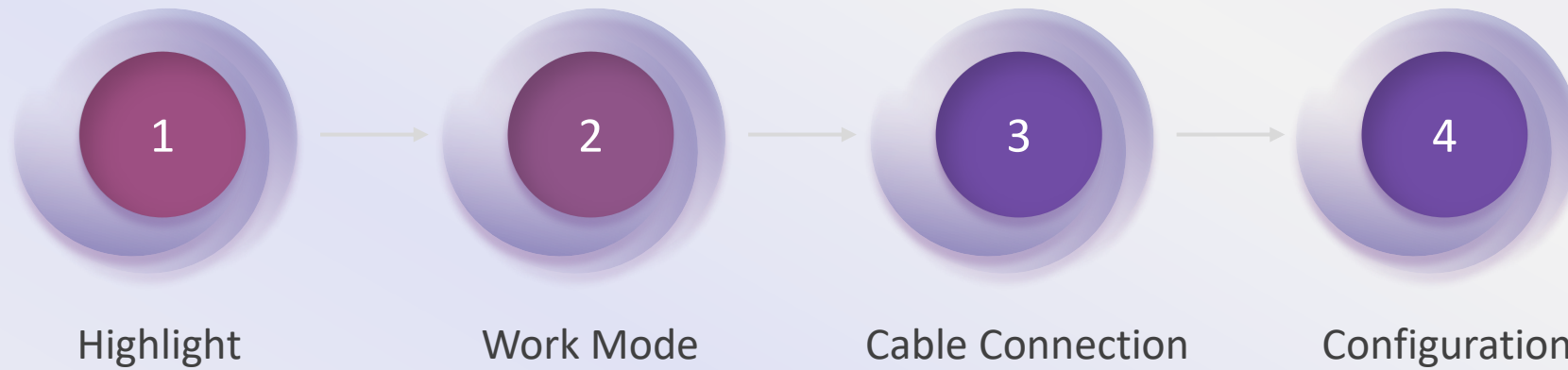


Solinteg EV Charger Solution



CONTENT





01
Highlight

All-in-one solution

EV charger with Hybrid System

All-in-one solution

Providing an entire energy system Includes Solinteg hybrid inverter*, storage batteries, EV charger and accessories, enjoying the all-in-one energy system and one-stop service.

Flexible charging strategies

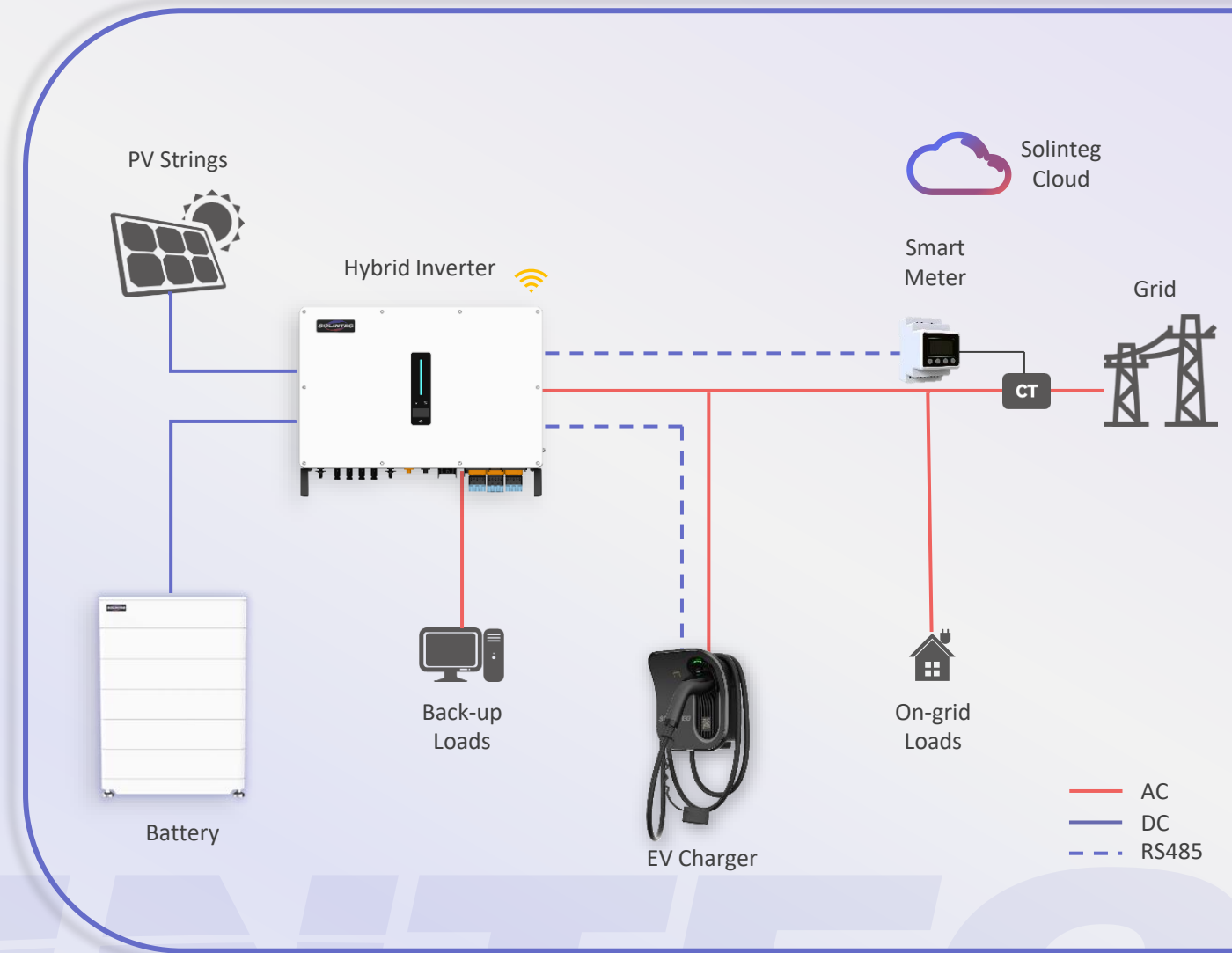
Providing a variety of intelligent control strategies , which can optimize the use of energy and reduce the bill from the grid.

More convenient

Equipped with LED indicator, dual-channel to start & stop with RFID card and App, and the Solinteg platform for remote setting and monitoring.

Safer and more stable

All kinds of protections and emergency stop function are integrated.



*Solinteg EV charger can only communicate with the hybrid inverter. When communication is lost, it will run at the power level prior to the disconnection.

**While using the EV charger, it is suggested to turn off the export limit.

Highlight

For EV charger system

All-in-one system

- All-in-one solution for PV, storage and EV charging energy system.
- All in one platform for remote configuration and monitoring.
- One-stop after-sales service.

User-friendly

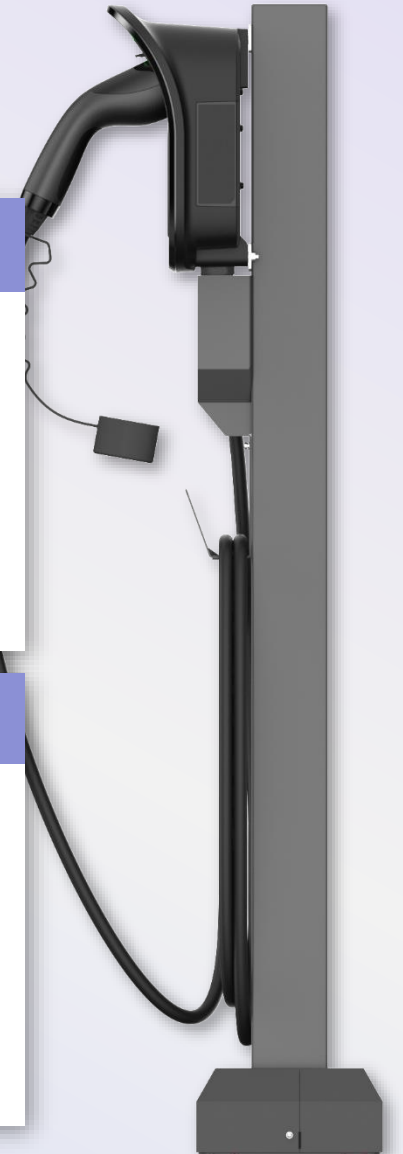
- Compatible with 99.9% of Eur standard vehicle models.
- Easily identify the working status with LED indicator .
- Dual-channel to start & stop with RFID card and App.
- Flexible with wall-mounted and pole-mounted.
- Light weight for easy installation and maintenance.

