

X3-ULTRA

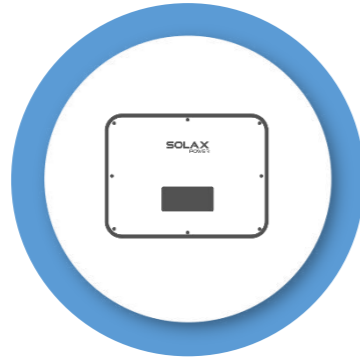
Commercial & Industrial HYBRID SOLUTION

Version: 1.1
Dept.: Marketing
Date: Sept. 21st



CONTENTS

Overview



Key Features



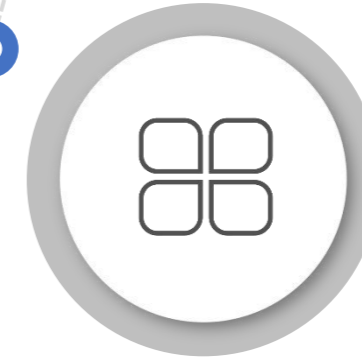
Recommended Batteries



System Solutions



Work Modes



Overview

X3-ULTRA — SolaX's three phase hybrid inverter series is designed for C&I solar power needs.

It is available in various power ratings for you to choose from, including 15kW, 19.9kW, 20kW, 25kW, and 30kW.

Paired with SolaX's batteries, the system allows you to seamlessly generate, use, and store energy in a cost-effective manner, rendering a smooth, uninterrupted and sustainable experience regardless of grid conditions.



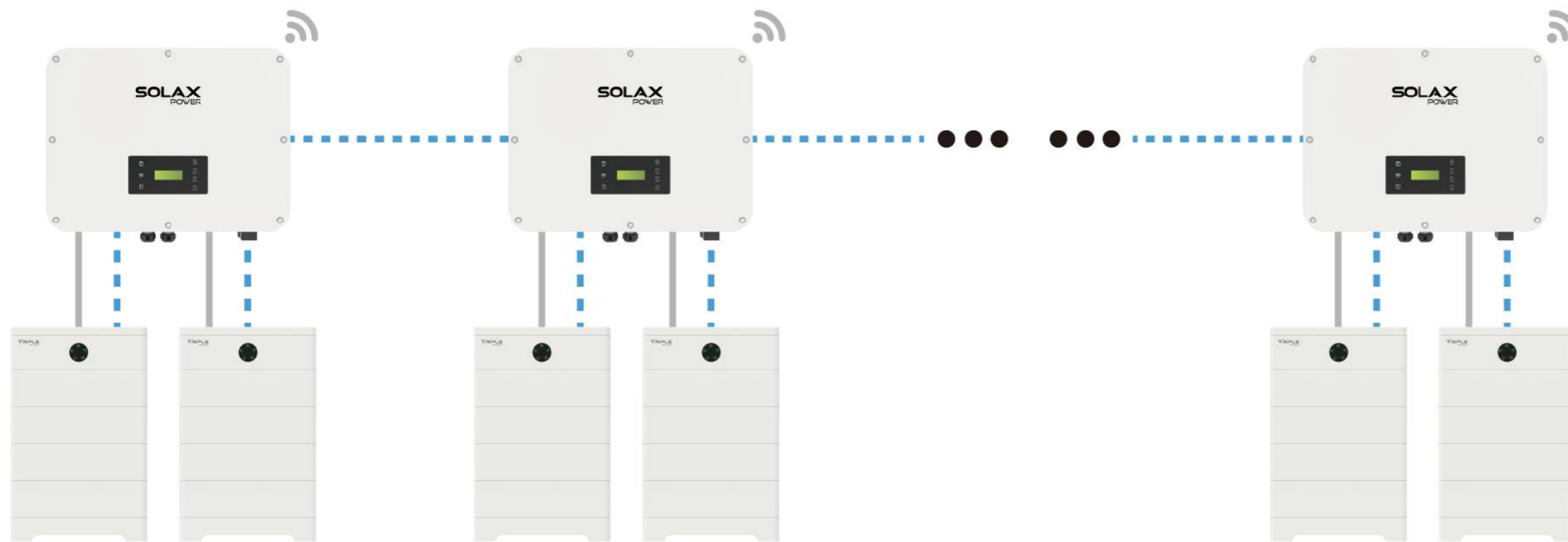
- **15kW / 19.9kW / 20kW / 25kW / 30kW**
- **3 MPPTs 6 strings**
- **60A charging / discharging rate**

Internal product view



- W: 696mm
- H: 526mm
- D: 240mm

Born for Commercial & Industrial Applications



Up to 10 units in parallel
Max. **300kW / 2.8MWh**

Flexible and Expandable, all at your needs

*Currently support up to 5 units in parallel.

Naming Rule

X3-ULT-15K

1

2

Item	Meaning	Description
1	Series	"X3-ULTRA" refers to the energy storage inverter that supports grid connection of photovoltaic system.
2	Power	"15K" refers to the rated output power.



X3-ULTRA series

X3 - ULT - 15K
X3 - ULT - 19.9K
X3 - ULT - 20K
X3 - ULT - 25K
X3 - ULT - 30K

X3 - ULT - 15K - A
X3 - ULT - 19.9K - A
X3 - ULT - 20K - A
X3 - ULT - 25K - A
X3 - ULT - 30K - A

"A" stands for "AC Coupling"

Scenarios



Factories



Shopping malls



Office buildings

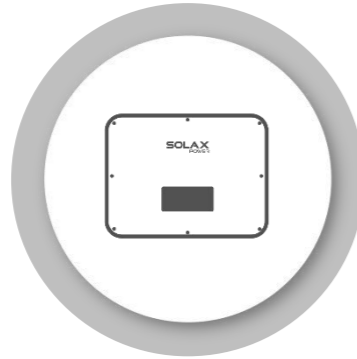


Warehouses

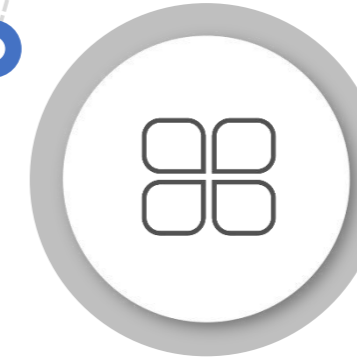
Rated IP65, suitable for indoor and outdoor applications

CONTENTS

Overview



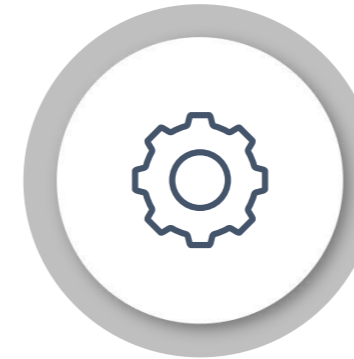
Work Modes



Key Features



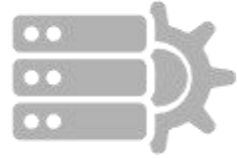
System Solutions



Recommended Batteries



Key Features



High Yield & Full Utilization

- Max. 36A DC input per MPPT
- 3 MPPT, 6 strings
- 200% PV Oversizing
- Max. 200% PV Input



Dual Independent Battery Ports

- Managed independently for easy expansion.
- Dual ports can be paralleled to connect one large capacity battery.
- Up to 2.8MWh with TB-PBOX*



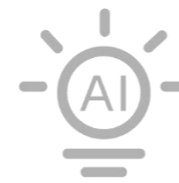
Robust Backup

- <10ms switchover time
- 2Pn EPS overload for 10 sec
- All types of loads supported
- Micro-grid supported
- Diesel generator supported



Money Saving

- 100% Unbalanced Output
- 7X24 Time of Use (ToU)



AI-driven Energy Management

- Smart Schedule
- Smart Scene
- Intelligent loads management (e.g. EVCs & heat pumps supported.)



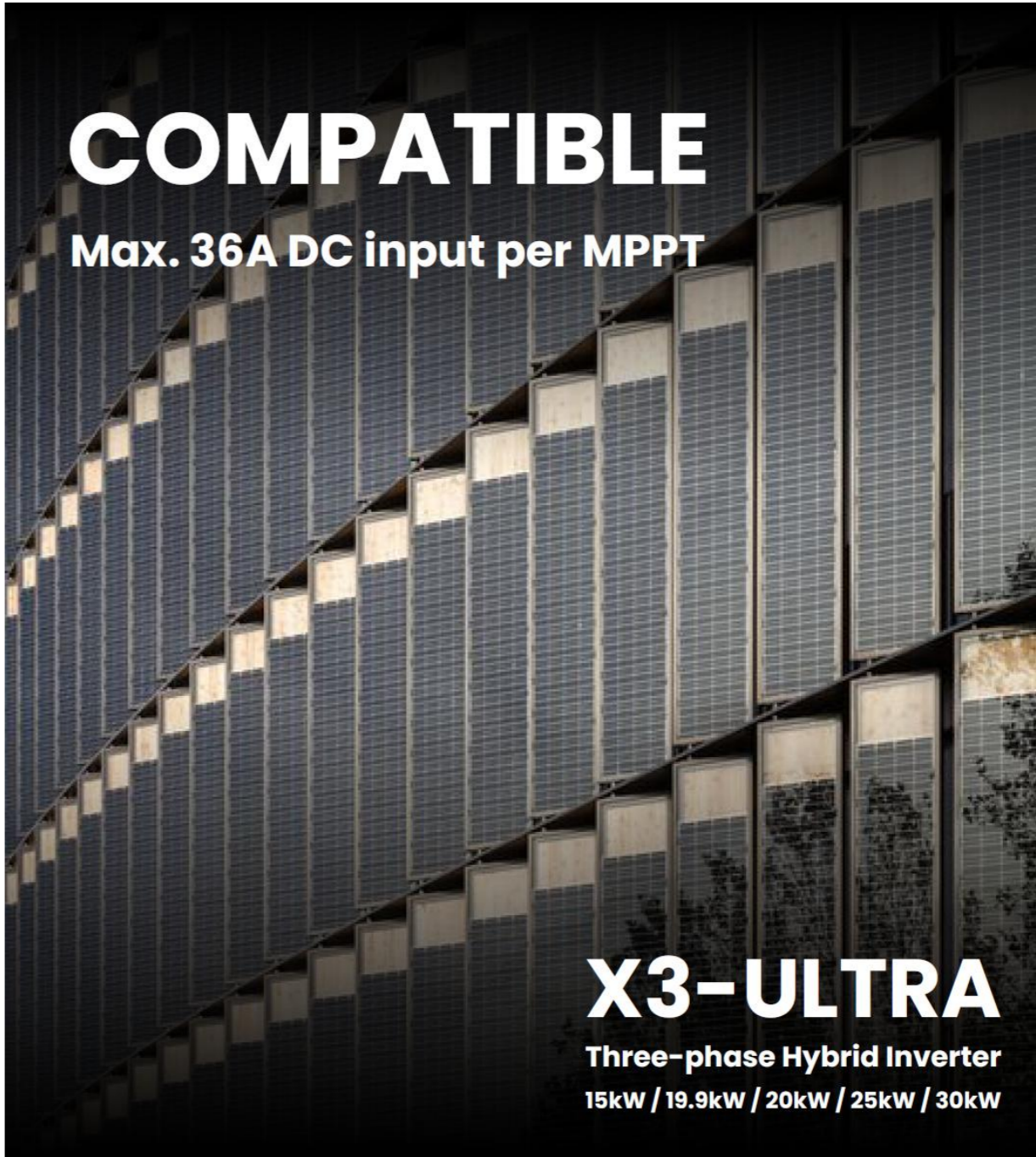
High safety & Reliability

- AFCI optional
- Type II SPD on AC&DC side

*TB-PBOX can support parallel connection to three battery groups (coming soon)

Max. 36A Input Current per MPPT

Compatible with the majority PV panels on the market, including high-powered ones.



