



AC Module User Manual

Read a step-by-step installation guide for the grid connected ac module that will help during installation, operation, and troubleshooting details. This manual contains important components for installing AC Panels Do It Yourself at your place.

Product Description

Loom Solar 340W AC Module

Loom solar launches first time in India, Solar AC Module i.e. you can run your home appliances such as Fan, Television, Refrigerator, Air-cooler, Air Conditioner during the day directly from solar without Inverters, Batteries. The Solar AC module is designed to make every home solar powered in Metro city, big towns, Capital cities without hassles.

Note: It does not work when there is power failure.



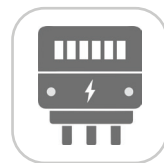
₹ 25000/-

Features



Warranty

25 Years Performance Warranty



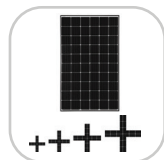
Net Metering

Optional



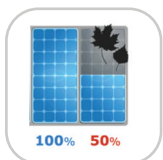
Performance Monitoring

Panel Level Performance Monitoring



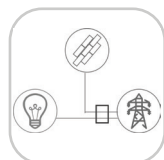
Expandable

Easy to Expand



Shadow











Performance when some panels are shaded



Sell Extra Solar Power

Export Solar Energy to Government using Net Meter

AC Module Components

| Sr.No | Reference | Components | Qty. | Description |
|-------|---|-----------------|---------|---|
| 1. |  | AC Module | ----- | To convert solar energy into AC current. |
| 2. |  | Solar Stand | ----- | To fix Solar Panels. |
| 3. |  | Q-Cable | ----- | To connect AC Module. |
| 4. |  | AC Cable | 10 mtr. | To connect the AC cable with Energy meter. |
| 5. |  | Energy Meter | 1 | To measure solar panel generation such as Power, Volatage, Ampere & Wattage. |
| 6. |  | 3 Pin Plug | 1 | To connect the other end of the AC cable to the Home Socket. |
| 7. |  | Electrical Tape | 1 | To insulate electrical wires. |
| 8. |  | Nut & Bolt | ----- | To fix the channel on the stand with nuts and bolts. (20mm for fixing Legs & Channels) & (10mm for fixing Panels with Channel) |
| 9. |  | Cable Clip | 10 | To fix AC Cable with the wall. |
| 10. |  | Tester | 1 | To connect Q-cable & AC Cable with the energy meter. |

How to Install AC Module

The installation of an AC module can be broadly divided into three main steps: **fixing the mounting structure**, **mounting the panels** and **connecting to the power source**.

1. Position Mounting Structure

A mounting structure has three major parts - the **small legs**, the **big legs** and the **channels**.

a. **Put Short Legs First-** In the first step, put the **shorter legs** or stands in such a way that the **inner side** is on your **outside**. In the picture below, the inner side is where the man's fingers are touching. The size of a short leg is **~51 cm**. A minimum **1 meter distance** must be maintained between the two short legs.