Smart and Economic

- Optimize energy use with the integrated green mode.
- Support schedule time charging to reduce bills during peak and valley price.
- Energy-saving and high-efficiency with standby power consumption of 4W.

Full Security Protection

- AC 30mA and DC 6mA for residual current protection.
- Not afraid of external mechanical impacts with IK10.
- IP65 for both indoor and outdoor installation.
- Integrated emergence stop.
- Integrated all kinds of protections to ensure the safety.



Key parameters

For two models

Model	ECA-S07K-BS0	ECA-S11K-BS0
Input Rating	230±15%Vac, 50/60Hz	400±15%Vac, 50/60Hz
Input Rating	Single-phase, L+N+PE	Three-phase, L1+L2+L3+N+PE
Output Rating	7kW/ Max. 32A	11kW/ Max. 16A each phase
Start Current	6A	6A for each phase
Grid Type	TN-S, TN-C-S, TT, IT(L1+L2 230Vac Single phase)	
Charging Mode	Mode 3 (IEC 61851-1)	
Charging Interface	IEC 62196-2 Type 2 tethered plug (Case C)	
Metering	Onboard metering chip	
Power Consumption	4W	

7kW: Single-phase
11kW: Three-phase



7kW and 11kW for customer selection



Determines the start and stop of the EV charger in green mode, saving electricity bills from grid



Convenient and safer for residential use



Universal European standard tethered plug



Prepared for future commercial use and CE-MID



Energy-saving with 4W standby power

User-friendly

Flexible to use

7 kw

Single phase

ECA-S07K-BS0

Max. 32A

11 kw

Three phase

ECA-S11K-BS0

Max. 16A



RFID Card



App

Dual power options

Two types of EV charger models are available for customers to choose.

Type 2 tethered plug

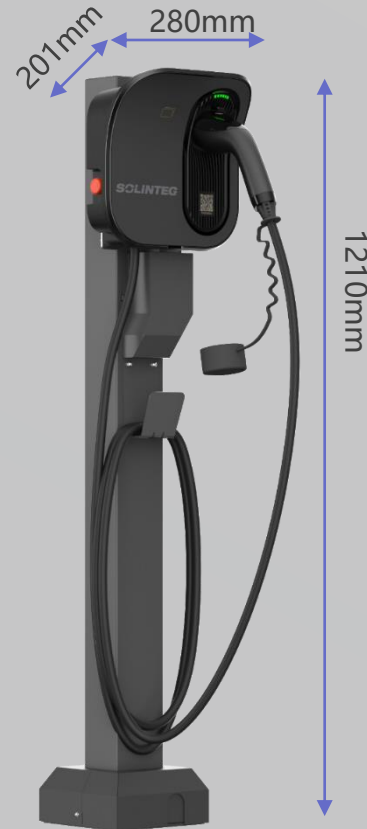
Compatible with 99.9% of European standard vehicle models

Dual user authentication

Dual-channel to start and stop with RFID card and App

User-friendly

Easy to use



Breathing light – Identify working status at a glance



The charger is in standby state without failure.



Always on - The charging cable is connected

Quickly flashing - RFID card reading

Breathing flashing - Charging in progress

Slowly flashing - The vehicle suspends/the terminal suspends



Fault occurs or the emergency stop is pressed

Flexible installation - Wall-mounted or pole-mounted

Lightweight – Convenient for installation with 4kg

Full Security Protection

Integrated full protections

Not afraid of external
mechanical impacts

Suitable for both indoor and
outdoor installation

Quickly stop at emergency
situation

IK10

IP65

Stop



Residual current
protection

Surge
protection

Overvoltage and
Undervoltage protection

Overcurrent
protection

Over temperature
protection

Grounding fault
protection





02

Work Mode

SSS...M...G

Work Mode

For EV charger

ATTENTION!

The work mode priority of the inverter is **higher** than that of the EV charger.

Green mode

Introduction

Green mode is a smart charging mode, which fully utilizes the PV green energy and reduces the extra power taken from the grid.

Advantages

- Maximize the use of green energy
- Limit the electricity purchased from the grid
- Intelligent energy dispatching

Application

- When there is surplus green energy being fed into the grid
- When you don't want to use too much electricity from the grid to charge EV



Fast mode

Introduction

Fast mode can charge the EV with the maximum charging power. Green energy is used first, and the gap will be filled from the grid.

Advantages

- Charge with the fastest speed.
- Make full use of valley price electricity.
- Through RFID card achieve one-click start

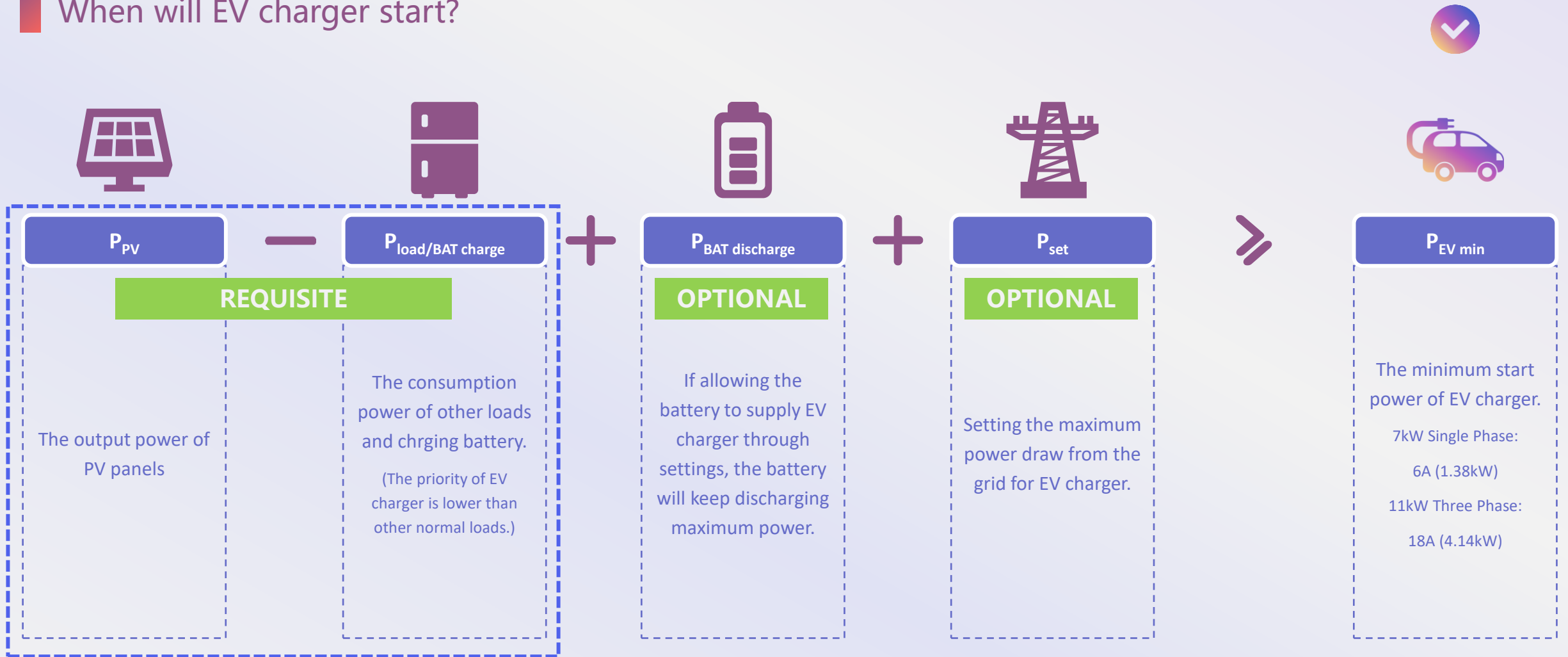
Application

- When you want to charge up as quickly as possible
- When you want to use grid electricity as much as possible in valley price period

Green mode and Fast mode both can be applied under **scheduling charging** and **instant charging**.

