

SOLINTEG SMART EMS

Energy Storage System

INTEGRATE SOLAR INTELLIGENTLY



Brief Introduction

Solinteg Smart EMS is an advanced energy management system aimed at helping users utilize solar energy systems more efficiently and achieve energy independence. It possesses the following characteristics:



Intelligent Management

Manage the devices and plants intelligently and remotely.



Maximizing Efficiency

Maximizing energy utilization by increasing power generation, optimizing usage strategies and so on.



Stable and Reliable

Multiple intelligent strategies ensure a stable electricity supply.





Smart Devices and Monitoring 01

Solinteg provides an intelligent and convenient remote control platform—Solinteg Cloud. With the multiple choices of devices, users can easily check the status of their system anytime and anywhere.

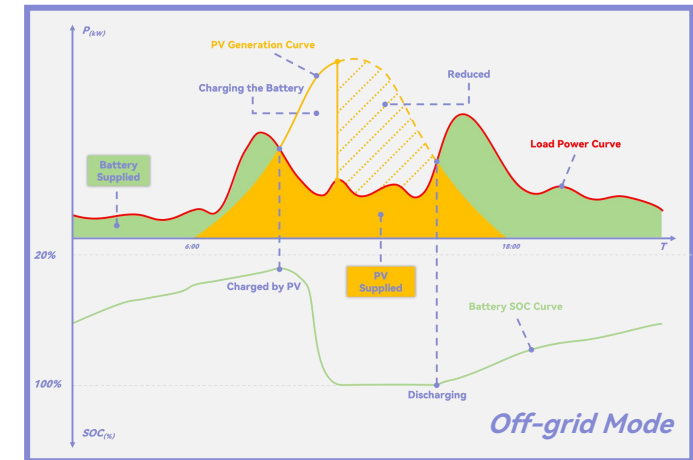
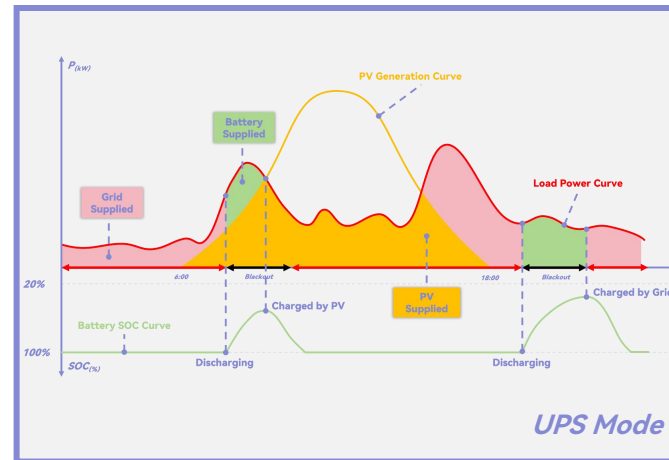
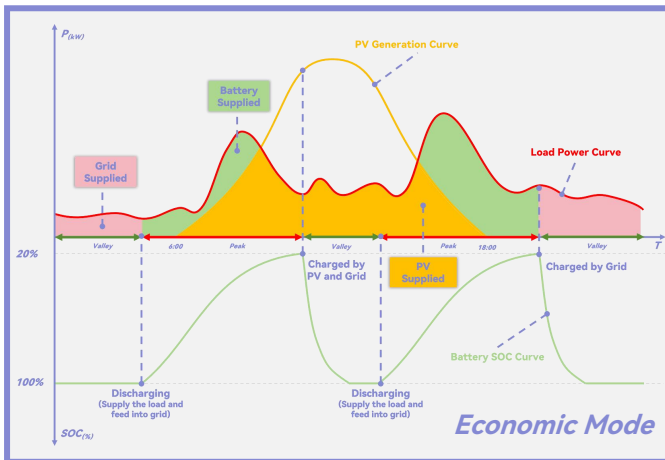
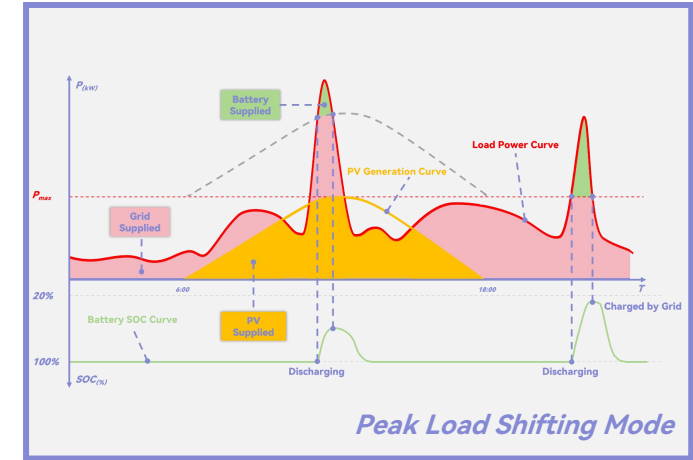
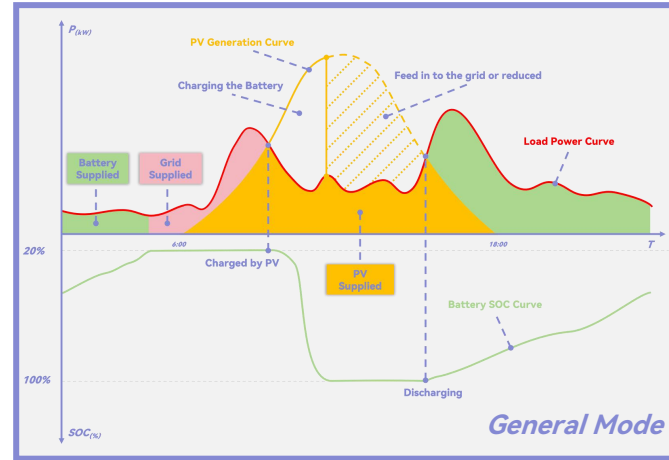
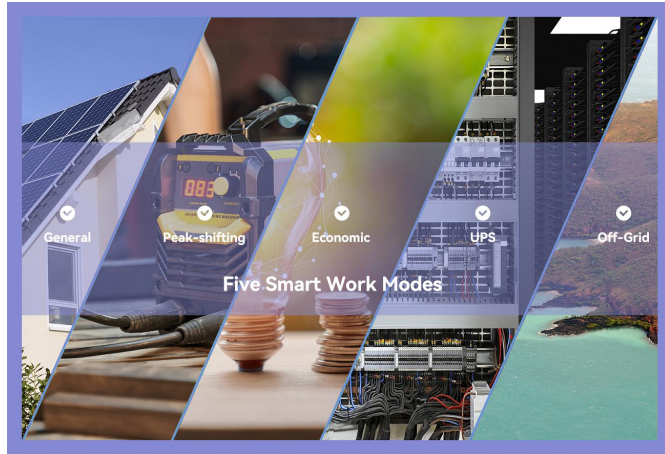
Including:

