

POWER OAK |  BLUETTI
德 兰 明 海

深圳市德兰明海新能源股份有限公司

Shenzhen PowerOak Newener Co., Ltd.





JUST POWER ON

Stay Powered With BLUETTI





EP760 training

A small, ornate blue decorative flourish centered below the title.

Presenter:Mike

20230720





Our Mission: Provide Clean Energy to the World



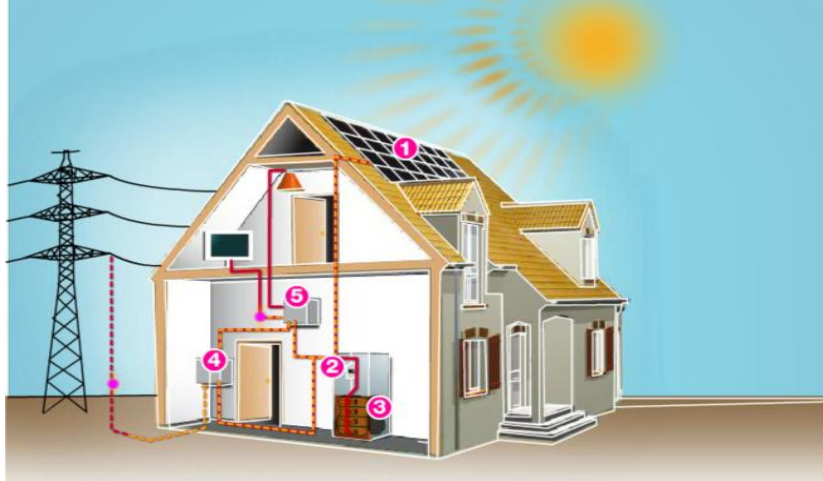
The Government launched an Energy Price Guarantee initiative to support households with rising energy costs that are currently storming across Europe. Households, however, will still be paying around 2 times more than they did last winter. Use cleaner energy generated from your rooftop solar system and store it in your home battery day or night to save money.

- | | |
|-----------|--|
| 01 | Residential electricity demand |
| 02 | Residential system introduction |
| 03 | Operation principle |
| 04 | Certification |
| 05 | Application examples |

1 Residential electricity demand (Europe)

For customers who want to :

- Use for single phase AC 220V-240V home appliances.
- Use cleaner energy generated from your rooftop solar system and store it in your home battery day or night to increase energy independence and save the bill cost.
- Take advantage of peak and off-peak energy pricing lower electricity bills.
- Make an emergency backup system.
- Install with existing solar PV system or new solar panels.
- Work grid-tied or Off-grid mode.
- Install for indoor or outdoor(with a cabinet).



Take UK for example , from October 1st, 2022, you will be paying more for your energy. Last winter the average home during winter was paying £1,277, now they will be paying £2,500. You should be made aware that this does not mean you will pay a maximum amount of £2,500. If you use more, you will pay more.

◆ 1 Residential electricity demand

Living Room

TV: 200W

TV stereo: 120W

Sweeping robot: 1000W

Air purifier: 80W

Floor lamp: 100W

Air conditioner: 8000Btu (rarely installed)

Ceiling lamp: 16W

Water dispenser: 2200W

Embedded wine cabinet: 85W



1 Residential electricity demand

Kitchen:

Refrigerator: 100W

Coffee maker: 1600W

Juicer: 400W

Microwave oven: 1000-1100W

Bread maker: 850W

Dishwasher: 1800W

Integrated steaming oven machine
embedded: 2900-3700W

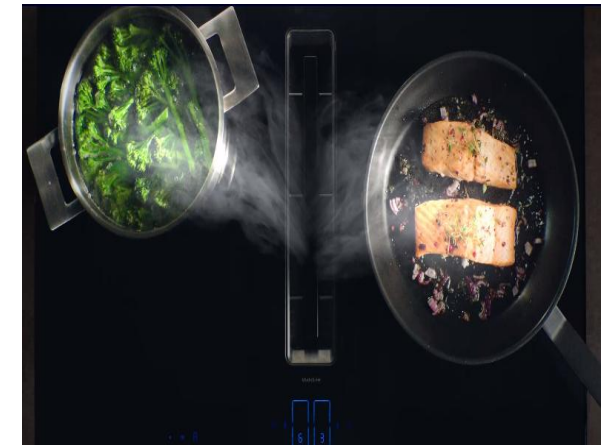
Embedded insulation drawer: 320W

Cook machine: 1200W

Embedded induction cooker: 7400W

Air fryer: 1700W

Kitchen sewage food crusher: 800W

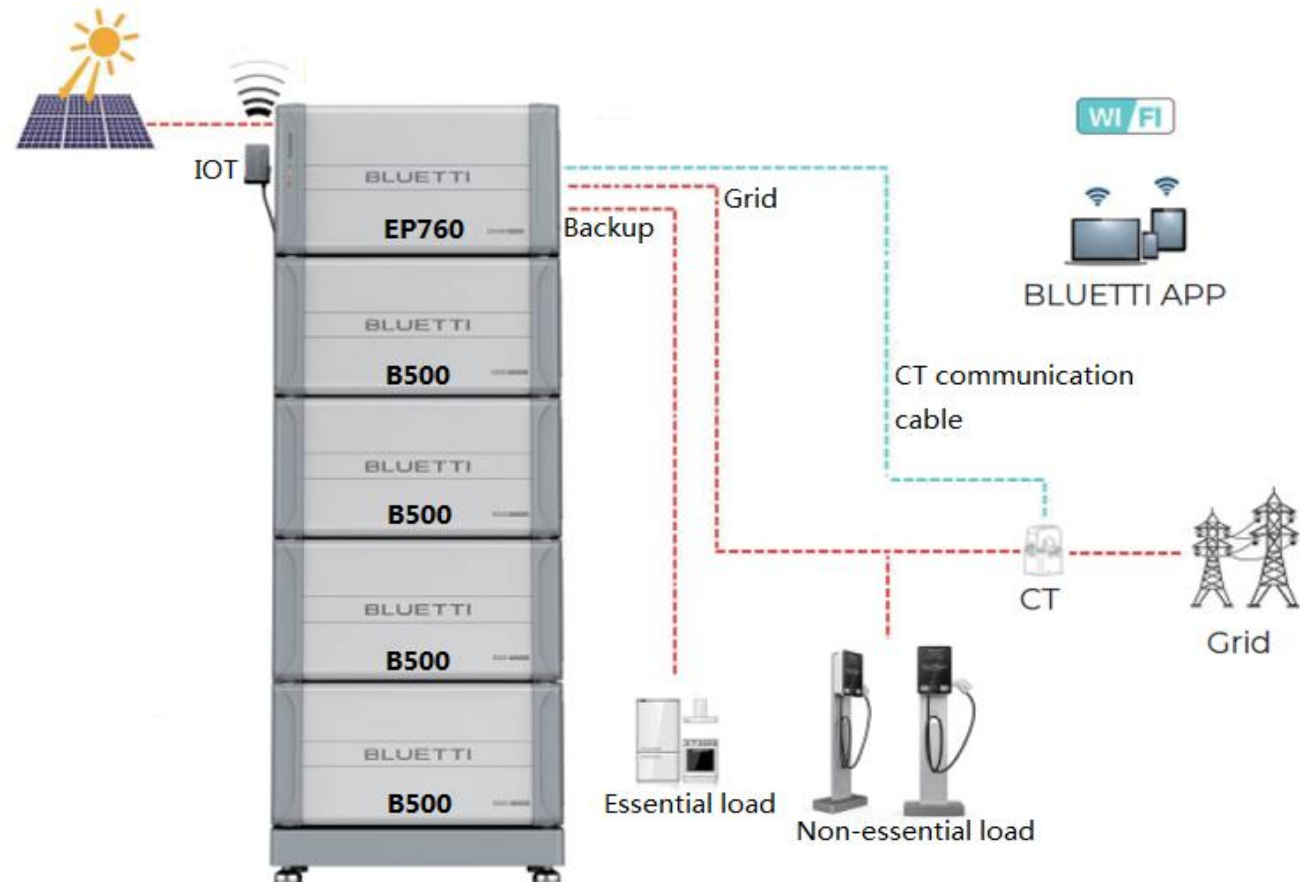


2 Residential system introduction

BLUETTI is a provider that offers residential energy storage systems and portable power storage products. With patented technology and independent intellectual property rights across the entire industrial chain, the company is a leading innovator in the field. BLUETTI's residential energy storage system solutions prioritize high security and practicality, utilizing a divided design that is easy to install, operate, and boasts high-quality performance.