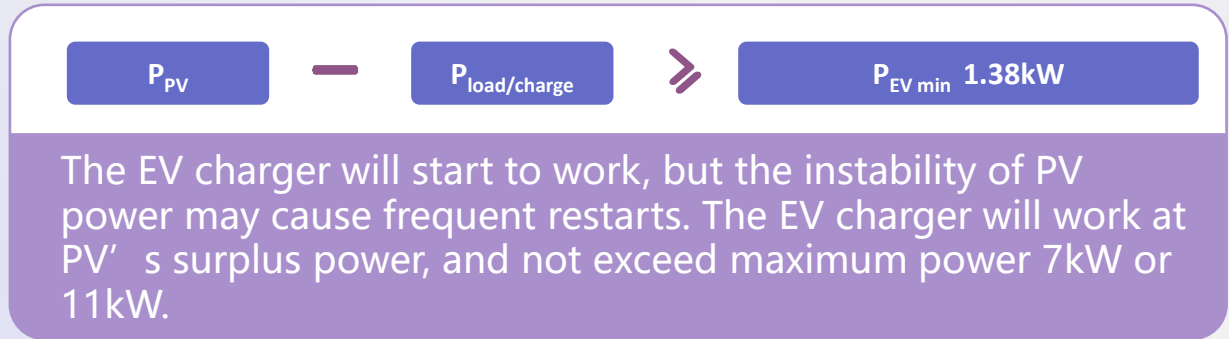
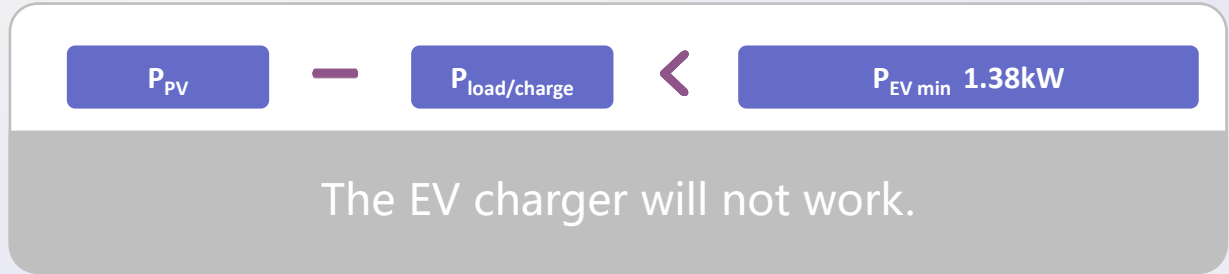
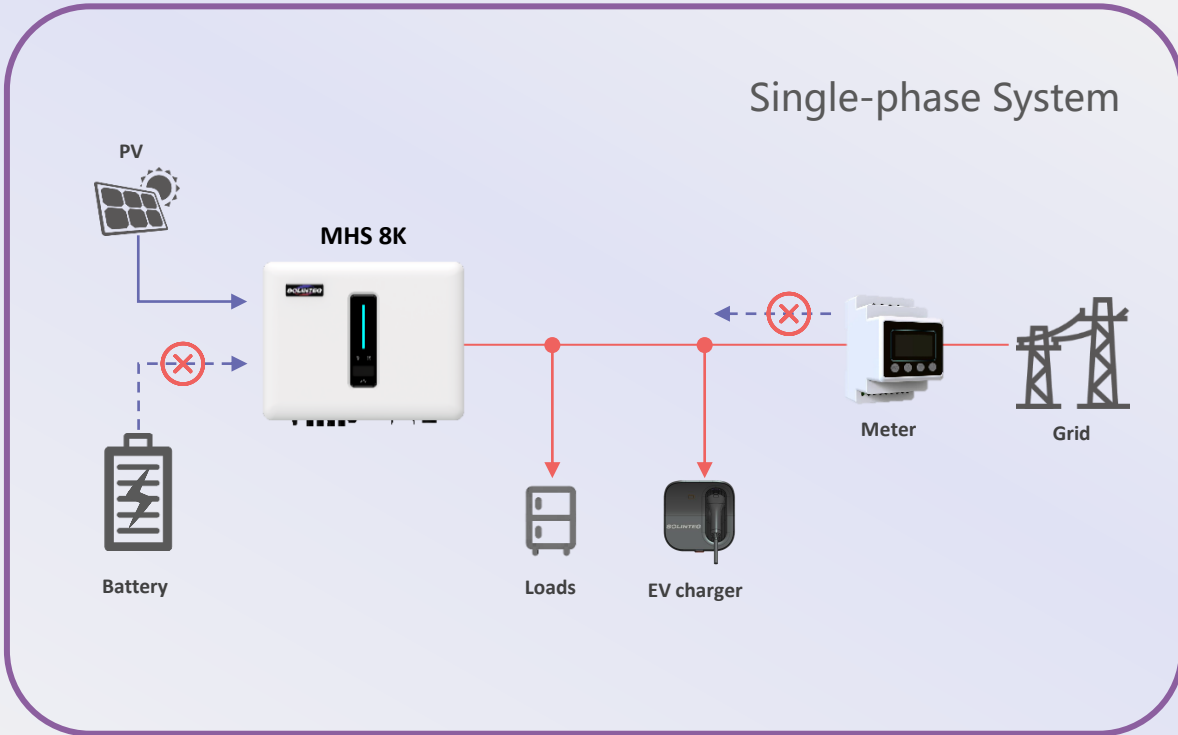
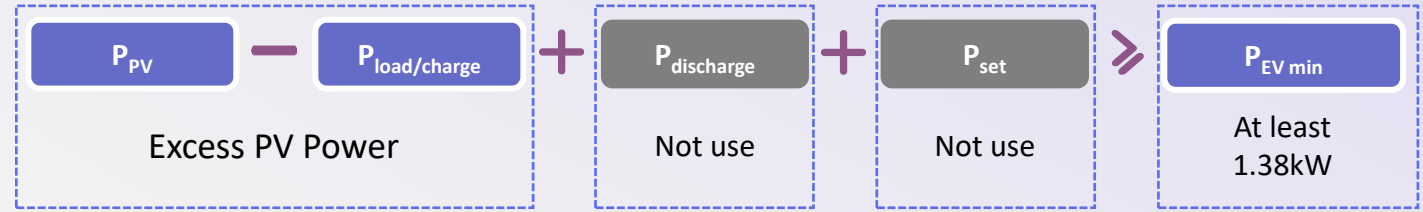
Green Mode

When will EV charger start?



