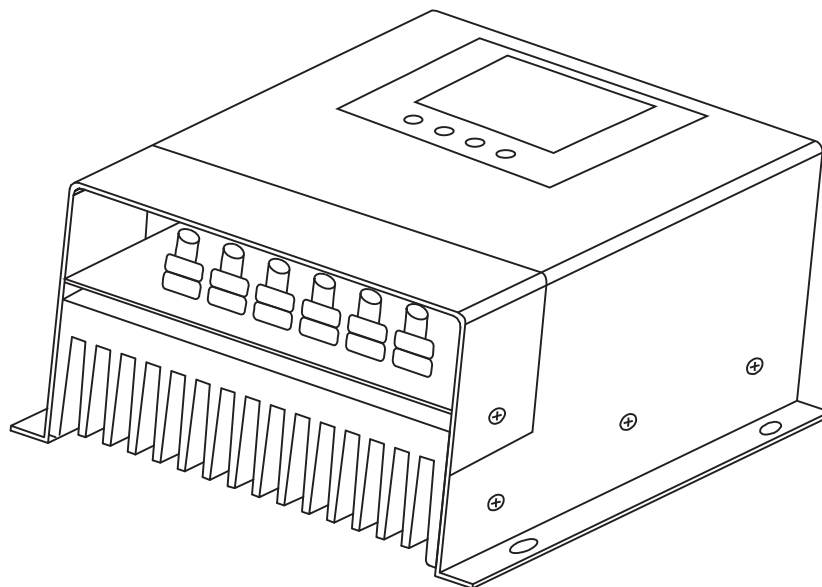


SOLAR CHARGE CONTROLLER

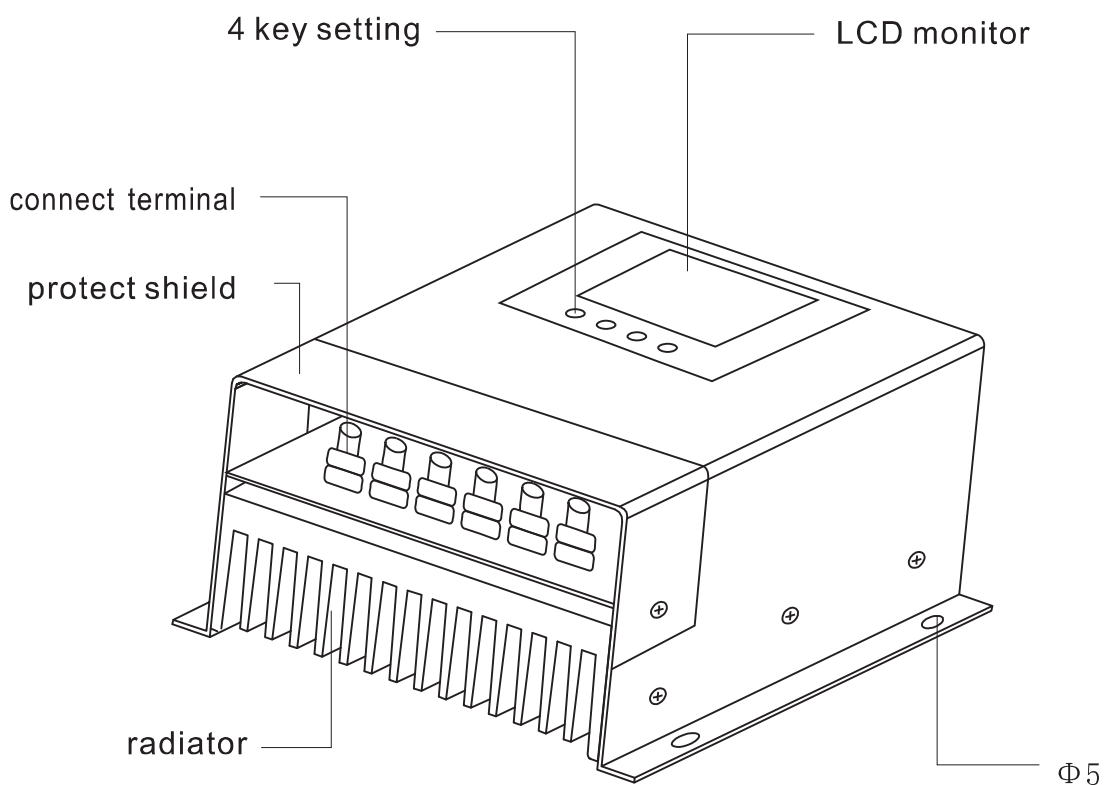
INSTRUCTION MANUAL

MODEL: SMC30 , SMC40
SMC50 , SMC60

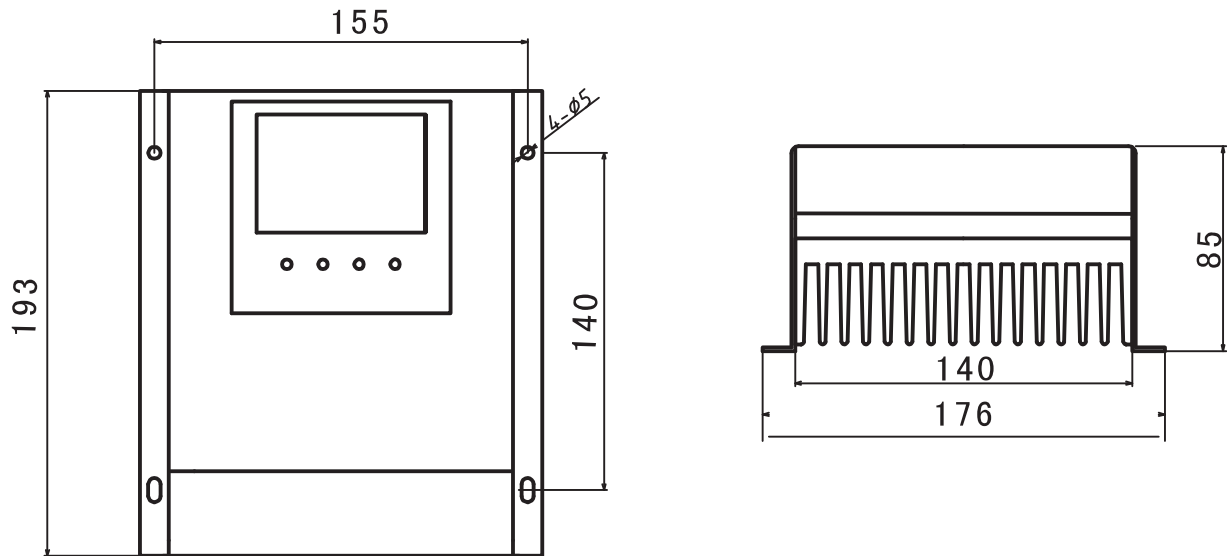


Thank you for buying our product, please read this instruction carefully before using the appliance

- Automatic selection of system voltage 12V/24V, or 48V
- PWM or ON/OFF series battery charging optional
- The type of load control: lighting control, lighting control+time control, time switch load on or off, Manual turn on or off.
- Temperature compensation
- Start voltage point optional for Lighting control
- LCD display: all system parameters in digital value, system status as symbols

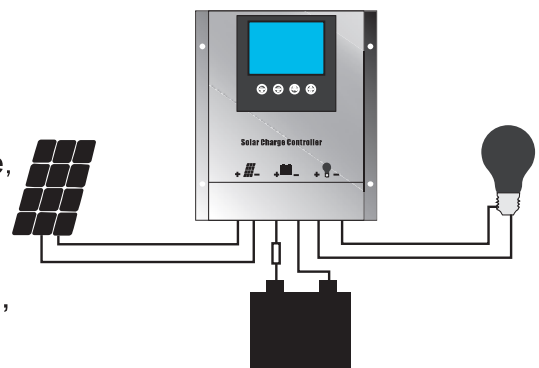


Dimension



(1) connection sequence:

Firstly Connect the polarity + of battery to the fuse, and then connect the battery to the controller. The current of fuse should be chosen 2-3 times of rated current. Note the plus and minus. Second, Connect the photovoltaic module to the charge regulator - plus and minus, Last Connect the load to the charge regulator –plus and minus







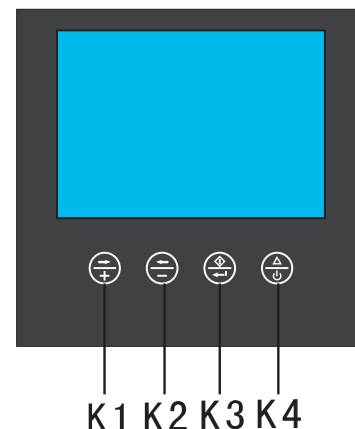
Please observe that the automatic adjustment to 12V/24V systems does not function properly, if this sequence order is not followed. An improper sequence order can damage the battery!

(2) Only install the regulator near the battery on a suitable surface. This surface should be solid, stable, even, dry and nonflammable. The battery cable should be as short as possible (1-2m) and have a suitable cable diameter size to minimize loss, e.g. use 8mm² at 40A; use 10mm² at 50A; use 16mm² at 60A.

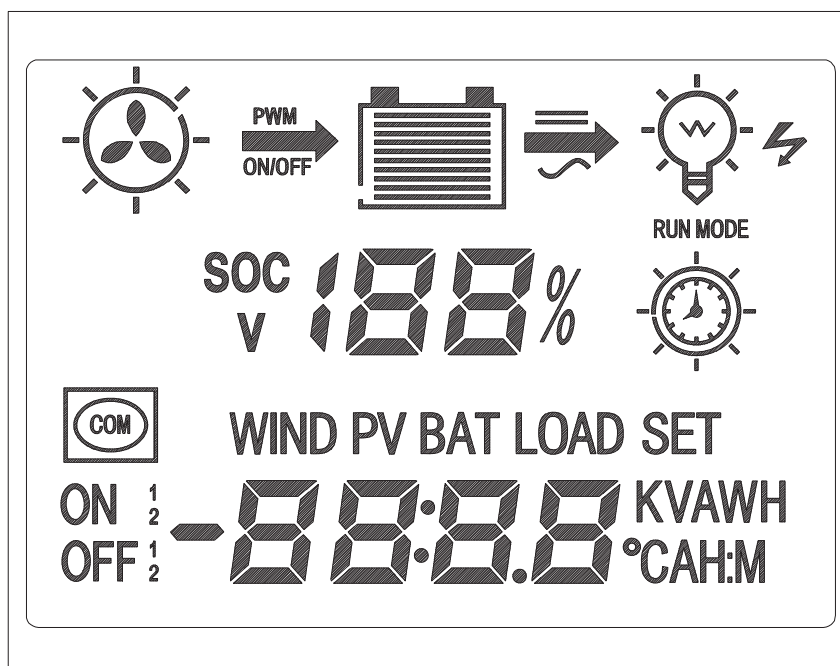
(3) Mount the controller to a vertical surface. Allow space above and below the controller for air flow. Note: the mounted ambient temperature should not be over the working temperature of controller (-10°C~60°C) ;




















(1) Keys & instructions(from left to right)





- K1 :  Reading status, switch to next figure ; Setting status, switch to next function or increase the setting data.
- K2 :  Reading status, switch to the previous figure; setting status, switch to the previous function or decrease the setting data.
- K3:  On reading status, press K3, then on setting status; on setting status, press K3, then save the data, and back to reading status.
- K4 :  cancel/power switch, on setting status, no saving with K4. On reading status, K4 is power switch while loads are working. Recovery key while it's short-circuited or over load.