- Plants and devices management;
- Data checking;
- Parameters setting;
- Alarm pushing;
- Firmware upgrading;
-

And multiple communication options are available: WiFi/LAN/4G.

02 Smart Work Modes

Solinteg's hybrid inverter features five intelligent operational modes tailored to meet diverse requirements. By strategically employing these modes in various scenarios, users can optimize power allocation and prioritize energy usage effectively.



Expand the Capacity **Easily**



Master-Slave



Datalogger



On-Grid



Off-Grid

Multiple Paralleling **03**

Solinteg provides multiple methods for paralleling inverters, supporting parallel operation in both on-grid and off-grid modes.

This functionality enables users to seamlessly scale up their systems from several kilowatts to hundreds of kilowatts, saving both time and costs for users.



Up to 10 units



Cost saving



Easier to install



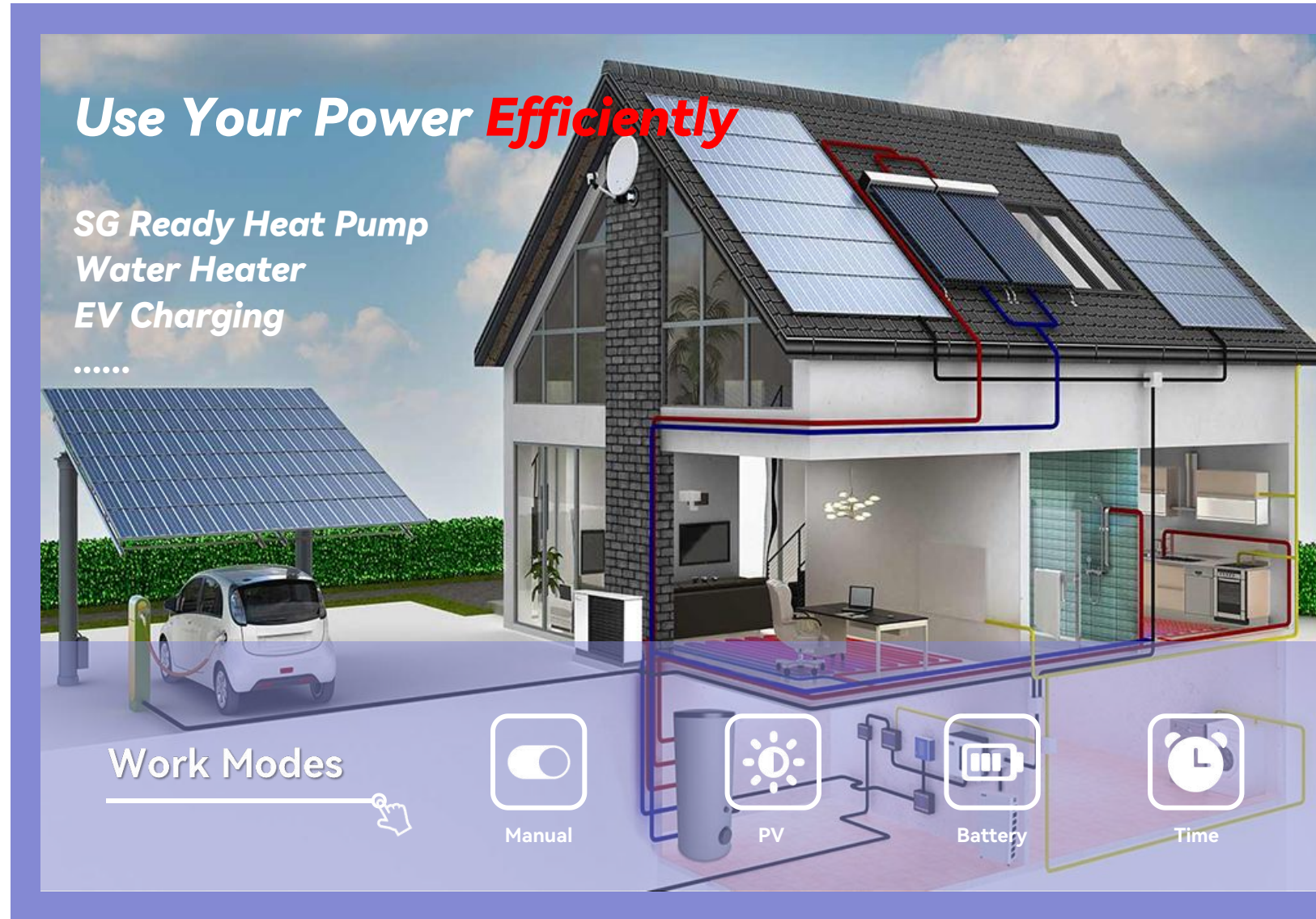
More stable

04 Smart Load Control

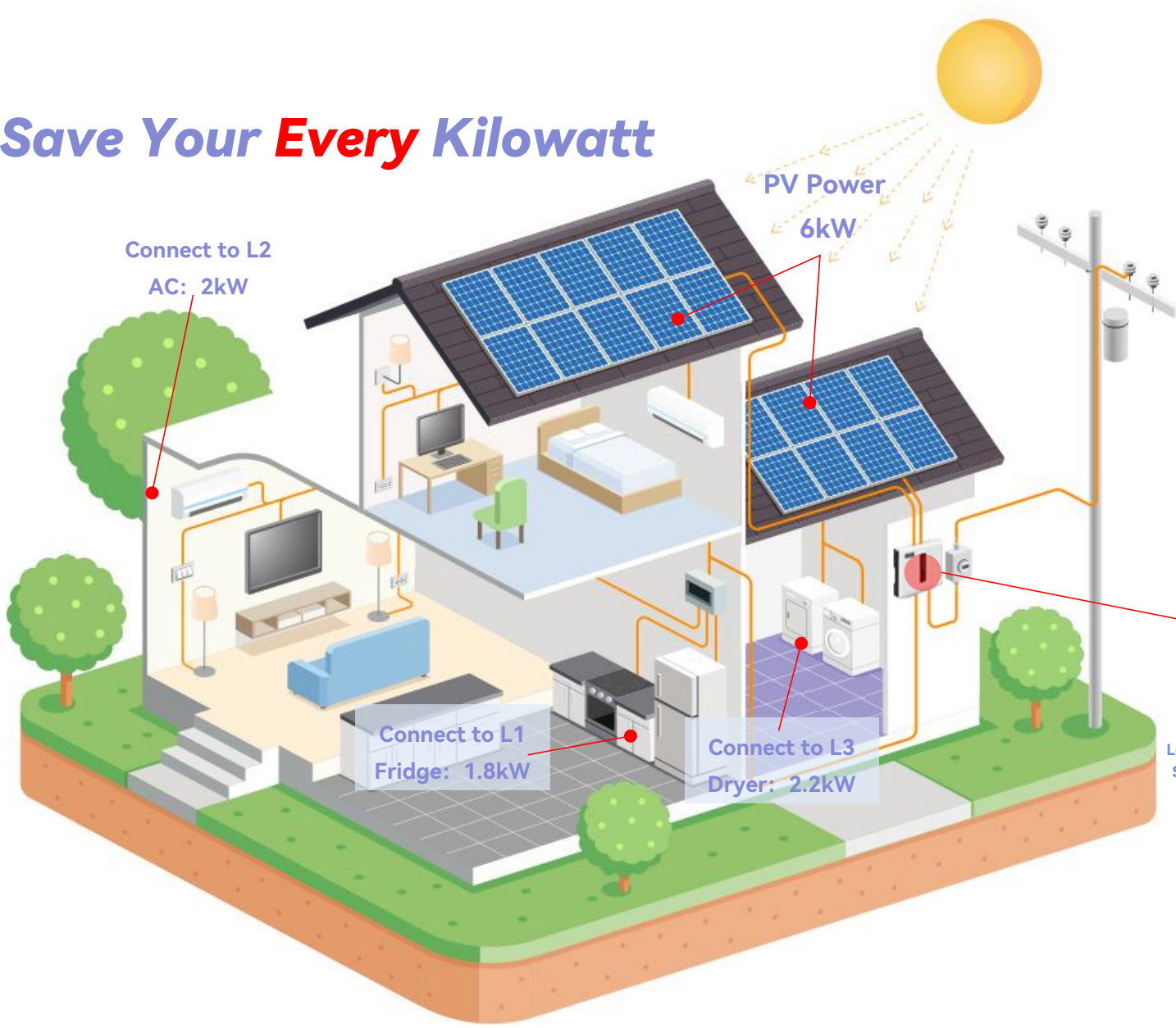
Have you ever been troubled by the following **PROBLEMS?**

- Excess solar energy being wasted
- EV was not charged in time
- Expensive electricity used by heat pump or water heater in non-emergency time
- Excess power exporting to the power grid without any payback or even being punished.
-

Solinteg's smart load control feature offers solutions for various situations. You can activate it through the Solinteg Cloud or App to manage high-consumption loads based on the status of the battery, PV, and time.



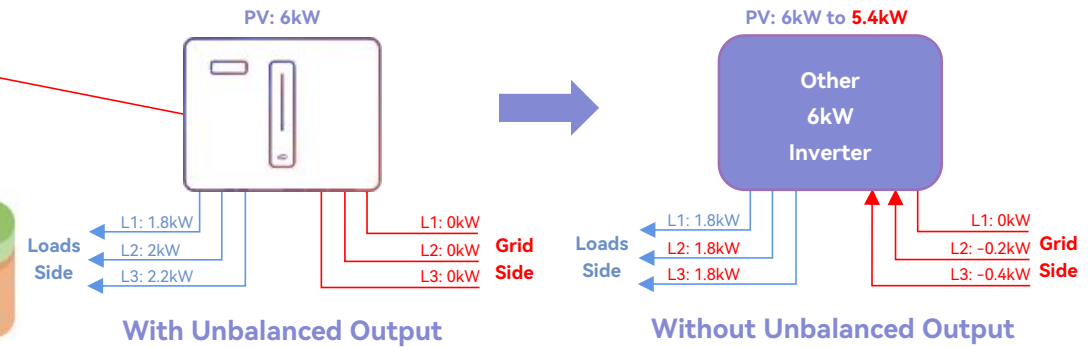
Save Your *Every* Kilowatt



Unbalanced Output 05

In a three-phase system, it is common that different power loads will be used at the same time on different phase, which will cause the power consumption of the whole three-phase grid to be unbalanced.