Green Mode

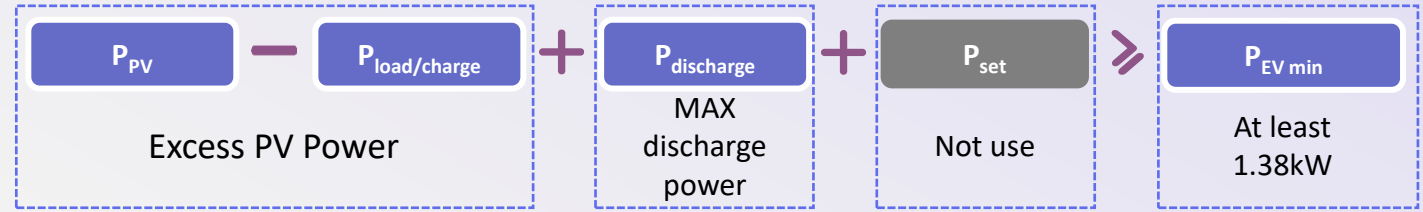
Situation 1: Pure green energy



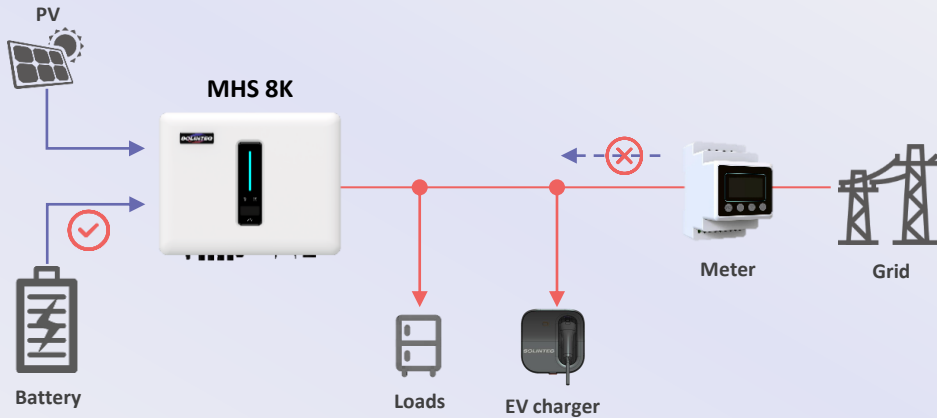
*: For three phase, the charger will only start when every phase meets the conditions.

Green Mode

Situation 2: Battery Discharge Allowed



Single-phase System

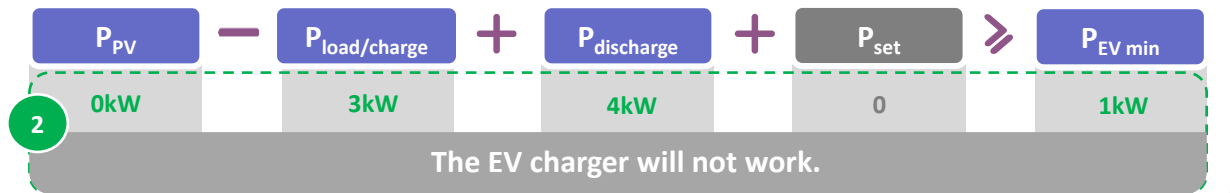
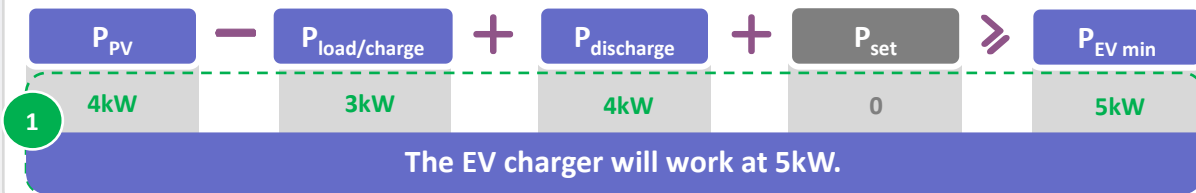


When the PV power insufficient, you can allow the battery to discharge to supply power to the EV charger through settings. The battery will discharge at its **maximum power** to improve the issue of frequent restarts.

Setting	Current SOC	> Cut-off SOC SOC	≥ End
		EV charger's power draw cut-off SOC from battery	Battery's discharge cut-off SOC set by inverter

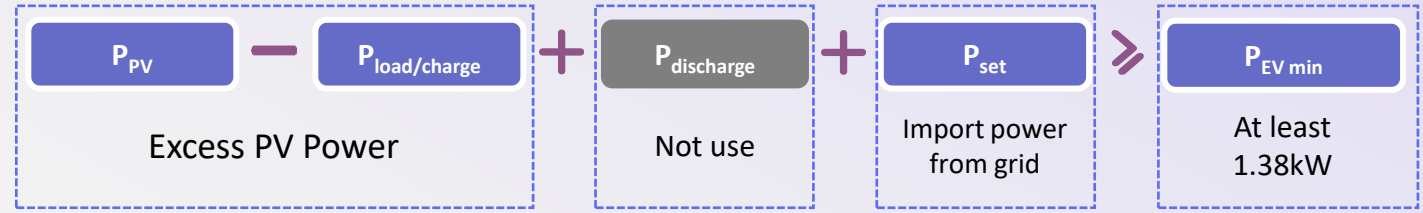
Scenario: After supplying the load and charge the battery with PV power, the remaining energy is insufficient to start the EV charger. Set lower cut-off SOC can be set to allow the **maximum power** of 4kW battery to discharge.

Note: The power discharged from the battery will also be used by other loads. If the usage by these loads is too high, there will not be enough energy available to power the EV charger.

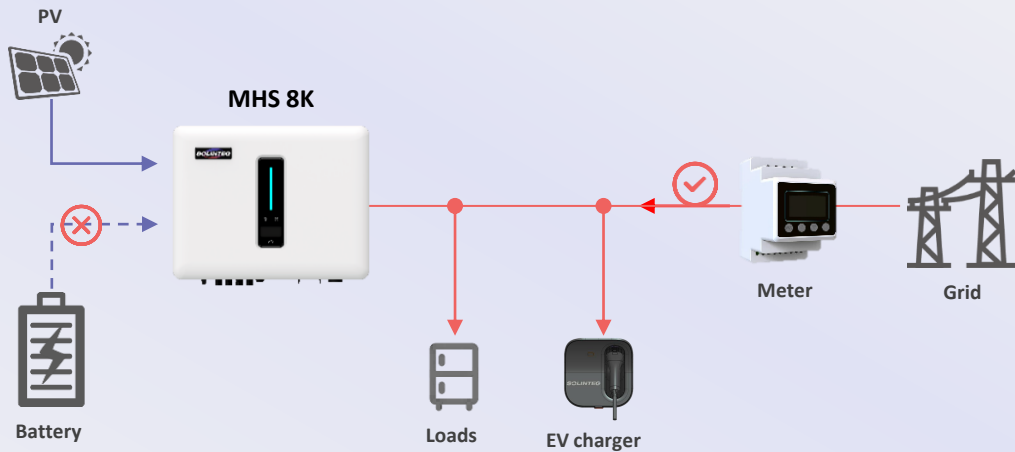


Green Mode

Situation 3: Grid's Import Power Allowed



Single-phase System



When PV power is insufficient to start EV charger, the EV charger can draw power from the grid to make up the gap, to meet the minimum start-up requirements. However, the power drawn from the grid should not exceed the set value.

Scenario 1: Max. Power from Grid = 1kW

	P_{PV}	$-$	$P_{load/charge}$	$+$	$P_{discharge}$	$+$	P_{set}	\geq	$P_{EV\ min}$
1	6kW		5kW		0		0.38kW		1.38kW
The EV charger will work at 1.38kW.									
2	6kW		9kW		0		1kW		1kW
The EV charger will not work.									

