

Protobal Solar DC Power Generator

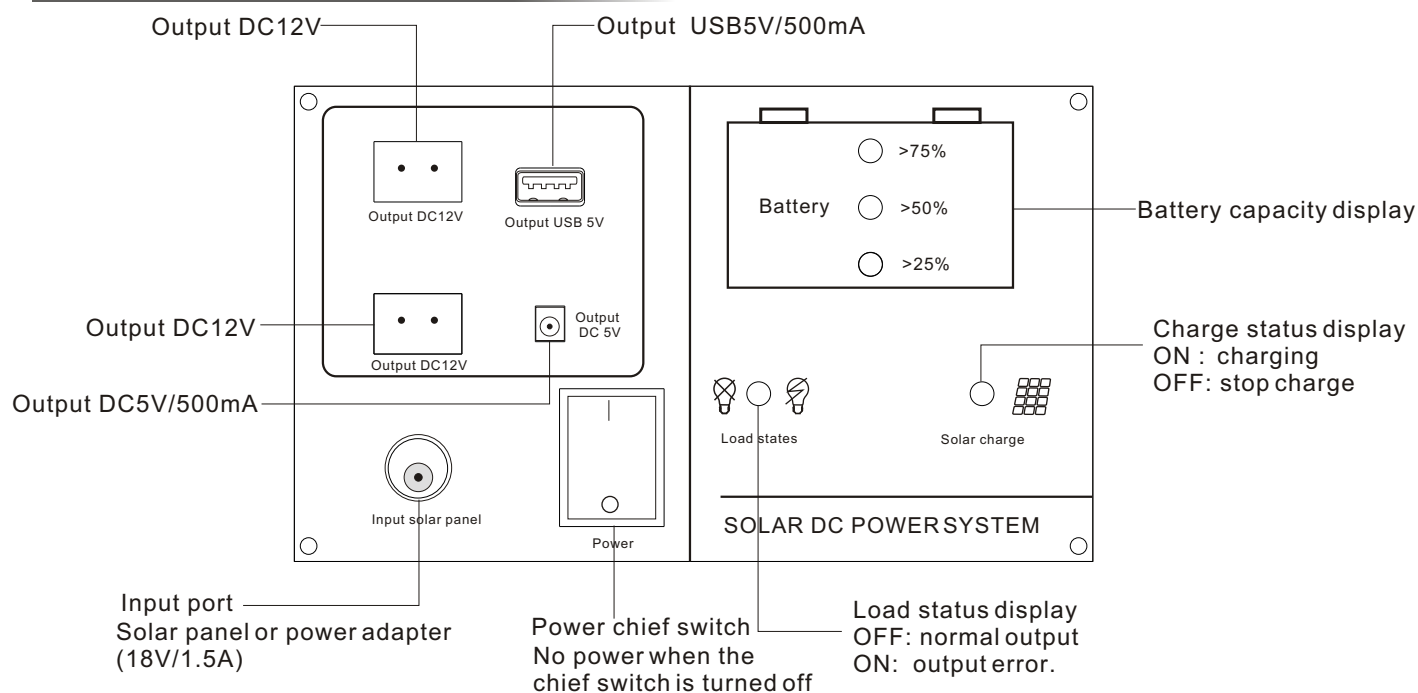
User manual

Thanks a lot for buying our product, please read this instruction carefully before using the appliance

Brief descriptions:

- 1.This generator designed to provide DC power supply for power lighting, mobile phone charging, run the DC Fan and Radio, etc.
- 2.Adopt the latest PWM control modulation, real time display of battery capacity and load status.
- 3.Built-in maintenance-free Lead-acid battery.
- 4.With several output socket, can output voltage DC12V and DC5V at the same time.
- 5.It can charged by solar panel, and also can charged by public net via one adapter.
- 6.Voice warning and together LED indicator shows the battery get low.

Product illustration

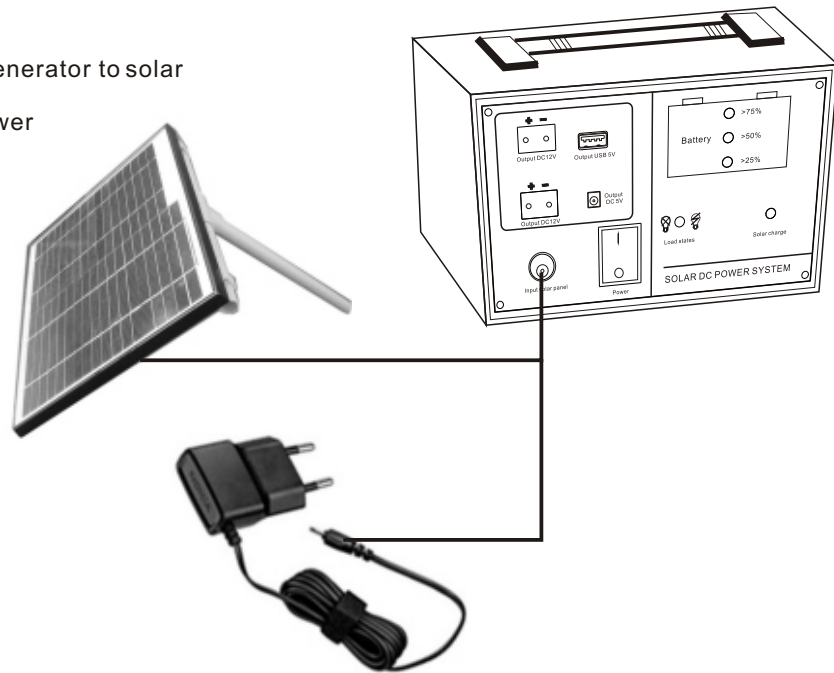


Usage instruction

1. Charge for generator

As the diagram shows, connect the generator to solar panel(18V/1.5A) or public net via power adapter, turn on chief switch, then start the charging.

