

SOLINTEG DIESEL GENERATOR CONNECTION SOLUTION

INTEGRATE SOLAR INTELLIGENTLY



Brief Introduction

Why do we need a diesel generator in a PV system?

A diesel generator is used in a PV system as a backup power source to ensure a continuous power supply in case of a long - time grid power failure or insufficient power generation. 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.



Reliable

Ensure the energy security for your critical loads when the power grid goes off for a long period.



Intelligent

Operate your diesel generator remotely and automatically



Friendly

Integrate the control strategy and DG connector inside the inverter, no need for any extra configuration.

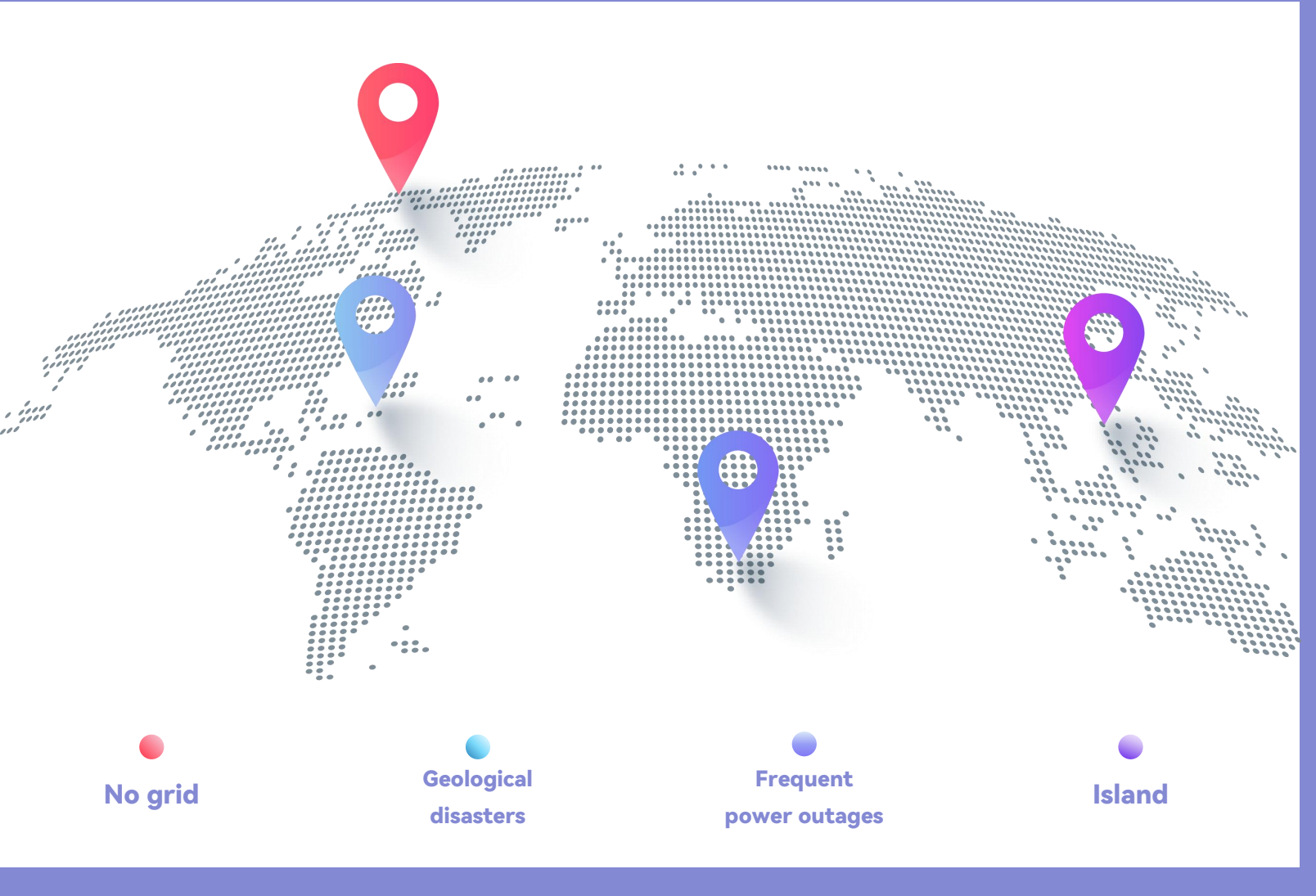


Application

Who will need this

With this function it would be easier to handle these situations:

- Isolated areas without grid;
- Regions with frequent geological disasters, such as earthquakes, typhoons, etc;
- Places with frequent power outages;
- Island or remote regions;
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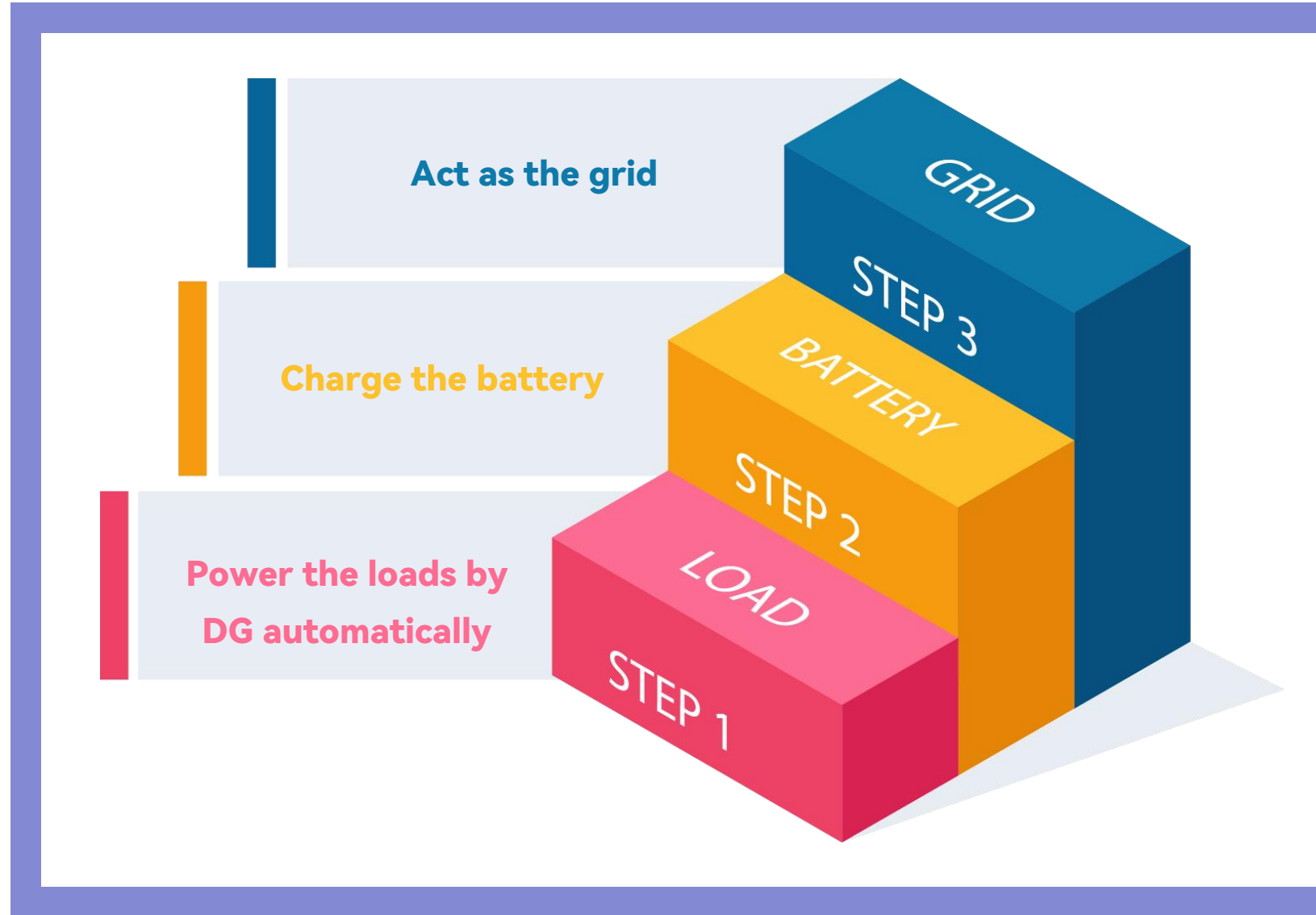
Strategy