EP760 residential energy storage system includes:

- Solar PV MPPT Controller
- PCS
- Energy storage batteries
- BMS
- EMS
- IOT (Smart APP)



◆ 2.1 System Highlights

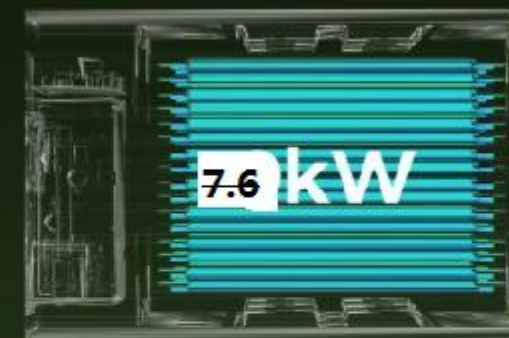
Modular Design
10kWh-20kWh



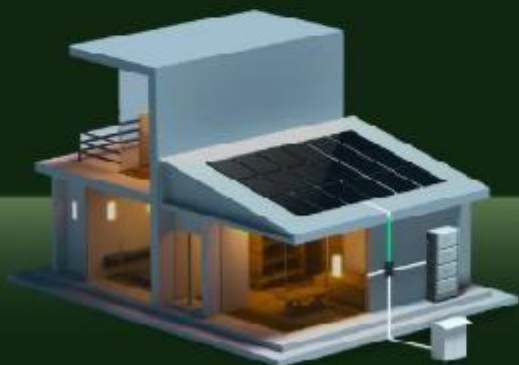
Safest LiFePO₄ Battery
Intelligent BMS



Max. 7.6kw
Continuous Output



Compatible With
New & Existing Solar Systems



10-YEAR
Warranty

10

Sell
Electricity
Back to Grid



Hassle-free
Installation



IP65 Water-resistant

In/Outdoor Installation

Smart
BLUETTI APP

Easy Control & Monitor

Available on the
App Store

Get it on
Google Play



◆ 2.1 System Highlights

1. Valuable: 9000W solar PV input and up to 7.6 kW Power output allows you to generate and use electricity for your home, save up to 80% on your energy costs.
2. It is all in one system ,so it is very easy to install , it is modularized .
3. All-aluminum alloy metal shell ,beautiful appearance and low noise.
- 4.Support charging at - 20 °C by intelligent battery heating management system.
5. It is very flexible that it can be installed with existing solar PV system or new solar panels, It can works on-grid or Off-grid mode and it is suitable for indoor or outdoor(with a cabinet).
6. Single phase emergency backup , switchover time to back-up power within approx. 10 ms
7. Intelligent : UPS Modes and app Remote Control



2.2 EP760 Parameter

EP760 is a single-phase all in one inverter. The product supports functions such as PV priority, Parallel, on/ off-grid , UPS, etc. The main technical parameters are shown as follows:

Item	Parameter
Rated power	7.6kW
Output power	7.6kW (except Germany) /4.6kW(Germany)
AC voltage	230V / AC220-240V
AC frequency	50Hz/60Hz
MPPT Channel	3/9kw
MPPT Input Voltage	150V~500V
Battery model	B500
Battery quantity	2~4
Protection Grade	IP65
Noise	≤50dB
Dimensions (L*W*H)	636mm×325mm×370mm



2.2 B500 Parameter

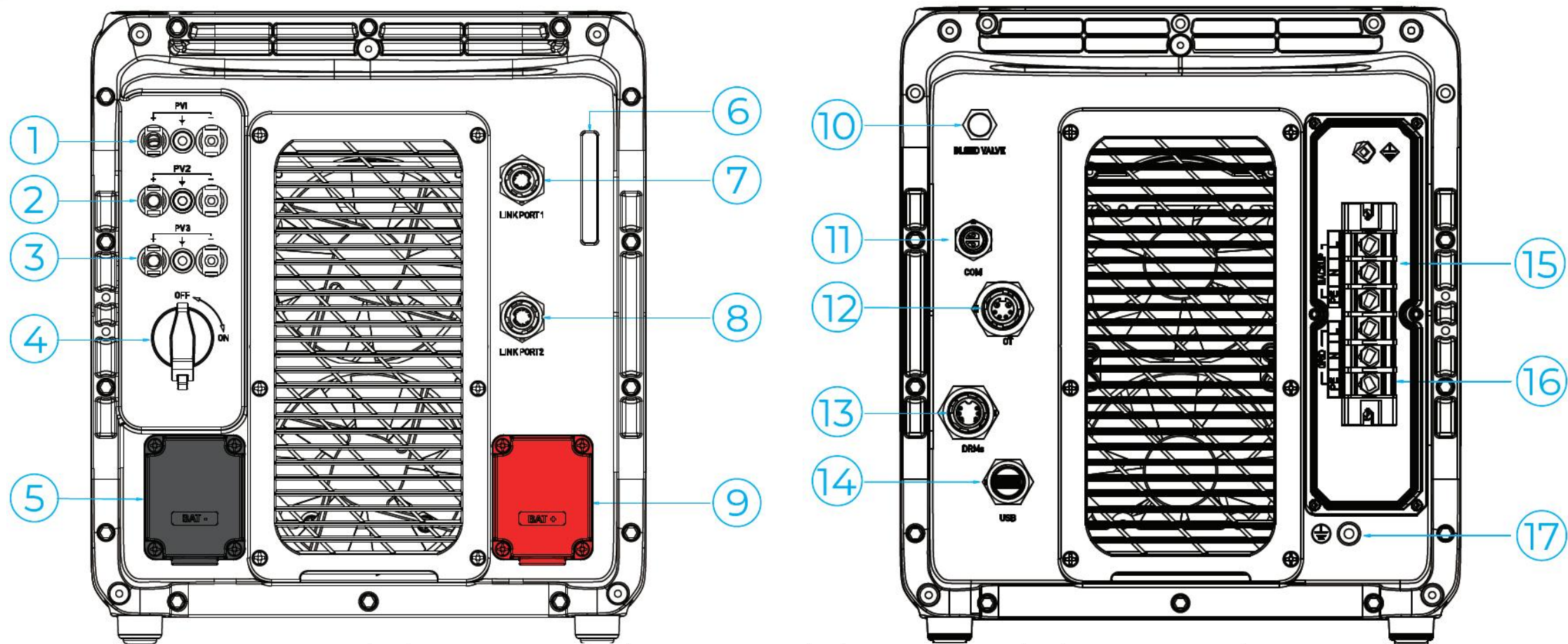
B500 is a battery pack specially developed for EP760. The design lifespan of this product is 10 years

The main technical parameters are shown as follows:

Item	Parameter
Battery Type	LiFePO4
Rated Capacity	4.96kWh
Cell Capacity	50Ah
Rate battery voltage	99.2V
Discharging Temperature	-20°C~40°C/ -4°F~104°F
Charging Temperature	0°C~40°C/32°F~104°F (off-grid charging)
	-20°C~40°C/ -4°F~104°F (when Inverter connect to the grid)
Noise	0dB (no fans)
Protection Grade	IP65 NEMA 4X
Net Weight	56kg
Dimensions (L*W*H)	636mm×325mmmm×337mm