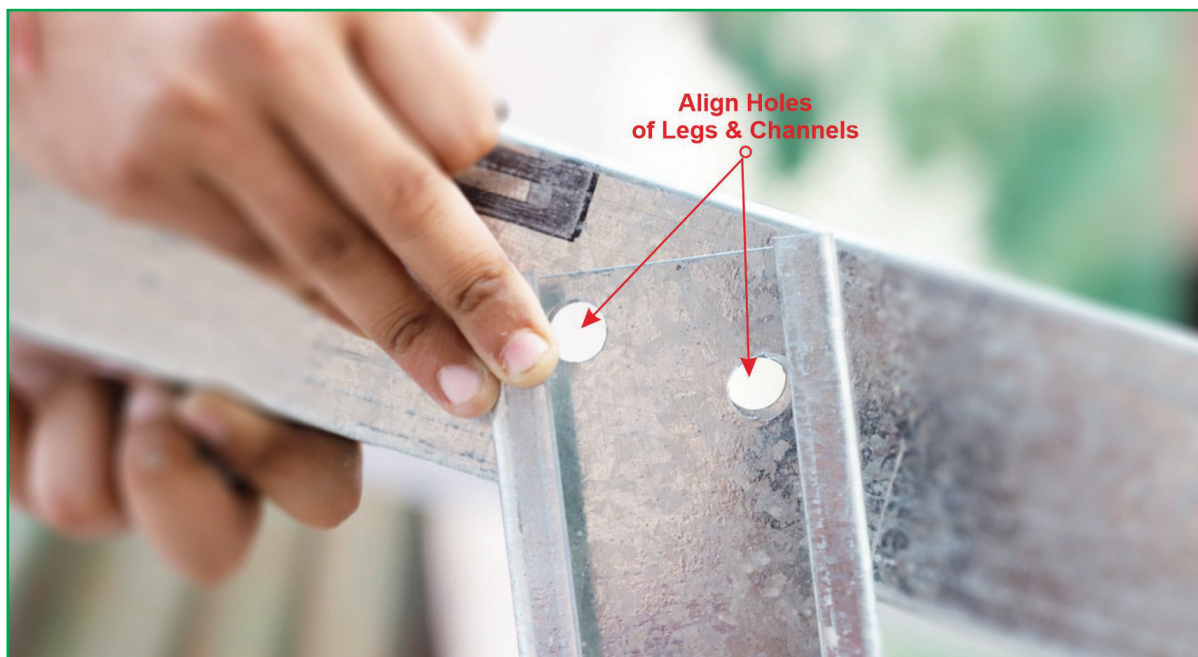
b. **Put Longer Stands-** The next step is to fix the longer stands or legs **behind** the shorter ones. The distance between these two legs (short and long) should be **85 cm**. The longer legs should also be placed with their **inner side on the outside**, same as the shorter legs.



c. **Install the Channels** - The third step involves connecting both the **shorter** and **longer legs** together with the help of a channel. So you connect two channels with the four legs. The channels will automatically placed in a **slanting direction**, given the difference of length between the long and short legs. The channel should be placed in a way so that the **capsule** (on the channel) is facing the top surface.



d. **Match Holes**- Carefully align the **legs/ stands** with the channels so that the holes in both these structures are perfectly matched, in order to screw them together. This will only be possible if you have placed the stands in the correct direction i.e. **inner side facing outside**.



e. **Fix the Channels with Legs** - Once the structures are perfectly aligned, fix the channel on to the stand, with nuts and bolts. A total of **8 nuts and bolts** will be needed for 2 panels installation



f. **Civil Work / Phasner** - In many places, residents are hesitant to screw the stand on the surface of their roofs as they are afraid of **water leakage**, in case the civil work is not properly done. In such cases, we adhere these stands to the terrace with the help of heavy objects like **bricks, concrete stones, slabs**, etc. Though this method also works fine, we would recommend getting these stands fixed on the roof. This is more important to safeguard from any catastrophe especially at the times of natural disasters in coastal regions, like the recent one in Odisha.



2. Mount the Panels

a. **Place the Panels in South-East Position-** Once the mounting structure is fixed on the surface, the next step is to place the solar panels atop in the right direction. In India, panels should be placed in the **south-east direction** for maximum utilization/ efficiency and power generation.



b. **Tight Panels with Nut & Bolts-** Make sure the solar panels are properly placed on the mounting structure and tightened with the help of **nuts and bolts**. The capsule on the top of the channels should be aligned with the solar panels.