Topcon / HJT / HPBC / Double glass supported



3 MPP Trackers

Increased Power Generation

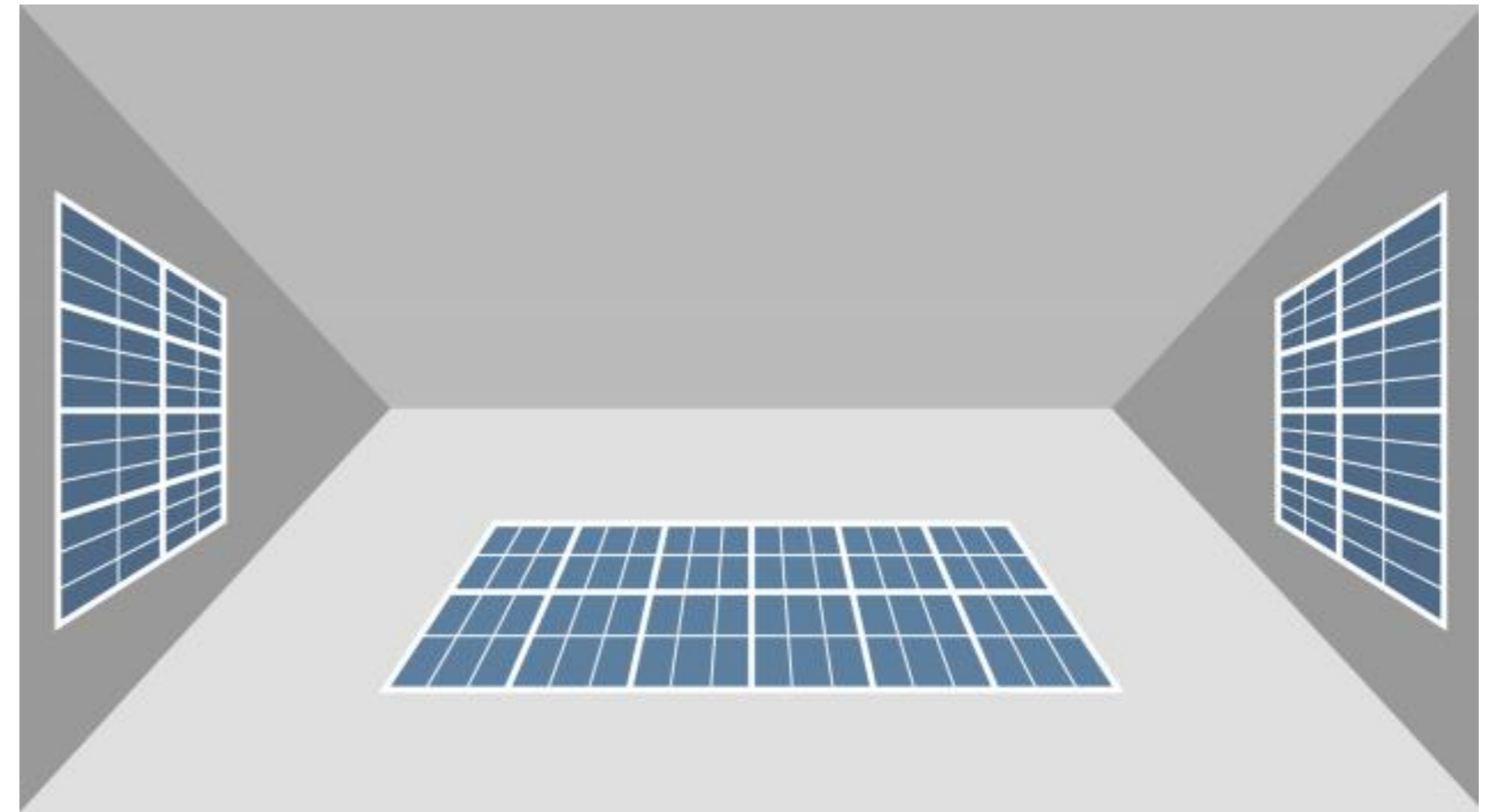
Maximizes power generation by efficiently managing voltage and current across multiple PV arrays.

Enhanced Fault Tolerance

It ensures uninterrupted operation of other arrays even if one is affected, boosting system reliability.

Greater Flexibility

Accommodates complex PV system designs, including multi-directional and mixed types of panel installations.



Harness Every Bit of Your PV Power

200% oversized PV power input = 100% AC Output + 100% Battery Storage

With **200% PV oversizing** capability
And max. **200% PV input**,
every bit of solar power can be fully
utilized — converted into AC output and
battery storage **without any waste.**



Dual Battery Ports — Scalable & Flexible

- Two independent battery ports per inverter.
- The dual ports can either connect battery groups separately or be paralleled to connect one large capacity battery.
- The inverter supports:
 - Max. 93.6kWh, pairing with HS36 or HR36 batteries, without a parallel box.
 - Max. 2.8MWh, pairing with HS36 or HR36 batteries, with TB-PBOX*.

* TB-PBOX can support parallel connection to three battery groups (coming soon).



Separate Connection

*Battery groups can be varied in capacity

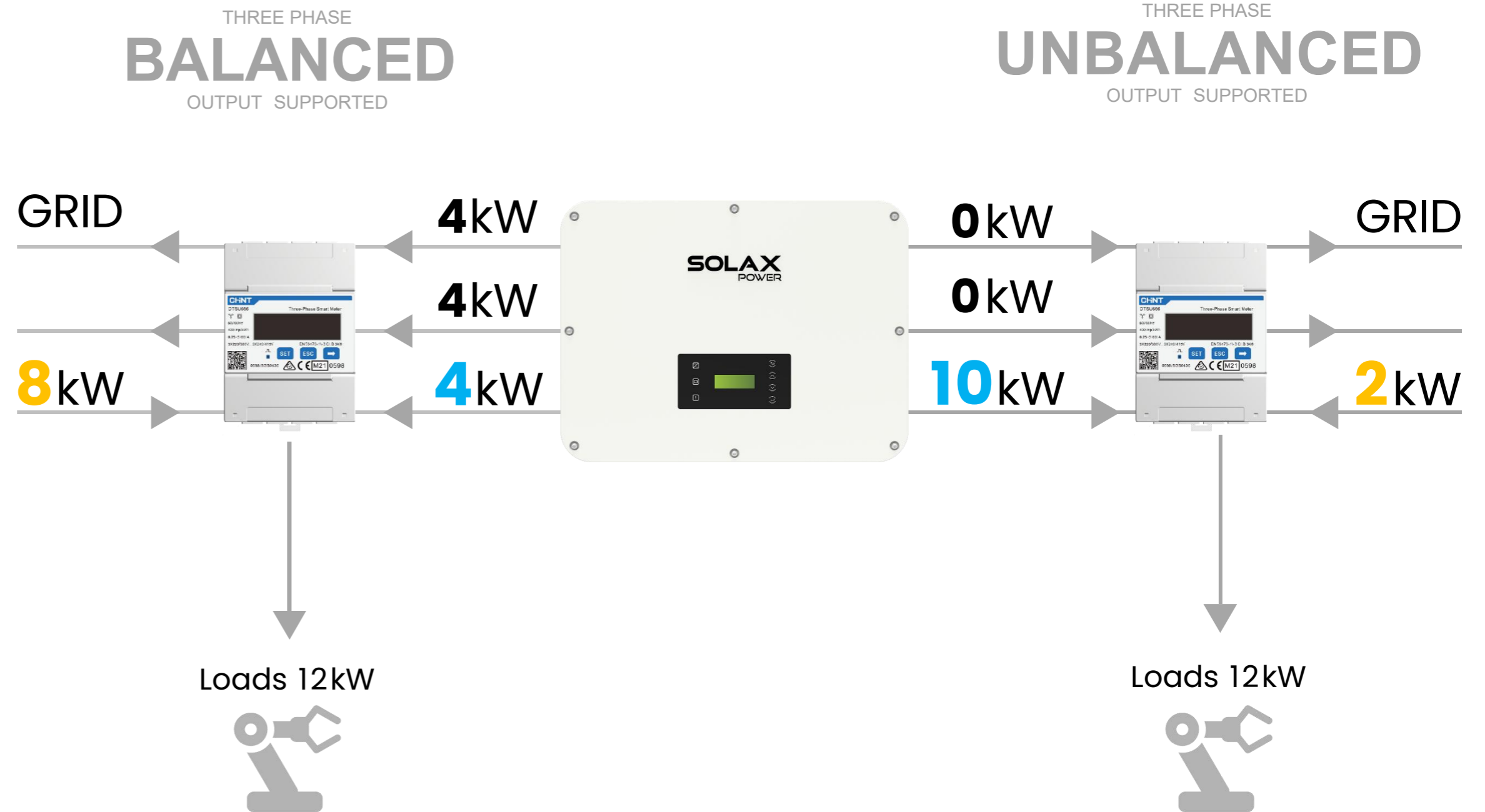


Dual ports in parallel Connection

* The large capacity battery is under development

100% Unbalanced Output – Money Saving

Power is allocated independently on each phase, **feed-in power is controllable down to 0W on each phase**, and max. **10kW** output on a single phase, minimizing the need to draw from the grid.



Strong Ability Against Unstable Grid

No Worries for Power Breakdown



< 10 milliseconds switchover time

Effortlessly handling surge load scenarios



200% EPS overload for 10 sec

Strong Ability Against Unstable Grid

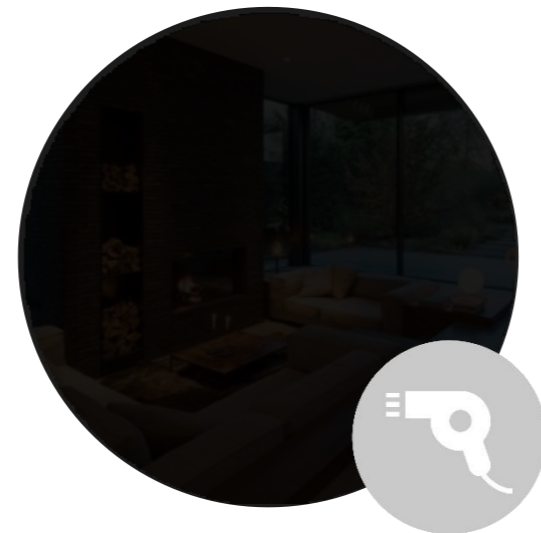
Half-wave loads supported

When the power is down, and you are using a half-wave load* device, it will be like...



With

Half-wave loads supported



Without

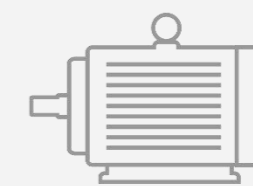
Half-wave loads supported

*Q: what does "half-wave loads" mean?

Some small household appliances may utilize half-wave loads, such as hair dryers, portable electric fans, electric blankets, and decorative lights.

To sum up, we've got you covered with **all types of loads**, including but not limited to **inductive loads, surge loads, half-wave loads and more.**

This ensures uninterrupted power supply even in off-grid conditions, regardless of the types of devices being used.



*The visual above is for reference only. Real-world considerations should account for the actual load power



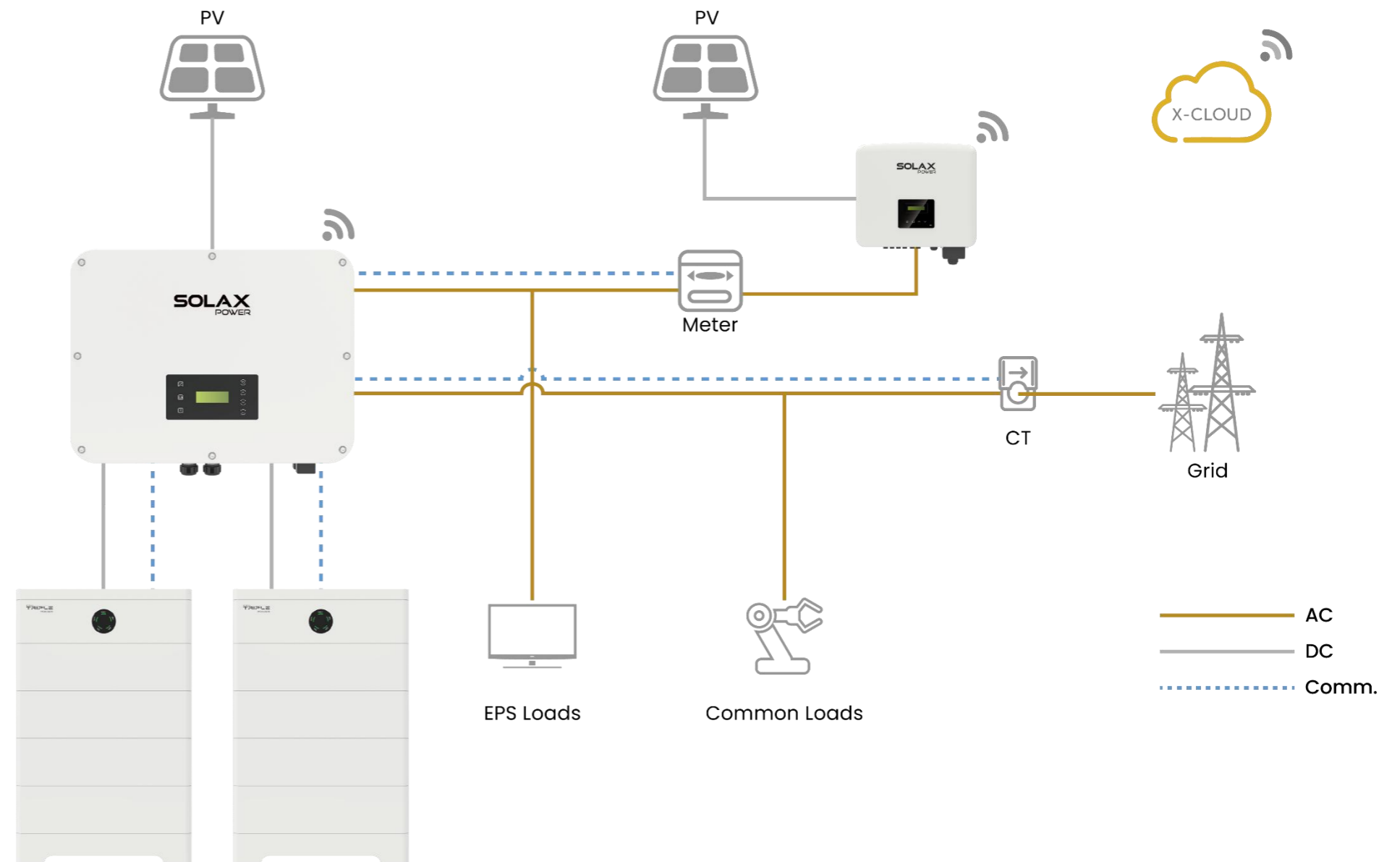
Micro-grid Ready

There are numerous traditional string inverters available in the market.