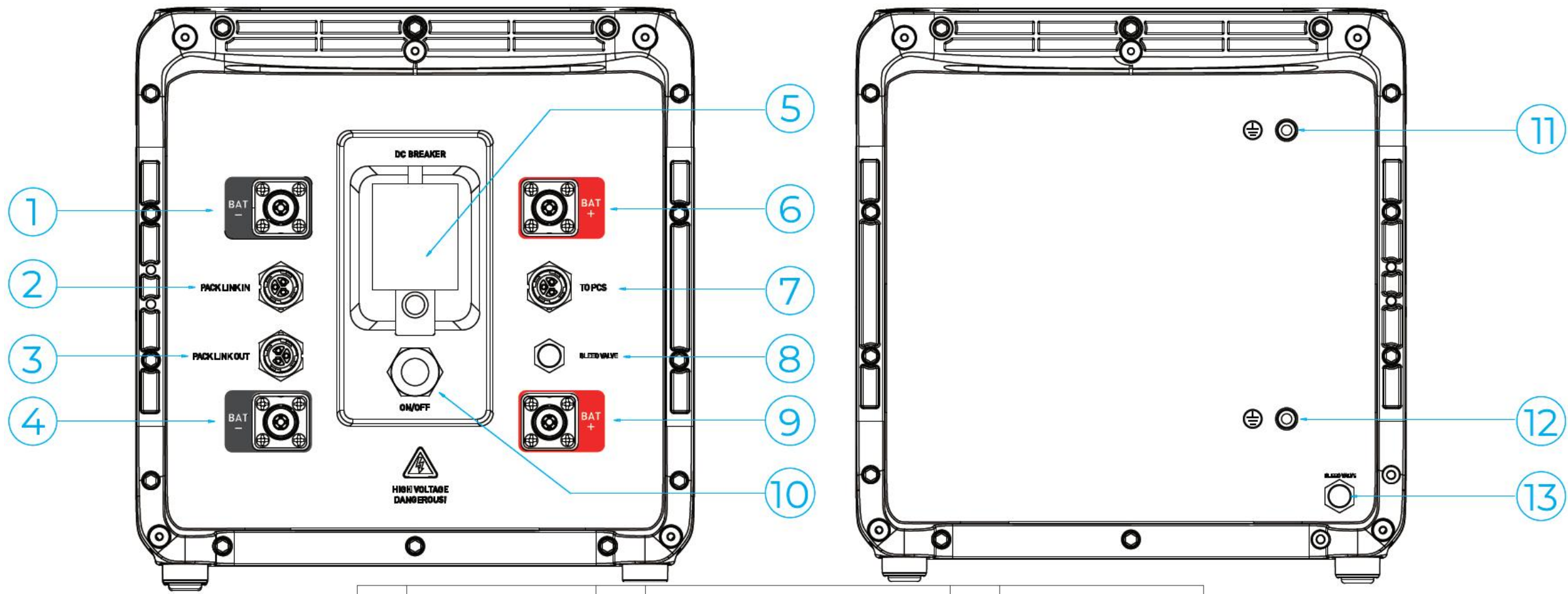


2.3 EP760 Appearance



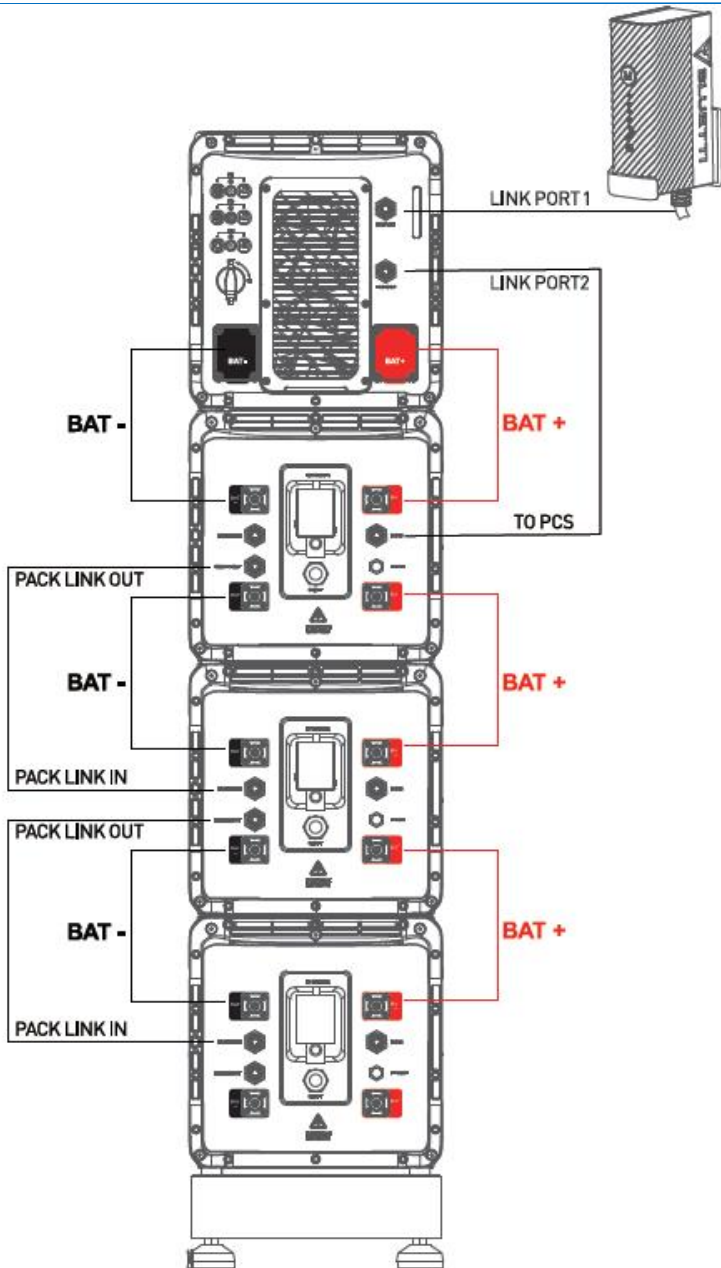
1	PV input 1	6	LED Indicator	10	Bleed valve	14	USB Port
2	PV input 2	7	LINK PORT 1	11	COM port	15	Load Port
3	PV input 3	8	LINK PORT 2	12	CT port	16	Grid Port
4	DC switch	9	BAT+ terminal	13	DRMs Port	17	Grounding port
5	BAT- terminal						

2.3 B500 Appearance

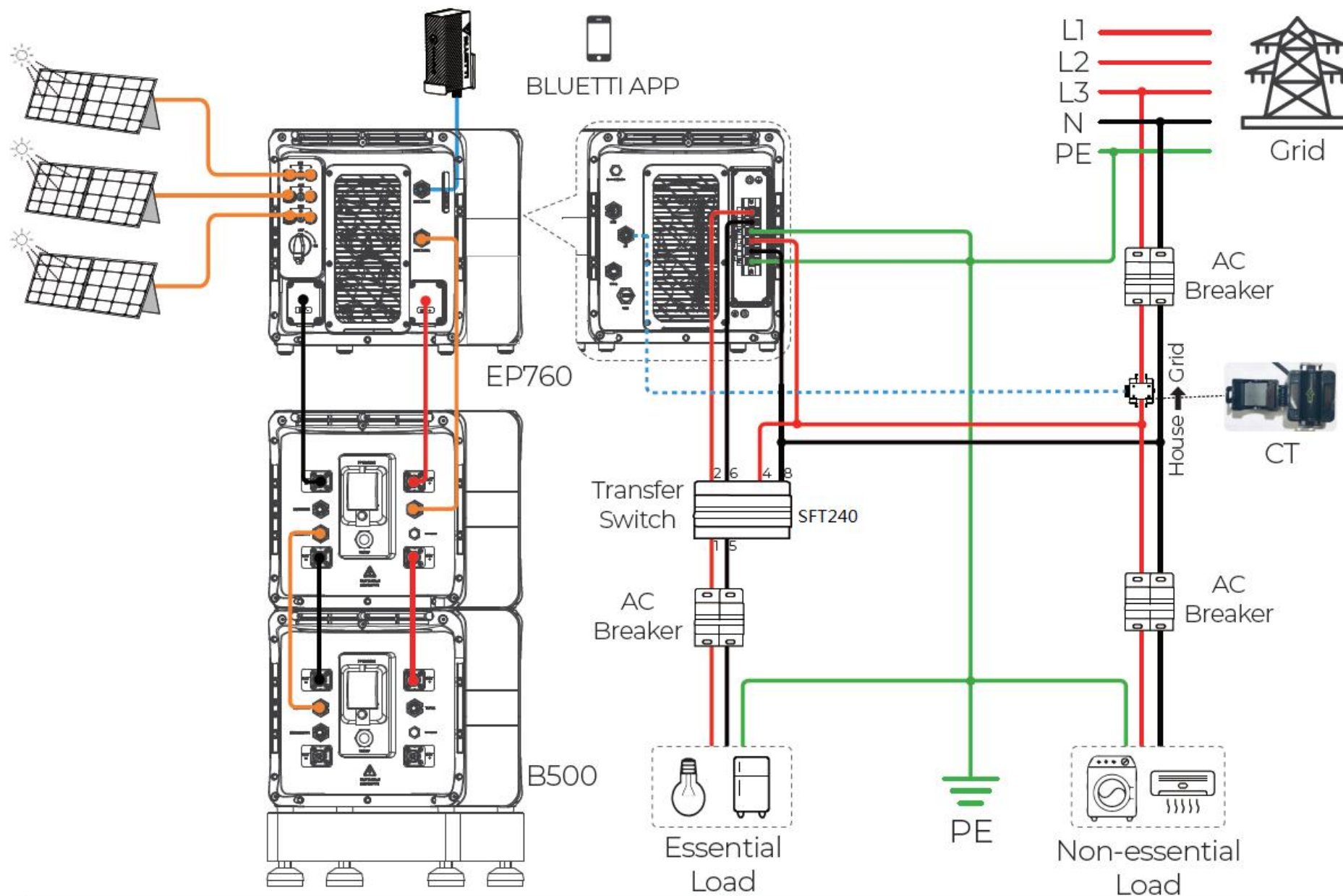


1	BAT- terminal 1	6	BAT+ terminal 1	11	Grounding port 1
2	Pack link-in	7	Inverter signal port (TO Pcs)	12	Grounding port 2
3	Pack link-out	8	Bleed valve 1	13	Bleed valve 2
4	BAT- terminal 2	9	BAT+ terminal 2		
5	Main switch	10	Power button		

2.4 System diagram

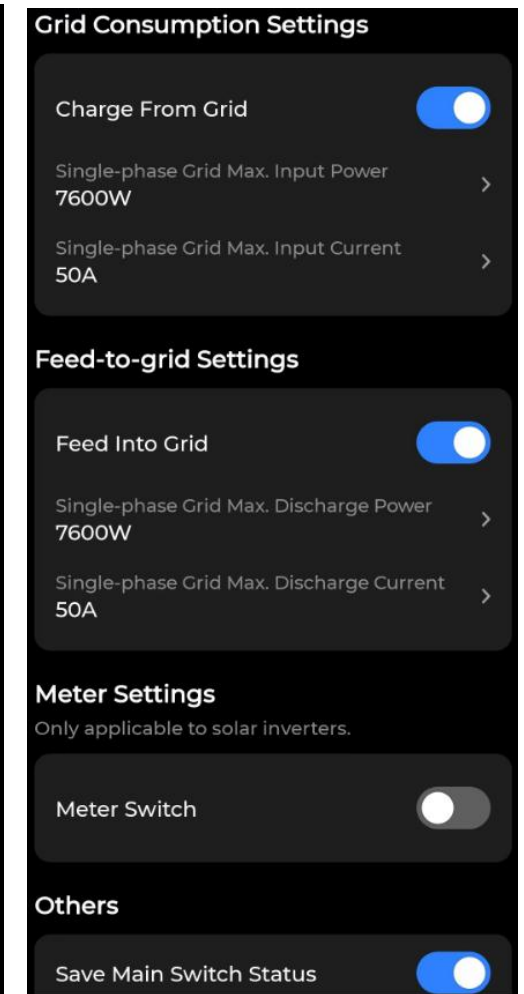
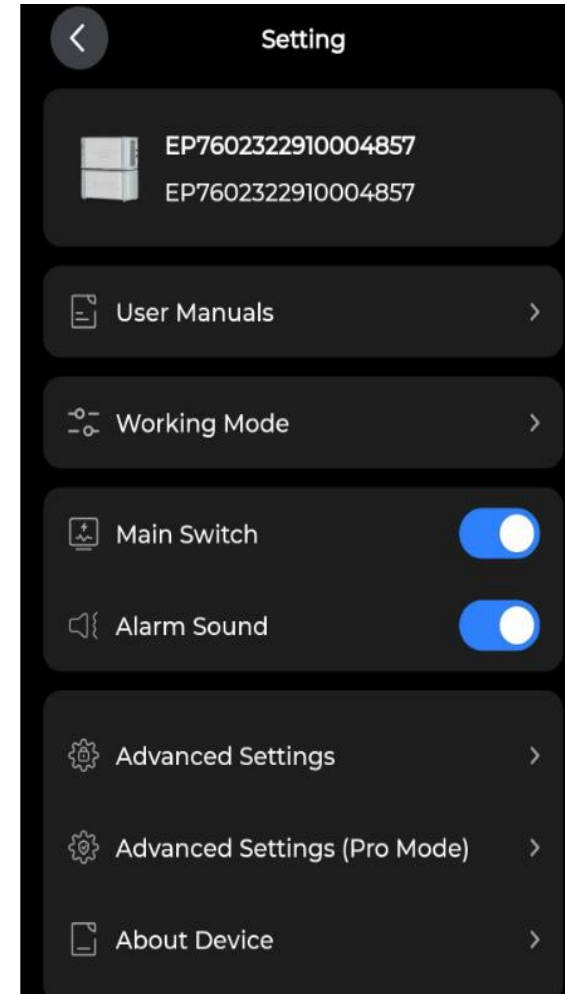
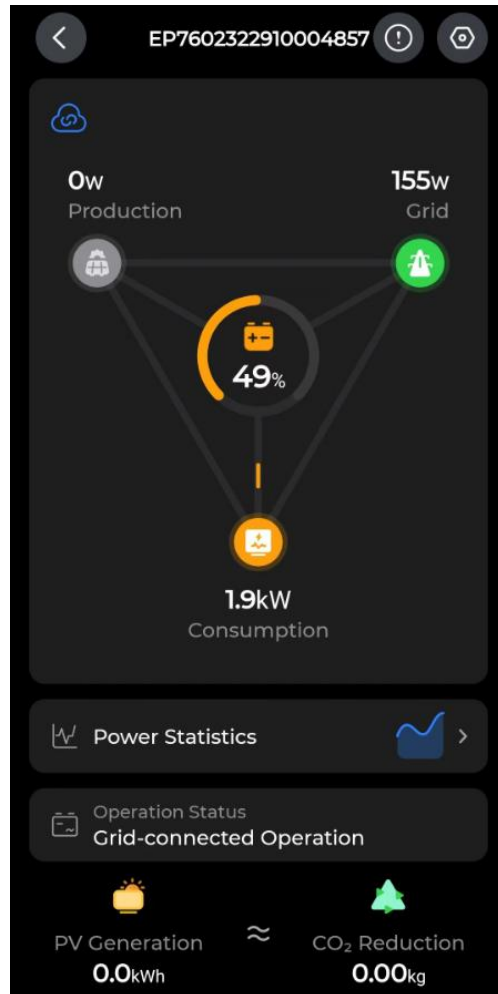