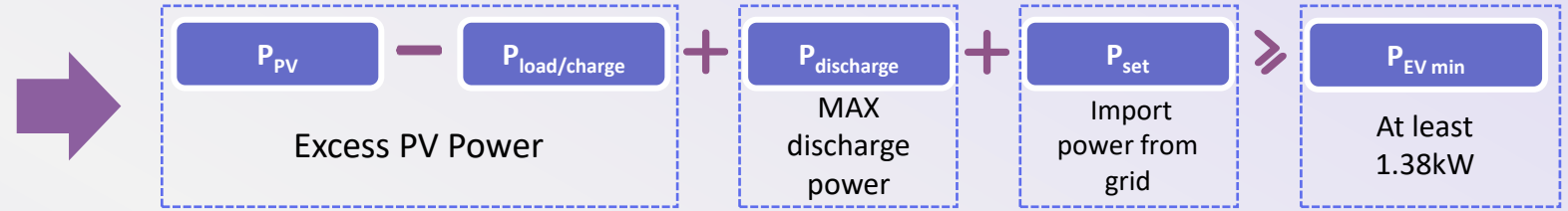
Scenario 2:

Max. Power from Grid = 2kW
(When the set value exceeds 1.38, it will ensure that EV charger can work at least the minimum start power)

	P_{PV}	$-$	$P_{load/charge}$	$+$	$P_{discharge}$	$+$	P_{set}	\geq	$P_{EV\ min}$
	6kW		9kW		0		1.38kW		1.38kW
The EV charger will work at 1.38kW.									

Green Mode

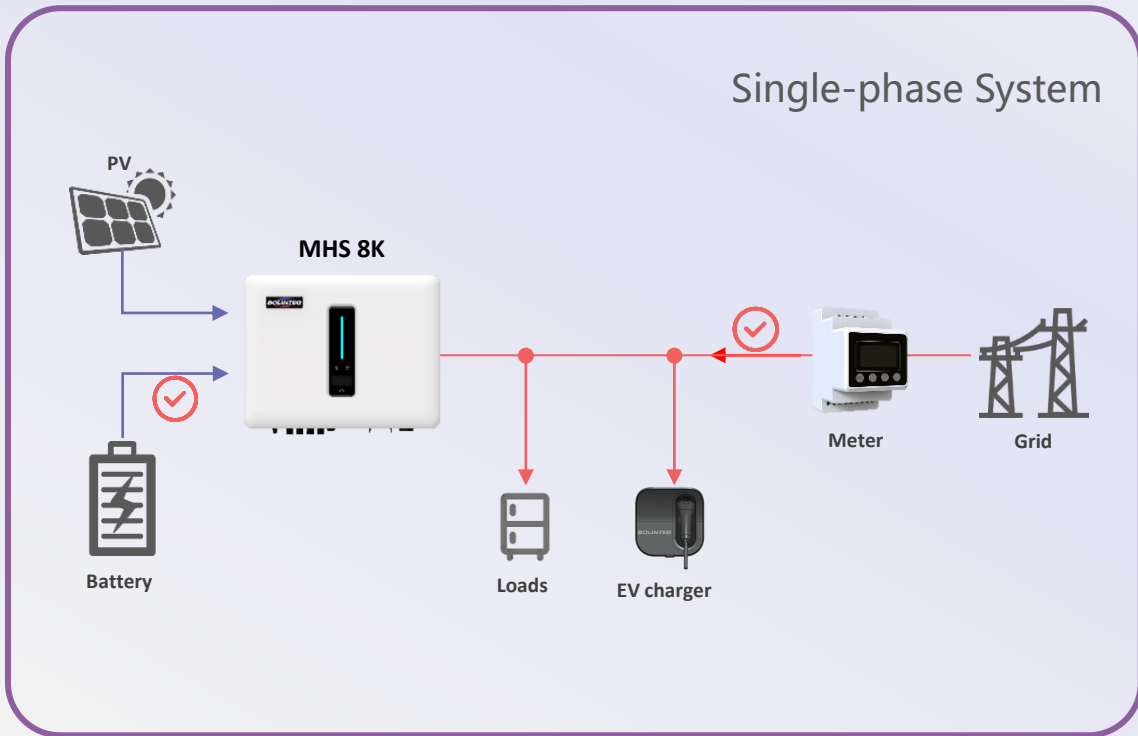
Situation 4: Discharge + Grid Power



The EV charger will prioritize using energy from the PV and battery, and when the energy from these sources is insufficient to meet the minimum power requirement, the EV charger will draw power from the grid without exceeding the set limits to fulfill the minimum power demand.



When users want to ensure that the EV charger charges at least at the minimum power level 1.38kW and utilizes green energy from PV and battery as much as possible, can set like this situation.



Scenario 1: Battery's Output Power = 4kW & Max. Power from Grid = 1kW

	P_{PV}	$-$	$P_{load/charge}$	$+$	$P_{discharge}$	$+$	P_{set}	\geq	$P_{EV\ min}$
1	4kW		3kW		4kW		0kW		5kW
The EV charger will work at 5kW.									
2	0kW		3kW		4kW		0.38kW		1.38kW
The EV charger will work at 1.38kW.									

Scenario 2: Battery's Output Power = 4kW & Max. Power from Grid = 2kW

	P_{PV}	$-$	$P_{load/charge}$	$+$	$P_{discharge}$	$+$	P_{set}	\geq	$P_{EV\ min}$
	0kW		7kW		4kW		1.38kW		1.38kW
The EV charger will work at 1.38kW.									

Fast Mode

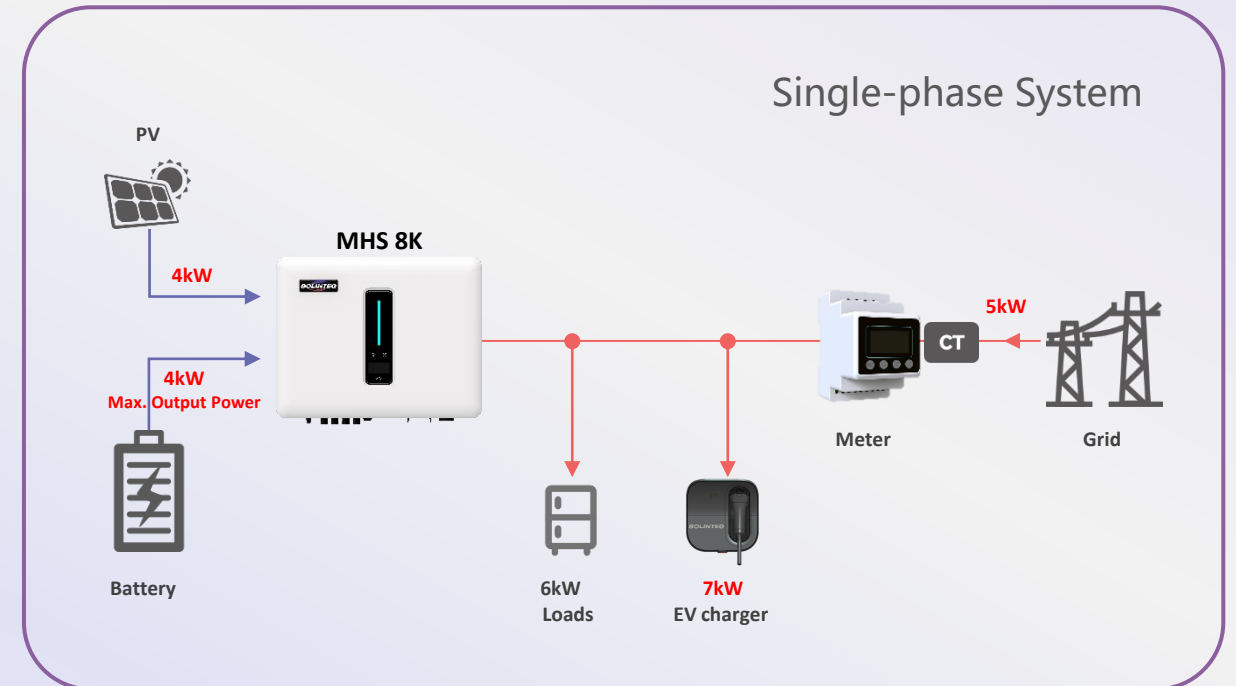
How does it work?

Working Principle

During working time, the EV charger will always run at the maximum power. It will take power from PV and battery first, and if it is not sufficient, then take power from the grid to offset the gap, this will make sure the EV will be fully charged as soon as possible.

