

SOLAX RESIDENTIAL HYBRID SYSTEM



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REVISION HISTORY

Version 1.0 (Dec 2020)

First edition for product introduction.

Version 2.0 (Dec 2020)

Modify parameter error. Change the battery connection method.

Version 2.1 (Dec 2020)

Modify some parameters

Version 2.2 (Jan 2021)

Modify the design drawing

Version 2.3(Mar 2021)

Modify the number of parallel boxes used by the battery and the matching items



ALL-IN-ONE

X1-ESS G4



TRIPLE POWER

T-BAT H3.0

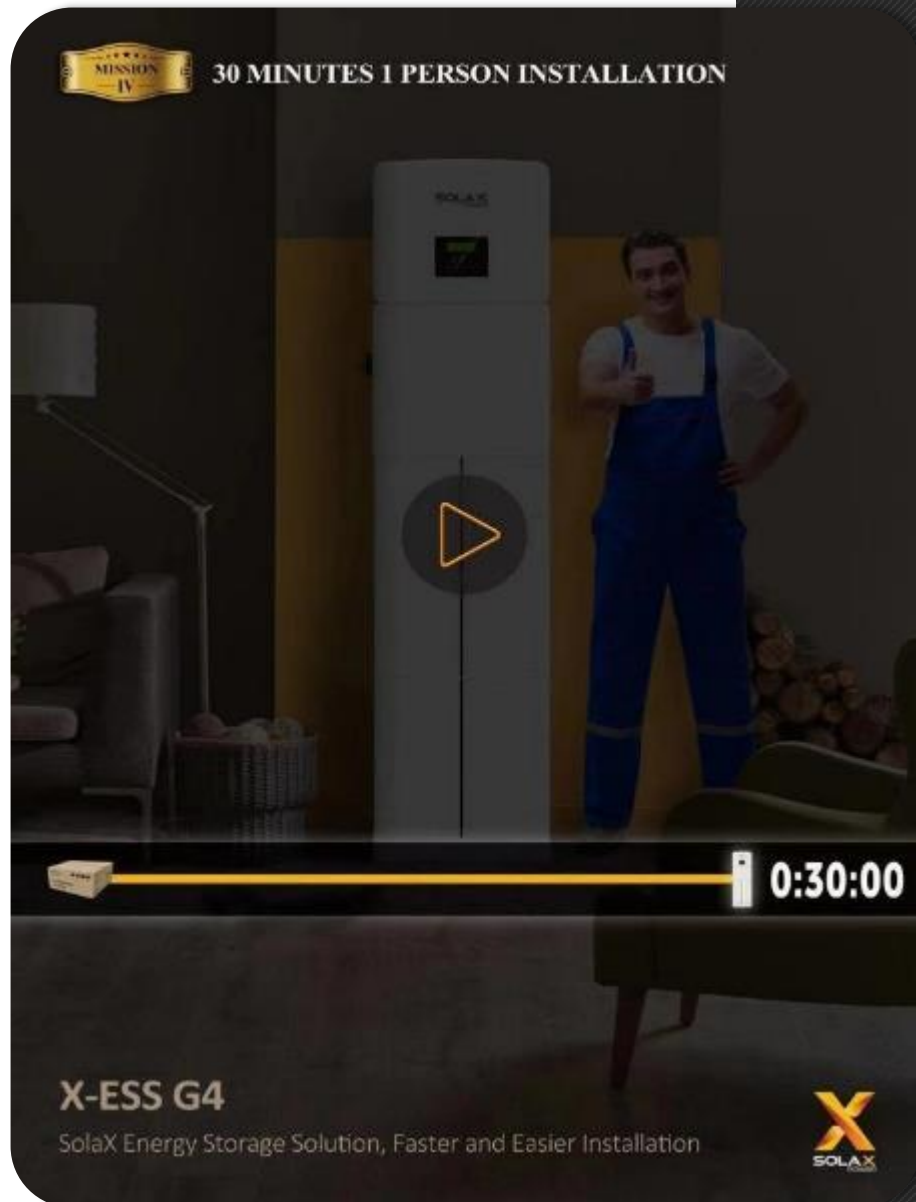




ALL-IN-ONE DESIGN



- Integrated the X1-Hybrid inverter, T30 battery and mate box in one system, saving your room space.
- Streamlined design, both for indoor and outdoor use.
- Easy to install and operation.
- Decorate your living room with your household loads.



Quick Installation

- Each part of the system is within 35Kg, which can be carried by one person without any tools.
Inverter: 22Kg+Bat 33Kg (BMS 7.5Kg)+Mate box 10Kg
- Mate Box integrates all system accessories and pre-wiring design, customers only need to assemble the entire system like Lego bricks, plug and play.
- Stacked battery and assembled back bracket design, through some accessories, no need other complicated installation steps.

MISSION 1

SUPPORT 150%
OVERSIZED PV POWER

X-ESS G4
NO MORE WASTE ON THE EXCESS PV GENERATED SOLAR ENERGY

* The PV input voltage is within the DC input voltage range.
* The PV current is within the max DC input current range.
* The new PV power is no larger than 1.5 * Max. DC input power, the inverter will limit the PV input power within the range of Max. DC input power.

SOLAX

MORE POWERFUL PV OVERSIZING

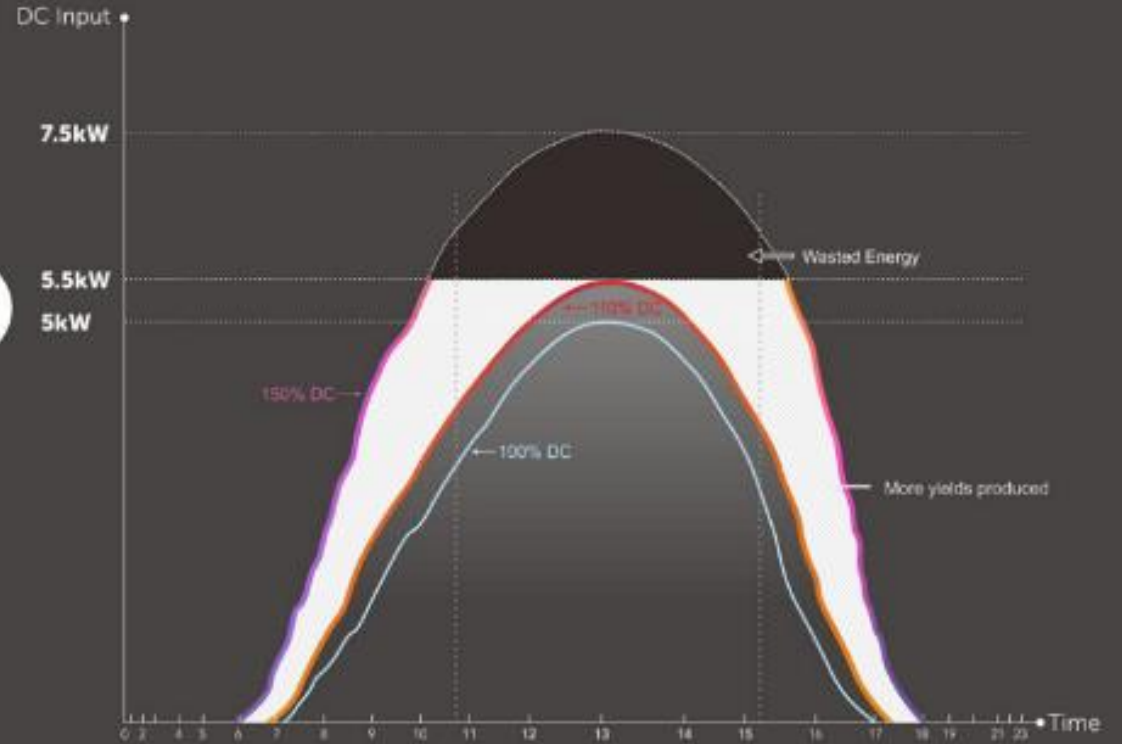
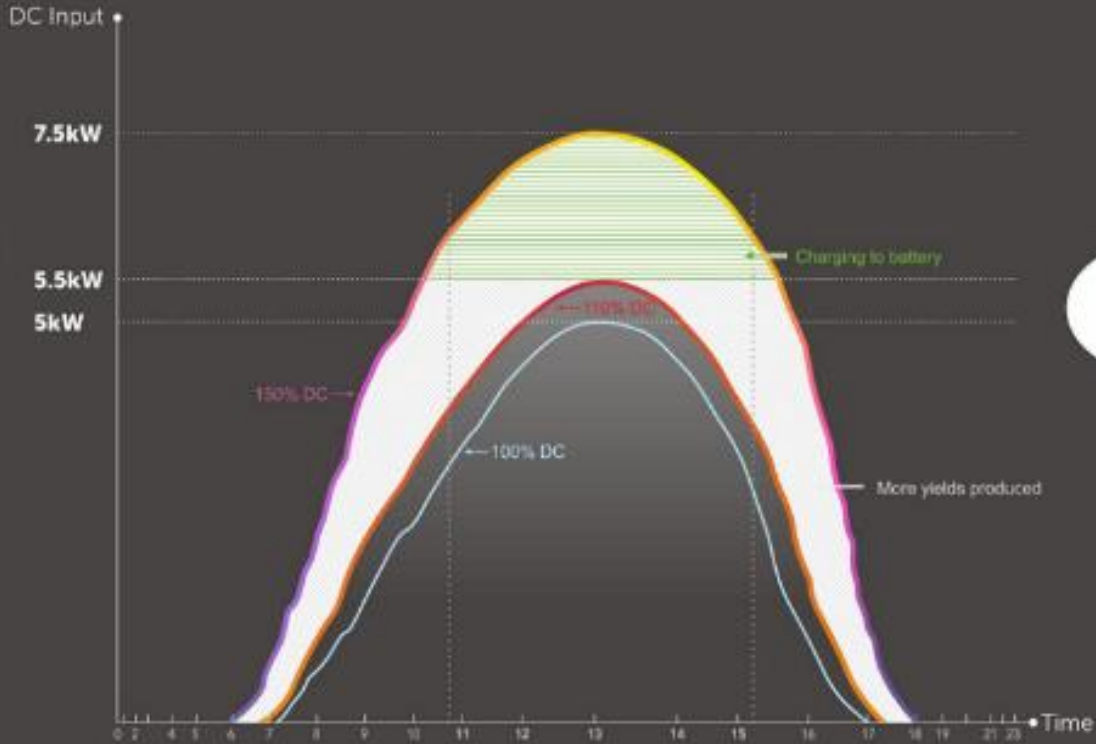
- With a maximum DC input of 14A, and compatible with high-power PV panels.
- And can be oversizing by 150% .
(X1-Hybrid-7.5 is 133%)
- The energy produced by the oversized PV panel will not be wasted, this part of the energy will charge to the battery.





More Solar Energy Lower Electric Bill

Oversized SolaX inverter with a higher DC/AC ratio (1.5:1) will produce more energy and higher yields during the day for use.