2.4 System diagram



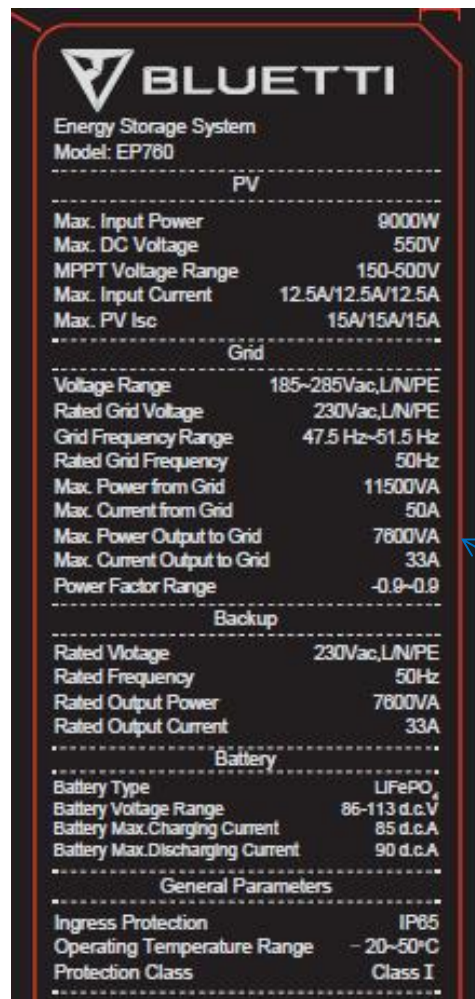
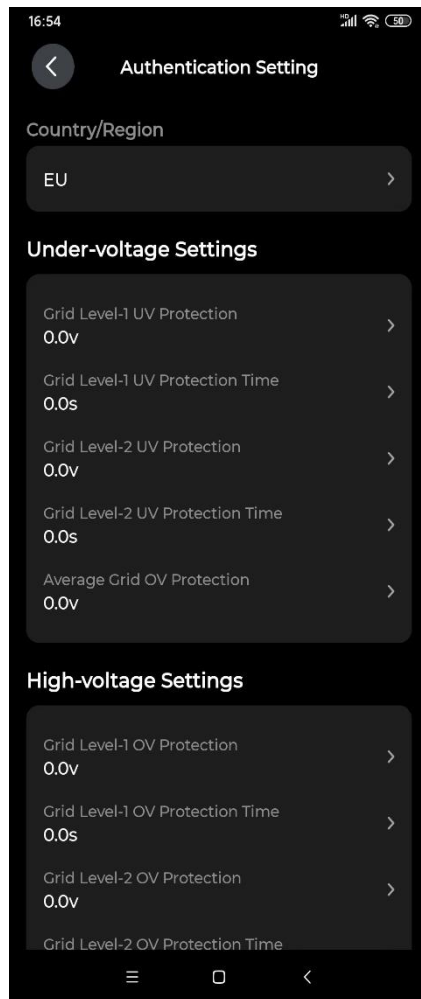
2.5 APP introduction

Intelligent monitoring

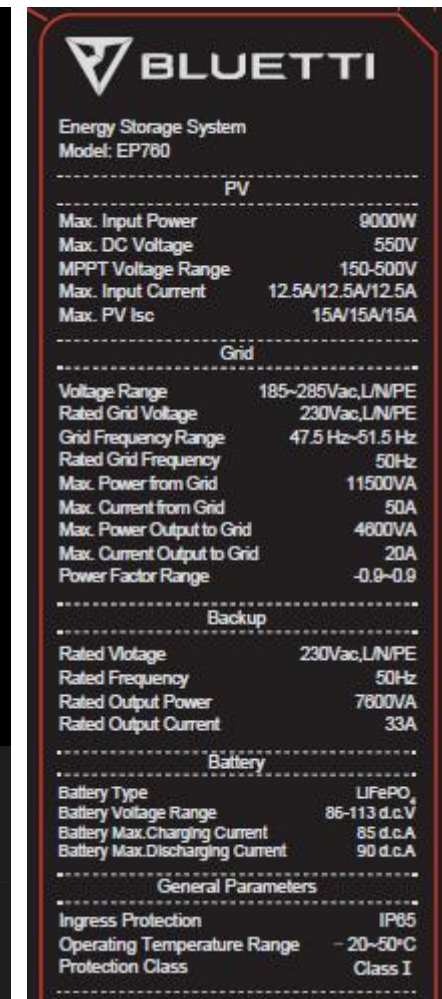
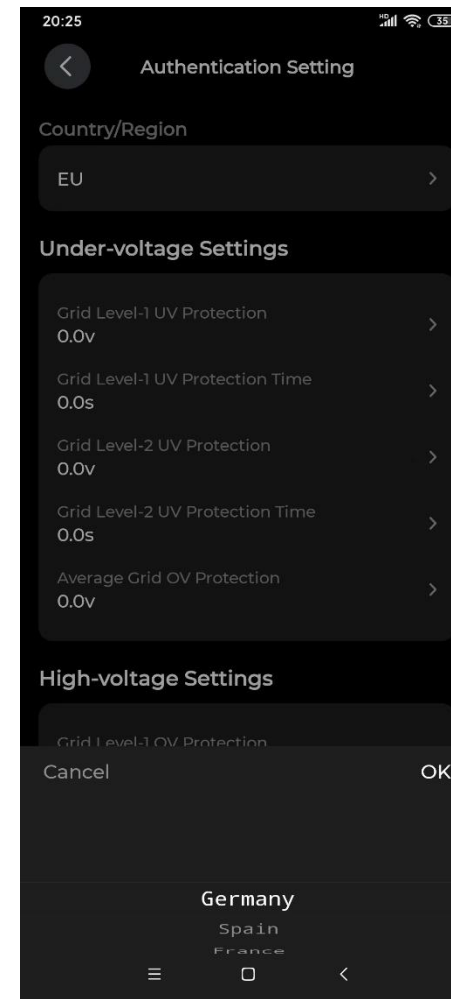