What's the difference when you are using Solinteg inverter compared to other brand inverters?



Solinteg inverters support **110% unbalanced output**. So, the output upper limit of each phase is 2.2kW. In this case, each phase can be fully supplied by the inverter, which can save energy bills and increase load flexibility on each phase.

06 Diesel Generator Control

It is possible that we may encounter extreme situations where the grid blackouts, the battery reaches SOC protection value, and the solar panels don't work due to bad weather. Don't worry! Solinteg hybrid inverters support the use of a diesel generator as an AC source to supply loads and charge batteries in this situation.

Currently, Solinteg 25-50kW inverters support connecting the diesel generator to provide full backup for your energy security. And it can automatically start the generator when other power sources are insufficient.

Power Your Home **ALL The Time**

Start the Diesel Generator Remotely and Automatically



DG Working Principle



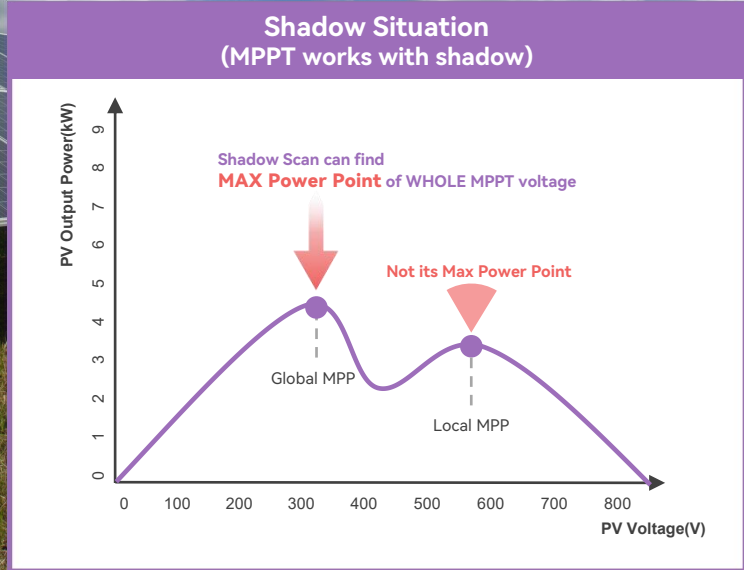
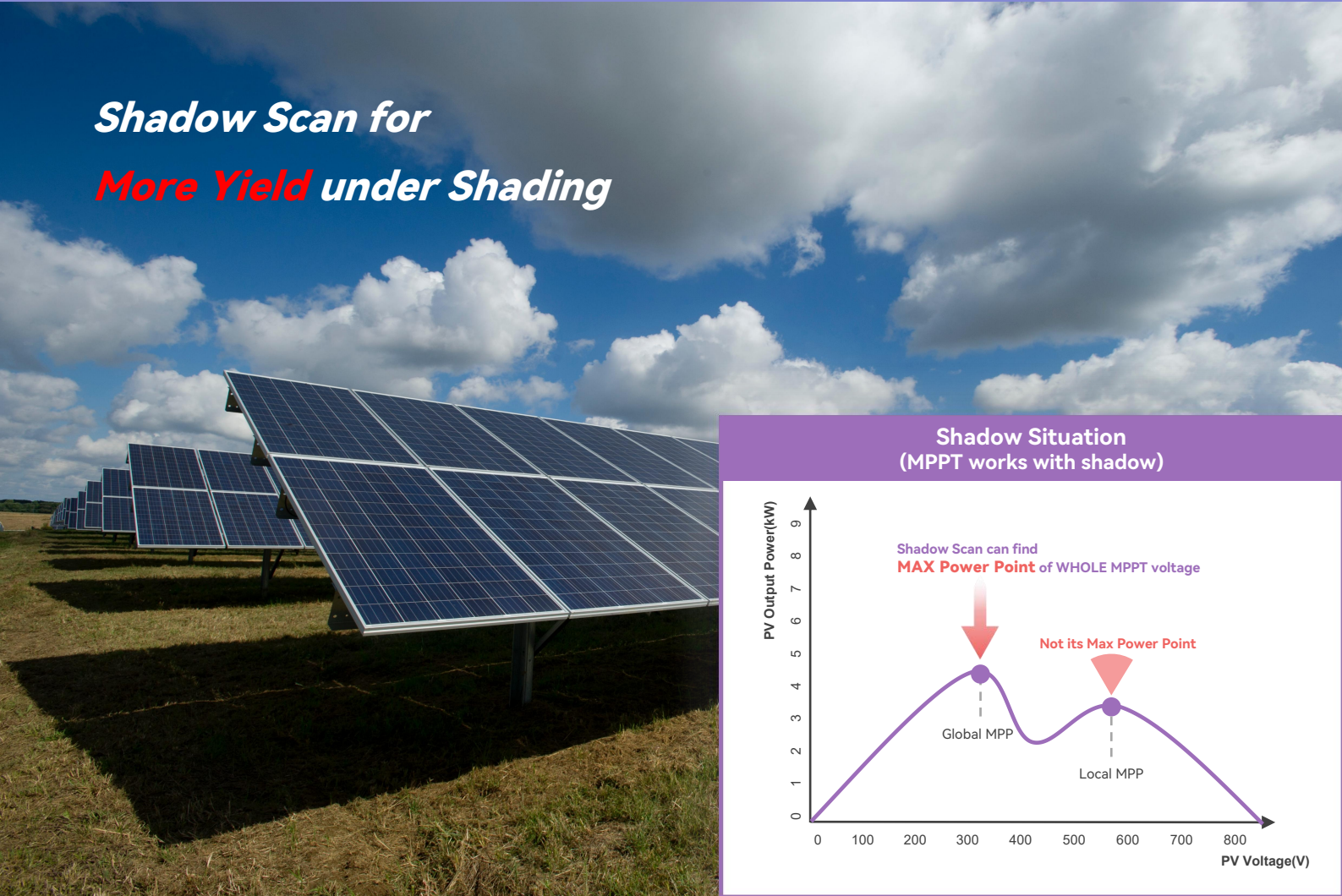
The graph illustrates the DG Working Principle during a grid outage. The y-axis represents Power (P) and Battery State of Charge (SOC), and the x-axis represents time. The load consumption source (P_{Load}) is shown as a red horizontal line. The power sources are PV (orange hatched area), PV+Battery (green hatched area), and DG (blue hatched area). The battery SOC is shown as a green hatched area that decreases as it discharges. The DG starts at point 4, works until point 6, checks at point 7, and turns off at point 8. The DG is checked for 5 minutes before turning off.