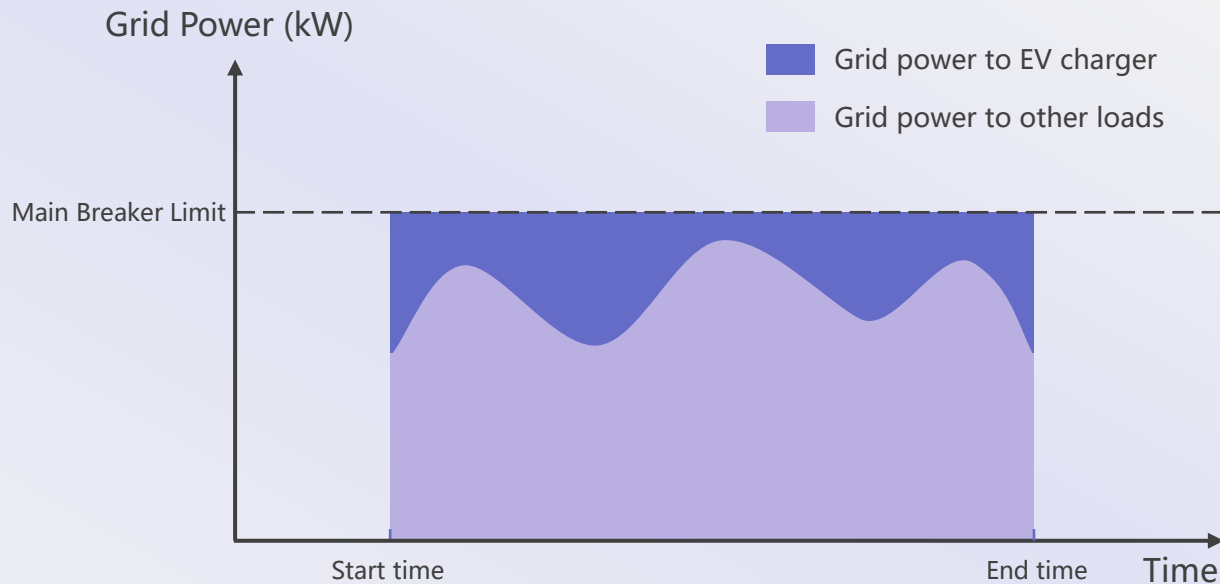
Fast Charging

Custom Timing



Dynamic load balancing function

How does it work when reaching the breaker limit



Adjust the charging power dynamically

To avoid the total power of all loads and EV charger exceeding the limit of main breaker, Solinteg has integrated the dynamic load balancing function, which means the EV charger power will be adjusted dynamically according to the variety of load power*.

- ✓ Avoid tripping and affecting the power supply
- ✓ Avoid turning off the EV charger directly
- ✓ Keep the EV charger continuously charging for worry-free travel

*If the power supplied to EV charger is less than $P_{EV\ min}$, EV charger will be turned off.