2.5 APP introduction



Except
Germany

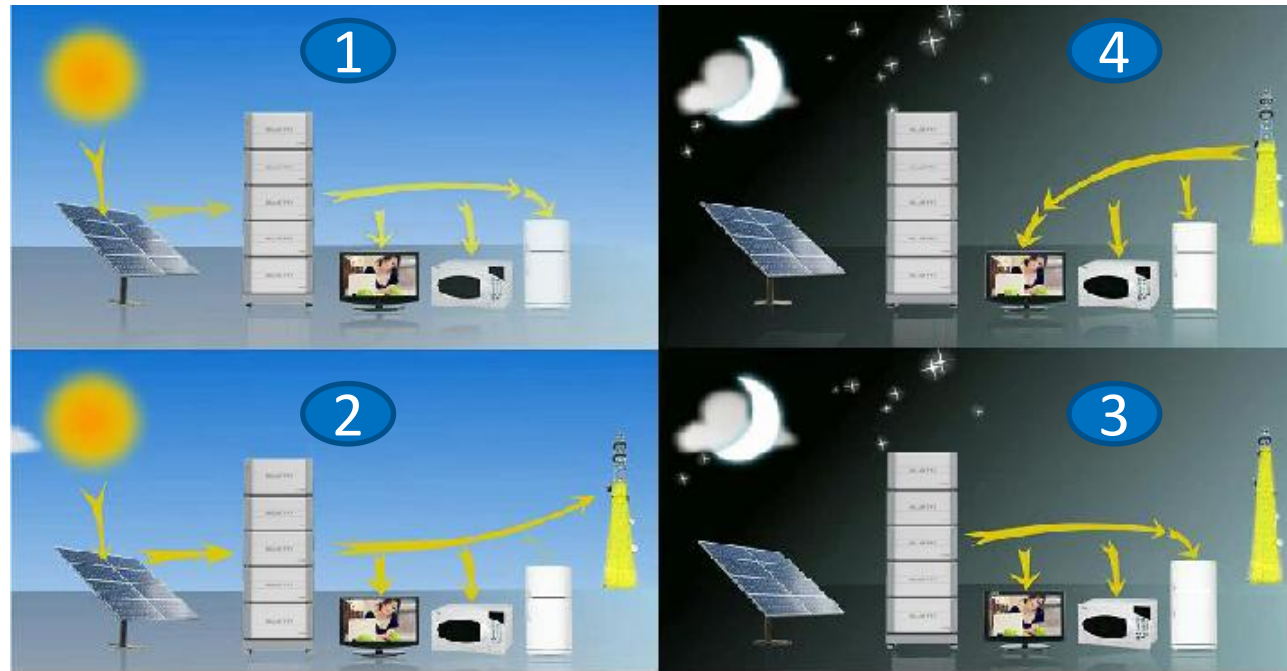


Germany



2.6 EP760 work mode

EP760 is in **self use** mode by default. In this mode, the system maximizes solar energy to power your home. It can also store excess energy for later use or even sell it back to the grid.

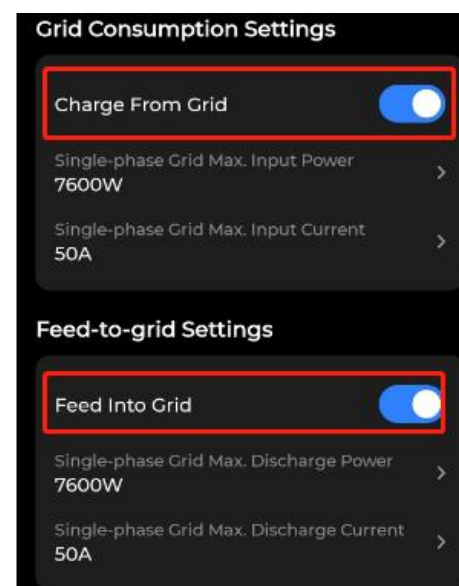
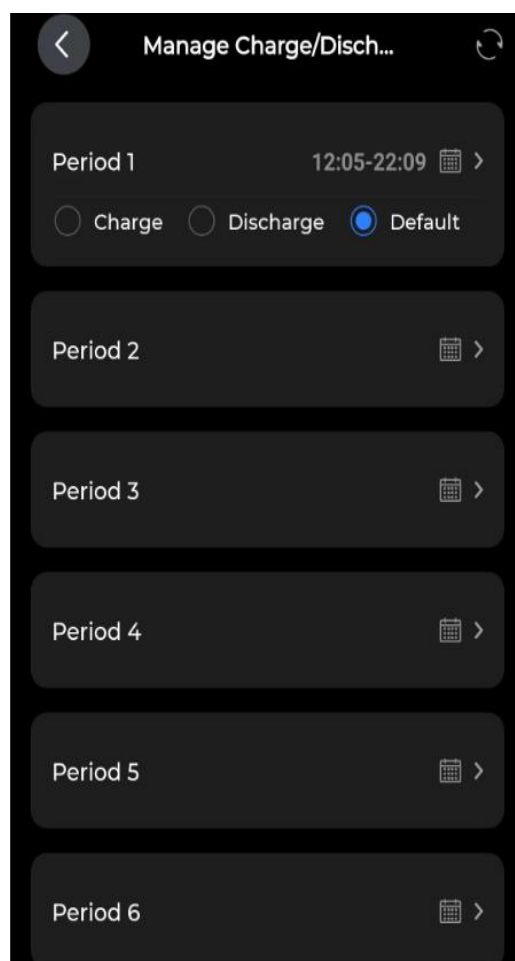
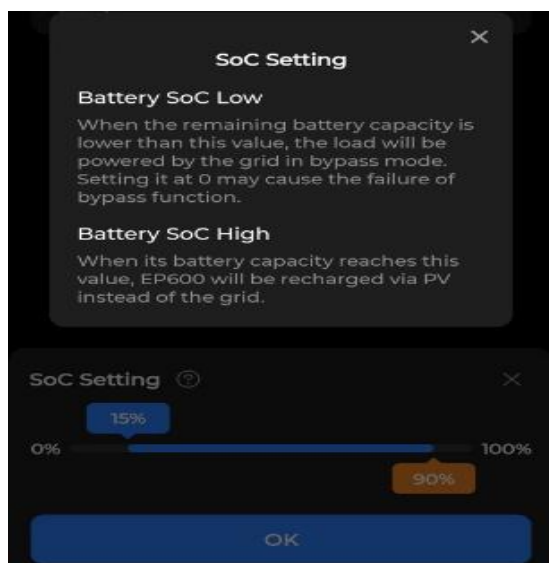
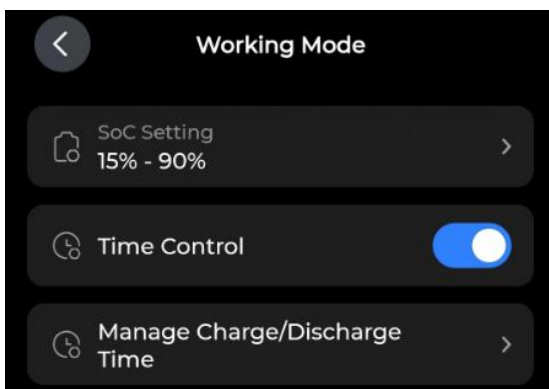


- ① PV generated energy is used first and foremost to optimise your own consumption. Any surplus energy is used to charge the B500 batteries.
- ② When the B500 batteries are fully charged, the system provides energy for your own consumption and any surplus is fed into the public grid.
- ③ The system switches to battery energy supply after sundown. EP760 allows you to produce 70% or more of your own consumption.
- ④ If the battery capacity be insufficient, electricity is obtained from the public grid.



2.6 EP760 work mode

EP760 can chose **time control mode**. In this mode, you can manually set the charge and discharge periods to meet your needs. This makes it suitable for areas where the electricity price varies based on use time. When the electricity charge is at the peak, the discharge time can be set; When the electricity rate is at the off peak, the grid can be set to charge the battery.



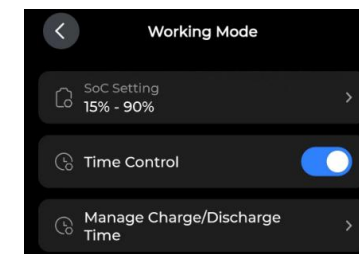
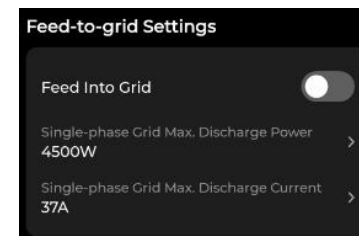
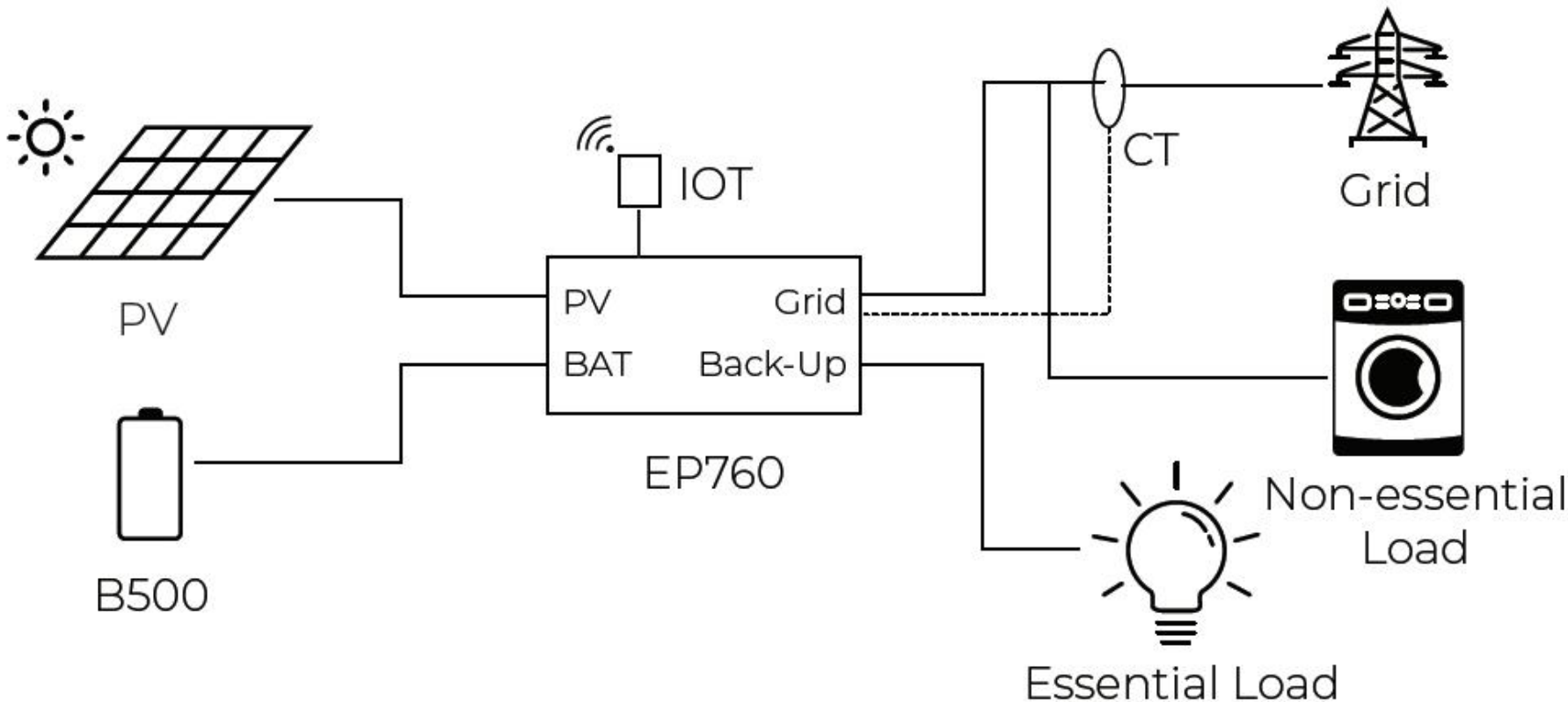
Note:

1. Load priority :PV > grid in charge time
Load priority :PV > battery in discharge time
2. You can set 6 time.
3. Enable grid charge function before use time control.
4. If you want feed into grid, please enable feed into grid function in advanced setting.

2.7 System solution 1



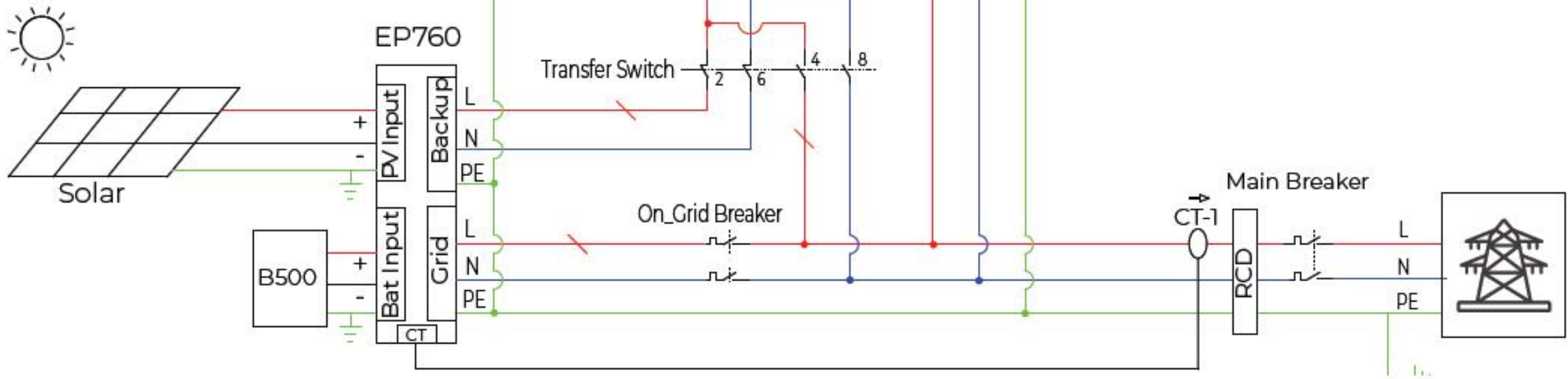
DC couple for new solar panel installation



Note:

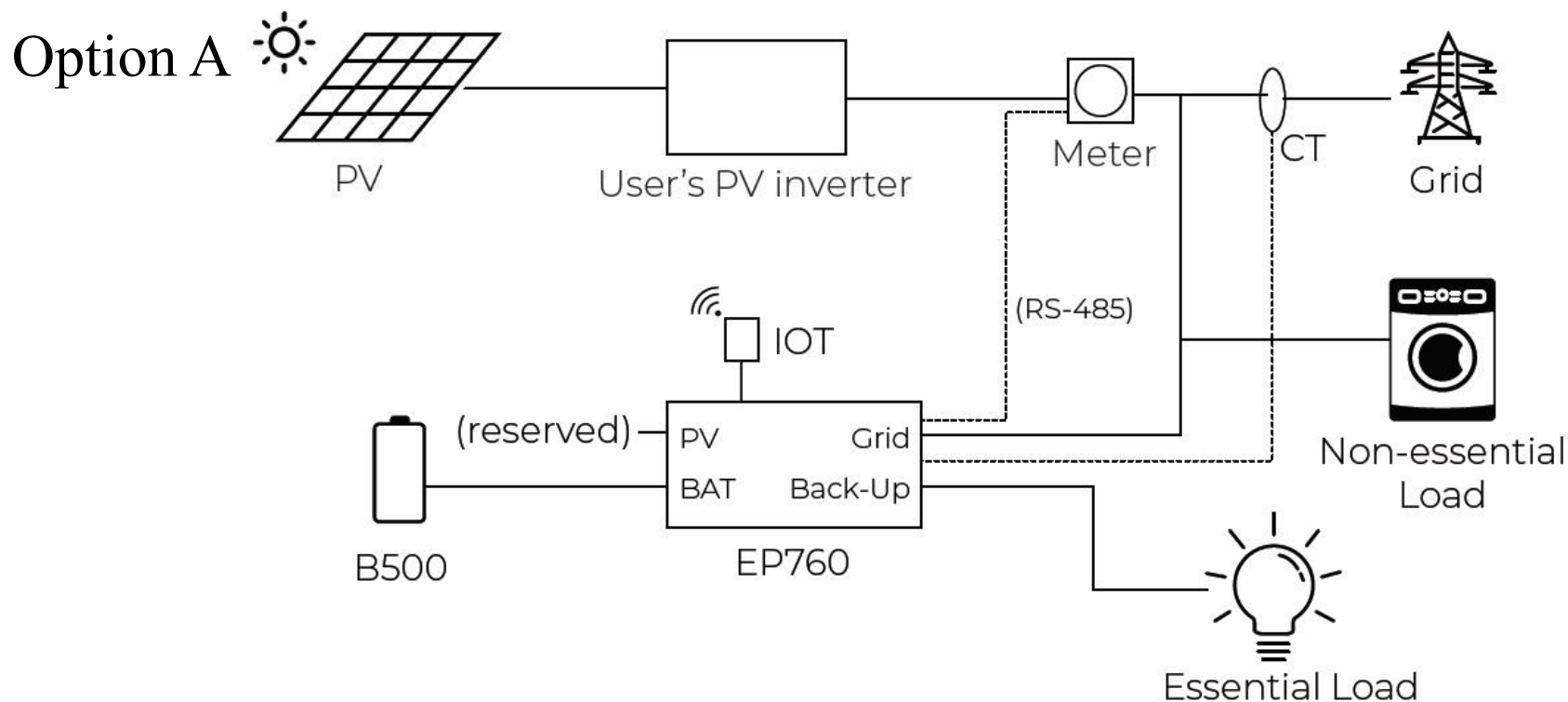
1. On the grid side, through the energy management system, EP760 can intelligently output single-phase 7600W to household appliances, and the rest of the power is provided by the utility grid to reduce electricity costs.
2. On the backup side, the household appliances with a total power larger than 7600W shall not be connected to the BACKUP terminal.
3. Load priority: PV > Battery > grid.
- PV energy supply priority: load > Battery > grid. PV can't feed into grid if disable feed into grid function.
4. Self use by default, time control is optional.

2.7 System solution 1



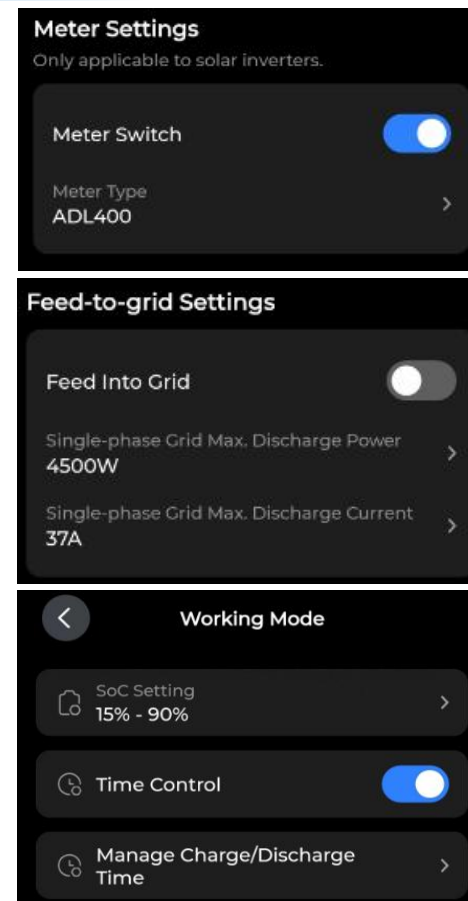
2.7 System solution 2

AC couple for Existing Solar System



Note:

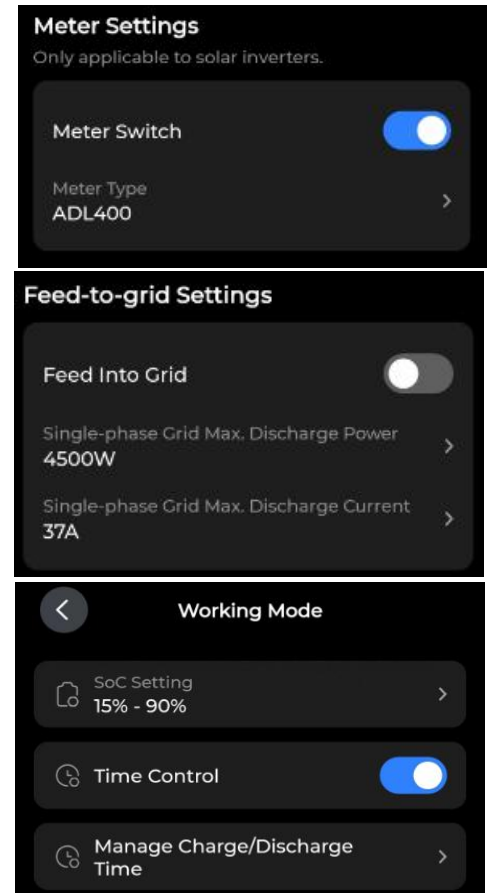
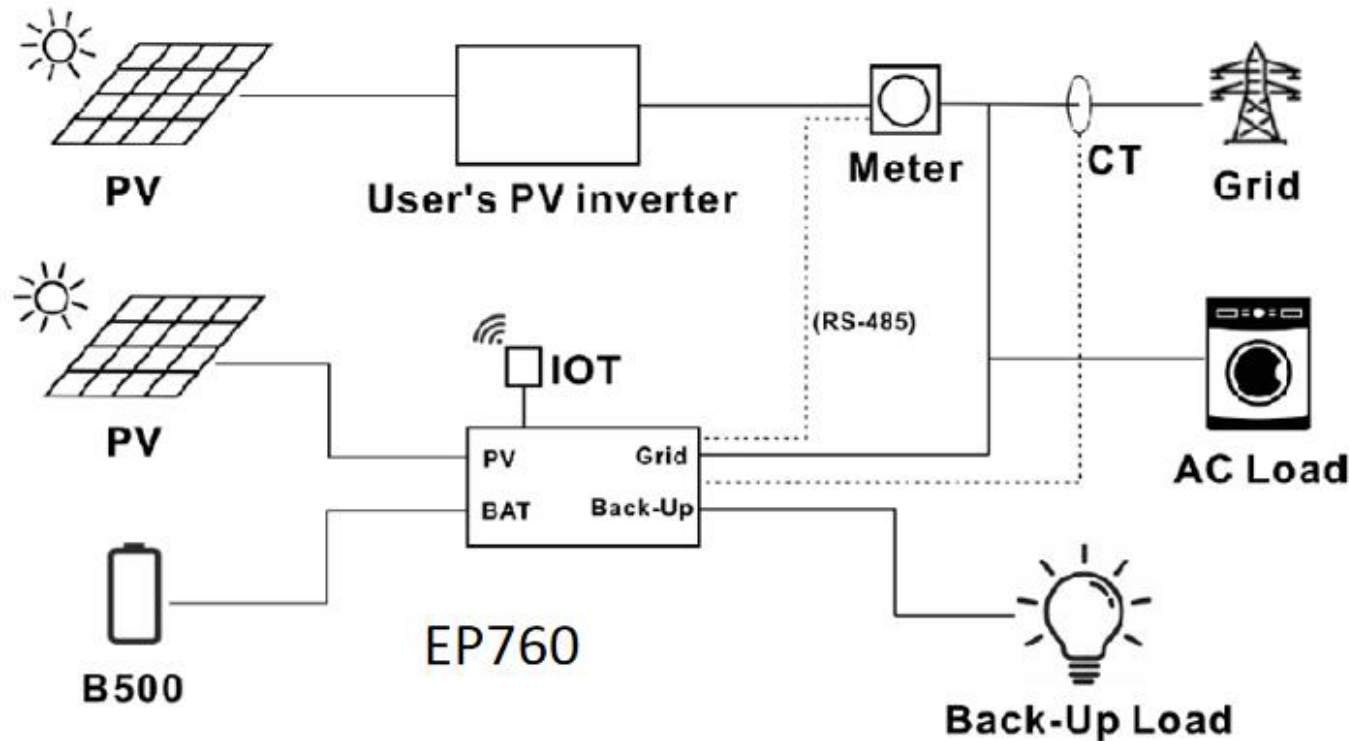
1. This Solution is used in the area where the grid is stable and the electricity is expensive, for storing solar power and using it flexibly to save the electricity bill.
2. On the grid side, through the energy management system, EP760 can intelligently output single-phase 7600W electricity to household appliances, and the rest of the power is provided by the public grid to reduce electricity costs
3. AC coupled software already finished.
4. Load priority :PV > Battery > grid.
- PV energy supply priority: load > Battery > grid, PV can't feed into grid if disable feed into grid function.
5. Self use by default, time control is optional. You need enable meter switch in advanced setting if ac couple.



2.7 System solution 2

AC & DC couple for Existing Solar System with string inverters

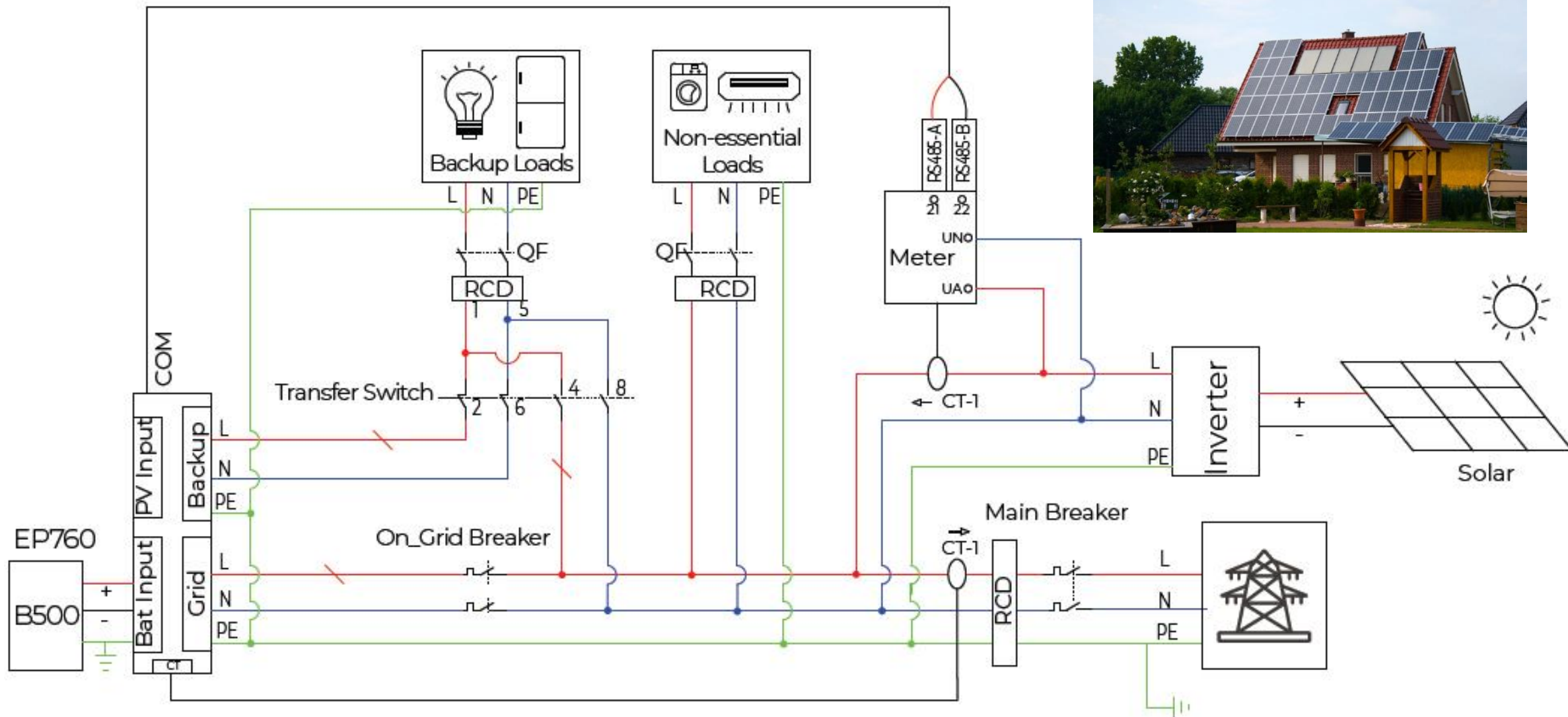
Option B



Note:

1. This Solution is used in the area where the grid is not stable and the electricity is expensive, for storing solar power and using it flexibly to save the electricity bill.
2. We can divided from the roof solar pannel to two arrays , one connect to the EP760 , one connect to the exsting solar inverter, to get solar energy even though during grid outage.
3. On the grid side, through the energy management system, EP760 can intelligently output single-phase 7600W electricity to household appliances, and the rest of the power is provided by the public grid or PV inverter.
4. Load priority :PV > Battery > grid.
5. PV energy supply priority: load > Battery > grid, PV can't feed into grid if disable feed into grid function.
5. Self use by default, time control is optional. You need enable meter switch in advanced setting if ac couple.