However, due to the Islanding Effect, these string inverters cannot function during off-grid situations causing users to lose the PV energy generated by the string inverter when off-grid.

The micro-grid function allows the hybrid inverter to simulate the grid and activate the string inverter during off-grid periods. **By connecting the string inverter to the hybrid inverter's EPS port, the hybrid inverter can utilize PV or battery energy to activate the string inverter when utility power is lost.**

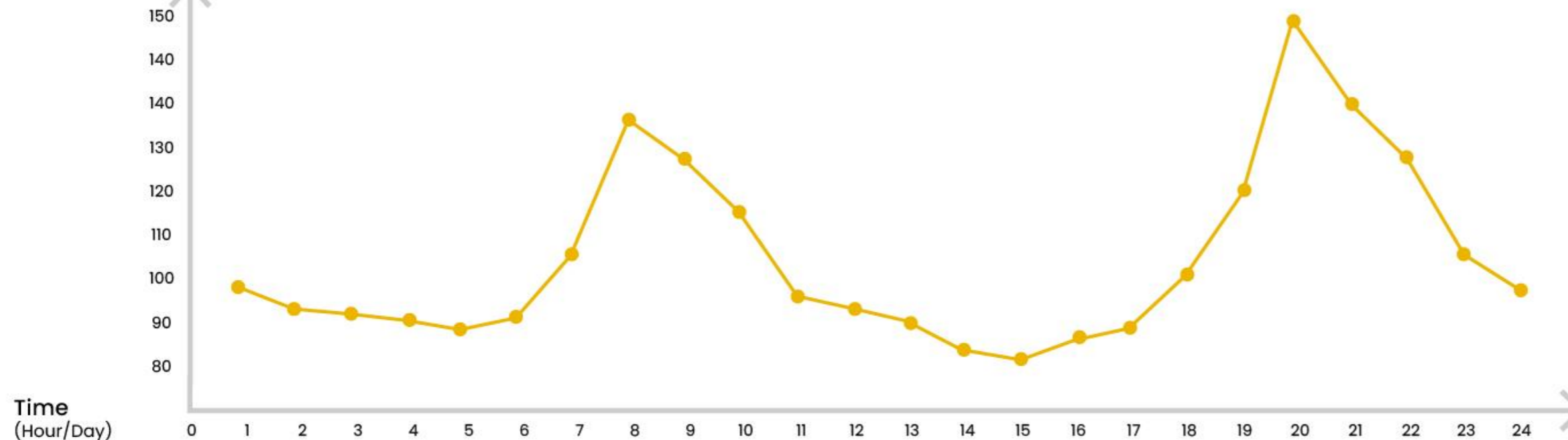
Note: X3-ULTRA is compatible with both three-phase & single-phase string inverters from other brands in a micro-grid system.



7X24 Time of Use – Customized & Bill Saving

- Set specific work modes for each hour of the day, 7 days a week.
- Various work modes to choose from: self-use, battery off, peak shaving, charging and discharging.
- Holiday import supported.
- Bulk deployment supported (coming soon).

Electricity Price
(USD/MWh)



Time
(Hour/Day)

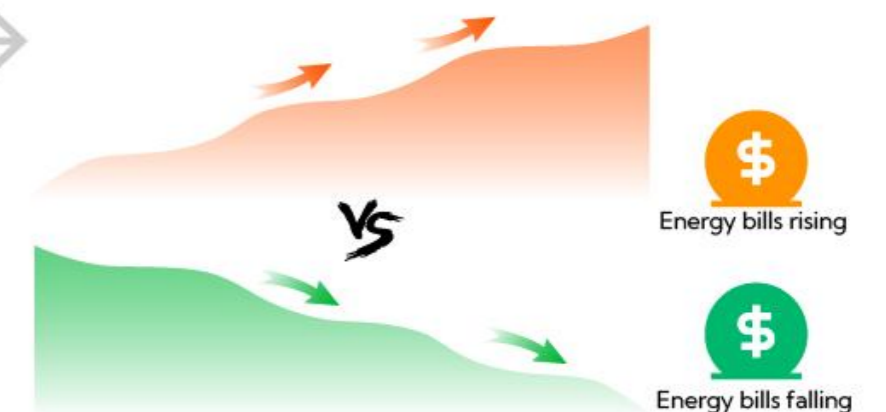
Previously

Only one mode per day

ToU

Set specific work modes to meet your needs, down to the hour, 24/7.

*Each color stands for a work mode



Wireless Meter Optional

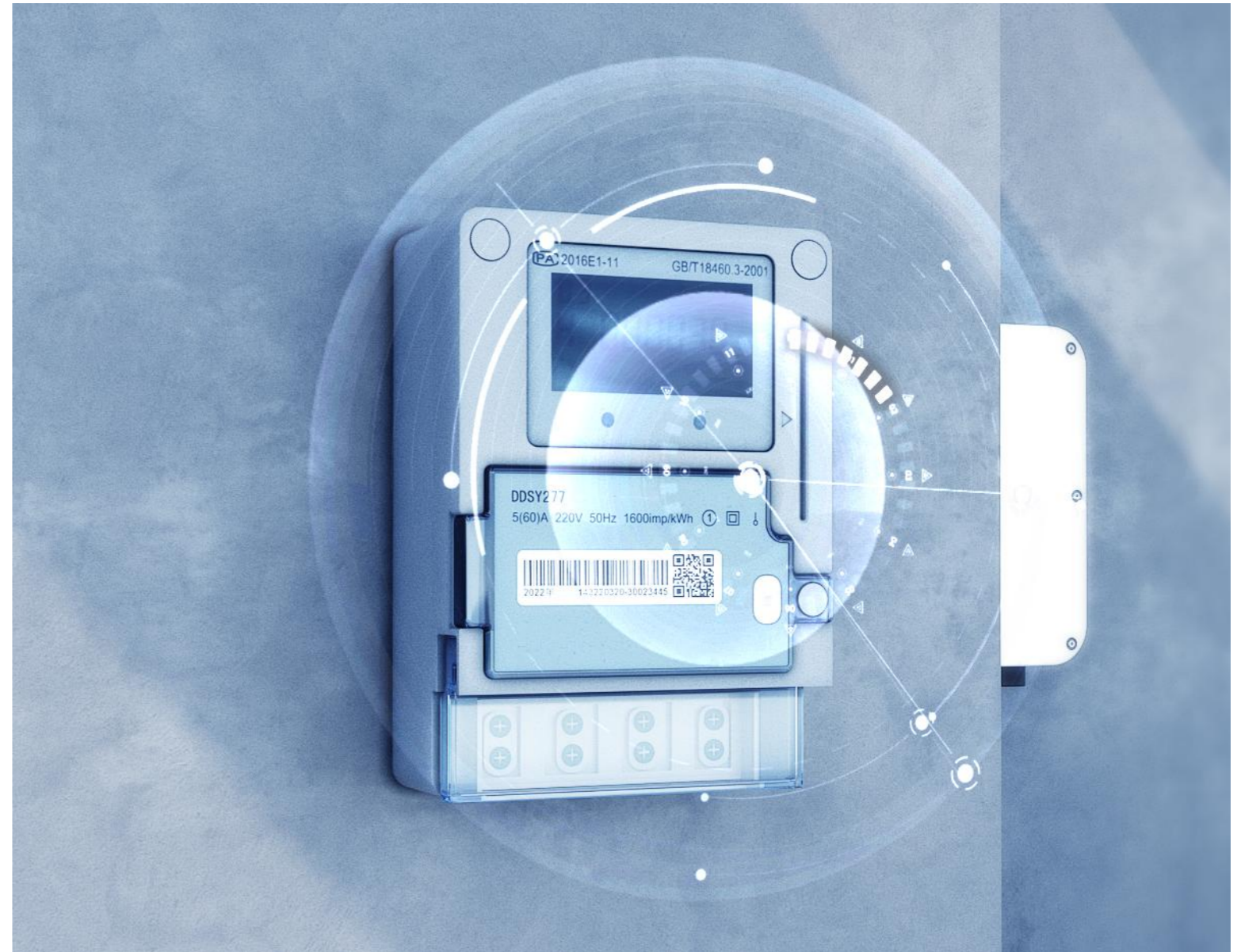
Wireless Communication



No More Cabling Hassles

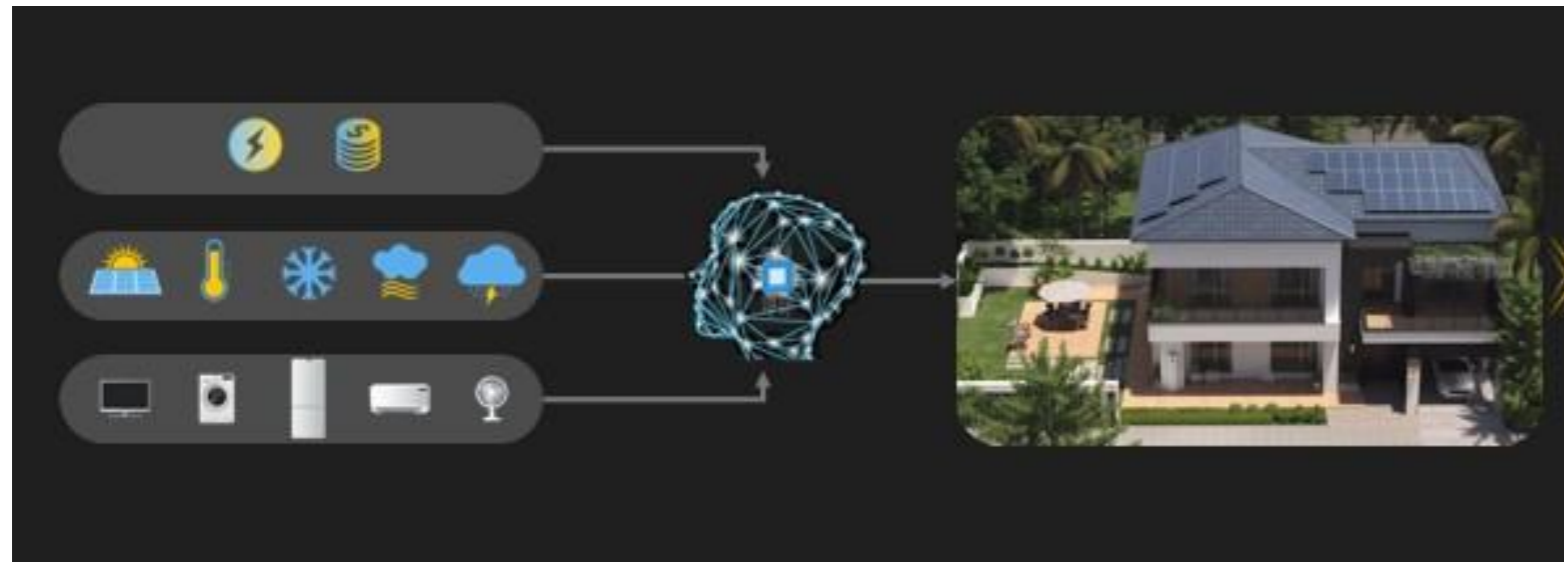


Reduced Potential Mistakes



AI-driven Energy Management

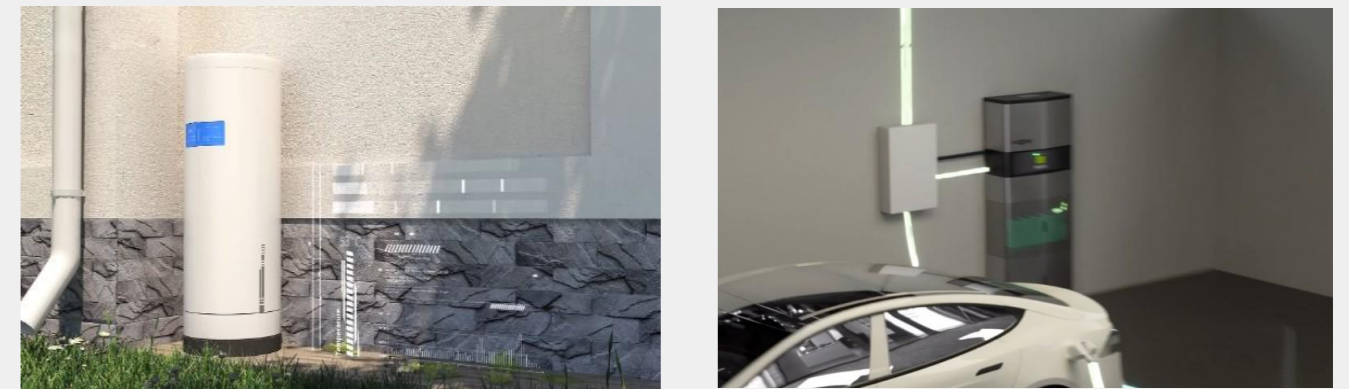
Smart Schedule



Auto tune to an optimal working mode based on deep-learning weather forecasting, usage habits, and electricity pricing in order to maximize energy efficiency.