Solinteg DG strategy

Solinteg DG solution has been divided into three stages*, and each stage will be developed independently.

- Stage 1: Use the DG to power home loads automatically when the power grid fails and PV and battery power is insufficient.
- Stage 2: Use the DG to power loads and charge the battery.
- Step 3: In addition to the functions of stage 1&2, you can use the DG as the grid, allowing you to run a microgrid in isolation.

*Note: We have completed the development of stage 1. For more information about the status of stage 2&3, please consult us. The remaining details will be released before Q4 2024.



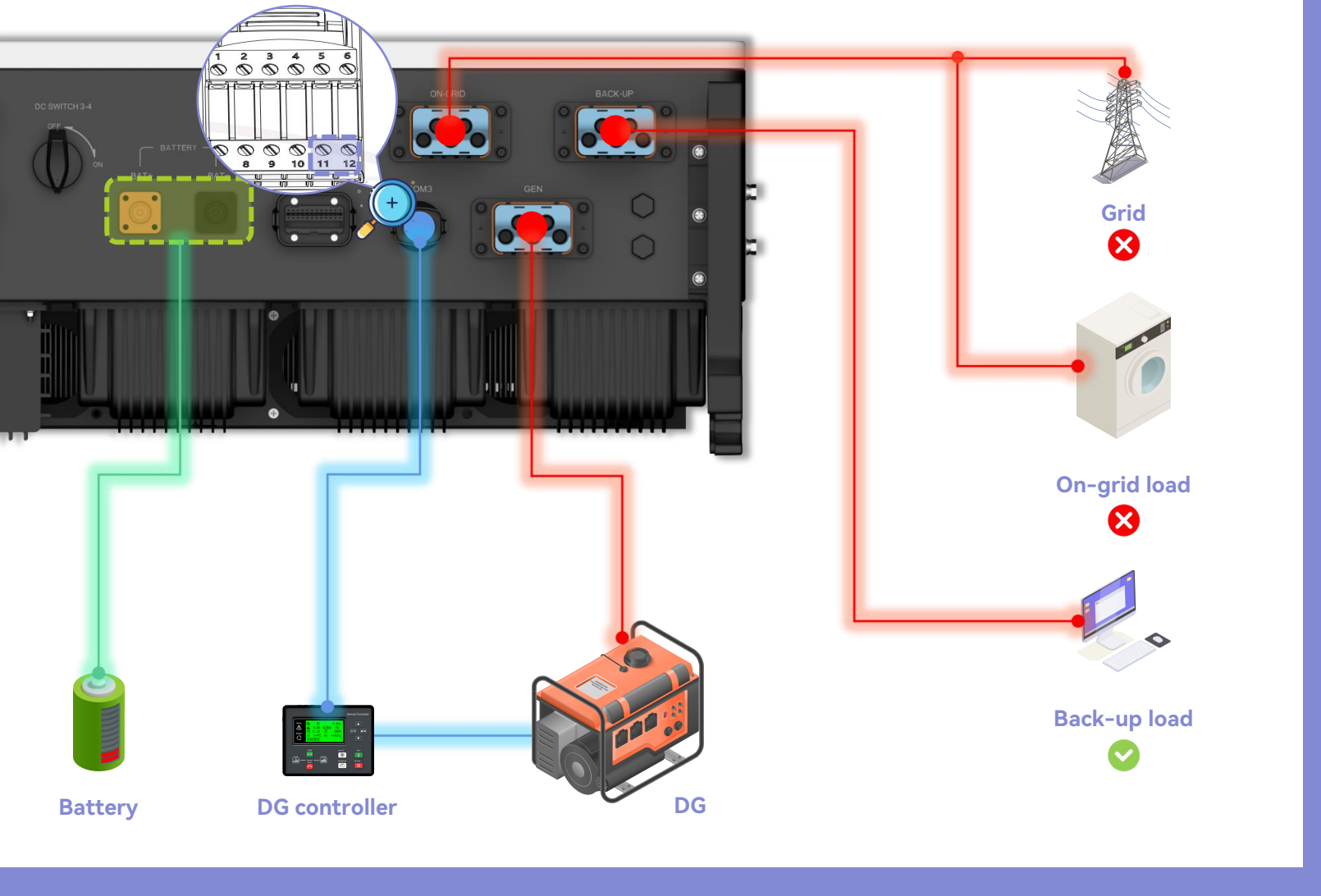
Connection

How to wire

As the diagram shown on the left:

- Connect the DG controller to the COM3 Pin 11&12;
- Connect the DG controller to the DG;*;
- Connect the output of DG to the inverter GEN port;
- Connect the battery, back-up loads and other necessary devices;

*: The connection between DG and DG controller please refer to the user manual of the controller manufacture strictly.

