

Selecting your solar equipment

1. Determine whether you need the solar power for generate electricity or heat.
2. If the solar power is needed for electricity generation, the next step is to determine whether the solar system is on-grid or off-grid. Most on-grid systems do not require battery. The electrical power generated goes directly for use in the equipments or light.
3. Proceed to the AC load calculation, collecting information on the various equipments and devices you would be running on solar power. List the equipment or light, the quantity, the wattage (usually informed in the equipment tag) and the number of hours the equipment will be running. [Click here](#) to find average wattage per equipment if this information from equipment tab is not available.
4. Do the same above for any equipment running on DC.
5. Enter the information above in the Load Calculation Work-form provided.
6. The AC Total Power Requirement line, in the AC Work-form, shows yours AC total load plus 25% to compensate for inverter losses. Remember, the DC current generated by the solar panels must be converted to AC current by the inverter.
7. The line in that form "Total load (AC+DC) shows both loads added.
8. The next step is to select the inverter input in DC (12, 24, or 48V). Inverters are rated in continuous wattage and surge watts. Continuous watts are the total watts the inverter can support continuously. A 2000 watt inverter can power up to 2000 watts continuously. Surge watts are the power the inverter can support during a surge period to support starting loads as in a motor. A 3000 surge watts can handle up to 3000 watts.
9. Enter the input for the inverter selected (12, 24 or 48) in the proper field in the Load Calculation Work-form.
10. If your system has a battery, enter the compensation for battery loss as provided:
11. Enter the Peak-amps of the solar module. This information is provided:
12. The Work-form will determine the number of panels in parallel based on the information provided so far.
13. Enter the number of panels in each series based on the provided table;
14. The total number of solar panels required for the intended load, based on an array of parallel and series solar panels is calculated.
15. If your system has a battery, continue by filling the Work-form where indicated.
16. Enter the number of continuous cloudy days in your area.
17. The Work-form determines the battery amp-hours based on the information entered so far.
18. Enter the adjustment figure for winter temperature if you are using lead-acid battery, based on the information provided.
19. Enter the amp-hours of the battery you choose.
20. The Work-form determines the number of batteries in parallel to meet the load requirement.