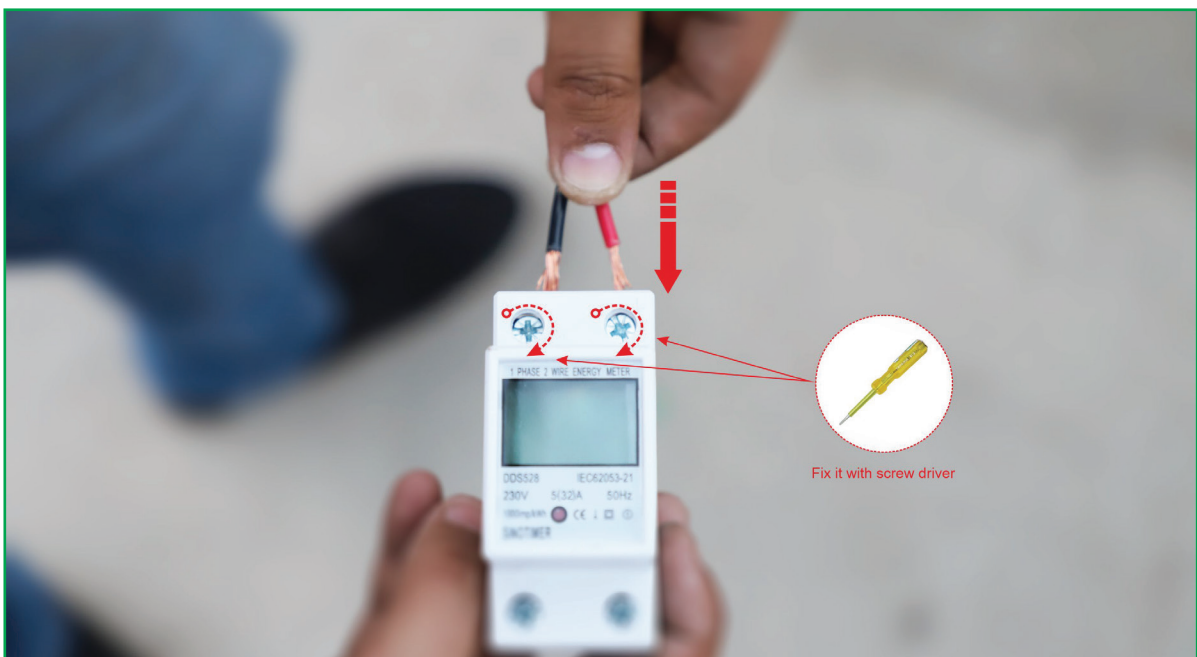
3. Connect Q-Cable to AC Module

After the panels is fixed on the mounting structure, the last step involved is making secure connections. The first step involved is **to connect the Q-cable with the AC module**. It simply involves plugging the cable into the module, as shown in the image below.



4. Connect the Energy Meter with Q-Cable

The next step is **to connect the other end of the Q-cable with the energy meter**. The two wires are **neutral(-)** and **phase(+)**. The **top side** of the energy meter is **input**.



5. Connect AC Cable with Energy Meter

After both ends of the Q-cable is firmly connected - one end to the AC module and the other to the energy meter, it is time to connect the AC cable with the energy meter. The AC cable is a **10 meter** long wire that you get along with the solar module. So the energy meter is **connected on one side with the Q-cable and on the other side with the AC cable**.



6. Plug 3-Pin Plug in Home Socket

The last connection involves connecting the other end of the **AC cable to the plug**, which goes into the **power socket of your home**. Since it is grid connected, once you switch the **power on (ON)**, the whole system starts working.



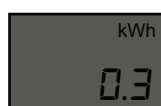
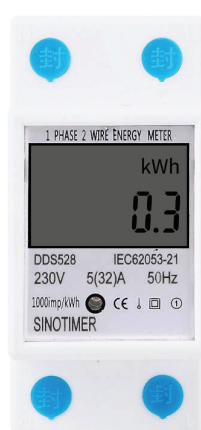
7. Check – Is AC Module Working?