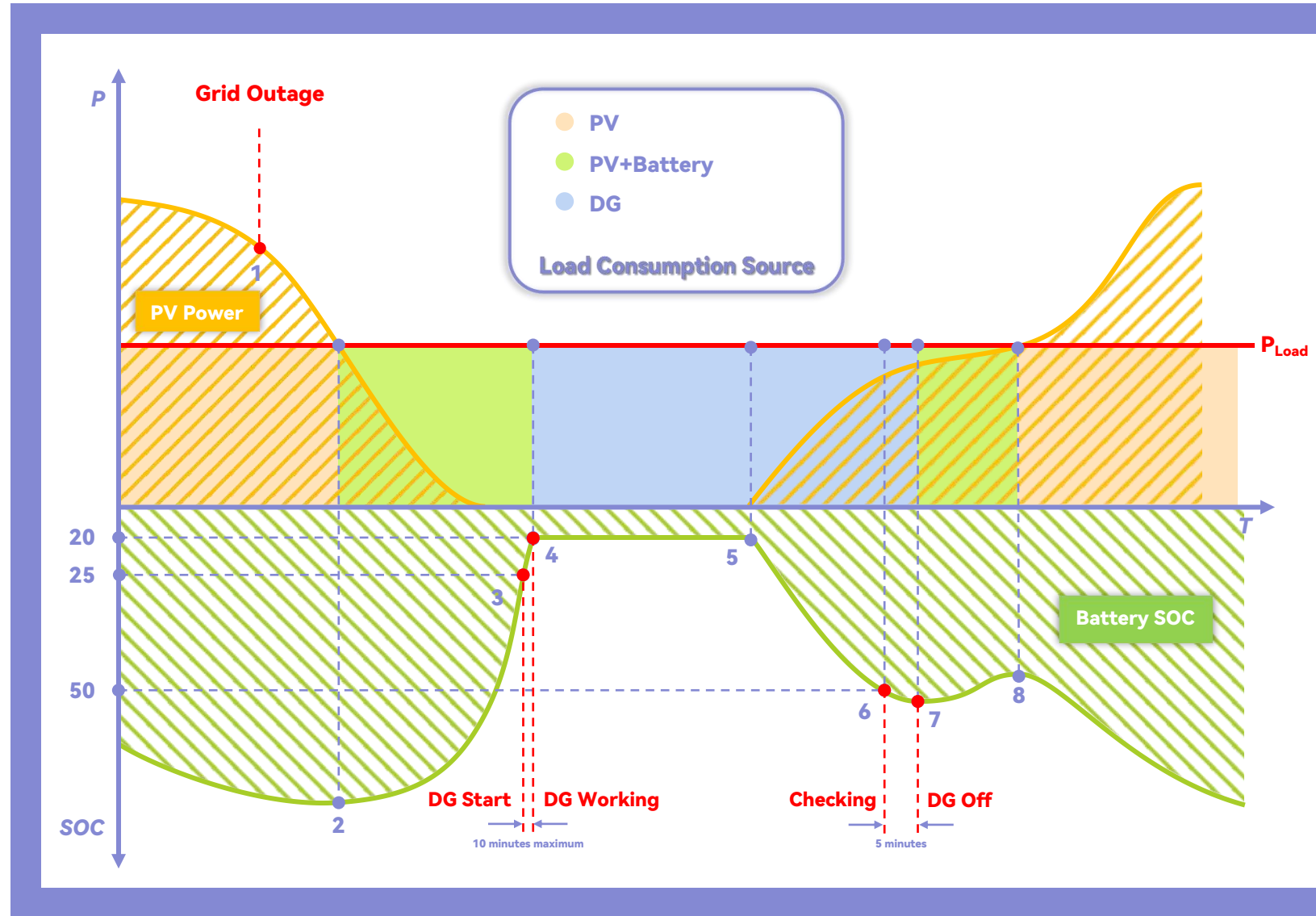


Logic

How it works

When the grid fails and is not recovered:

- **Point 1:** Grid outages occur.
- **Point 2:** PV power is lower than P_{load} , and the battery starts to discharge.
- **Point 3:** The battery State of Charge (SOC) drops to 25%, and the DG enters standby status.
- **Point 4:** If SOC is lower than 20% or remains lower than 25% for over 10 minutes, the inverter will switch the loads to be powered by the DG.
- **Point 5:** When PV power recovers, the battery starts to charge.
- **Point 6:** Once SOC recovers to 50%, the inverter begins detecting the battery status.
- **Point 7:** If SOC remains higher than 50% for over 5 minutes, the inverter switches the loads back to be powered by the battery and PV, then closes the DG.
- **Point 8:** PV power is higher than P_{load} .