Display instructions



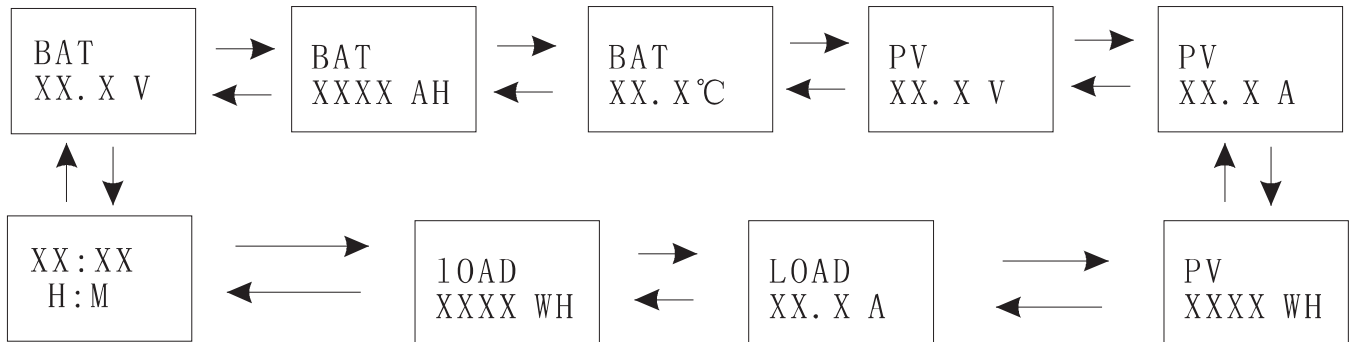
 <p>charge states</p>	<ul style="list-style-type: none">  this symbol mean daytime  This symbol mean night time  sun flashing mean the battery over-voltage or setting light control start point
 <p>Charging mode</p>	<ul style="list-style-type: none">  PWM charging  ON/OFF switch <p>Note: For telecom or radio, suggest customers choose ON/OFF mode. PWM regulation causes noise interference with such load</p>
 <p>battery states</p>	<p>The strips inside show the status of charging or discharging and real capacity</p> <ul style="list-style-type: none">  If discharging, the strips will reduce.  If charging, the strips will increase  Without charging or discharging, the strips inside will actionless. Every strips equals 10% of battery capacity.  flashes when over discharging. It stops flashing when goes back to normal charging.
	<ul style="list-style-type: none">  DC output.
 <p>symbol shows load and trouble status.</p>	<ul style="list-style-type: none">  this symbol mean the output is closed  this symbol mean output is on  this symbol flashing when over loading, you should remove some loads, and press K4 for restart  this symbol flashing mean it would be short circuit protection, then return to work automatically after 10 minutes. If there are 2 times flashing in 11 minutes, users need check whether the loads and connects are properly, then press K4 for restart

<p>WIND PV BAT LOAD SET</p>	<p>BAT LOAD PV</p> <p>LCD displays “PV”, “BAT”, “Load” for solar module, battery and load separately</p> <p>SET : this symbol mean goes to selection status</p> <p>SET falshing: mean on setting status</p>
<p>ON $\frac{1}{2}$ OFF $\frac{1}{2}$</p>	<p>ON $\frac{1}{2}$: mean the time when load start work under time control type.</p> <p>OFF $\frac{1}{2}$: mean the time when load stop work under time control type.</p>
<p>88:8.8</p>	<p>this symbol shows parameters and time.</p>
<p>KVAWH °CAH:M</p>	<p>Shows V-Voltage, A-ampere, AH-Battery Capacity, °C-Temperature,</p>
<p>88%</p>	<p>shows the percent of available voltage of battery</p>
<p> load work mode</p>	<p> : lighting control load on + time switch load off .</p> <p> : This symbol shows lighting control load on and off.</p> <p> : realtime switch load on and off</p> <p>No symbol: mean the moment work type is manual turn the load on or off That is say the load will remain turned off only if you press K4 button. Or otherwise the load will remain turned on only if you press K4 button.</p>

Note::

the parameters showed here would be different with the meter, especially working with small current.

- 1) System is on reading status after power on. The LCD display the battery voltage: XX.X v ;
- 2) Reading specifications: On reading status, press K1, K2, LCD will repeating the following specifications.






3) Battery capacity modify:

While display battery capacity XXXX AH, press K3 into setting mode, battery unit “AH”& “SET” is flashing, modify the data through K1/K2, press one time, battery capacity will be up/down 100Ah, the maximum is 5000 AH, Press K3 for saving or K4 for back to the reading status.