X1-Hybrid G4 5kW as example

* Normal 5kW hybrid inverter as example



**50% HIGHER
CHARGING EFFICIENCY**



X-ESS G4

Charge your battery to full within one hour

FAST CHARGING & HIGH POWER DISCHARGE

- High power charge and discharge
- X1-Hybrid, with Triple Power battery, the maximum charge and discharge current 30A .
(The largest in the High voltage energy storage system market)
- Fast charging and high power discharge. It can meet more home loads requirements in emergency situations and also can last longer time.



PERFECT PERFORMANCE IN EXTREME COLD

- The inverter and Mate Box can also work in extreme cold conditions
(Inverter Operating Temp:-35~+60°C)
- The BMS temperature control system monitors the ambient temperature in real time, and build-in heating module under the control of intelligent algorithms to actively heat the battery to maintain the best operating temperature environment for the battery.

A tall, white SOLAX X-ESS G4 inverter stands in a split landscape. The left side shows a desert with sand dunes and a sunset sky, while the right side shows a snowy mountain range under a blue sky. The inverter has a small display screen on its upper section.

MISSION II HIGH RELIABILITY

SOLAX

X-ESS G4

STABLE PERFORMANCE IN HARSH ENVIRONMENT

- * Passed the HALT test
- * Extreme high and low temperature test
- * Salt spray test
- * Aging test with full working load

SOLAX POWER

STABLE PERFORMANCE IN HARSH ENVIRONMENT

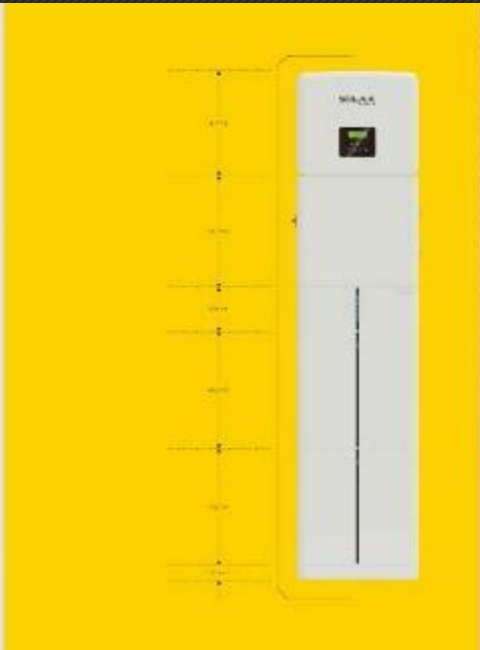
- IP65 protection can be indoor & outdoor used.
- The inverter has passed HALT testing, which truly simulates the extreme use environment: High temperature, humidity and salt spray environments still work normally.
- Thanks to high-quality electronic components, the inverter temperature rises steadily, which greatly increases PV production.

Triple Power 3.0 Battery

- 100% Pure Lithium Cells
- Working Temperature: -20°C~55°C
- 100% Depth of Discharge
- 5-year warranty
- 100% Safety
- 100% Efficiency
- 100% Reliability
- 100% Performance



	100% LFP	100% NMC	100% LFP	100% LFP
Capacity (kWh)	4.0	4.0	4.0	4.0
Max. Power (kW)	3.0	3.0	3.0	3.0
Max. Voltage (V)	51.2	51.2	51.2	51.2
Max. Current (A)	58.5	58.5	58.5	58.5
Max. Discharge Rate (C)	0.2	0.2	0.2	0.2
Max. Charge Rate (C)	0.2	0.2	0.2	0.2
Max. Temperature (°C)	55	55	55	55
Min. Temperature (°C)	-20	-20	-20	-20
Max. Humidity (%)	95	95	95	95
Max. Altitude (m)	2000	2000	2000	2000
Max. Depth of Discharge (%)	100	100	100	100
Max. Cycle Life	6000	6000	6000	6000
Max. Self-discharge Rate (%)	0.1	0.1	0.1	0.1
Max. Efficiency (%)	99.5	99.5	99.5	99.5
Max. Power (kW)	3.0	3.0	3.0	3.0
Max. Voltage (V)	51.2	51.2	51.2	51.2
Max. Current (A)	58.5	58.5	58.5	58.5
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Min. Temperature (°C)	-20	-20	-20	-20
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Max. Depth of Discharge (%)	100	100	100	100
Max. Cycle Life	6000	6000	6000	6000
Max. Self-discharge Rate (%)	0.1	0.1	0.1	0.1
Max. Efficiency (%)	99.5	99.5	99.5	99.5



Solar Energy Storage Expert

3601-45171-160001



The Most Advanced Energy Storage Solution

X-ESS G4

SMARTER DESIGN
SMARTER ENERGY

BROCHURE

X-ESS G4

- SAFER DESIGN**
100% Pure Lithium Cells
- HIGH RELIABILITY**
100% Depth of Discharge
- SMART DESIGN**
100% Efficiency
- LOW COST**
100% Reliability
- FAST CHARGING SPEED**
100% Performance
- WORKING IN ALL WEATHERS**
100% Safety

X1-Hybrid G4

	100% LFP	100% NMC	100% LFP	100% LFP
Capacity (kWh)	4.0	4.0	4.0	4.0
Max. Power (kW)	3.0	3.0	3.0	3.0
Max. Voltage (V)	51.2	51.2	51.2	51.2
Max. Current (A)	58.5	58.5	58.5	58.5
Max. Discharge Rate (C)	0.2	0.2	0.2	0.2
Max. Charge Rate (C)	0.2	0.2	0.2	0.2
Max. Temperature (°C)	55	55	55	55
Min. Temperature (°C)	-20	-20	-20	-20
Max. Humidity (%)	95	95	95	95
Max. Altitude (m)	2000	2000	2000	2000
Max. Depth of Discharge (%)	100	100	100	100
Max. Cycle Life	6000	6000	6000	6000
Max. Self-discharge Rate (%)	0.1	0.1	0.1	0.1
Max. Efficiency (%)	99.5	99.5	99.5	99.5



Matebox




	100% LFP	100% NMC	100% LFP	100% LFP
Capacity (kWh)	4.0	4.0	4.0	4.0
Max. Power (kW)	3.0	3.0	3.0	3.0
Max. Voltage (V)	51.2	51.2	51.2	51.2
Max. Current (A)	58.5	58.5	58.5	58.5
Max. Discharge Rate (C)	0.2	0.2	0.2	0.2
Max. Charge Rate (C)	0.2	0.2	0.2	0.2
Max. Temperature (°C)	55	55	55	55
Min. Temperature (°C)	-20	-20	-20	-20
Max. Humidity (%)	95	95	95	95
Max. Altitude (m)	2000	2000	2000	2000
Max. Depth of Discharge (%)	100	100	100	100
Max. Cycle Life	6000	6000	6000	6000
Max. Self-discharge Rate (%)	0.1	0.1	0.1	0.1
Max. Efficiency (%)	99.5	99.5	99.5	99.5



FEATURES



One person 30 mins installation

Faster and easier installation



Support 150% oversized PV power

Excess energy to battery



Fast charging and high power discharge

Max 30A charging & discharge current



Remote units control & upgrading function

External control communication interface



Working under extremely cold condition

Working in full load under extreme cold temp $-30^{\circ}\text{C}/-31^{\circ}\text{F}$



On & Off grid parallel use

Inverter on & off grid parallel to support higher power loads



SCOPE OF VALIDITY

X1-Hybrid-3.0-D/M
X1-Hybrid-3.7-D/M
X1-Hybrid-5.0-D/M
X1-Hybrid-6.0-D/M
X1-Hybrid-7.5-D/M

X1-Fit-3.0-D/M
X1-Fit-3.7-D/M
X1-Fit-5.0-D/M
X1-Fit-6.0-D/M
X1-Fit-7.5-D/M

"M" means With Mate Box

"D" means with build-in DC switch

If Mate Box is selected, the corresponding inverter version is "-M"

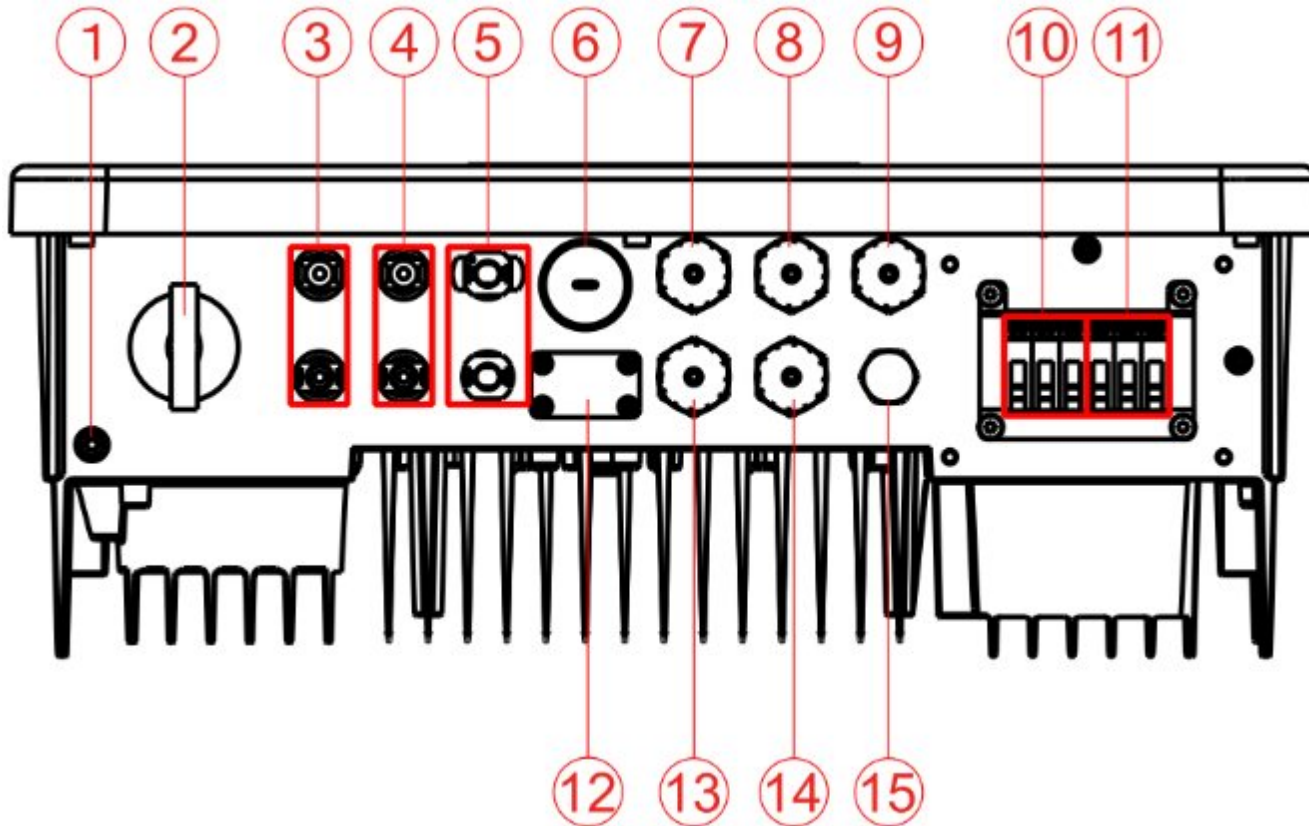
Critical Parameters

	X1-Hybrid-6.0	X1-Hybrid-7.5
INPUT(DC)		
Max. PV array power [Wp]	9000	10000
Max. input current (input A / input B)	14/14	
MPPT voltage range [V]	70-550	
Start operating voltage [V]	90	
No. of MPPT trackers / String per MPPT	2/1	
INPUT(AC)		
Max. apparent AC power [VA]	9200	
OUTPUT(AC)		
Nominal AC power [VA]	6000	7500
Max. apparent AC power [VA]	6600	7500
Nominal grid voltage (AC voltage range) [V]	220/230/240 (180-270)	
Nominal grid frequency / range [Hz]	50/60	