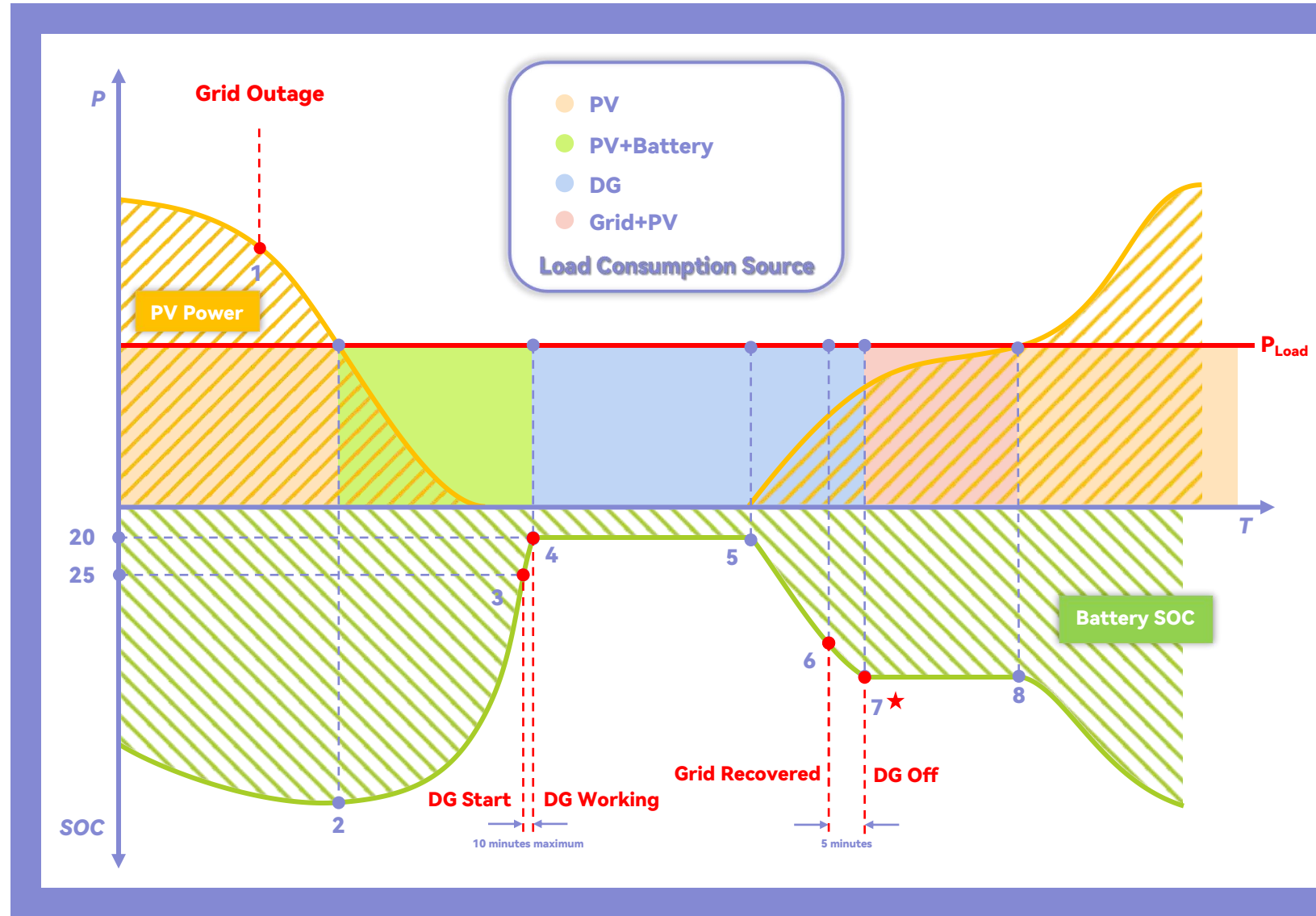


Logic

How it works

When the grid fails and is recovered after a while:

- **Point 1:** Grid outages occur.
- **Point 2:** PV power is lower than P_{load} , and the battery starts to discharge.
- **Point 3:** The battery State of Charge (SOC) drops to 25%, and the DG enters standby status.
- **Point 4:** If SOC is lower than 20% or remains lower than 25% for over 10 minutes, the inverter will switch the loads to be powered by the DG.
- **Point 5:** When PV power recovers, the battery starts to charge.
- **Point 6:** Once the grid is recovered, the inverter begins detecting the grid status.
- **Point 7:** If the grid is stable for over 5 minutes, the inverter switches the loads back to be powered by the grid and PV, then closes the DG.
- **Point 8:** PV power is higher than P_{load} .



★ The power dispatching order priority is related to the inverter work mode.

Requirements

Products

Requirements

Inverter



MHT 25-50K
(Special firmware is needed, please contact us.)*

DG Controller



DO input port integrated**

DG



1. DG controller connection available;
2. Three phase DG only;
3. Output power within the limitation of the inverter***;

Requirements

How to select the devices

All the devices selected just as the recommendation;

*: For the firmware upgrade please contact us at service@solinteg-power.com;

** : Please make sure the DG controller has the DO input port before you purchase it;

***: Please make sure the DG supports the connection with the controller you purchased;

DG output: The output power parameter we take a 50kW inverter as an example. Solinteg 50kW inverter max DG input apparent power is 60kW, so the DG's rated output power should be within 60kW;

For more parameters, please refer to the inverter datasheet.



END

Visit Solinteg website to find out more

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