*The above functions can be realized in tandem with DataHub 1000.

Intelligent Loads Management



You can directly manage devices like your EV charger without additional devices, and control the heat pump through the adapter box.

AI-driven Energy Management

Smart Scene

Smart Scene innovatively **offers a customizable set of IF-THEN conditions and actions**, allowing users to create intelligent scenarios like automatically charging/discharging the battery based on preset conditions, making your life easier.



✓ Efficient



✓ Automatic



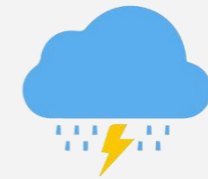
✓ Money saving

*The above functions can be realized in tandem with DataHub 1000.

Example

What you SET

IF condition is set at 2 AM, and the weather forecast predicts rain within the next 8 hours.



Forecasted raining tomorrow



What you GET

In response to this condition, the THEN action is programmed to charge the battery to 100% at 2 am, when the electricity price is typically lower.



Auto Charging



Reliability and Safety

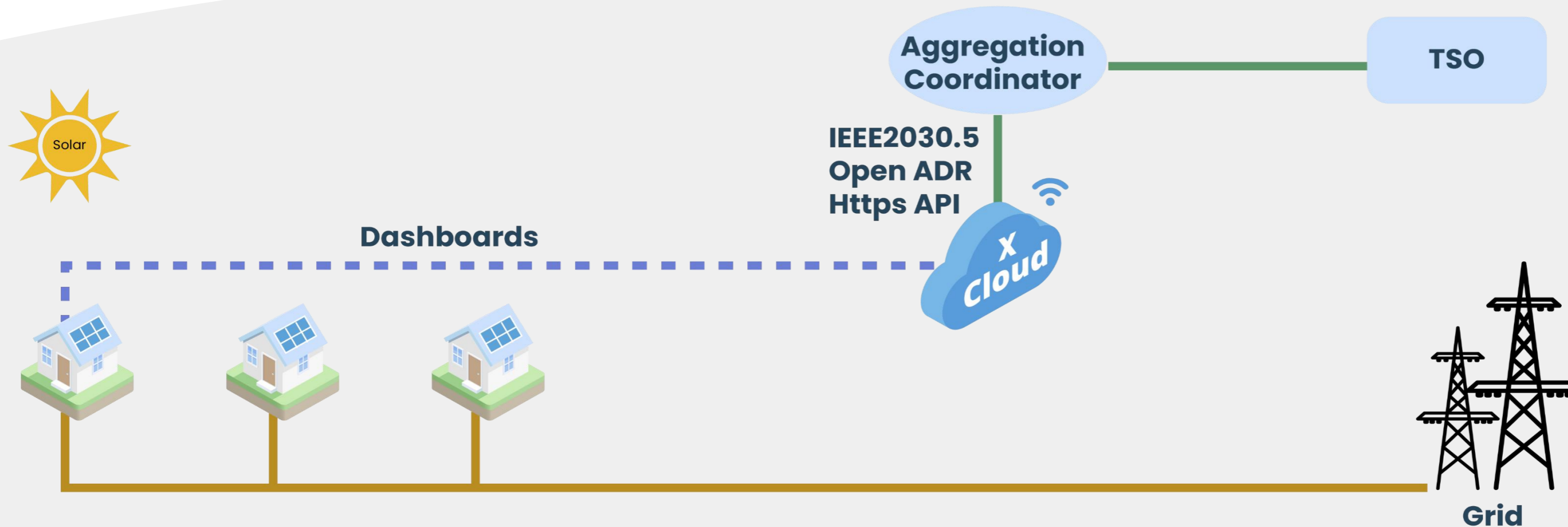
- **AFCI optional**
Prevent fire with accurate arc detection
- **Type II SPD on AC&DC side**
Shield against harmful power surges



VPP Ready

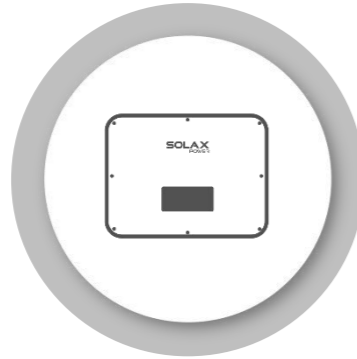
VPP, also known as Virtual Power Plant, is a network of decentralized energy-generation systems, like solar systems, that are linked together and managed by a VPP operation platform.

With support for API / IEEE2030.5 and Open ADR, our product can easily integrate with VPP operation platforms. This functionality is currently being utilized in certain countries.

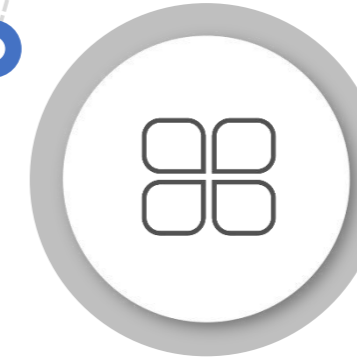


CONTENTS

Overview



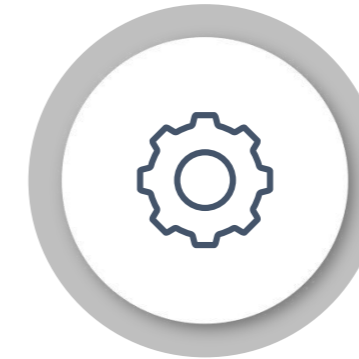
Work Modes



Key Features



System Solutions



Recommended Batteries

Recommended Batteries

The ULTRA X3 series is currently compatible with the **HS25/36, HR25/36**, and T58 series batteries.

For HS25/36, HR25/36, up to **6 battery groups** can be paralleled, effectively allowing a setup of **78 (13 x 2 x 3) modules with a TB-PBOX***.

As for **the T58 series**, it can be expanded up to **16 (4 x 2 x 2) modules with a BMS Parallel Box-II G2***.

* TB-PBOX can support parallel connection to 3 battery groups (coming soon).

* BMS Parallel Box-II G2 can support parallel connection to 2 battery groups.



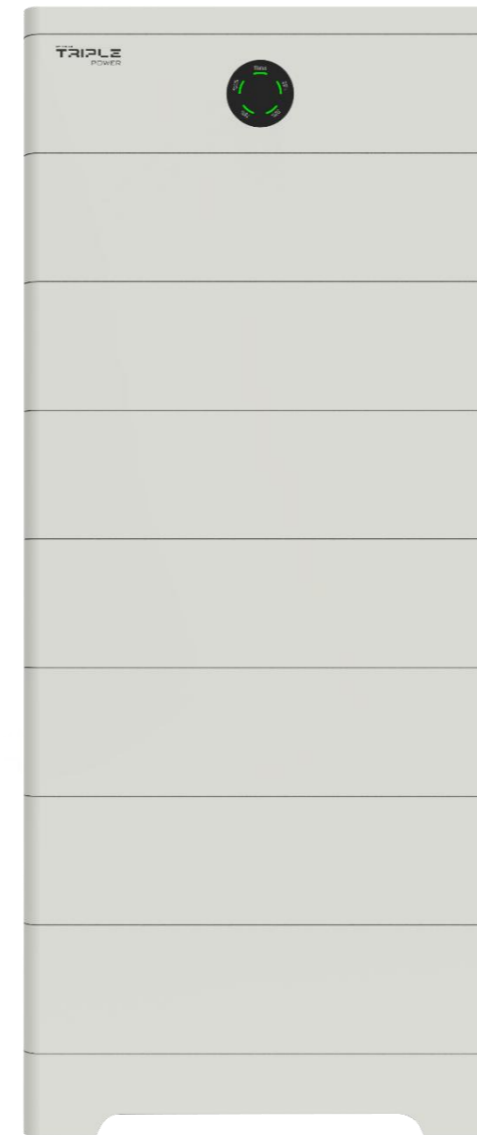
Recommended Batteries - HS 25 / 36

- **If paired with HS25**

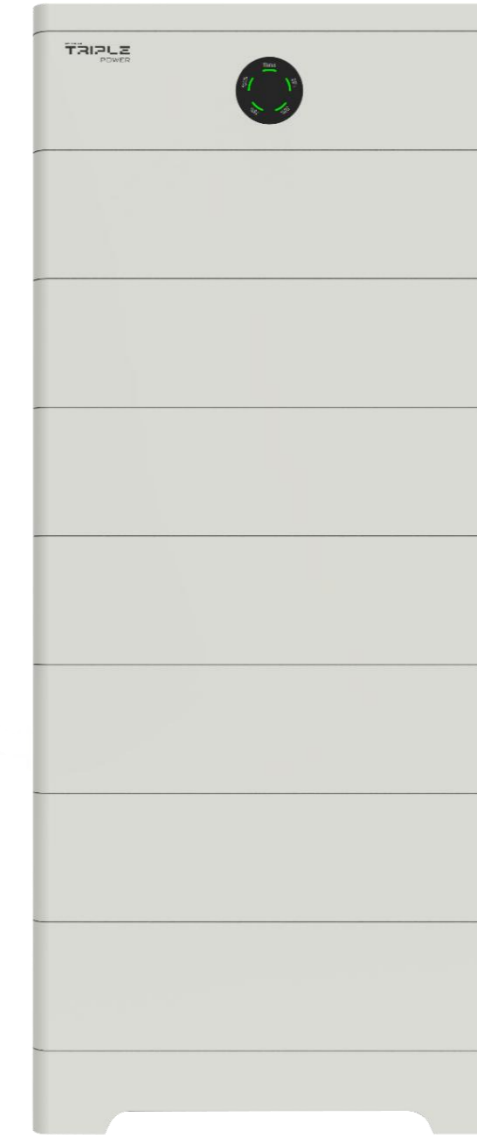
The system can support 4 to 13 modules per battery port, allowing for a maximum capacity of **195kWh (13 x 2 x 2.5kWh x 3)** with a TB-PBOX.

- **If paired with HS36**

The system can support 4 to 13 modules per battery port, allowing for a maximum capacity of **280.8kWh (13 x 2 x 3.6kWh x 3)** with a TB-PBOX.



T-BAT HS25
10 ~ 195kWh



T-BAT HS36
14.4 ~ 280.8kWh

* Note: A Series Box is required if a module exceeds 9 modules.

Recommended Batteries - HR 25 / 36*

- **If paired with HR25**

The system can support 4 to 13 modules per battery port, allowing for a maximum capacity of **195kWh (13 x 2 x 2.5kWh x 3)** with a TB-PBOX.

- **If paired with HR36**

The system can support 4 to 13 modules per battery port, allowing for a maximum capacity of **280.8 kWh (13 x 2 x 3.6kWh x 3)** with a TB-PBOX.

* Note: HR25 & HR36 share the same BMS.

* We will soon support the pairing with HR 25/36 batteries



T-BAT HR25
5 ~ 195kWh kWh



T-BAT HR36
7.2 ~ 280.8kWh

Recommended Batteries – T58

The system can support 2 to 8 modules per battery port, allowing for a maximum capacity of **92.8 kWh (4 x 2 x 5.8kWh x 2)** with a BMS Parallel Box-II G2*



T 58
11.6 ~ 92.8 kWh

* BMS Parallel Box-II G2 can support parallel connection to 2 battery groups.