2.7 System solution 2

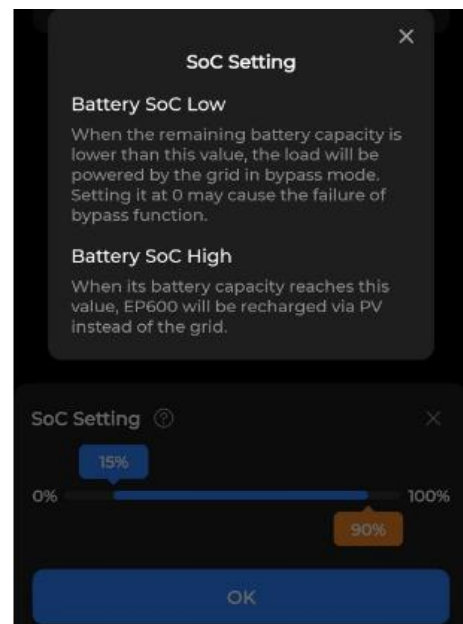
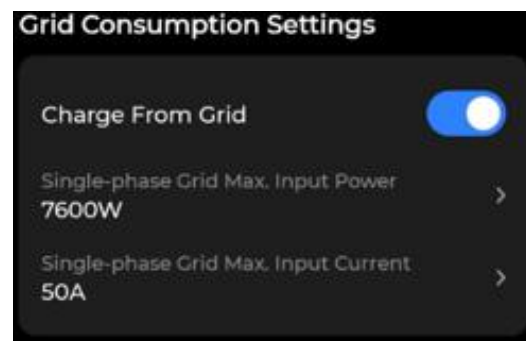


2.7 System solution 3

EP760 BACKUP Solutions

Note: This mode is suitable for areas where the grid is very unstable when the battery is used as a backup power source. If the minimum SOC holding is set to 95%, then the battery has been maintained at least the minimum amount of SOC; If the minimum SOC is set to 100%, the battery is always in a full state. **Enable grid charge function before use backup.**

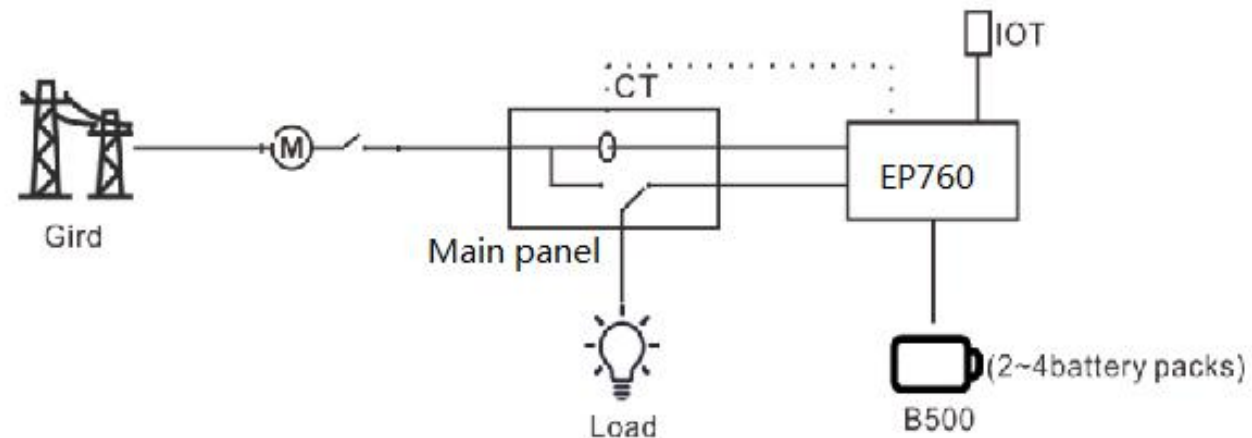
1. Time control is optional.



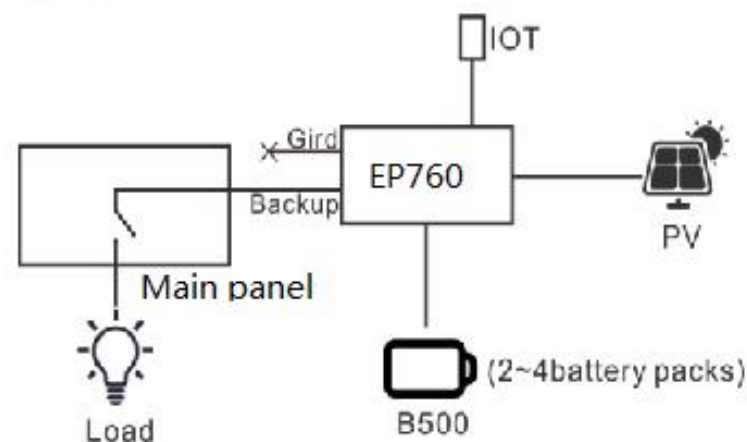
Note:

1. Time control no available if there is no grid.
2. PV energy supply priority: load > Battery, PV can't feed into grid.

Backup power:

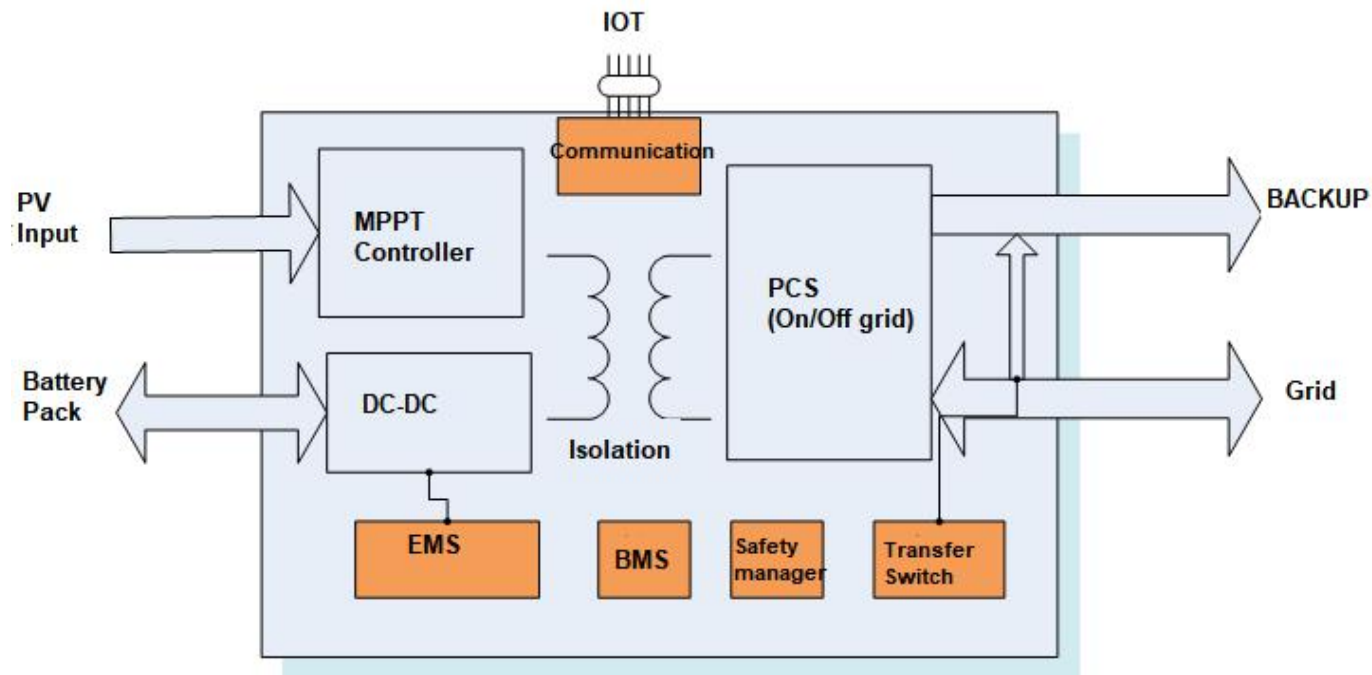


Off-grid use:



3、 Operation principle

PV energy storage inverter: integrated parallel and off-grid inverter, high-frequency isolation transformer, MPPT controller, battery bidirectional DC-DC, EMS management system, data monitoring interface and other functions are the core components of the whole system and the technical threshold of the whole system is the highest.



Common nouns of the system:

- 1 •PV energy storage inverter
- 2 •PCS: power conversion system (inverter)
- 3 •BMS: battery management system
- 4 •EMS: energy management system
- 5 •MPPT controller
- 6 •Bidirectional DC-DC
- 7 •Power frequency isolation , high frequency isolation

Safe and reliable: High frequency isolation guarantees the safety of the system.

4、Certification



No.	items	Certification
1	EP760 safety	IEC62109-1,IEC62109-2,EN62109-1,EN62109-2,Rohs 2.0,CE,IP65
2	EP760 on grid certification	VDE-AR-N4105,VDE V 0124-100
3	EMC/EMI	EN/IEC 61000-6-1,EN/IEC 61000-6-3
4	B500 Batteries Security Certification	UL9540, IEC62619, UL1973, UL9540A, UN38.3, FCC Part 15 Class B,IP65

EP760 并网认证国家	优先等级	目前进度
德国并网 VDE 4105:2018、VDE 0124:2020	1	已完成
意大利 CEI 0-21:2022 （11.08kw 以上系统 + 11.08KW 以下系统	2	待发证
澳大利亚并网 AS 4777.2:2020	3	数据审核中
欧盟并网 EN50549-1:2019		2023/9/30
荷兰 EN50549-1:2019+国家差异	4	2023/9/30
西班牙 RD 1699:2011	5	数据审核中
法国 VDE 0126:2013	6	2023/9/15
英国并网 G99:2020（Type A）	7	2023/10/15
比利时并网 EN50549-1:2019+差异	8	2023/10/20

5、Application examples



Global Warehousing and Distribution

Rapid delivery-overseas warehouse in
US , Australia , HongKong , Germany UK
complete certificates-exported to more than 70 countries and regions





BLUETTI



◆ More details as below:

Online store: <https://www.bluettipower.com/>

BLUETTI Official: <https://www.youtube.com/c/BLUETTIOfficial>

BLUETTI Support: https://www.youtube.com/channel/UCe2BwE61Gi-JERc-q1POp_w

Thanks for watching



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