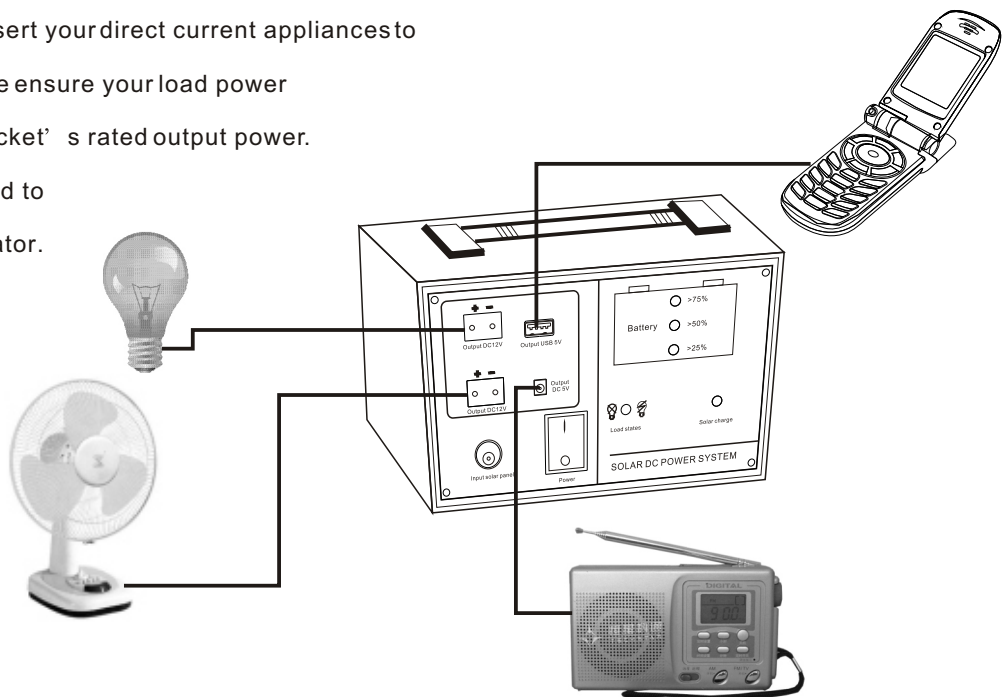
Adjust the angles of solar panel, it must be place where the panel will receive the most possible sunlight.



2. Load connection:

As the diagram shows, insert your direct current appliances to related socket, and please ensure your load power isn't over the related socket's rated output power.









Otherwise it would lead to the damage of the generator.



3. Cautions

1. It would be best to charging the generator over 12 hours on first time and second time usage, then bring the battery run on the best status.
2. It should be full charged at least one time one month, for prolong the life of built-in battery.
3. Make sure your load power isn't over the rated output power.
4. Please don't use the generator under the low voltage situation oftenly, it would be cause the damage of built-in battery.
5. This is not a toy-----please keep away from children.

LED status and Alarm

Battery capacity and voice warning	<div><div><div></div><div></div></div><div><div>L1 —  >75%</div><div>L2 —  >50%</div><div>L3 —  >25%</div></div><div>Battery</div></div>	<table><tr><th>L1</th><th>L2</th><th>L3</th><th>battery capacity</th></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>>75%</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>>50-75%</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td><25%</td></tr><tr><td>OFF</td><td>OFF</td><td>Flash</td><td><10%</td></tr></table> <p><u>BUZZER WARNING:</u></p> <p>L1 (ON) $\xrightarrow{1 \text{ time}}$ L2 (ON) $\xrightarrow{3 \text{ times}}$ L3 (ON) $\xrightarrow{5 \text{ times}}$ L3 (flash) $\xrightarrow{25 \text{ times}}$ load cut off</p>	L1	L2	L3	battery capacity	ON	OFF	OFF	>75%	OFF	ON	OFF	>50-75%	OFF	OFF	ON	<25%	OFF	OFF	Flash	<10%
L1	L2	L3	battery capacity																			
ON	OFF	OFF	>75%																			
OFF	ON	OFF	>50-75%																			
OFF	OFF	ON	<25%																			
OFF	OFF	Flash	<10%																			
Charge status display	<div><div></div><div></div></div> <div>Solar charge</div>	<p>ON: charging</p> <p>OFF: stop charge</p>																				
Load status display	<div><div></div><div></div><div></div></div> <div>Load states</div>	<p>OFF: normal output</p> <p>ON: discharge protection(LVD or HVD),over load</p> <p>Flash: load short circuit</p>																				

Troubleshooting:

Trouble/Indication	Possible Cause	Suggestion
Cann't charge for generator	1. chief switch turn off 2.polarity reversed or misconnection of solar panel or adaptor.	1. Turn on the power 2. Correct the connection
No load output	1. The generator under low voltage 2. The output load short circuit 3. Overload	1. Full charge generator 2. Replace the output load 3. Decrease the load
short work terms of battery	ageing battery	replace the battery

Parameter

Built-in battery capacity:	12V/7AH;
Max.charge current of solar panel:	18V/1.5A
Max. charge current of adapter:	18V/1A (optional)
Sum current of DC12V:	DC12V/3A;
Max. current of USB port:	DC5V/500mA;
Max. Current of DC5V port:	DC5V/500mA;
Net weight	4kg
Dimension	18×13×13cm
Work temperature	-40~50℃
Protection class	IP52