SolaX Cloud – Your One-Stop Power Management Platform






- Intuitive interface
- Consumption monitoring
- 10 sec Real-time data refresh
- Auto notifications
- Apps are available on Google Play & App Store

Takeaways



Make Your Every Penny Counts

-  **36A DC Input per MPPT**
Maximize your yield with high power PV panels.
-  **200% PV Oversizing**
Maximize your ROI with double electricity generated.
-  **200% PV Input**
200% = 100% AC output + 100% battery storage







Get More, Spend Less

-  **Peak Shaving**
Curtail peak demand charges.
-  **7/24 Time of Use**
Set the most cost-effective mode, every hour.
-  **100% unbalanced output**
Feed-in power down to 0W.
Max. 10kW output on single phase.





Robust Backup during Power Outages

-  **< 10ms**
Switchover time.
-  **Generator Supported**
Various connection options.
-  **All Load Types**
Use any load you want.
-  **Micro-grid**
Enable string inverters to harness PV during outages.
-  **2Pn/10s**
Easily handles surge loads with 200% EPS overload capacity for 10 sec.






Scalable & Flexible to Accommodate Various Scenarios.

-  **Up to 10 Units in Parallel**
Up to 300kW/2.8MWh, suitable for various scenarios.
-  **Dual Independent Battery Ports**
Flexible and more capable for capacity expansion.





AI-Powered for Enhanced Efficiency & Savings

-  **Smart Schedule**
Auto plan and set the most cost-effective mode.
-  **Intelligent Loads Management**
Control EV chargers and heat pumps.
-  **Smart Scene**
Customizable IF-THEN actions for efficiency.



Safeguarding Your Facilities & Employees

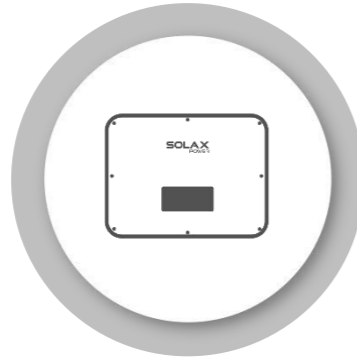
-  **AFCI Optional**
Prevent fires with accurate arc detection.
-  **Type II SPD**
Shield against harmful power surges.

Compatible battery models:
HS25/36, HR25/36, and T58.