The default value is 500AH.

4) Charging mode modify :

While on displaying voltage of solar module, press K3 into setting mode, “SET” is on, and symbol “  ” is flashing, press K1/K2 to select PWM-“  ” or ON/OFF  mode ;

K1/K2 switch on PWM or ON/OFF mode

K3 for saving, K4 back to original status.

The default mode is PWM charging mode.

5) Starting voltage optionable for lighting control

While on displaying voltage of solar module, press K3 into setting mode, “SET” is on, and symbol “ ” is flashing, press K1/K2 to select your required starting voltage for lighting control.

The default starting voltage is 5.0V

6). The type of load control

here are four types of load control: lighting control lighting control+time control, time switch load on or off, Manual turn on or off.

While on displaying current of load, press K3 into setting mode, "SET" symbol is flashing, press K1/K2 to select your required type of load control. K3 for saving, K4 back to original status.



This symbol shows the moment work type: lighting control load on and off. The controller detect the light intensity of solar, turn the load light-on when dusk and turn the load off when dawn.



This symbol shows the moment work type: lighting control load on + time switch load off. Light is turned on after sundown, turned off automatically on your preset time.



This symbol shows the moment work type: time switch load on and off. The load is turned on working from your preset time and then turned off automatically on your preset time.

No symbol: mean the moment work type is manual turn the load on or off. That is say the load will remain turned off only if you press K4 button. Or otherwise the load will remain turned on only if you press K4 button.

7. Preset time

Only after you preset the types of load control, you can change its corresponding time.

- . Under Lighting control mode, it shows real time.
- . Under Lighting control+time control mode, you can change its real time and the load turn on hours.
- . Under time switch load on or off mode, you can change its real time and the load turned on/off corresponding hours/minutes.
- . The default time is 0.

How to preset the time?

While on displaying the time, press K3 into setting mode, "SET" is on, and symbol "H" flashing, press K1/K2 to select your required hours Between 0~23 hours, K3 for saving, K4 back to original status.

Again press K3 into setting mode, "SET" is on, and symbol "M" flashing, press K1/K2 to select your required Minutes between 0~59 minutes, K3 for saving, K4 back to original status.

Remark: **Under** lighting control+time control mode, if you set the time after lighting control the load light-on, the modified time will active from next day.

The controller is with intelligent protection against over voltage, over current, short circuit, polarity reverse. The LCD displays have warning indicates of over voltage, over current and short circuit

Note: LPS(lightning protection system) is the last necessary protection. User need choose professional LPS system in the areas with frequent lightning weather. If the controller without LPS system is damaged by lightning, it will not be guaranteed.

Guarantee & Customer service

One year warranty, or contact your authorized distributor. After one year, we can provide customer service and ask for service fees. Used improperly and damaged by people, the controllers are not guaranteed.

Specifications

Type	SMC30	SMC40	SMC50	SMC60
Rated charging current	30A	40A	50A	60A
Rated load current (Ie)	30A	40A	50A	60A
Over load, short circuit protection	1.25 times of Ie for 60secs, 1.5 times of Ie by for 5secs overload protection ; ≥ 2 time of Ie short circuit protection			
Self consumption	Control circuit : <15 mA ; LED & LCD monitor (MAX) <15mA, total (MAX) <30mA			
System voltage	12/24V or 48V			
Work temperature industrial (I series) :	-20°C to + 70°C			
Battery capacity	Battery in parallel from 50AH to 5000ah,users can adjust it.			
Boost charging	14.8V ; $\times 2/24V$; $\times 4/48V$			
equalizing charging voltage	14.4V ; $\times 2/24V$; $\times 4/48V$			
Float charging	13.4V ; $\times 2/24V$; $\times 4/48V$			
Temperature compensation	5mv/°C/2v;			
Over discharge voltage	11.4V ; $\times 2/24V$; $\times 4/48V$			

Control mode PWM charging mode & ON/OFF mode for options, control point voltage is the intelligent compensation modify of the battery.