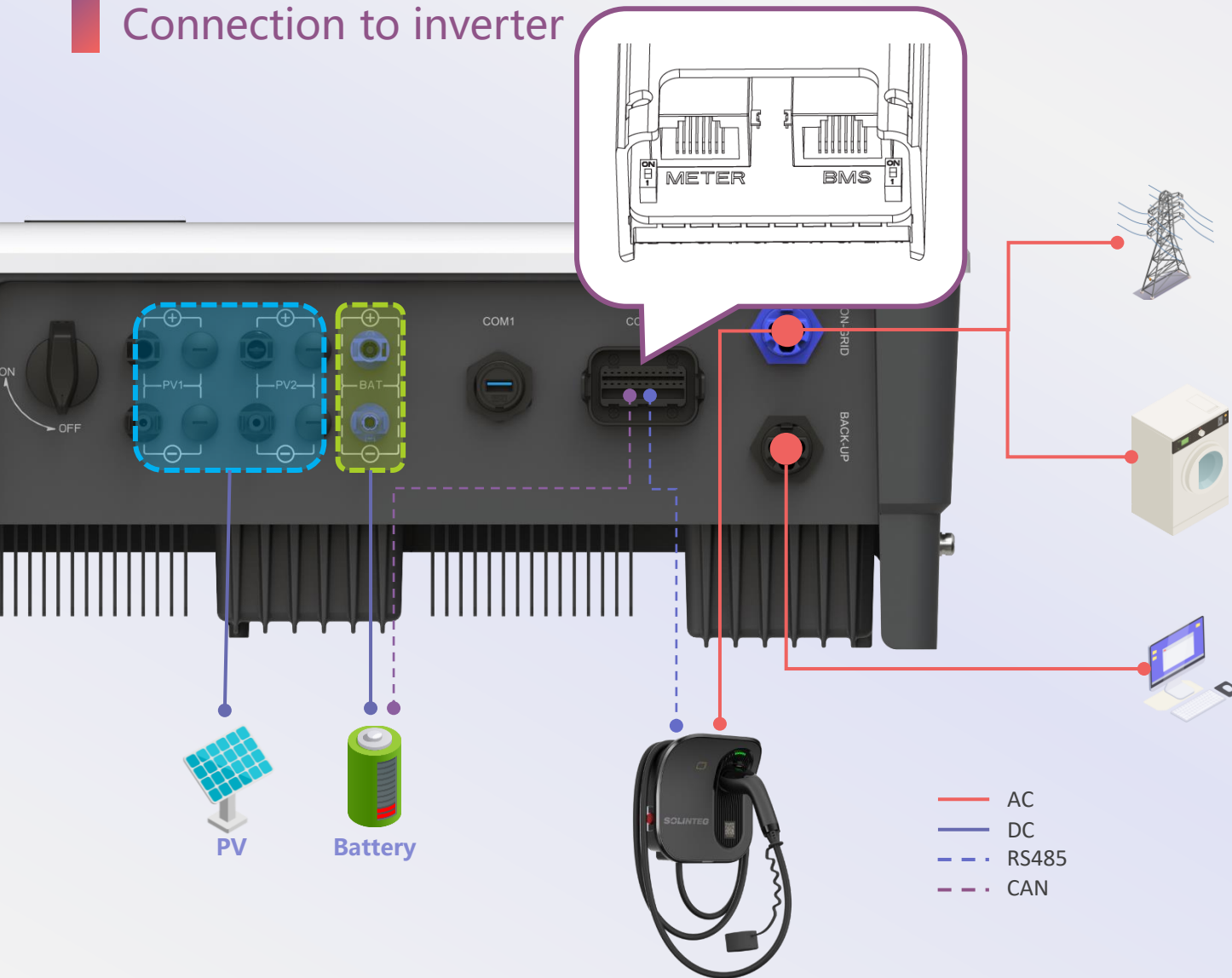


03

Cable connection

Cable connection

Connection to inverter



Power Supply

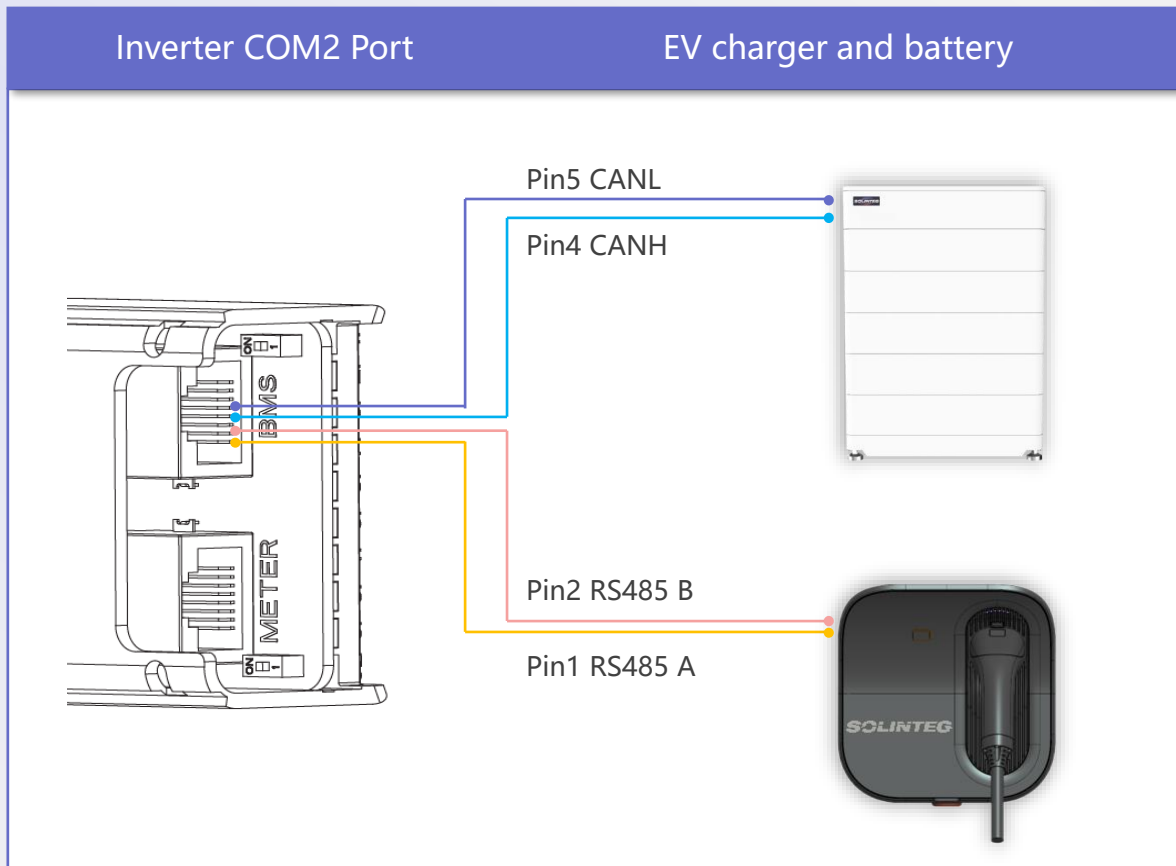
EV charger connect on-grid AC terminal of inverter as an on-grid load.

Communication

EV charger connect the communicate port of inverter through RS485.

Cable connection

Communication cable connection



No.	Color	Inverter COM2 port Battery side
1	Orange & White	EV charger RS485 A (RS485_A3)
2	Orange	EV charger RS485 B (RS485_B3)
3	Green & White	/
4	Blue	Battery (CANH_B)
5	Blue & White	Battery (CANL_B)
6	Green	/
7	Brown & White	/
8	Brown	/

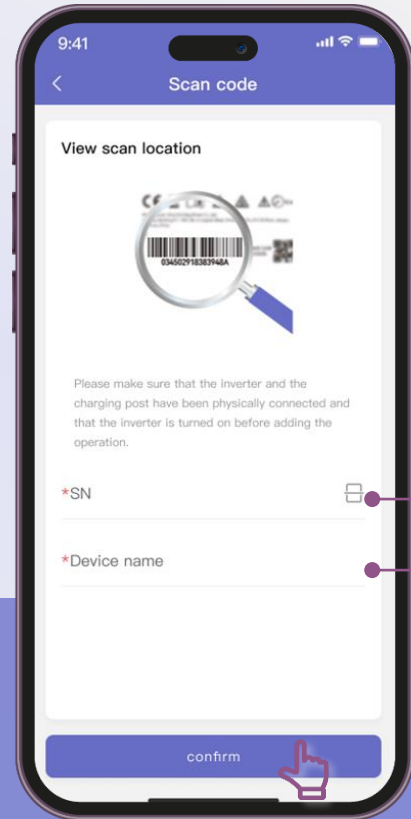


04

Configuration

Configuration

Add device

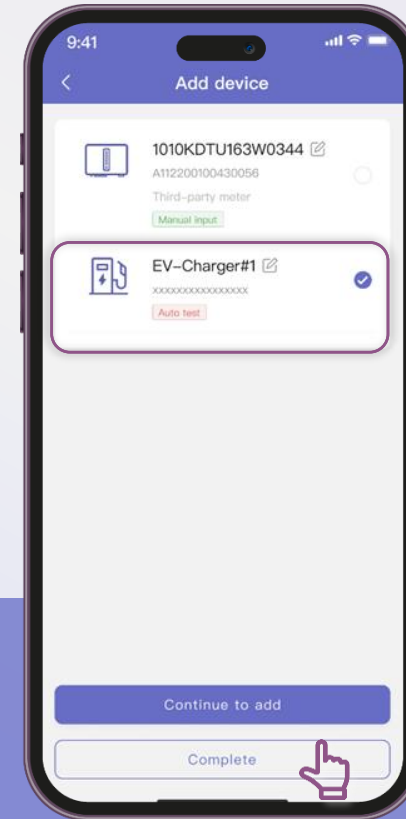


Scanning input or manual input SN

Type device name

1 Enter the SN and device name*

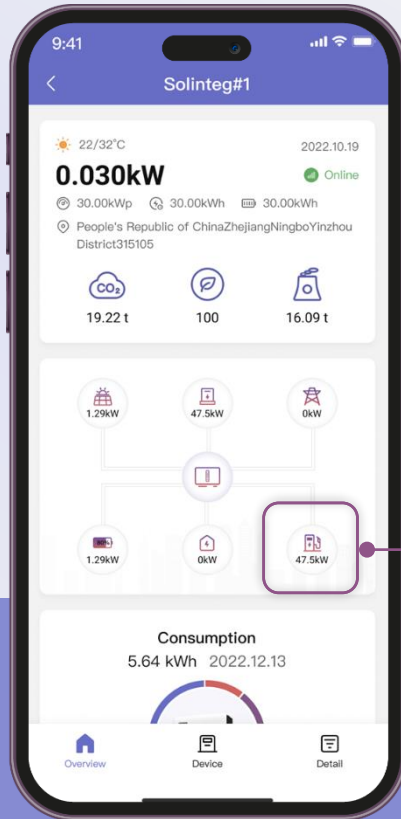
*Note: The EV charger configuration function will be available on the NEW APP that will be released around June.