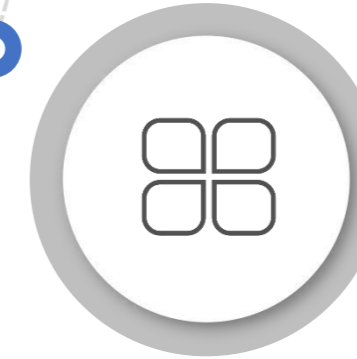


CONTENTS

Overview



Work Modes



Key Features



System Solutions



Recommended Batteries



Systems Across Various Scenarios

Residential

- Partial loads
- Whole home backup

Parallel Solution

- With EPS Parallel Box
- Without EPS Parallel Box

On-Grid

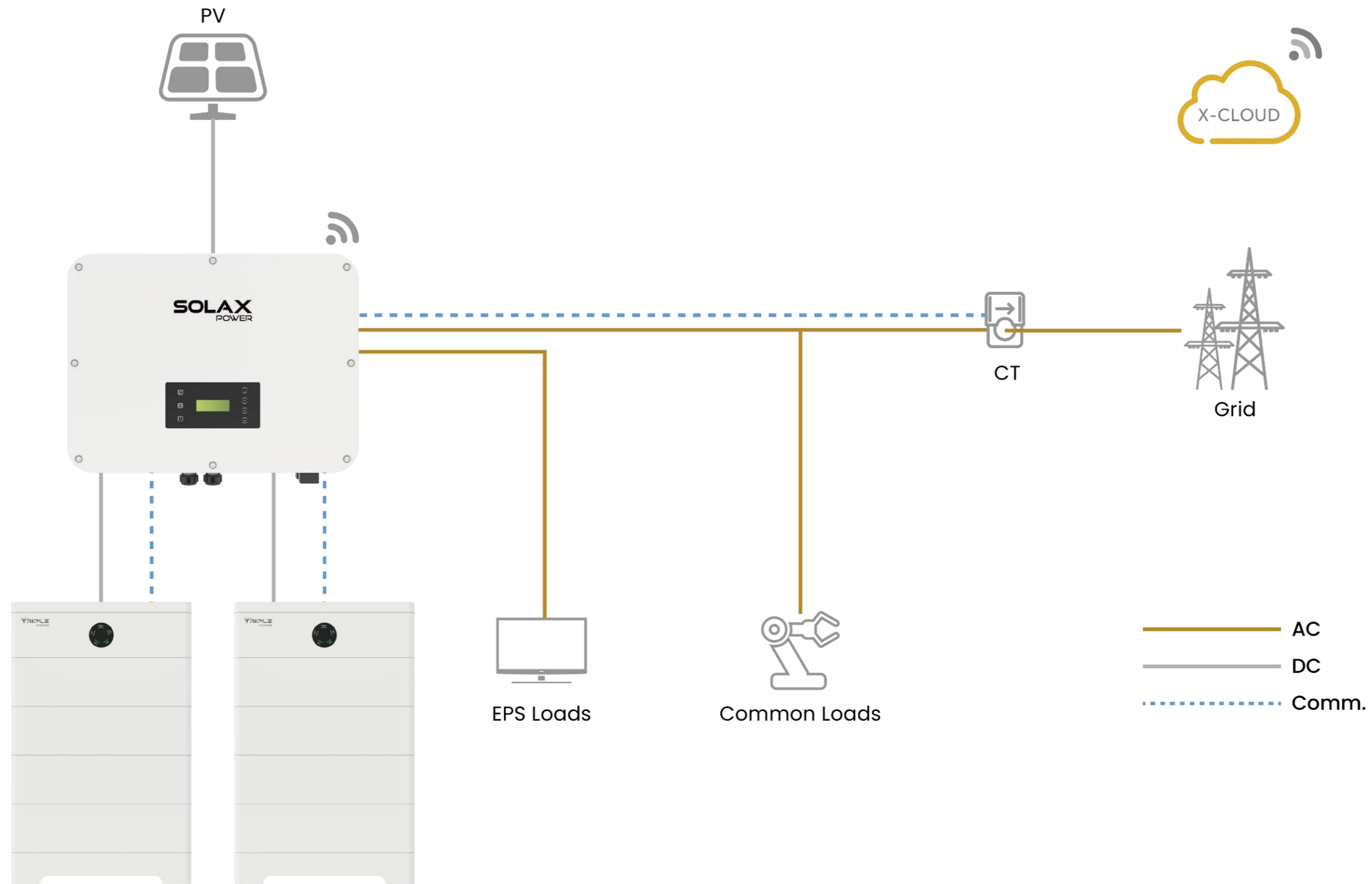
Off-grid only

Generator

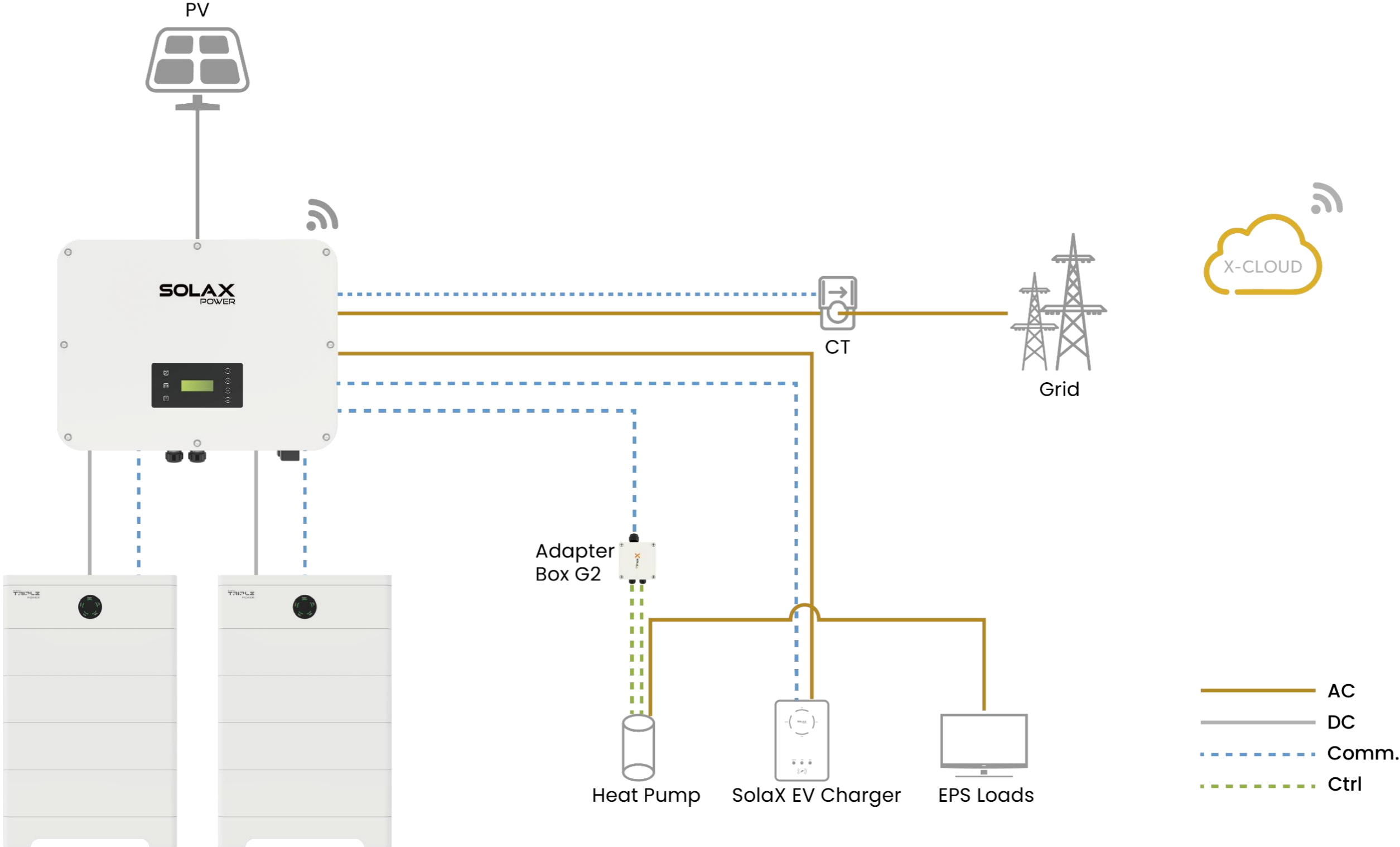
Grid-forming 0 injection



Application Systems | Partial Load

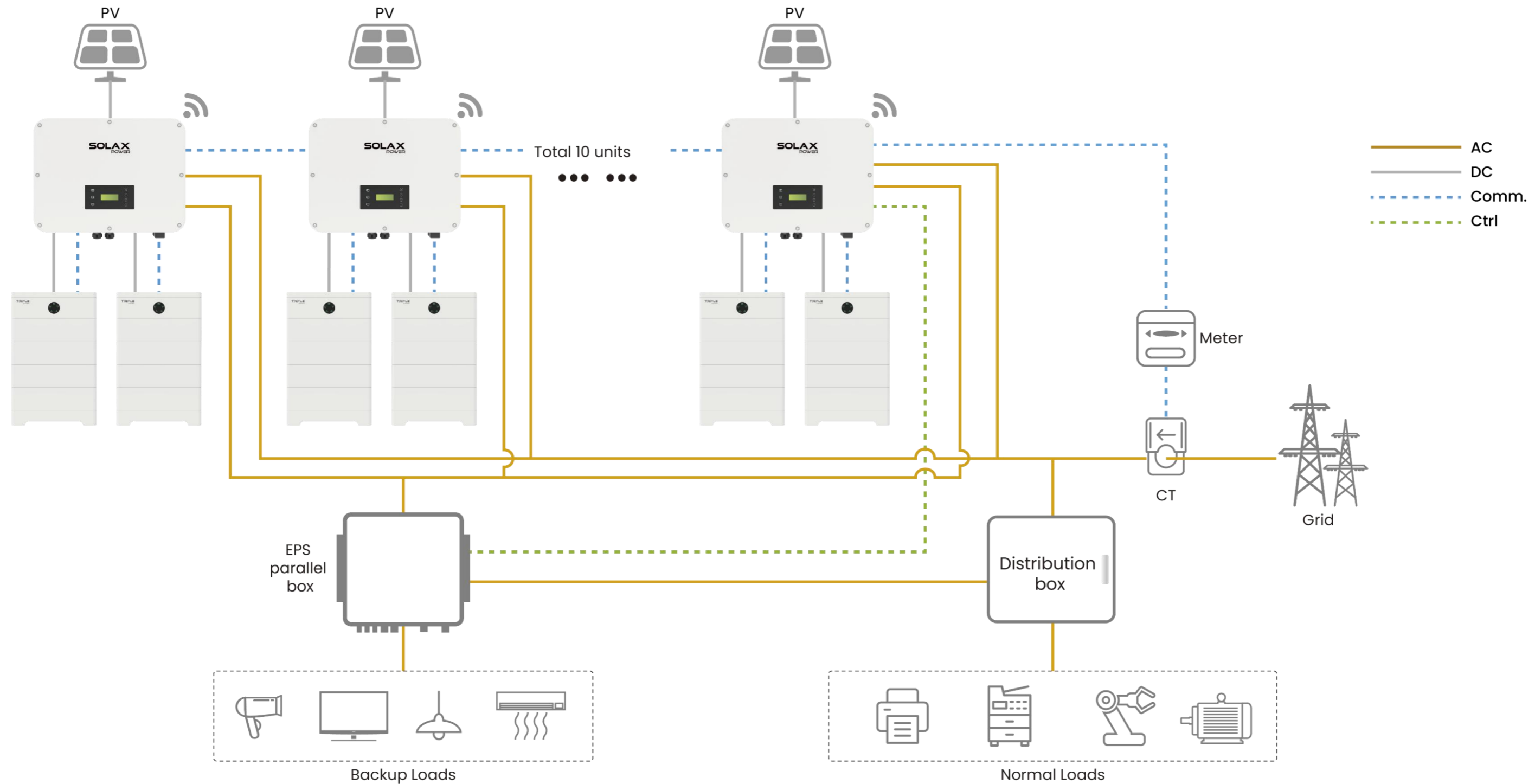


Application Systems | Whole Home Load



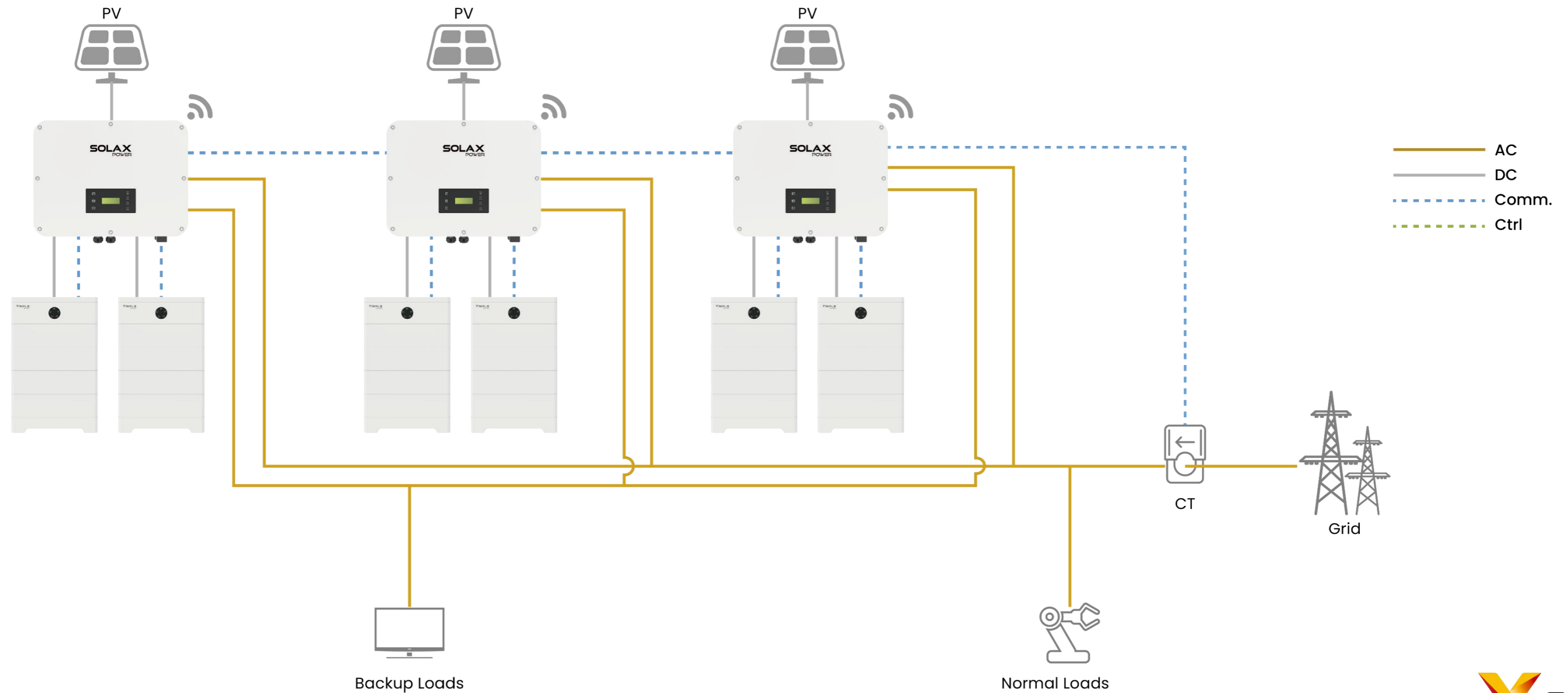
Application Systems | In Parallel

- Up to 10 units with EPS parallel box (Currently 5)

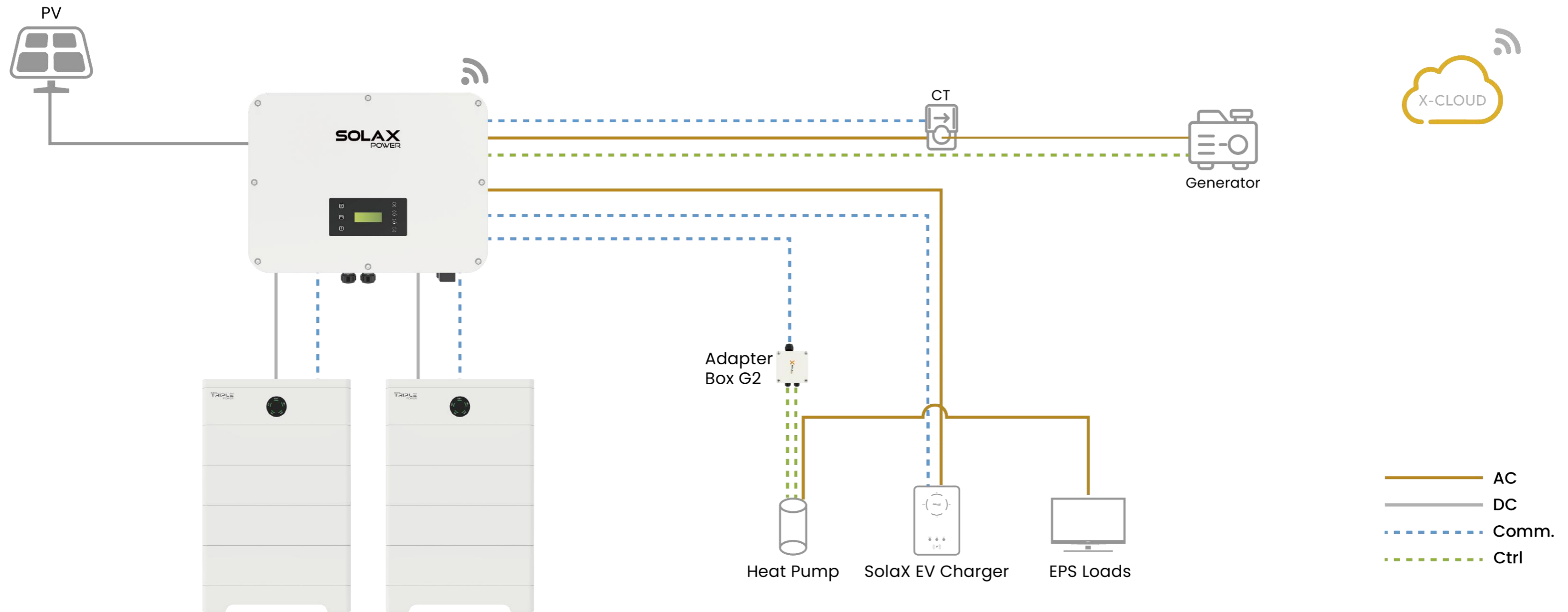


Application Systems | In Parallel

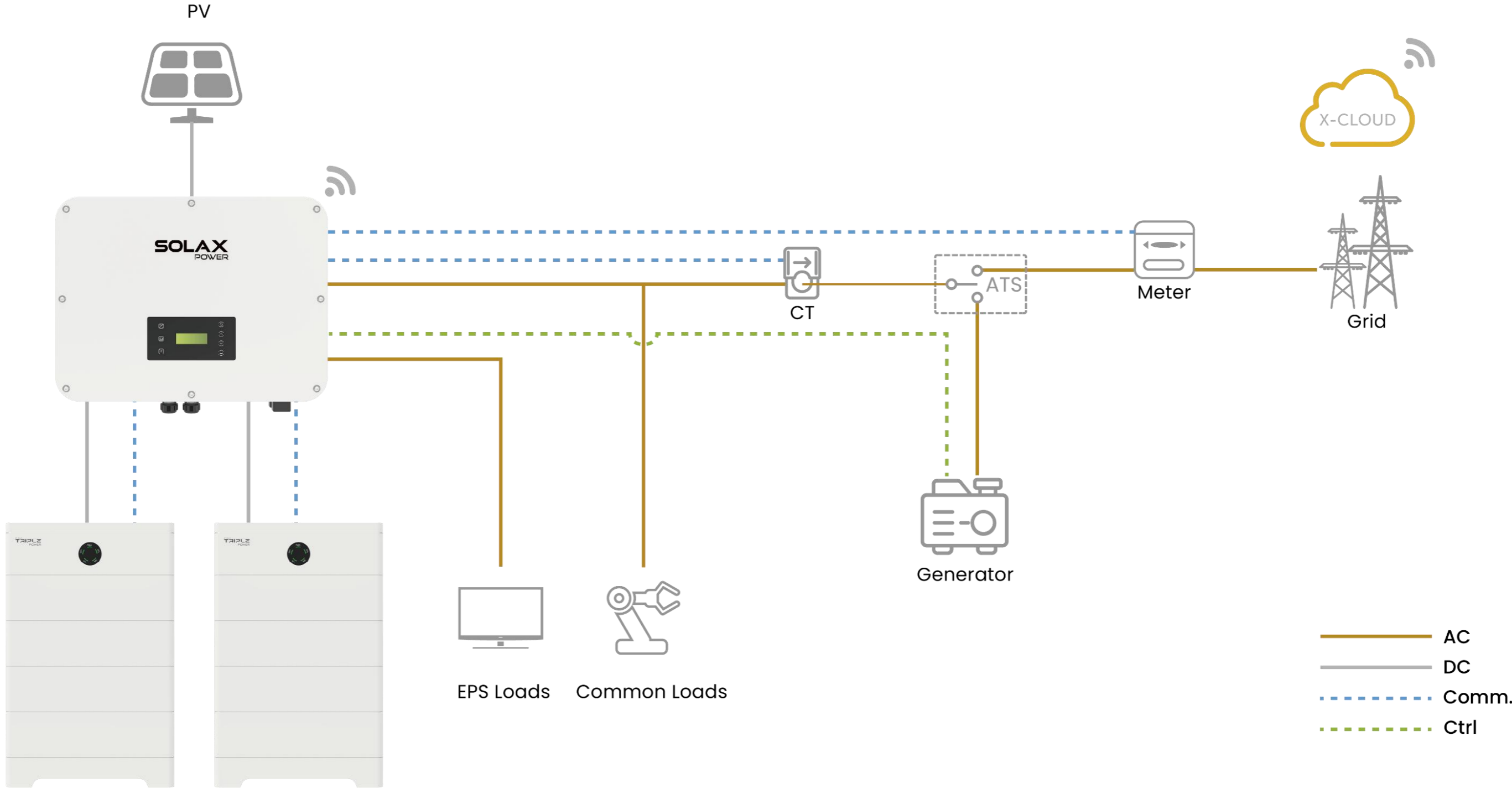
- Up to 3 units without EPS parallel box