Critical Parameters

	X1-Hybrid-6.0	X1-Hybrid-7.5
OUTPUT DC (BATTERY)		
Battery type	Li-ion	
Battery voltage range [V]	80~480	
Max. continuous charge / discharge current [A]	30	
EPS OUTPUT (WITH BATTERY)		
EPS Max. continuous apparent power [VA]	6000	7500
EPS peak apparent power (rated) [%] Duration [s]	120% overload, 600	100%
Switching time [ms]	Internal switch <10	
ENVIRONMENT LIMIT		
Degree of protection (according to IEC60529)	IP65	
Operating temperature range [°C]	-35~+60°C (derating at 45°C)	
DIMENSION AND WEIGHT		
Dimensions (W*H*D) [mm]	482*417*181	
Weight [kg]	22	23
Standard warranty [year]	10	

EXTERNAL TERMINALS



- 1 Ground Connection Port

- 2 DC Switch(Optional)

- 3&4 PV Connection Area

- 5 Battery Connection Area

- 6 USB Port for Upgrading

- 7 BMS Communication

- 8 Meter/CT Port

- 9 CAN Port(Parallel Mode Use)

- 10 Grid Input & Output

- 11 Off-grid Output

- 12 Pocket Dongle

- (External Monitoring Accessories)

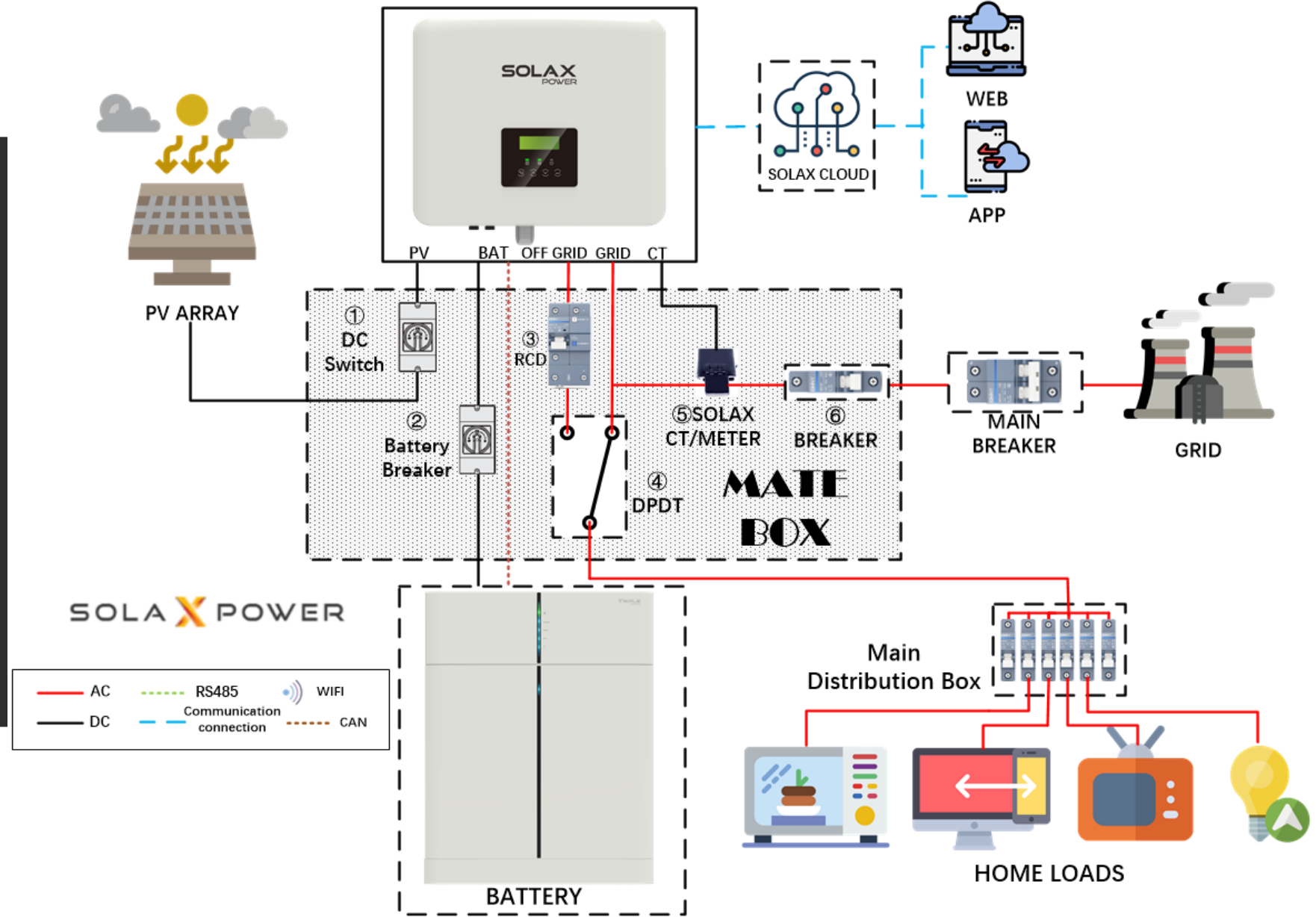
- 13 DRM Port(Only for Australia)

- 14 External Communication

- (RS 485 connection & LCD Screen)

- 15 Waterproof valve

ALL-IN-ONE ESS DIAGRAM





PRODUCT VARIANCES



X1-Hybrid G3.0

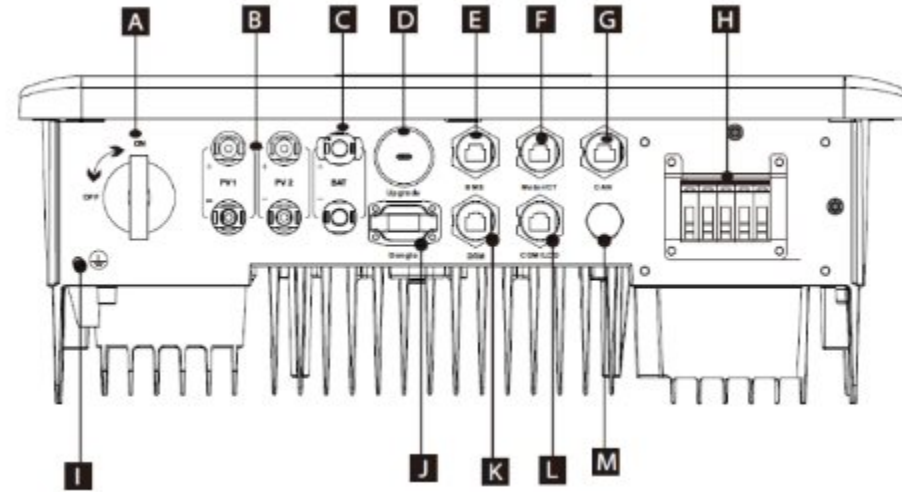
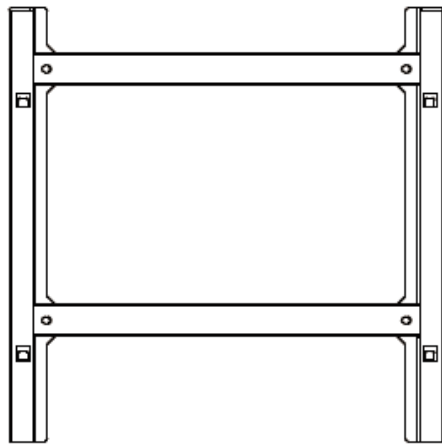
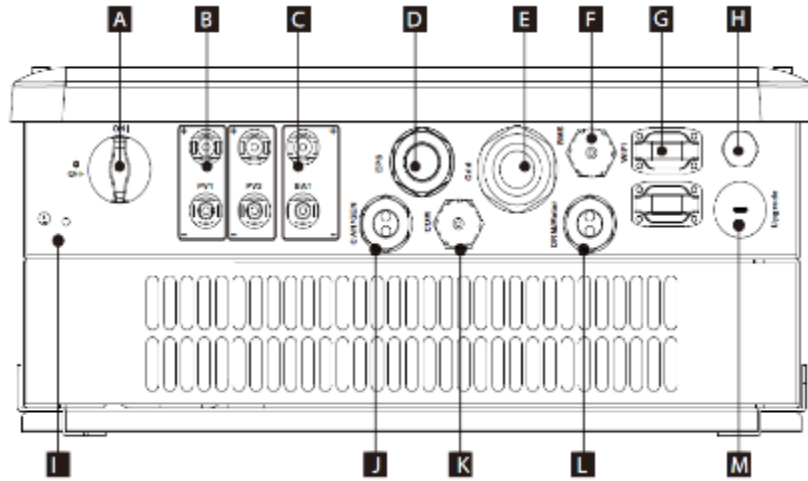
X1-Hybrid G4.0

476*464*180(mm)

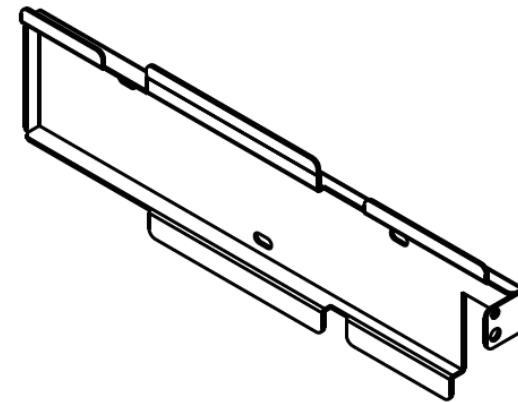
482*417*181(mm)

