

User Manual

Solar Home System

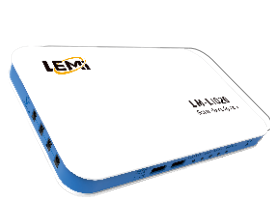


User Manual

1. Installation instructions

1.1 System component list

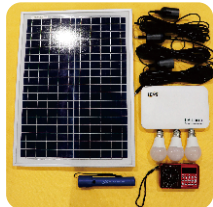
A set of solar home system consists of: solar panel, PV cable, System cabinet(battery inside),three LED lamps (DC11.1V), three lamp cables, radio, torch , packing list, user manual.



System cabinet



Solar panel



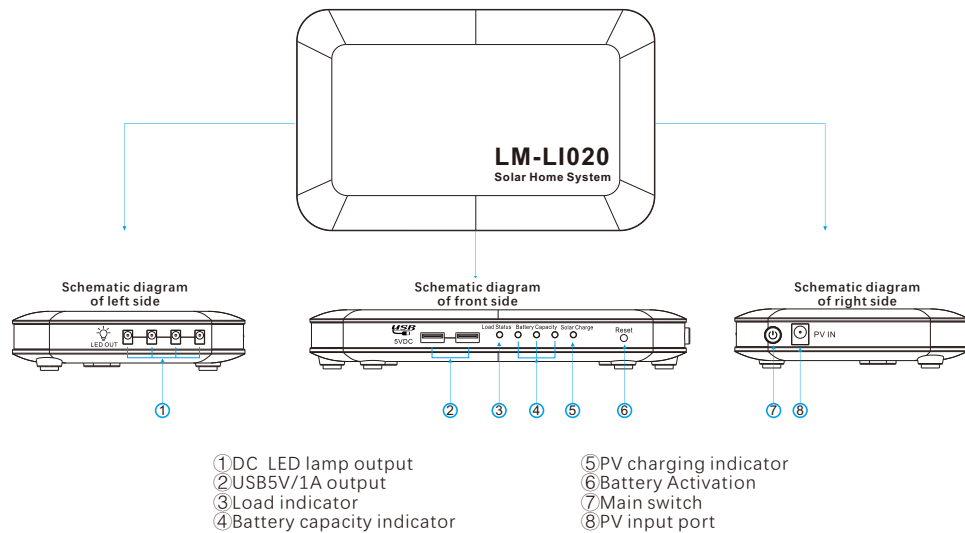
Whole System and Accessories

1.2 Connect PV cables

Plug PV cable into "PV IN" as shown on the pic



2. The appearance and indicators of system cabinet



3. Instruction on system operation procedure

3.1 Steps of operation: Firmly plug the solar PV cable, lamp cable and phone charging adaptor onto the system cabinet, and make sure the solar PV panel is facing sunlight,no shading onto it during the whole day.

(1) Turn on the main switch, all the PV charging indicator, battery capacity indicator and load indicator will shine at the same time.	(2) The battery capacity indicator will show the battery capacity in around 1 second, which means the battery is well connected.	(3) The PV charging indicator flashes, which means the connection of Solar PV panel is well connected and the solar PV panel is charging the battery.	(4) Switch on the lamps, the lamps start to shine, which means the lamps are well connected.

Warning:

- This system is suitable for indoor lighting and digital product charging. Please use the system standard load, and do not use other high-power load, or it will greatly shorten the system service life;
- Connect all loads first, and then turn on the main switch; if turn on the switch before connecting the loads, the load indication lamp may flash, this is the system detection by itself; turn off the main switch then turn on it, the system may work normally then;
- If the system short circuit with existing/original loads, the system could recover itself; need to turn off the main switch then turn it on to make the system working normally if the short circuit happens due to below reason:
 - short circuit with other loads(not original load equipped with the system);
 - short circuit due to putting metal or other object into the output port;
 - frequent short circuit on output.
- Standby for long term or long term no usage of the system, the system may get into stage of low voltage protection, connect the solar panel to charge the battery full before usage again.

3.2 Functional Description of Indicators

Main Switch	PV charging indication	Battery capacity indication	Load indication
Switch ON: the system output and PV charging are turned on; Switch OFF: the system output and PV charging are turned off.	Flashing: charging; On: fully charged; Off: The solar PV panel does not charging	Battery capacity indicator: from left to right means battery capacity >90%, >70%, and >60%; If the battery capacity is lower than 50%, the indicator flashes.	On: Low battery capacity protection; Flashing: overloaded or short circuit.

4. Precautions to be taken

4.1 Battery:

Do not open the system cabinet, only existing equipped battery can be used in this system, the usage of other types of batteries may cause explosion; Do not carry out flame or sparks operation next to the system cabinet. Do not short-circuit the battery. For the first time usage of this product, please fully charge the battery. Please recharge the batteries at least once every three months if this system does not in usage for long time. Please recharge in time when the battery are in low capacity state.

4.2 PV panel:

Do not puncture the front & back of the solar PV panel with sharp objects. Do not stand or stamp on the solar PV panel. Do not clip the solar PV cable between the ground and the PV panel supporting. The PV panel should be getting full day sunlight, ensure that there is no sun shade at any time, and no flammable gas is present.

5.3 System cabinet:

Please make sure the system cabinet placed keeping the air flow. Prevent any other object falling into the system cabinet. Connect the load according to the port label on the system cabinet. Keep the input and output port clean. Before system usage, please make sure the battery capacity is sufficient

5. Maintenance of the Solar home system

It is strictly forbidden to open the system cabinet without authorization. Maintenance staff must be professionally trained. Maintenance personnel should trouble shoot and fill the maintenance form in time when the system is faulted. Routine maintenance for the user is as below.

Maintenance Item	Maintenance Schedule
Cleaning the solar PV panel surface	Twice a week(clean promptly if the surface of the solar PV panels is covered with dust or anything else)
The connection of the solar PV panel	Once/Every three months(ensure that the junction boxes are in good sealing condition, no naked wire)
System cabinet	Maintenance-free

6. Device troubleshooting guideline

6.1 Basic method of fault detection: first, check the common faults, such as: short circuit, poor connection, screws loose, exclude the common faults first and then start other checking.

6.2 Troubleshooting

Fault	LED indicator	Reason	Method
The load do not work	LOAD indicator on	Battery have no or lower power	Fully charge it before usage again
	LOAD indicator flashes	Overloaded or load short-circuited	Shut down the load, fix the problem, then turn on
Battery run out after short time working	LOAD indicator on	Battery aged, battery become lower capacity	Replace a new battery from the spares if it is in the warranty period
Can't charge the battery	CHARG indicator off	Solar PV panel reverse connected or get damaged	Re-connect it if reverse connected; replace a new solar PV panel if damaged from the spares if it is in the warranty period
All indication lamps off	All indicators off	Output short circuit or battery low voltage protection	Turn off the main switch and correct the short circuit/recharge the battery to be full

The system supplier repair or replace the installed system for free in case any problems related to manufacturing defect within the warranty period, while the warranty liability exempt in case of any human made problems or misuse against the user manual. Supplier's warranty liability terminates at the end of the warranty period.