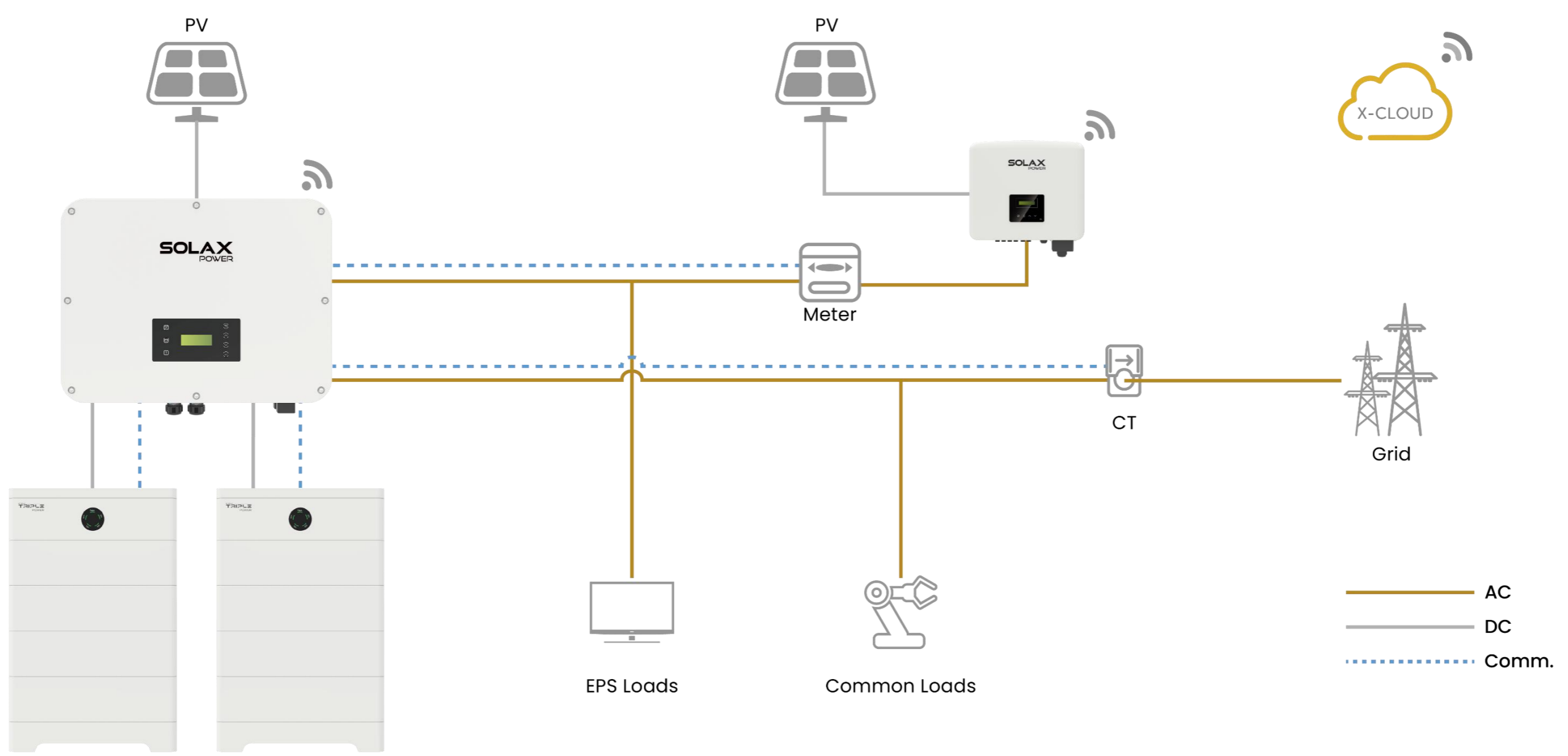
Application Systems | Off-grid only



Application Systems | Generator



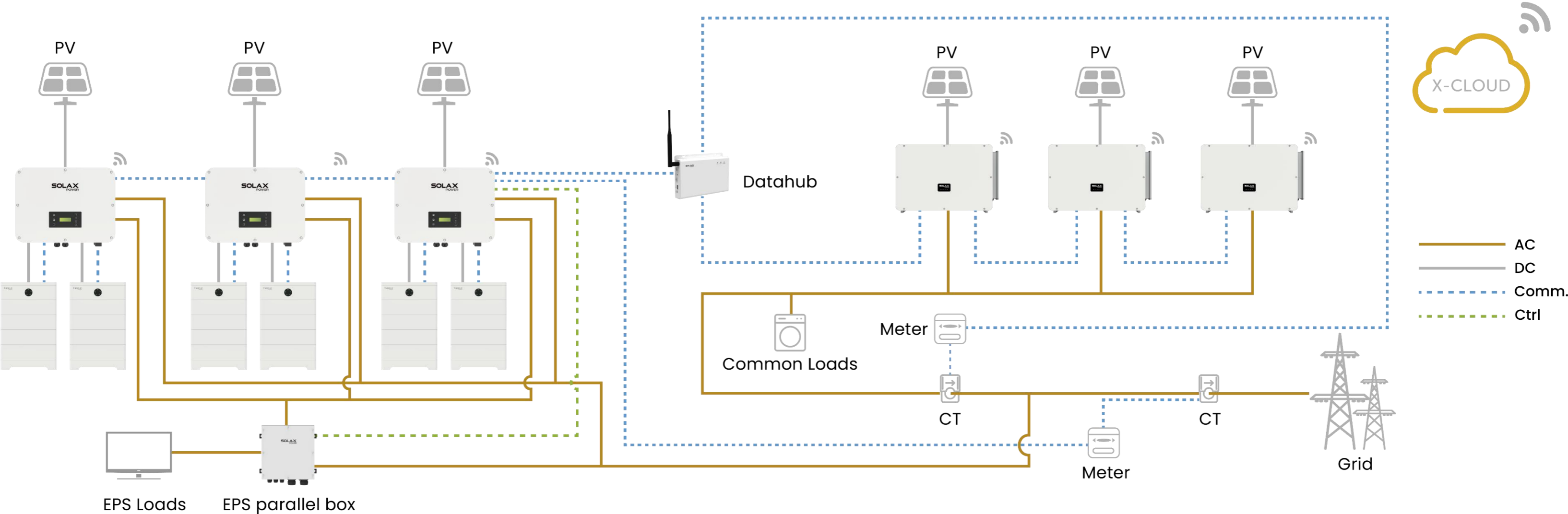
Application Systems | Micro-grid



Note: X3-ULTRA is compatible with both three-phase & single-phase string inverters from other brands in a micro-grid system.

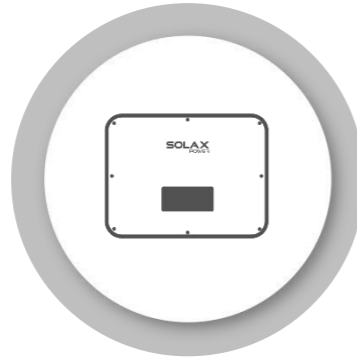


Application Systems | Grid-forming 0 Injection

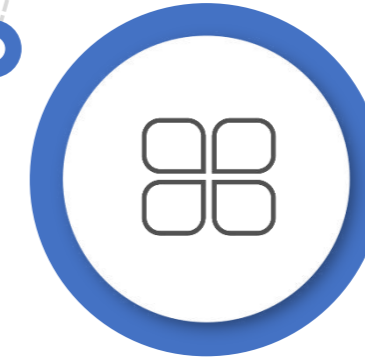


CONTENTS

Overview



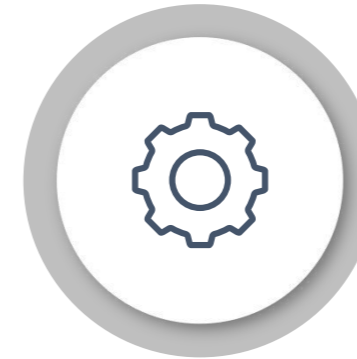
Work Modes



Key Features



Systems



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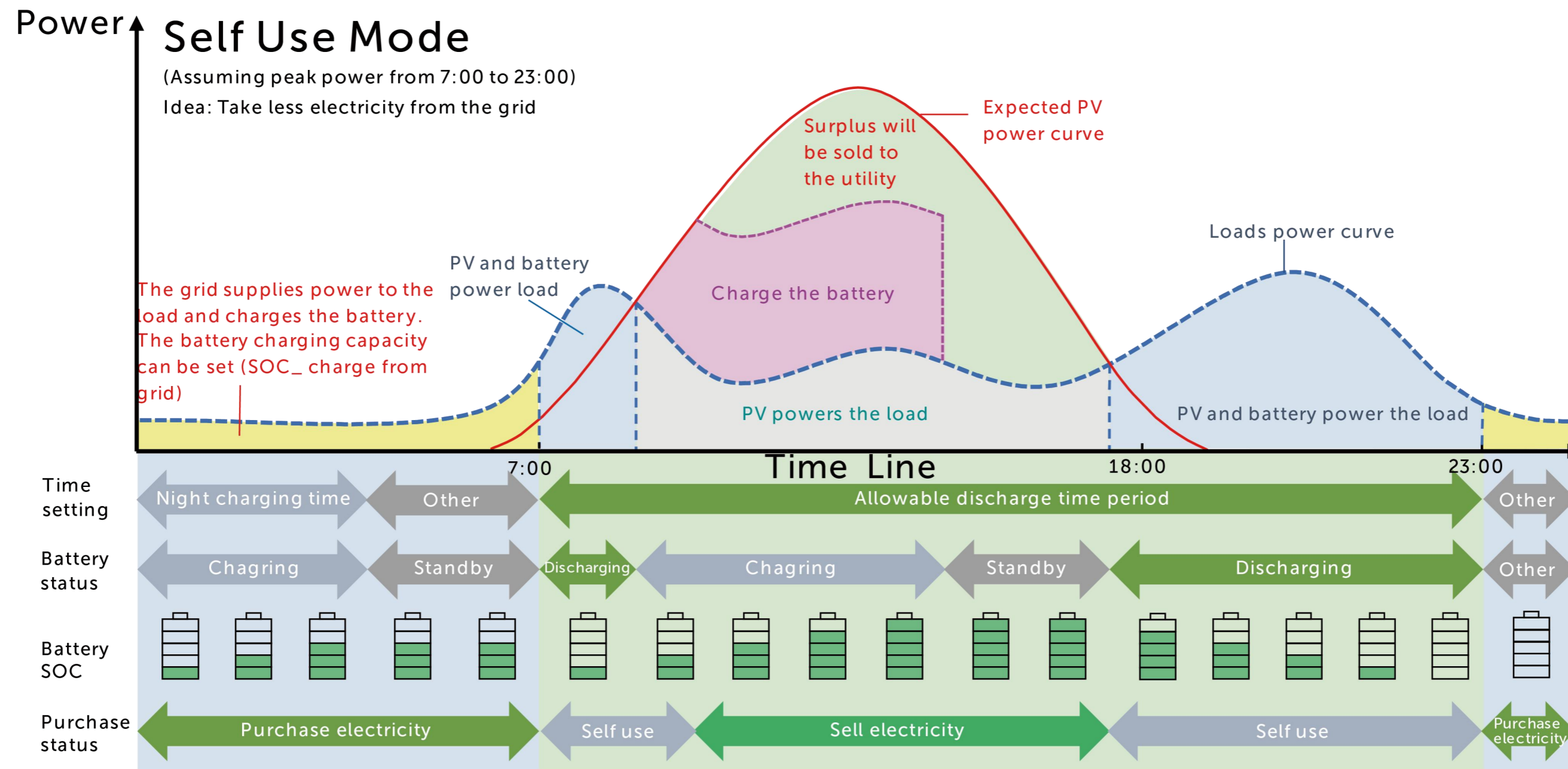
Work Modes

Scenarios	Work Modes	Applied for...	Priority
On-grid	Self-use mode	Areas with low feed-in subsidies and high electricity prices.	Loads > Battery > Grid
	Feed-in priority	Areas with high feed-in subsidies.	Loads > Grid > Battery
	Backup mode	Areas with frequent power outages.	Loads > Battery > Grid
	Peak shaving mode	Leveling out peaks in electricity use. System is controlled to charge up during off-peak hours And discharged during peak hours.	
	Manual	After-sales maintenance.	
	ToU (Time of Use)	Set 7x24 specific work modes based on your needs. Work modes include self-use, battery off, peak shaving, charging and discharging.	
Off-grid	EPS	In case of power failure, the system will supply EPS loads through PV and battery.	Loads > Battery

Work Modes | Self-use Mode

The self-use mode is suitable for areas with low feed-in subsidies and high electricity prices. The power of PV will supply the loads first, and the surplus power will charge the battery, then the remaining power will feed into the grid.