24Kg

3-6kW;22Kg 7.5kW;23Kg



7.5 kW With Fan



**About Hybrid
What's more?**

**FREE AS
Lego blocks!**

**More options!
More possibilities!**

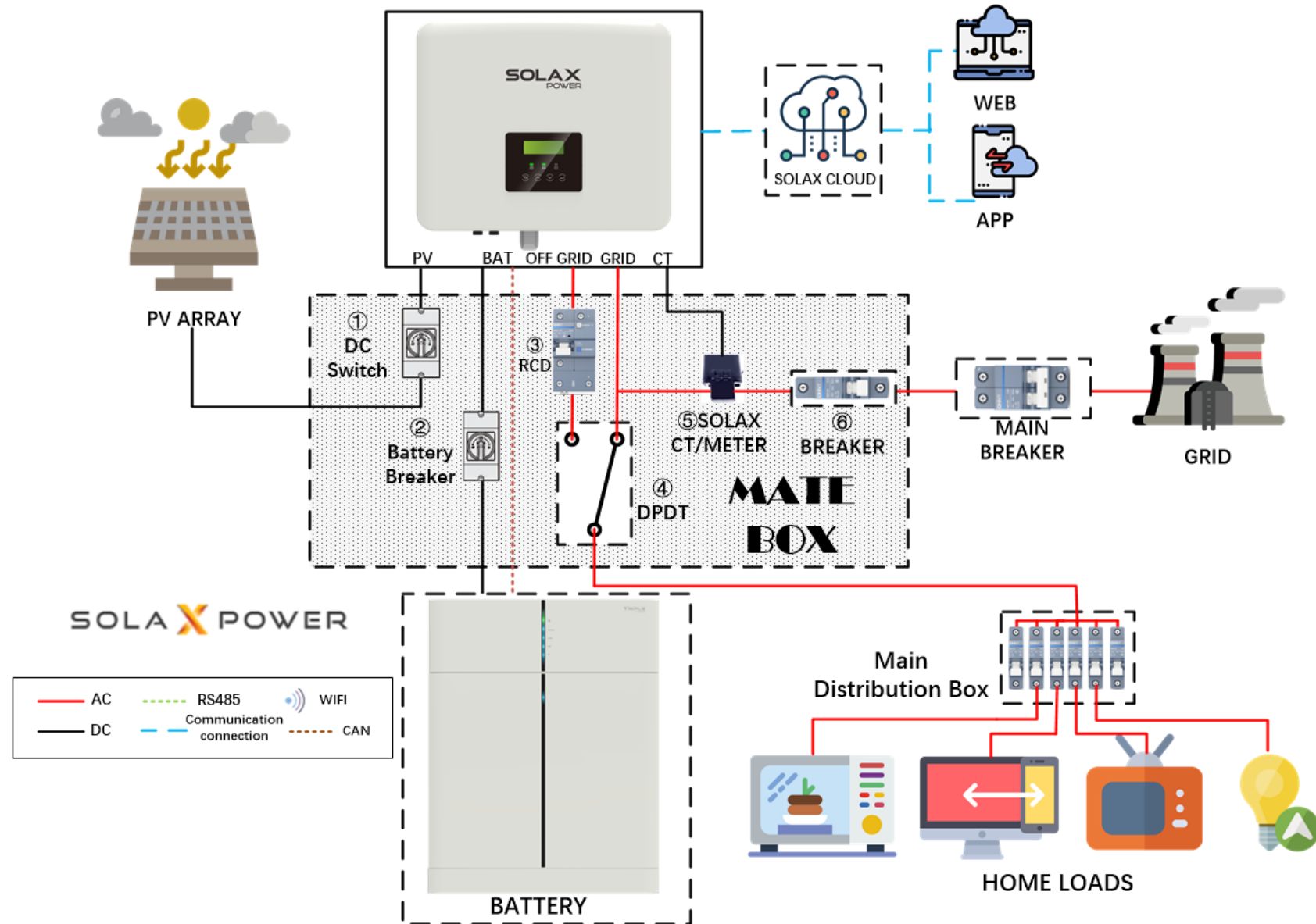


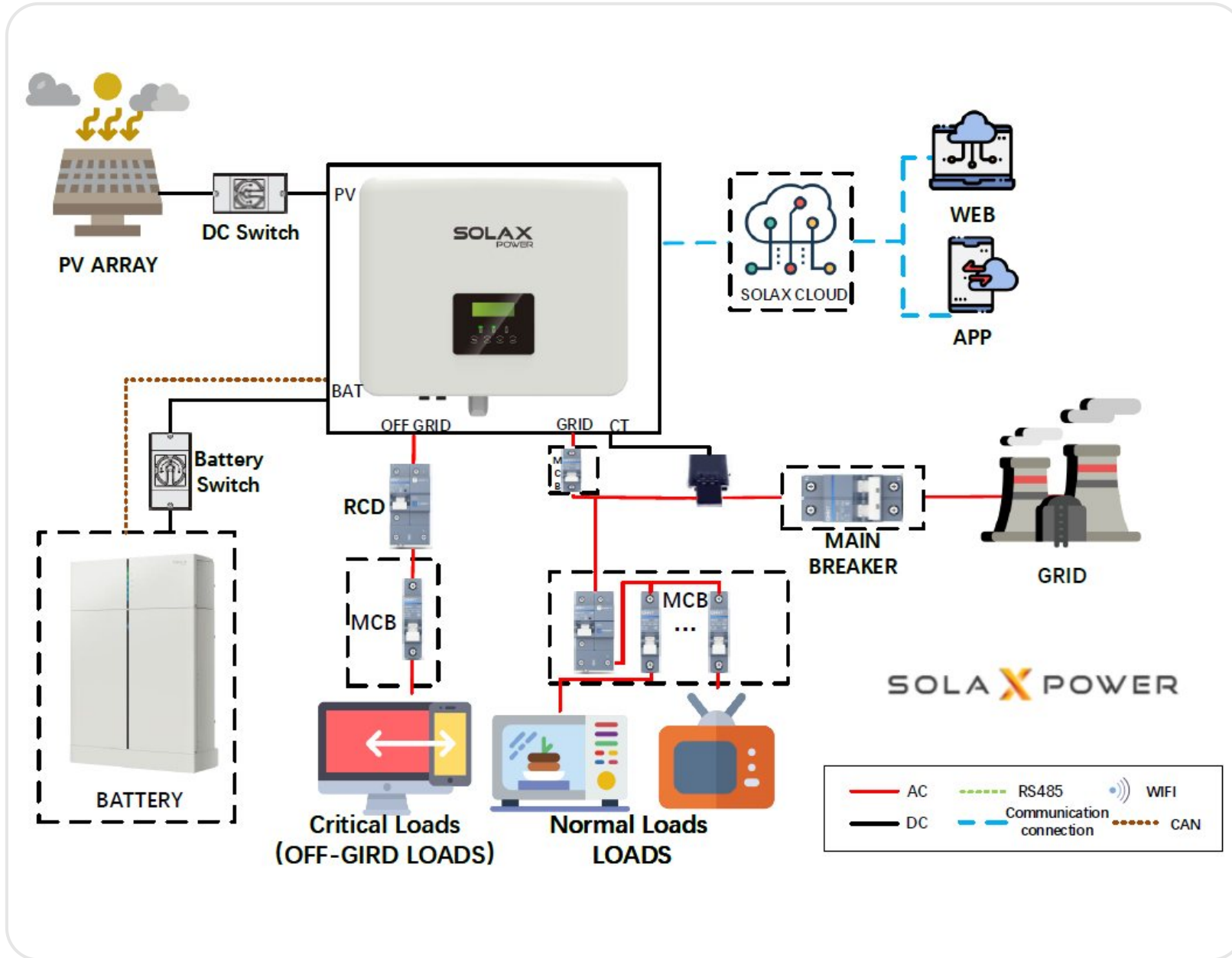
ALL IN ONE SOLUTION

In this solution, the Mate Box contains all the accessories of the inverter system, including DC and BAT switch, CT and RCD.

All wirings are operated inside the box and cabinet, and the outside of the entire system will be clean and tidy.

Thanks to the pre-wired solution, Mate Box will assemble all accessories and cables in advance, omitting complicated installation steps and saving time and money.





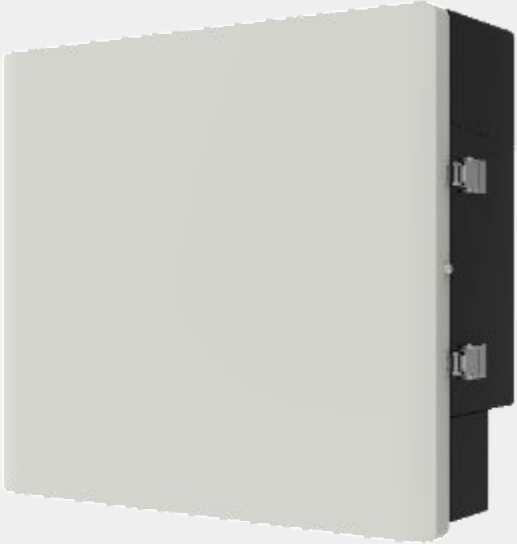
GENERAL HYBRID SOLUTION

General Hybrid solution can also provide a different experience.

The latest generation of inverter(G4) can not only match the latest batteries(T30), but also compatible with all previous SolaX Triple Power batteries.

Flexible matching solutions will bring customers a better experience.

MATEBOX



One Matebox contains:

DPDT
Devices



CT



Meter
(optional)