In order to check your AC module installation and its working, there is a colour signal. When you see **orange colour**, it means that the **solar system is generating AC power**. If you see a **flashing red colour**, it indicates that there is **no grid power available**. However, if the colour is **solid red**, it signifies that there is **no sun power available**. So, you know that your system is up and working fine, when you see the **orange colour**.

| Color Indication | Description |
|------------------|-----------------------------------|
| Orange ● | Solar is generating AC power. |
| Flashing Red ● | There is no grid power available. |
| Solid Red ● | There is no sun power available. |

8. What is the meaning of Energy Meter Parameter's?

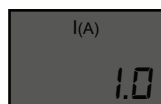
The Energy Meter shows **Power (in kWh)**, **Voltage {in U(V)}**, **Ampere {in I(A)}** and **Wattage {in P(W)}**. It shows real time data and is **98% accurate**. It is small, lightweight and easy to install. This product is measured by LCD digital power. There is no human tampering.



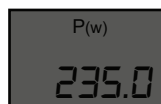
Energy production is represented in watt-hours (Wh). It means 1 Unit consume in hour.



It is a common main electricity voltage supply 230 voltage single phase supply.



It's system current drawn in circuit & 1 Amp. Current flow in circuit.



It's unit of Power that means total generated power by system is 235 watt.

9. How to shut down our Solar Panel?

To shut down your solar system, simply **switch off** the main power button.



Our 1st AC Module Installation

System Size: 4 kW

System Type: Grid Connected

Location: H. No. 3011, Sector – 23,
Palam Vihar, Gurgaon (HR)

Installer: Loom Solar Private Limited

- 12 * Loom 340 Watt Grid Connected AC Module.
- 1 Array
 - SW 12 Portrait

Installation Challenges:

- First time installation
- Customize Design



Feedback from the Client:

My name is **V. K. Yadav**, a Colonel lives in **H. No. 3011, Sector – 23, Palam Vihar, Gurgaon (HR)**. Though the requirement of power is not much, I wanted to install solar panels at my place given my passion for the same. I contacted **Loom Solar** of Faridabad to buy the system and do the installation. I choose them because I wanted to use **highly efficient** and the **most durable Grid Connected AC Modules**. Secondly, I wanted a customized installation on my rooftop, which Loom Solar guys readily agreed to do. However, Loom Solar agreed to all my conditions. Also Loom Solar's products matched all my required specifications.

I installed a **4kW solar system** with 12 quantity Loom Solar 340 Watt grid connected AC modules in 1 array (SW-12 portrait). I asked them to install 12 solar panels in my rooftop area. To my amazement, the whole process (from contacting Loom Solar to installation) was completed smoothly within **3 days** and with **excellent finishing**.

First day, Loom Solar engineer visited on my place and they analysed my installation space on my roof. According to my requirements, they designed customized mounting structures with proper gap between two panels as well as match proper alignment of top and bottom position.

Second day, some Loom Solar civil worker came, and they fitted all mounting structures using Phasner, Nut and Bolts, and Civil work and

Third day, Loom Solar engineer came on my home and they lifted 12 panels on 3 floors by staircases with proper safety. They mounted one-by-one panels on the stand, fixed all panels using 10 mm nut and bolts with proper alignment (left-right-top-bottom directions). After mounting panels, they connected all panels using **Q-Cables**. They connected 4 mm 2 phase copper AC Cable one side of Q-Cable and closed another side of Q-Cable using electrical tape. They used one 20 Amp. MCB between Q-Cable and AC Cable. They connected 2 Phase AC Cable in my **32 Amp. socket near main meter connection**. They installed Envoy and 2 CTs (**One CT is for Solar Production Cable and Another CT is for consumption cable through which all loads flow in my house**). Here, they said, we have installed your system now and these all panels are working successfully.

Next day, our system generated **22 units** of solar power and consumed **27 units** of total usages in my house. That's means, I realized that I used only **5 units** from the grid. Now, I am a happy clients of Loom Solar. I also recommended to my neighbour to install AC Modules.

The team was very supportive and listened patiently to my requirements. This has been my best experience so far for online purchase of solar system.



Loom Solar

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