Legend: PV (orange), PV+Battery (green), DG (blue). Load Consumption Source (red).

Key events: Grid Outage, DG Start (10 minutes maximum), DG Working, Checking (5 minutes), DG Off.

Smart Shadow Scan 07

Shadow Scan for More Yield under Shading



The Shadow Scan function is a shade repair technique that is frequently utilized when solar systems are shaded due to unavoidable shading. The inverter detects shadow and optimizes yield at the MPPT level using a highly efficient and powerful MPP tracking algorithm.

With Shadow Scan function, you can always generating with the best efficiency, even when there is partial shade.

08 Seamless Switching

Solinteg hybrid inverters can switch your system to off-grid mode when power blackouts.

The whole switching process is managed automatically and can be activated within **10ms** *. Secure your energy safety at anytime.

*: The system is capable of sustaining typical household demands without experiencing power outages; however, it is not designed to support life-sustaining medical equipment. It does not offer a guaranteed backup power supply in every situation.



Black Start 09

Black Start



During the use of a residential solar system, you may encounter a situation:

Your system shuts down due to the loss of all energy sources (battery over discharged, grid blackouts, PV panels unable to generate electricity at night or in extreme weather).

Solinteg black start enables the system go back to work when PV or grid is recovered.

10 Smart Grid

There are different requirements for inverters in different regions. Some are related to safety, while others are related to the grid.

For example, RRCR in Germany. If the grid is overloaded, the utility company will send a command to the inverter through RRCR to ask the inverter to reduce its feed-in power to 0%, 30%, 60% of its rated power according to the command. If the grid is not overloaded, the inverter will be allowed to export 100% of the power.

Solinteg has the complete solution to adapt to the different regions requirements. Such as DRED, RRCR, N-PE check, and so on.





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Contact us at
Academy@solinteg.com
if you want to know more

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