Circuit
Breaker



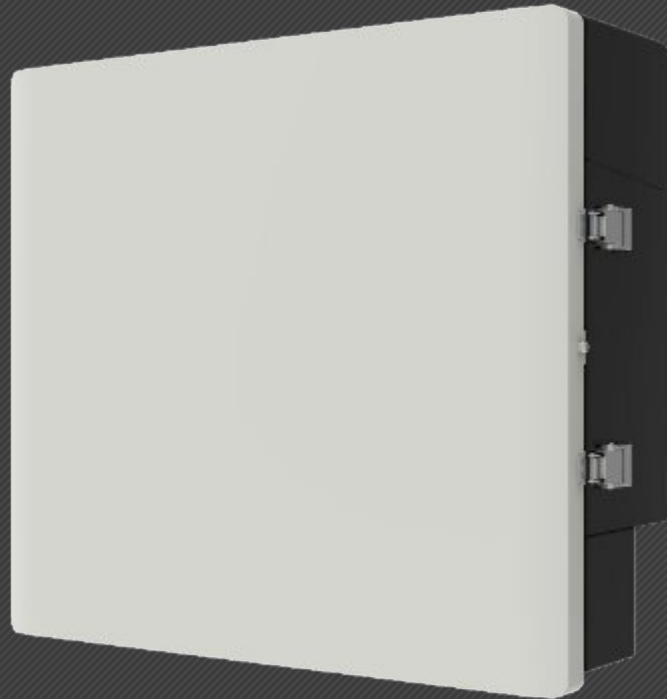
RCD



DC switch



X1-MATE BOX

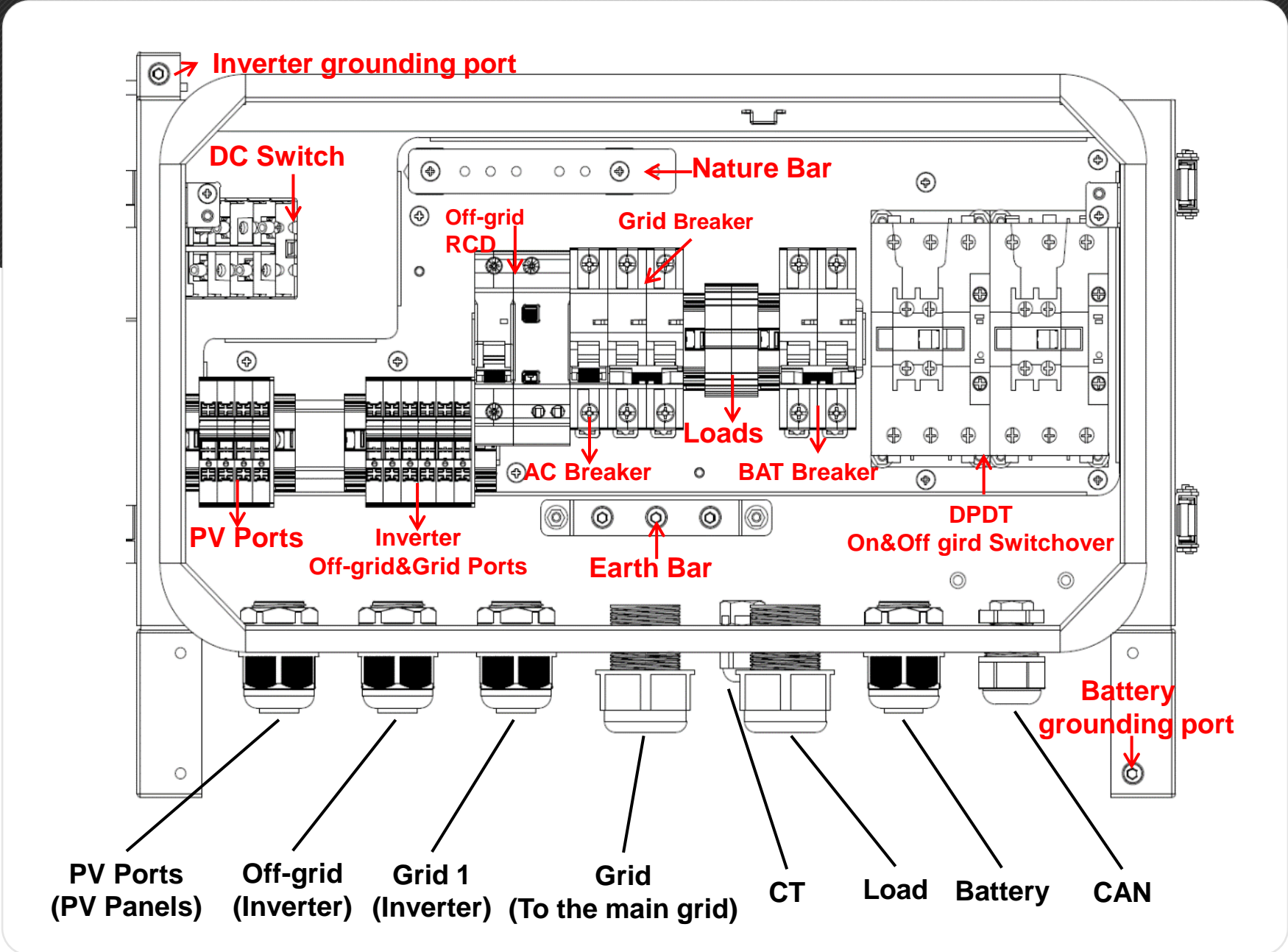


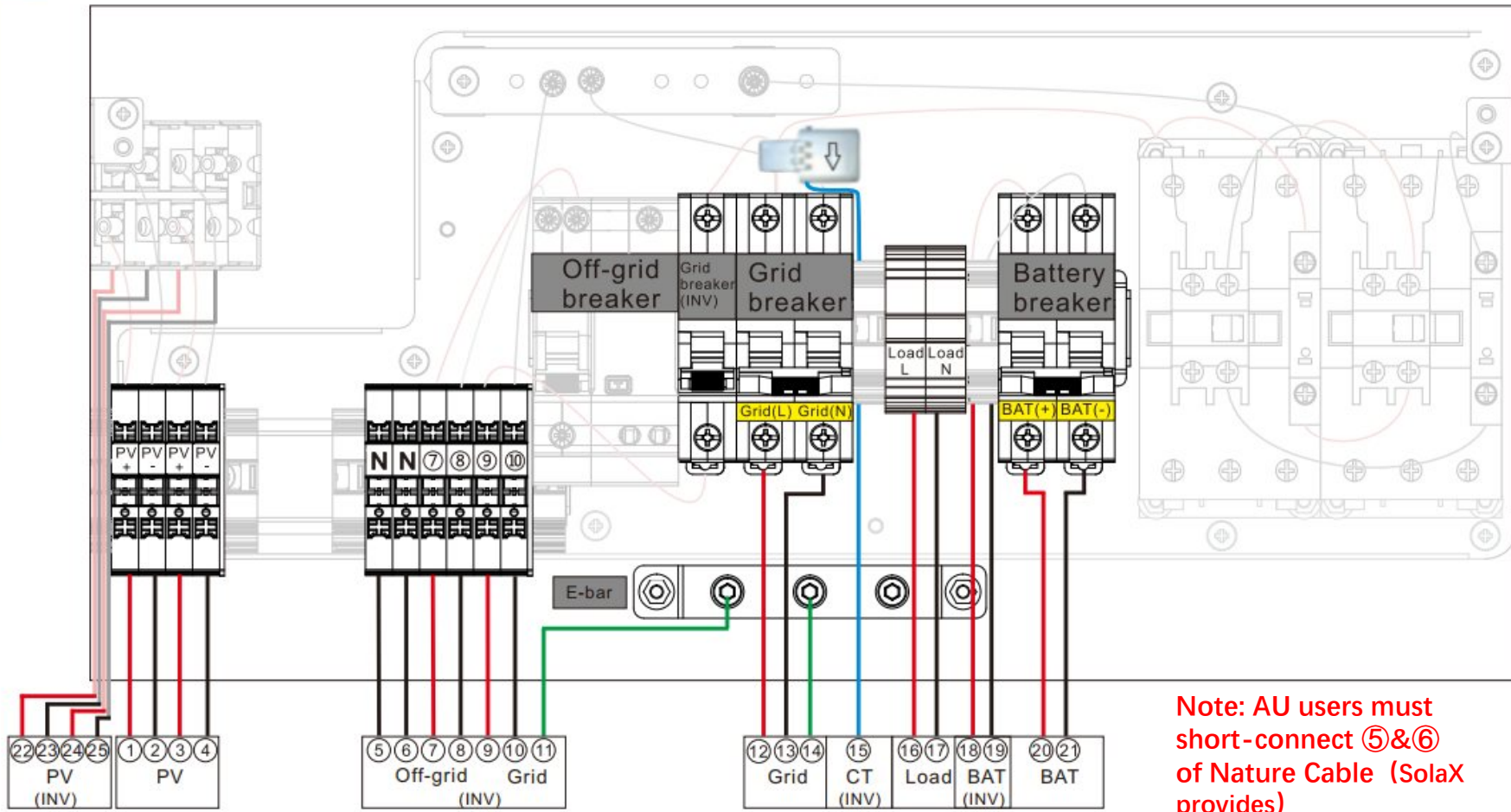
- X1-Mate Box is suitable for this all-in-one solution, and it is optional for other solutions
- If Mate Box is selected, the corresponding inverter version is “-M”

A. For the X1-Mate Box, build-in DC switch、BAT breaker、AC & Off-grid breakers、CT, which can reduce customers’ expenses on the accessories.

B. Pre-installed wiring cables and device can get rid of the complicated wiring work.

Key Parameters	X1-Matebox
Dimensions(mm)	482*437*185
Net weight(kg)	10
Operating temperature range(°C)	-35 to +60
Storage temperature(°C)	-40 to +70
Cooling Concept	Natural cooling
Standard warranty(Years)	3





Note: AU users must short-connect ⑤&⑥ of Nature Cable (Solax provides)

PV	①	PV 1 positive connection(PV 1+)	Grid (INV)	⑩	N port of inverter grid	BAT (INV)	⑱	Positive battery connection on inverter (BAT+)
	②	PV 1 negative connection(PV 1-)		⑪	PE port of inverter grid		⑲	Negative battery connection on inverter (BAT-)
	③	PV 2 positive connection(PV 2+)	Grid	⑫	Grid connection of L	BAT	⑳	Battery positive connection (BAT+)
	④	PV 2 negative connection(PV 2-)		⑬	Grid connection of N		㉑	Battery negative connection (BAT-)
N	⑤	L port off-grid	CT (INV)	⑭	Grid connection of PE	PV (INV)	㉒	PV 1 positive connection(PV 1+)
	⑥	N port off-grid		⑮	CT port of inverter		㉓	PV 2 negative connection(PV 1-)
Off-grid (INV)	⑦	L port of inverter off-grid	Load	⑯	Load connection of L		㉔	PV 1 positive connection(PV 2+)
Grid (INV)	⑧	N port of inverter off-grid		⑰	Load connection of N		㉕	PV 2 negative connection(PV 2-)
	⑨	L port of inverter grid						



TRIPLE POWER BATTERY T-BAT-3.0

MC0600
BMS module

HV10230
Battery pack

Base



T-BAT-3.0	
Nominal voltage [V]	102.4
Operating voltage range [V]	90-116
Total energy [kWh]	3.1
Usable energy [kWh] (90%DOD)	2.79
Standard power [kW]	2.55
Max. power [kW]	3.1
Recommended char/discharge current [A]	25
Max. charge/discharge current [A]	30
Cycle life [90% DOD 25°C]	6000 cycles
Expected life time / Warranty [year]	10
Available char/ discharge temp range [°C]	-30~+50
Protection	IP65
Dimensions (L*W*H) [mm]	MC0600: 482*174*148; HV10230:482*472*148
Weight [kg]	MC0600: 7.5 Kg; HV10230: 33 Kg

TRIPLE POWER BATTERY SERIES

- Stackable battery modules, combined with battery base, can realize four different capacity plans
- The battery capacity of T30 is 3.0kWh, and it can be expanded to 4 pieces. T58 battery is 5.8kWh and can be expanded to 6 pieces
- T58 and T30 batteries cannot be mixed in one system
- All SolaX Hybrid inverters can perfectly match with all series Triple Power batteries.





T-BAT H 5.8-23.2kWh



T-BAT H 3.0-12.0kWh

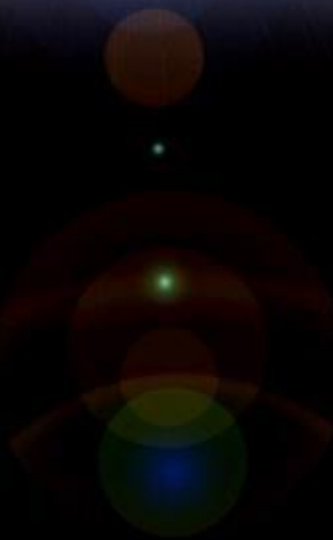
X1-G4 need to use battery parallel box to be compatible with up to 6 batteries.(the number of matched batteries must be an even number)
The battery parallel box can only be compatible with HV11550.