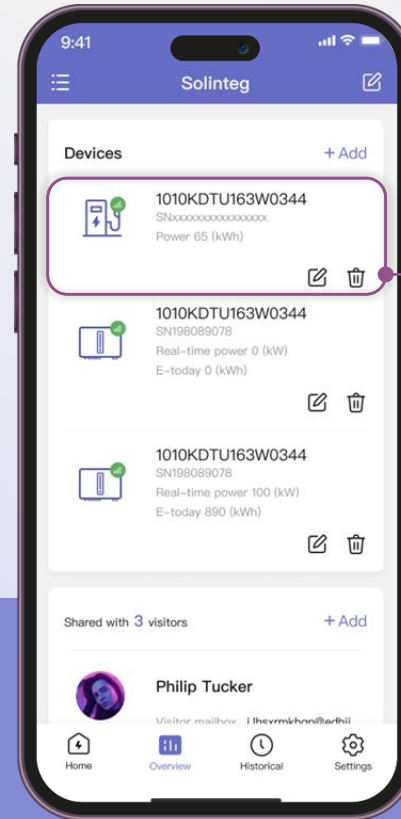
2 Successful addition

Configuration

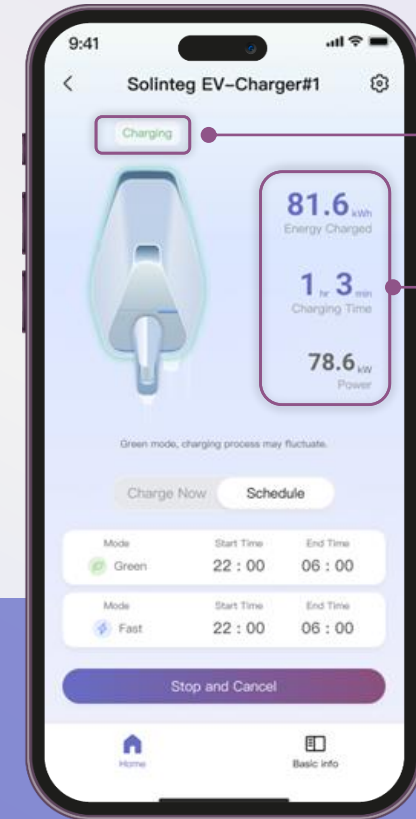
Overview page



Plant overview page



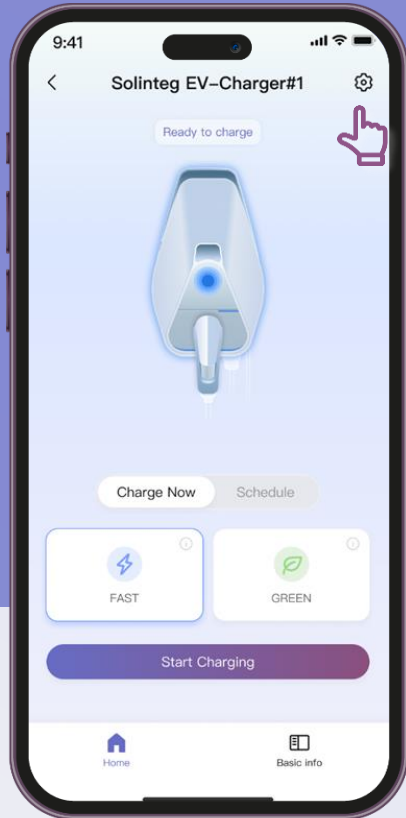
Device overview page



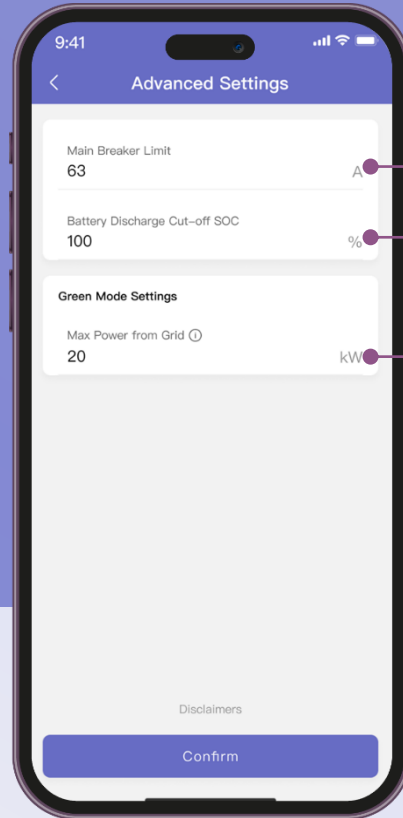
EV charger overview page

Configuration

EV charging setting



1 Open the overview page



2 Advanced setting

Set based on the limited current of the incoming meter.

The dynamic load balancing function will be activated based on this value.

Set according to user's preferences

If the SOC of battery is less than this value, the EV charger will not draw power from the battery when inverter is in general mode.

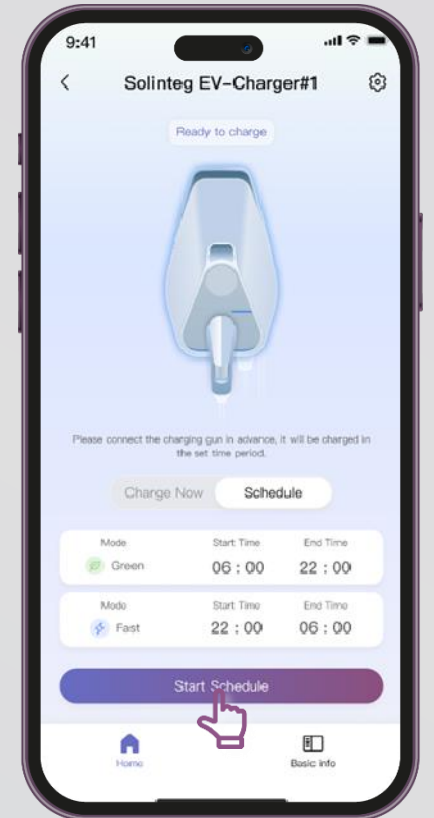
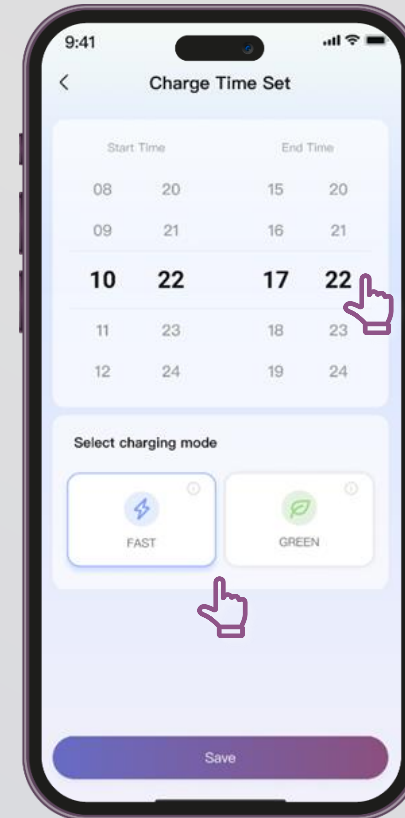
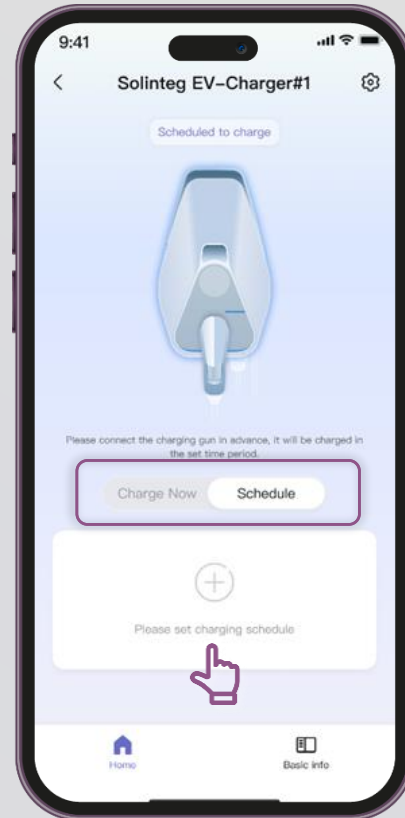
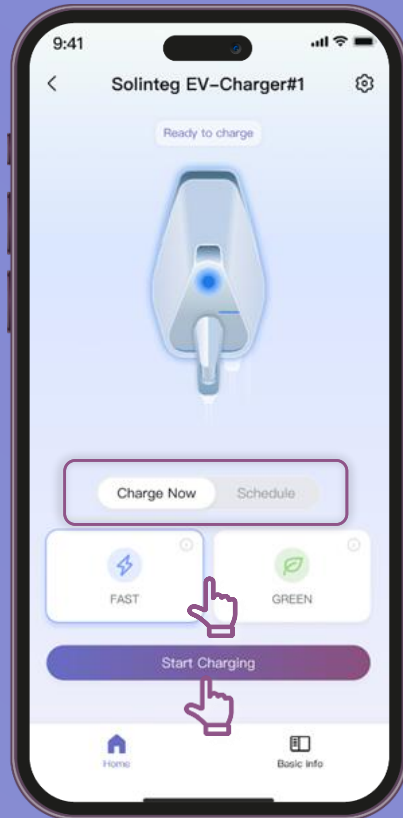
Set according to actual usage

It's a key value to start and stop EV charger under green mode.

Default: Main Breaker Limit - 80A, Battery Discharge Cut-off SOC - 90%, Max Power from Grid - 0kW

Configuration

Work time and work mode selection



✓ Charge now + Fast mode/Green mode

✓ Schedule + Fast mode/Green mode

THANK YOU