Priority: Loads > Battery > Grid

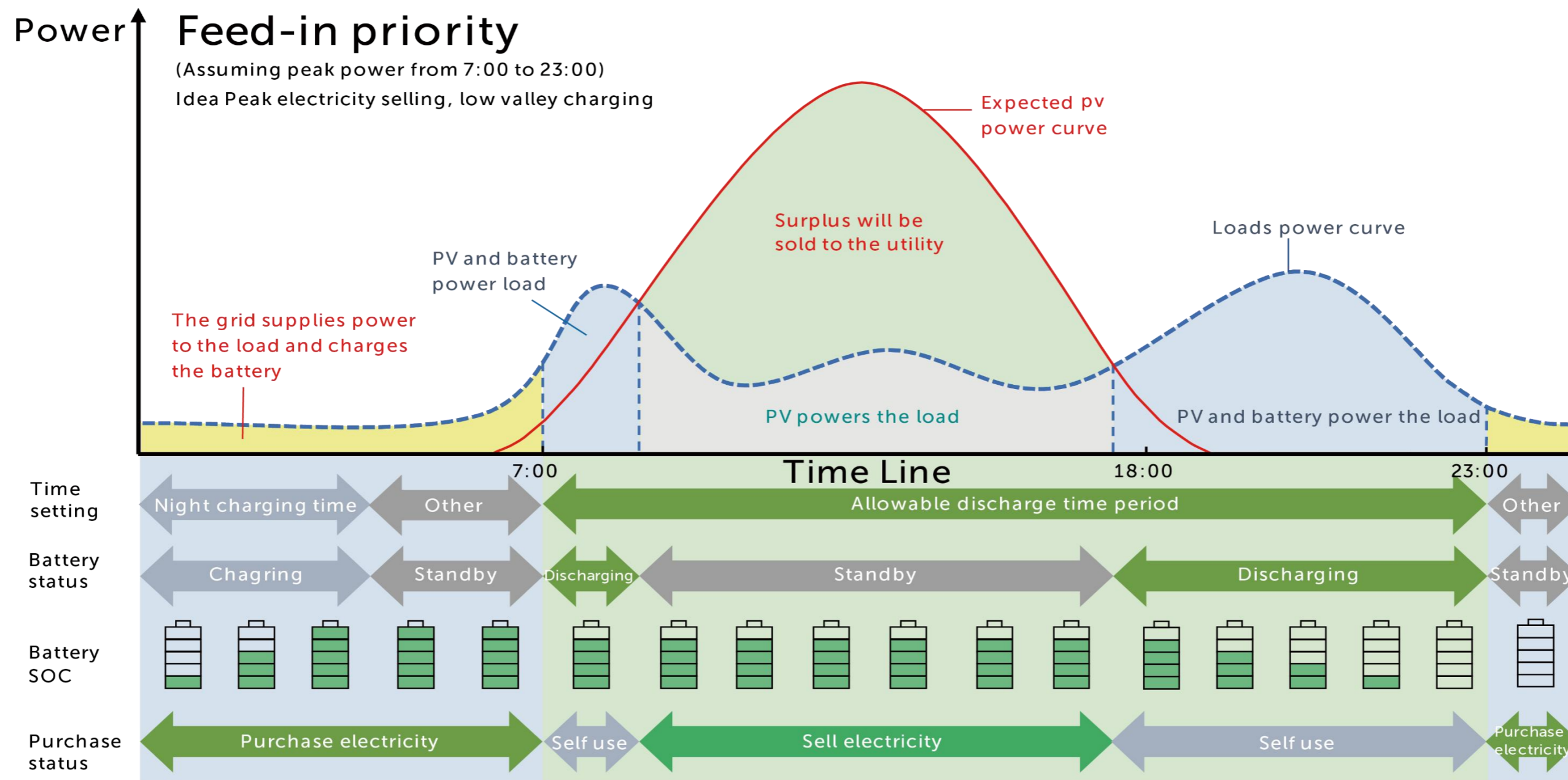


Work Modes | Feed-in Priority

The feed-in priority mode is suitable for areas with high feed-in subsidies, but has feed-in power limitation.

The power of PV will supply the loads first, and surplus power will feed into the grid, then the remaining power will charge the battery.

Priority: Loads > Grid > Battery

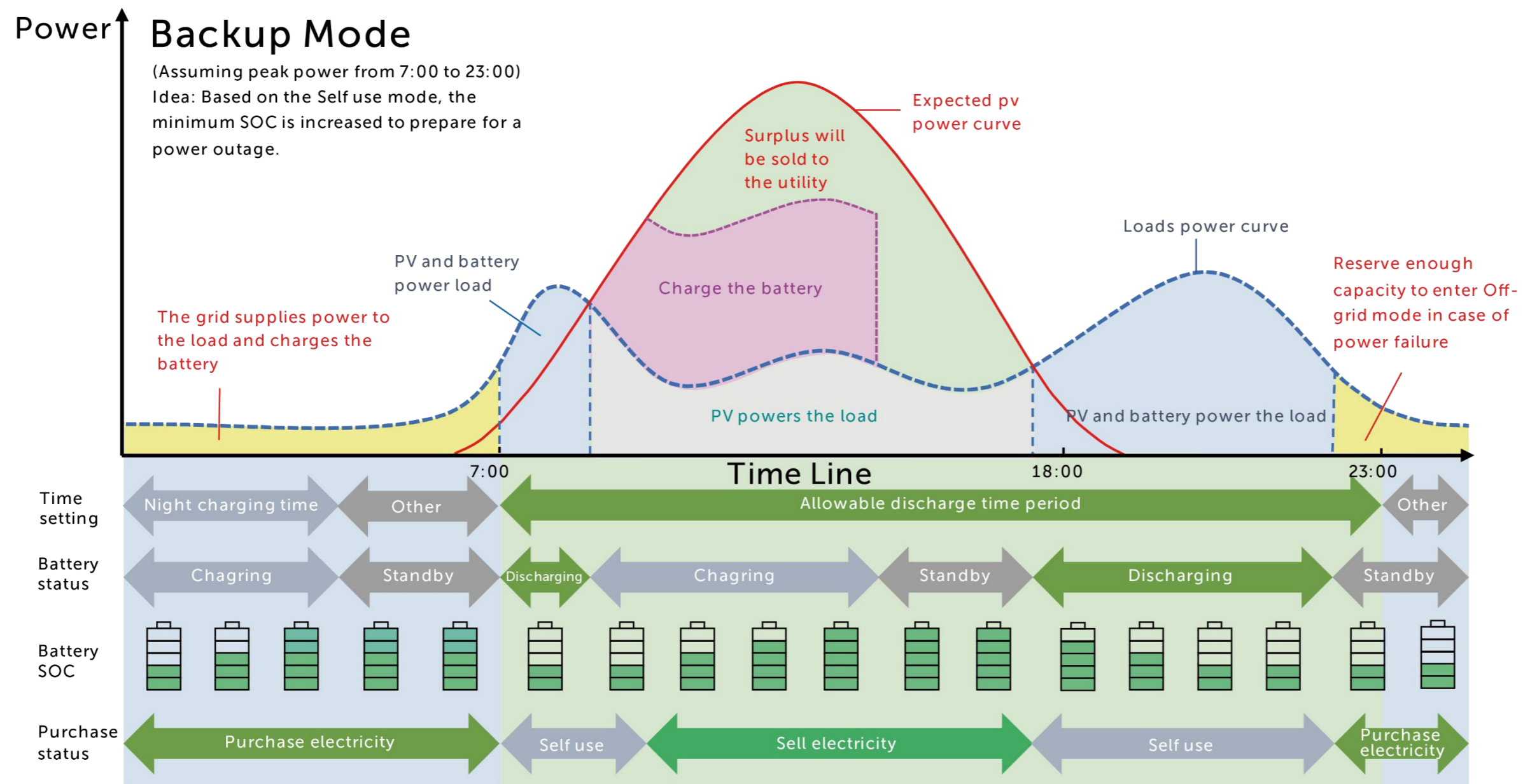


Work Modes | Back-up Mode

The back-up mode is suitable for areas with frequent power outages.

This mode will maintain the battery capacity at relatively high level, to ensure that the emergency loads can be used when grid is off. Same working logic with "Self-use" mode.

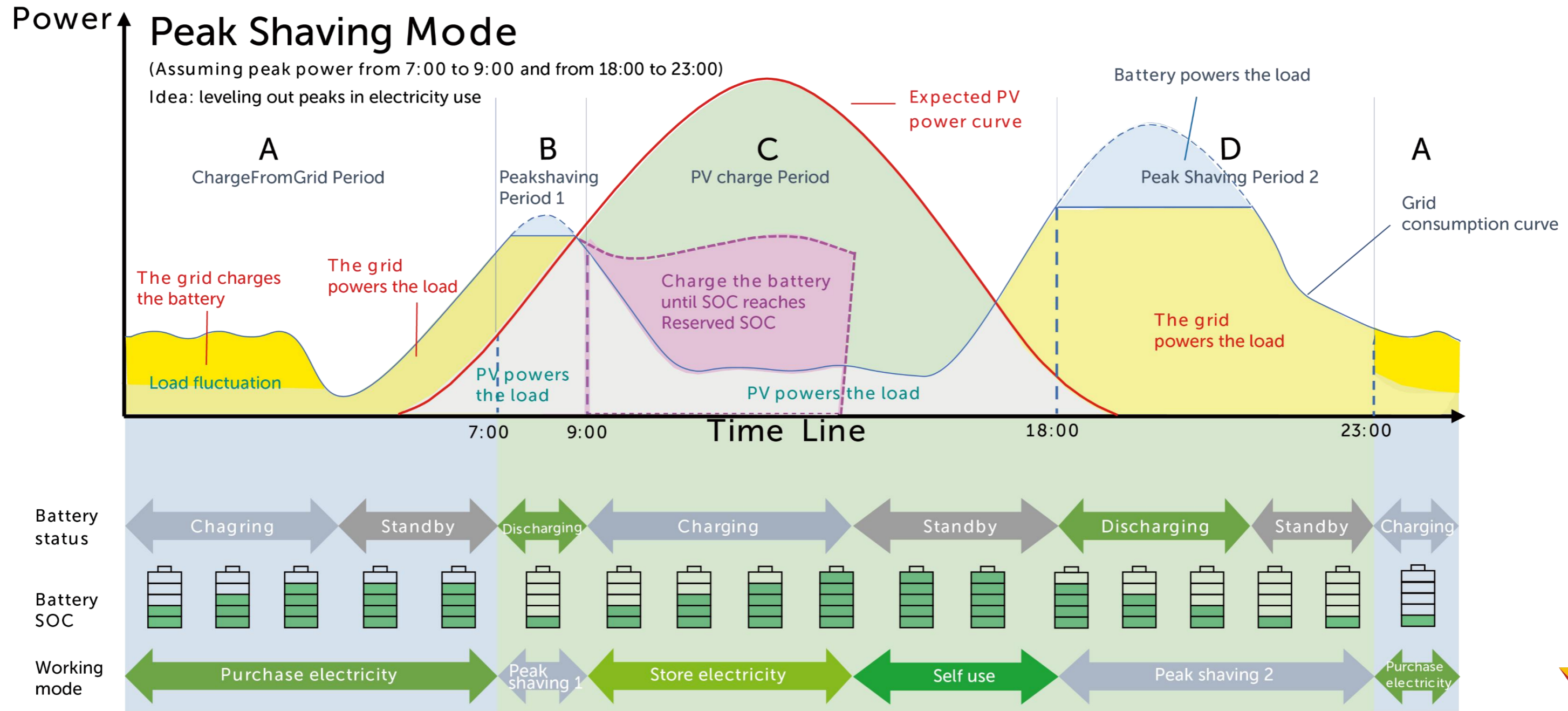
Priority: Loads > Battery > Grid



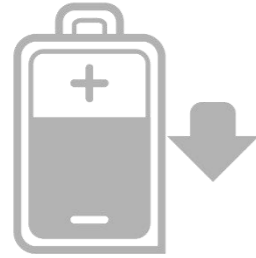
Work Modes | Peak Shaving

Peak shaving mode is set for leveling out peaks in electricity use.

System is controlled to charge up during off-peak hours and discharged during peak hours.



Work Modes | Manual



Forced Discharging

Manually discharging power from the battery



Forced Charging

Manually drawing power from the grid to charge the battery



Stop Charging/Discharging

Work Modes | ToU (Time of Use)

The schedule is based on weekly basis, and each day can be divided into 24 time slots, which means users can set specific work modes for each hour of the day, 7 days a week. And the entire plan can be repeated weekly.

Below are the work modes that you can choose from

Self Use

Battery off

Peak shaving

Charging mode

Discharging mode



THANKS

Powering a Green Future

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The logo consists of the words "SOLAX" and "POWER" in a bold, sans-serif font. The letters are rendered in a light blue color with a 3D effect, featuring shadows and highlights that give them a sense of depth. The letters are arranged in two rows, with "SOLAX" on top and "POWER" below it, slightly offset to the right.