	T-BAT-5.8	T-BAT-3.0
Appearance		
Dimensions	Battery Module & Build In BMS: 474mm(L)*193mm(W)*708mm(H) Battery Module: 474mm(L)*193mm(W)*647mm(H)	BMS MC0600: 482mm(W)*174mm(H)*148mm(D); Battery Module HV10230: 482mm(W)*472mm(H)*148mm(D)
Weight	Battery Module&Build In BMS: 72.2kg Battery Module: 68.5kg	BMS MC0600: 7.5 Kg; Battery Module HV10230: 33 Kg
Capacity	5.8KWh	3.1KWh
Nominal voltage	115.2V	102.4V
Cycle life	6000	6000
Nominal/Max. power	2.9kW/4.0kW	3.1KWh
Operating Temperature	0~55°C	-30~55°C
IP protection	IP55	IP65

BATTERY T-BAT-3.0

Performance comparison

SOLAX
POWER



INVERTER WORK MODE

X1-HYBRID-G4

Work status

- Normal
- Waiting
- Checking
- System Off
- Standby
- Idle
- Fault
- Off-grid waitting
- Off-grid
- Normal (R)



Work mode (on-grid)

- Self Use Mode
- Feed-in Priority Mode
- Backup Mode
- Manual Mode



When inverter enter into **standby condition** (On-grid)

- When inverter discharge time period is active, when:
 - (1) There is no PV , **and**
 - (2) The loads power is very low (<100W), timing for 5 minutes, the system enters standby status;
- When inverter charging time period is active, when:
 - (1) The battery capacity is > SOC_charge from grid (the upper limit of battery charging SOC) **and**
 - (2) There is no PV, the system enters standby status;
- In other time periods, without PV , the system enters standby status;



When inverter enter into **Idle** status? (On-grid)

- The inverter state is checking, Normal or Standby state, when:

(1) battery capacity \leq Min SOC(On-grid min SOC) **and**

(2) no PV **and**

(3) non-mandatory charging time period, non-battery recharging phase.

this state lasts for 30s, and the system will enters Idle status;

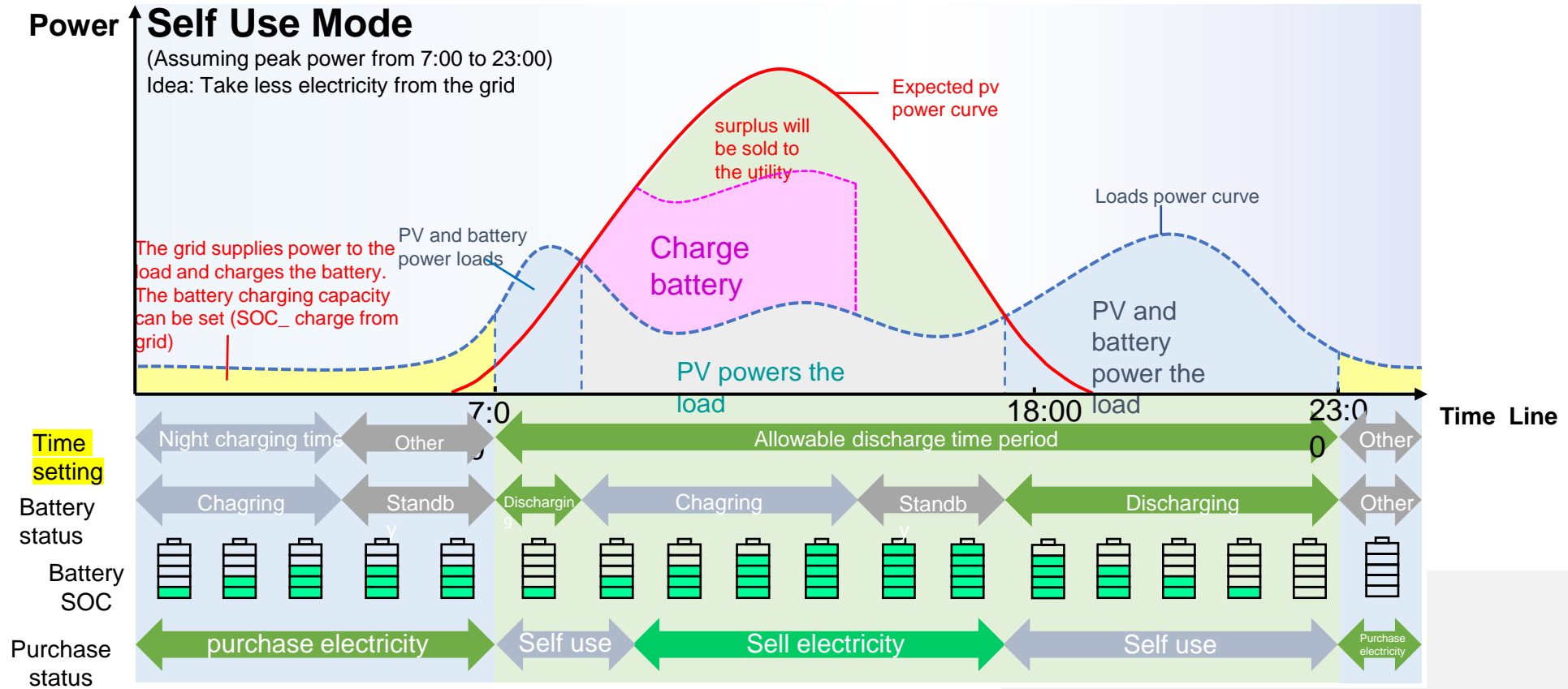


INVERTER WORK MODE

First of all, our inverter can set a total of two time periods, each time period includes 1 charging time period and 1 discharging time period, and the interval not in the charging & discharging time period belongs to other time periods.



SELF USE MODE



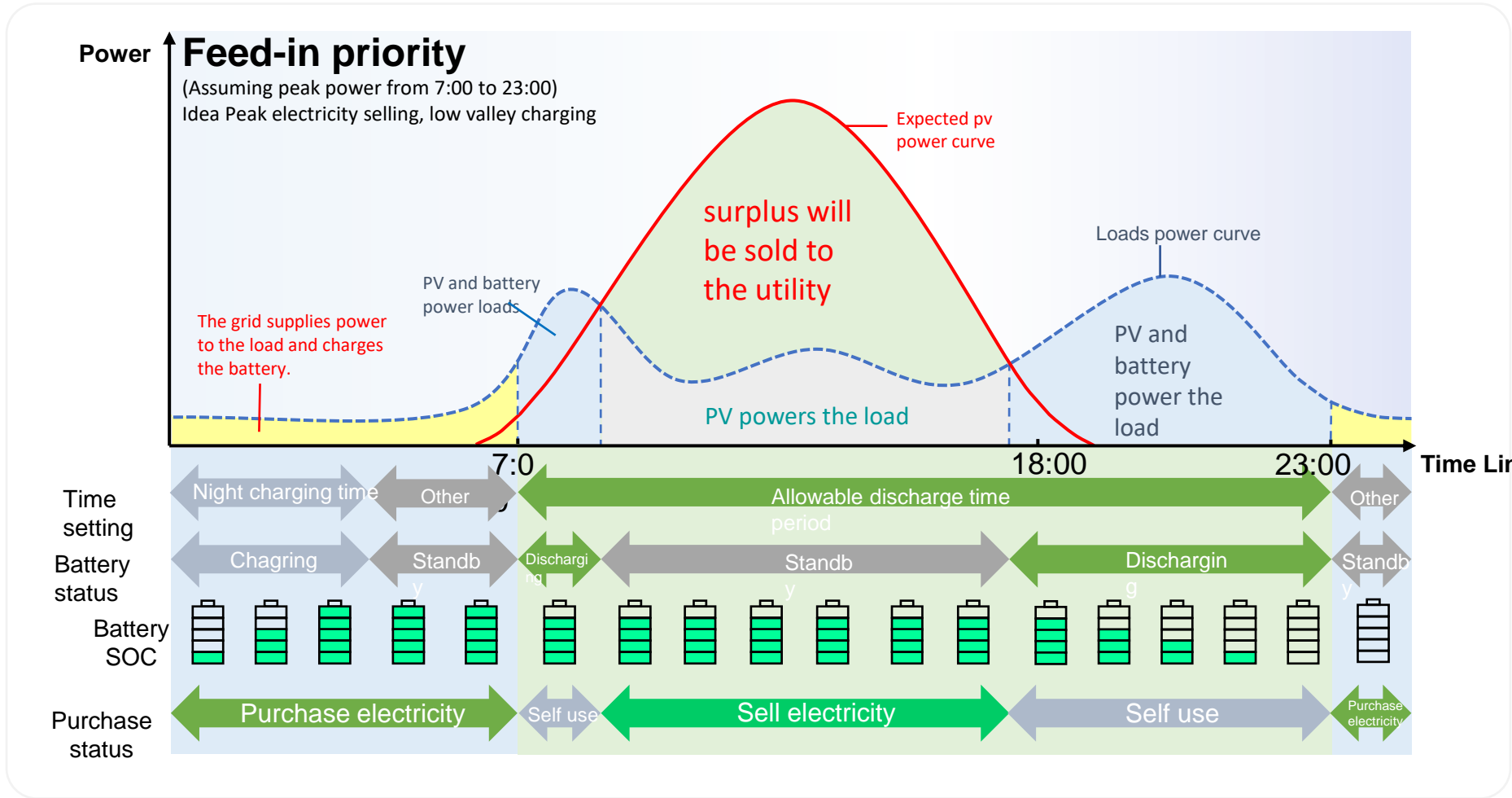
INVERTER WORK MODE -- SELF-USE

★ The battery is only discharged during the discharge time period, and not discharged during other time periods.

Work mode	Time period	Battery SOC	PV and load conditions	INV work status
Self use	charging time	Battery soc < SOC_ charge from grid	X	Charge the battery from PV and AC, take priority from PV, if PV is not enough, then take power from AC side, stop charging after charging to SOC_ charge from grid
		Battery soc ≥ SOC_ charge from grid	PV > LOAD	PV gives priority to the load to supply excess energy to charge the battery, and then the excess is used to sell electricity. If the local utility prohibits the sale of electricity to the grid, the Inv will Limit output power.(1)
			PV < LOAD	Only PV supplies power to the load. If the PV power does not meet the load consumption, the remaining energy is obtained from the grid and the battery is not discharged . If there is no PV, Inv will enter the standby status.
	Allowable discharge time period	X	PV > LOAD	PV gives priority to the load to supply excess energy to charge the battery, and then the excess is used to sell electricity. If the local utility prohibits the sale of electricity to the grid, the Inv will Limit output power.(1)
			PV < LOAD	PV and battery supply power to the load at the same time. When the battery capacity drops to Min SOC(On-grid min SOC) , it stops discharging. If there is no PV, it enters Idle status.
	Other time period	X	PV > LOAD	PV gives priority to the load to supply excess energy to charge the battery, and then the excess is used to sell electricity. If the local utility prohibits the sale of electricity to the grid, the Inv will Limit output power.(1)
			PV < LOAD	Only PV supplies power to the load, and the battery does not discharge . If there is no PV, battery SOC > Min SOC(On-grid min SOC) Inv will enter standby status. When battery SOC = Min SOC(On-grid min SOC) , the machine will enter idle status.

SOC_ charge from grid: Refers to the upper limit of SOC required to charge the battery from the city network during the charging period. The SOC value can be set between 10% and 100%. This function is turned off by default in self use mode and can be turned on manually. It is turned on by default in feed in priority mode & back up mode and cannot be turned off.
Min SOC(On-grid min SOC): Minimum SOC under grid connection. Self use mode & feed in mode adjustment interval is 10%~100% back up mode adjustment interval is 30%~100%.
X: This data is meaningless at this time.

FEED IN PRIORITY



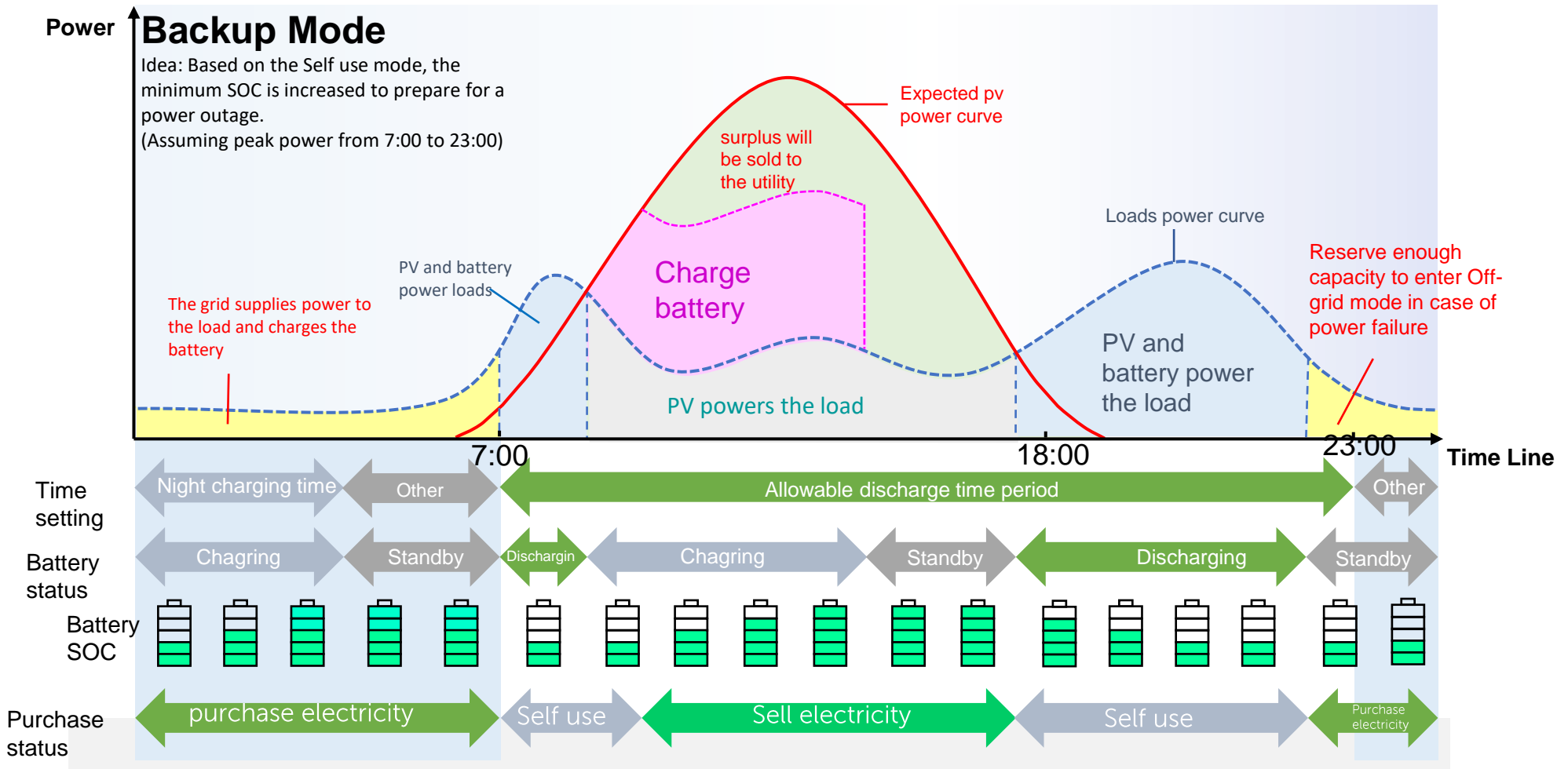
FEED IN PRIORITY

★ The battery is only discharged during the discharge time period, and not discharged during other time periods.

Work mode	Time period	Battery SOC	PV and load conditions	INV work status
Feed-in priority	charging time	Battery soc < SOC_ charge from grid	X	Charge the battery from PV and AC, take priority from PV, if the PV energy is not enough, then take power from the AC side, and stop charging after the battery is charged to SOC_ charge from grid, and then Inv enters standby status.
	Allowable discharge time period	X	PV>LOAD	PV supplies power to the load. If there is excess power used to sell power, if the excess power is greater than the Export limits power, the extra limit is used to charge the battery.
			PV<LOAD	PV and battery supply power to the load at the same time. When the battery capacity drops to Min SOC(On-grid min SOC) , it stops discharging. If there is no PV, it enters Idle status.
	Other time period	X	PV>LOAD	PV supplies power to the load. If there is excess power used to sell power, if the excess power is greater than the Export limits power, the extra limit is used to charge the battery.
			PV<LOAD	Only PV supplies power to the load, and the battery does not discharge . If there is no PV, battery SOC > Min SOC(On-grid min SOC) Inv will enter standby status. When battery SOC = Min SOC(On-grid min SOC) , the machine will enter idle status.

Min SOC(On-grid min SOC): Minimum SOC under grid connection. Self use mode & feed in mode adjustment interval is 10%~100% back up mode adjustment interval is 30%~100%
 X: This data is meaningless at this time

BACK UP



INVERTER WORK MODE – BACK UP

★ The battery is only discharged during the discharge time period, and not discharged during other time periods.

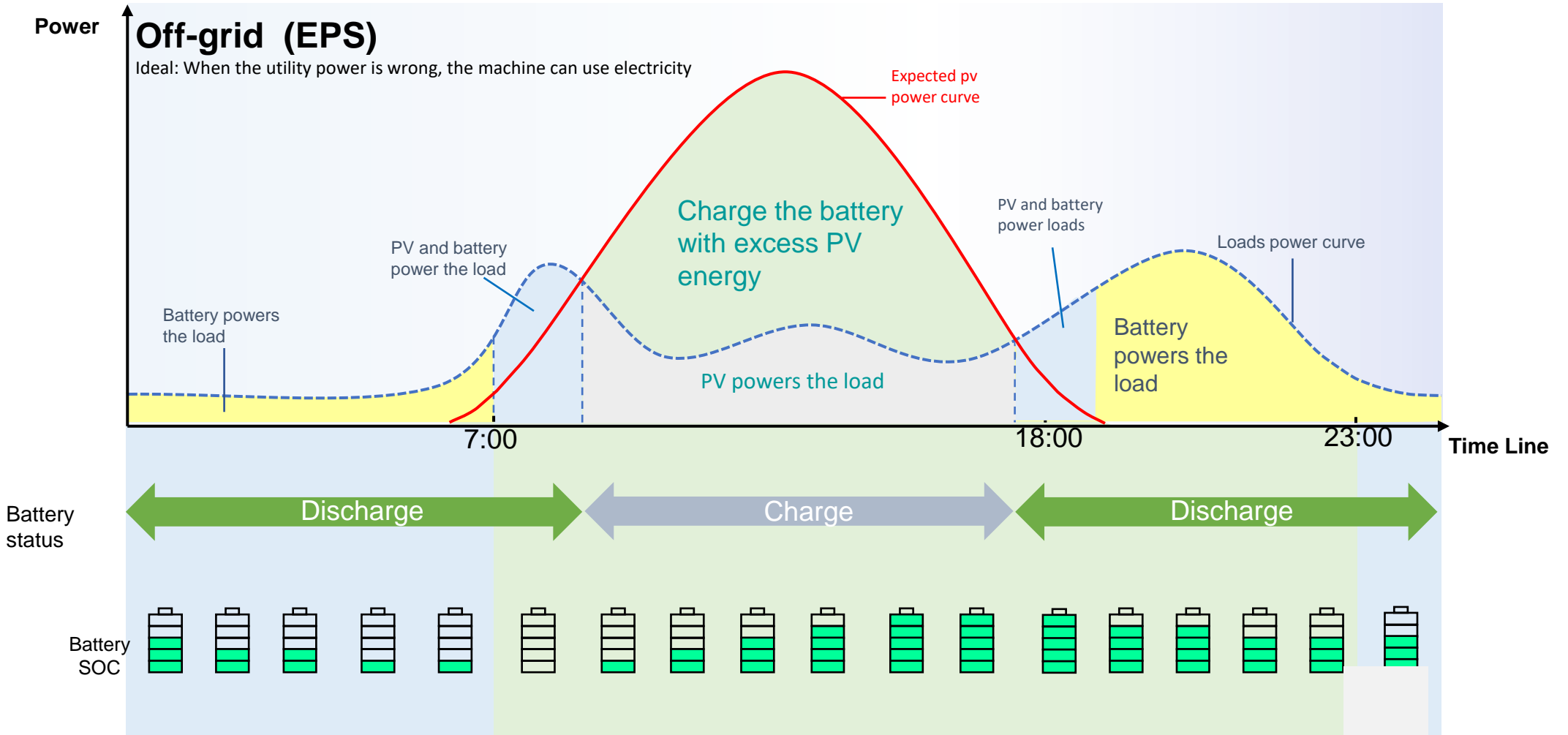
Work mode	Time period	Battery SOC	PV and load conditions	INV work status
Back up	charging time	Battery soc < Min SOC(On-grid min SOC):	X	Charge the battery from PV and AC, take priority from PV, if PV is not enough, then take power from AC side, stop charging after charging Min SOC(On-grid min SOC).
	Allowable discharge time period	X	X	The working logic is the same as for self-use, but it enters the standby status when it reaches Min SOC(On-grid min SOC). At this time, if the grid power is cut off, it will enter the off-grid status, and after discharging to Min SOC(Off-grid min SOC);, it will report that the battery power low.
	Other time period	X	X	

Min SOC(On-grid min SOC): Minimum SOC under grid connection. Self use mode & feed in mode adjustment interval is 10%~100%,but back up mode adjustment interval is 30%~100% Default 50%.

Min SOC(Off-grid min SOC): Refers to the minimum SOC value for battery discharge in off-grid mode. The value is 10% and cannot be set, and it is not displayed on the machine interface.

X: This data is meaningless at this time

OFF-GRID (EPS)





INVERTER WORK MODE - OFF-GRID (EPS)

Work mode	Time period	Battery SOC	PV and load conditions	INV work status
Off grid (EPS)	X	Battery soc > Min SOC(Off-grid min SOC)	PV>LOAD	When operating in off-grid status, PV will give priority to the load, and the excess energy will charge the battery.
			PV<LOAD	Running in off-grid state, the PV is first output to the load. If the energy is not enough, then the battery will discharge until the battery SOC is put to Min SOC(Off-grid min SOC) and then a battery low error is reported.
			Too much load	If the load exceeds the rated power of the machine or the discharge capacity of the battery, the machine reports an overload error. The machine can automatically recover, but manual intervention is required to recover after 3 consecutive errors. (Recommend customers to turn off partial loads)
		Battery soc ≤ Min SOC(Off-grid min SOC)	X	The machine reports a battery low error. When PV arrives, PV will charge the battery first. After charging to the set value "minimum SOC off-grid restart", it will automatically recover and enter the off-grid state again.

Min SOC(Off-grid min SOC):: Refers to the minimum SOC value for battery discharge in off-grid mode.

The value is 10% and cannot be set, and it is not displayed on the machine interface.

Min SOC Off-grid restart: When the battery capacity reaches the machine's automatic start SOC inverter will restart automatically: This means that PV starts to charge the battery after reporting the battery low voltage error when the battery is off the grid. After the PV re-input energy, the battery needs to be charged to the SOC to automatically return to the off-grid mode. The default value is 50% and cannot be set.

X: This data is meaningless at this time



INVERTER WORK MODE - MANUAL

Manual mode
(debugging / after-sales)

1. Forced charging
Manually take power from
the grid to charge the
battery



```
====Work Mode====  
Manual:  
> Forced Charge <  
Press ↵ to Save.
```

3. Stop charging
and discharging

```
====Work Mode====  
>Manual:  
Forced Discharge  
Press ↵ to Save.
```



2. Forced discharge
Manually discharge from
the battery

INVERTER PARAMETER SETTINGS - BASIC

Parameter settings

Through the LCD screen

User password: 0000
Advance password: 2014

Via APP

X1-Hybrid G4 APP
(under development)

U disk modification(under development)

Generate a parameter file through the master computer software, and then insert the U disk with the parameters set into the inverter, the inverter will be automatically set; in addition, the inverter will also synchronize some machine parameters to the USB. After unplugging the USB of the inverter, insert the computer to read the parameters and inverter information through the master computer software.

The master computer parameter setting is divided into basic parameters and advanced parameters

Basic Settings | Advanced Settings1 | Advanced Settings2 | About

Basic Setting

Language: English | Mate Box Setting: Disable | Off-grid Mute: No
Safety Code: VDE0126 | Meter/CT Select: Meter

Work Mode

Self Use | Feed-in priority | Backup | Manual

Min SoC: 10 | Min SoC: 10 | Min SoC: 30
Charge At Night: Disable
*Charge Battery To: 100 | *Charge Battery To: 50 | *Charge Battery To: 50

* Note: This parameter means the up limit of SoC that Battery can be charged to at night.

Charge Discharge Period

Period 1 | Period 2

Period2 Enable: Disable

Charge Start Time: 03:00 | Charge Start Time: 00:00
Charge End Time: 07:00 | Charge End Time: 00:00
Allow Discharge Start Time: 07:00 | Allow Discharge Start Time: 00:00
Allow Discharge End Time: 21:00 | Allow Discharge End Time: 00:00

* Note: Each period shall not interleave, otherwise these parameters cannot be saved correctly.

INVERTER PARAMETER SETTINGS - BASIC

The screenshot shows the 'Basic Setting' window of an inverter. It includes the following settings:

- 1 Language:** English
- 2 Safety Code:** VDF0120
- 3 Mate Box Setting:** Disable
- 4 Meter/CT Select:** Meter
- 5 Off-grid Mute:** No
- 6 Work Mode:** Self Use (selected), Feed-in priority, Backup, Manual
- Min SoC:** 10 (Self Use), 10 (Feed-in priority), 30 (Backup)
- Charge At Night:** Disable
- *Charge Battery To:** 100 (Self Use), 50 (Feed-in priority), 50 (Backup)
- * Note:** This parameter means the up limit of SoC that Battery can be charged to at night.
- 7 Charge_Discharge Period:**
 - Period 1:** Charge Start Time 23:00, Charge End Time 07:00, Allow Discharge Start Time 07:00, Allow Discharge End Time 21:00
 - Period 2:** Period2 Enable Disable, Charge Start Time 00:00, Charge End Time 00:00, Allow Discharge Start Time 00:00, Allow Discharge End Time 00:00
- * Note:** Each period shall not interleave, otherwise these parameters cannot be saved correctly.
- 8 Time period display:** A circular gauge showing the charging and discharging periods. The gauge is divided into segments: a cyan segment (charging) from 23:00 to 07:00, an orange segment (discharging) from 07:00 to 21:00, and a white segment (no operation) from 21:00 to 23:00. The number '8' is displayed in the center of the gauge.

Serial number	Function description
1	Interactive language of machine
2	Select Local grid standards
3	Choose whether to match the mate box
4	Choose machine with CT or meter
5	Choose whether the machine is muted in off-grid
6	Select the working mode of the machine, refer to the mode explanation for mode definition,
7	Set the charging and discharging time period of the machine
8	Time period display

INVERTER PARAMETER SETTINGS - **ADVANCED**

PARAMETER SETTINGS

- The parameter can be changed after it is checked, and the unchecked parameter defaults to gray.
- After selecting the safety regulation on the first page, the parameters not used by the safety regulation will be grayed out.
- After the parameters are changed, the color of the candidate frame is different from the default color, which is convenient to distinguish which parameters have been modified.

The screenshot displays the 'Advanced Settings' interface for a SOLAX inverter, specifically the 'Grid Parameters' section. The interface is organized into several functional areas:

- Grid Parameters:** This section contains two columns of settings. The left column includes Over Voltage L1 (1000 V), Under Voltage L1 (0 V), Over Frequency L1 (4000 Hz), Under Frequency L1 (4000 Hz), Over Voltage L2 (1000 V), Under Voltage L2 (0 V), Over Frequency L2 (4000 Hz), Under Frequency L2 (4000 Hz), and Vac 10min Average (1500 V). The right column includes OVP Time L1 (0 ms), UVP Time L1 (0 ms), OFF Time L1 (0 ms), OVP Time L2 (0 ms), UVP Time L2 (0 ms), OFF Time L2 (0 ms), UFP Fast Time (0 ms), Reconnection (15), Checking Time (60 s), W(Gra) (500), OFPL Start Point (50.20 Hz), OFPL Set Rate (2), OFPL Delay Time (0), UFPL Start Point (49.80 Hz), UFPL Set Rate (0.05), and UFPL Delay Time (0 ms).
- Power Factor Function:** This section includes radio buttons for 'OFF', 'Over-Excited', 'Under-Excited', 'Curve', and 'Q(U)'. The 'Over-Excited' and 'Under-Excited' options are selected, with a Power Factor (PF) of 90. Below these are settings for Upper Limit (90), Lower Limit (90), Power Upper (0), Power Lower (0), PF Lock In Point (105), PF Lock Out Point (90), and 3Tua (50 s).
- PU Function:** This section includes radio buttons for 'Enable' and 'Disable'. The 'Enable' option is selected. Below are settings for ResponseV1 (2070 V), ResponseV2 (2160 V), ResponseV3 (2350 V), and ResponseV4 (2440 V).
- Power Setting:** This section includes settings for Power Limit Percent (100), Export Control Value (60 W), Main Breaker Limit (100 A), and DRM Function (For AUS).
- Remote Control:** This section includes settings for COM Port, Modbus Address (1), and ModbusBaudRate.
- Other Setting:** This section includes settings for Shadow Fix, Meter1 Address (1), Meter2 Address (2), LVRT Function, Safety Code Lock, and DIO Function.

INVERTER PARAMETER SETTINGS - **ADVANCED**

Please refer to excel for related explanation.



X1-HYBRID-G4
term explanation

The screenshot shows the 'Advanced Settings' menu of an inverter, divided into several sections:

- 1 Grid Parameters:** Includes settings for Over voltage L1 (1000 V), Under Voltage L1 (0 V), Over Frequency L1 (40 Hz), Under Frequency L1 (40 Hz), Over Voltage L2 (10 V), Under Voltage L2 (0 V), Over Frequency L2 (40 Hz), Under Frequency L2 (40 Hz), Vac 10min Average (15 V), OVP Time L1 (0 ms), UVP Time L1 (0 ms), OFP Time L1 (0 ms), OVP Time L2 (0 ms), UVP Time L2 (0 ms), OFP Time L2 (0 ms), UFP_Fast Time (0 ms), Reconnection (15), Checking Time (60 S), W(Gra) (500), OFPL Start Point (50.20 Hz), OFPL Set Rate (2), OFPL Delay Time (0), UFPL Start Point (49.80 Hz), UFPL Set Rate (0.05), and UFPL Delay Time (0 ms).
- 2 Power Factor Function:** Includes radio buttons for OFF, Over Excited (PF 80), Under Excited (PF 80), Curve, Qu, and Fixed Q Power (Q Power 80 Var). It also has fields for Upper Limit (90), Lower Limit (90), Power Upper (0), Power Lower (0), PF Lock In Point (105), PF Lock Out Point (90), 3Tua (60 S), QuVoltRatio1 (0), QuVoltRatio4 (0), QuVupRate (10 V), and QuVlowRate (9 V).
- 3 PU Function:** Includes radio buttons for Enable and Disable, and response voltage settings: ResponseV1 (2070 V), ResponseV2 (2160 V), ResponseV3 (2350 V), and ResponseV4 (2440 V).
- 4 Power Setting:** Includes Power Limit Percent (100), Export Control Value (60 W), Main Breaker Limit (100 A), and DRM Function (For AUS).
- 5 Remote Control:** Includes COM Port, Modbus Address (1), and ModbusBaudRate.
- 6 Other Setting:** Includes Shadow Fix, Meter1 Address (1), Meter2 Address (2), LVRT Function, Safety Code Lock, and DIO Function.



INVERTER PARAMETER SETTINGS - ABOUT

4		
Basic Settings	Advanced Settings	About
Work State		
Inverter SN		
Register SN		
Inverter code		
DSP Version		
ARM Version		
Bat_M SN		
Bat_PS1 SN		
Bat_PS2 SN		
Bat_PS3 SN		
Bat_PS4 SN		
BatteryM Version		
BatteryS Version		
Error Log1		
Error Log2		
Error Log3		
Error Log4		
Error Log5		
Error Log6		

About

- After inserting the U disk, you can export the inverter parameter settings and system SN number, software version and error information from the inverter
- The information can only be read and cannot be modified. The purpose is to facilitate after-sales analysis of the cause of inverter failure.

INVERTER PARAMETER SETTINGS - BASIC

Basic Settings		Advanced Settings	About
1	Work State		
	Inverter SN		
	Register SN		
	Inverter code		
	DSP Version		
	ARM Version		
2	Bat_M SN		
	Bat_PS1 SN		
	Bat_PS2 SN		
	Bat_PS3 SN		
	Bat_PS4 SN		
	BatteryM Version		
	BatteryS Version		
3	Error Log1		
	Error Log2		
	Error Log3		
	Error Log4		
	Error Log5		
	Error Log6		

Serial number	Function description
1	Machine working mode, serial number, monitoring module serial number, internal code, DSP&ARM version
2	The serial number of the battery master and slave, and the software version of the battery master and slave
3	Error log

A modern building entrance featuring a dark grey door with a vertical wooden handle, a central pillar, and a wooden bench. The scene is framed by green foliage on the left and right. A semi-transparent dark grey banner is overlaid across the middle of the image.

THANK YOU

www.solaxpower.com info@solaxpower.com +86-(571)56260008