CanadianSolar

EP CUBE

All-in-one
energy storage
solution



Introduction

The EP Cube redefines smart home energy storage with adaptive intelligence. Compatible with any solar setup, it also integrates an advanced Home Energy Management System (HEMS) that automatically manages power use based on solar production, energy pricing, and environmental conditions—maximizing efficiency, comfort, and sustainability.

Features

Cost-saving
- All-in-one design saves installation time and cost.
- Automates generation and consumption.

Flexible and convenient
- Modular battery makes transport and installation easy.
- Capacity options from 5 kWh to 40 kWh.*

Safe and reliable battery
- LFP technology.
- Meets highest certification standards.
- IP67 protection.**

Perfect compatibility
- Compatible with existing and newly installed PV systems.
- Allows up to 16-17 A DC PV input per MPPT.
- Compatible with EV chargers.

Intelligent management
- Monitors generation, storage and consumption of electricity in real time.
- Automatic weather alerts help actively manage stored capacity.
- OTA (Over-The-Air) firmware upgrade.

HEMS and VPP-Ready
- Optimized energy use and cost saving through smart connection and decisions.
- Virtual Power Plant integration as additional use-cases and revenue stream for customers.

* Up to 80 kWh when connecting 2 EP Cube Three-Phase units in parallel.

** The battery modules feature an IP67 protection. The inverter features an IP65 protection.

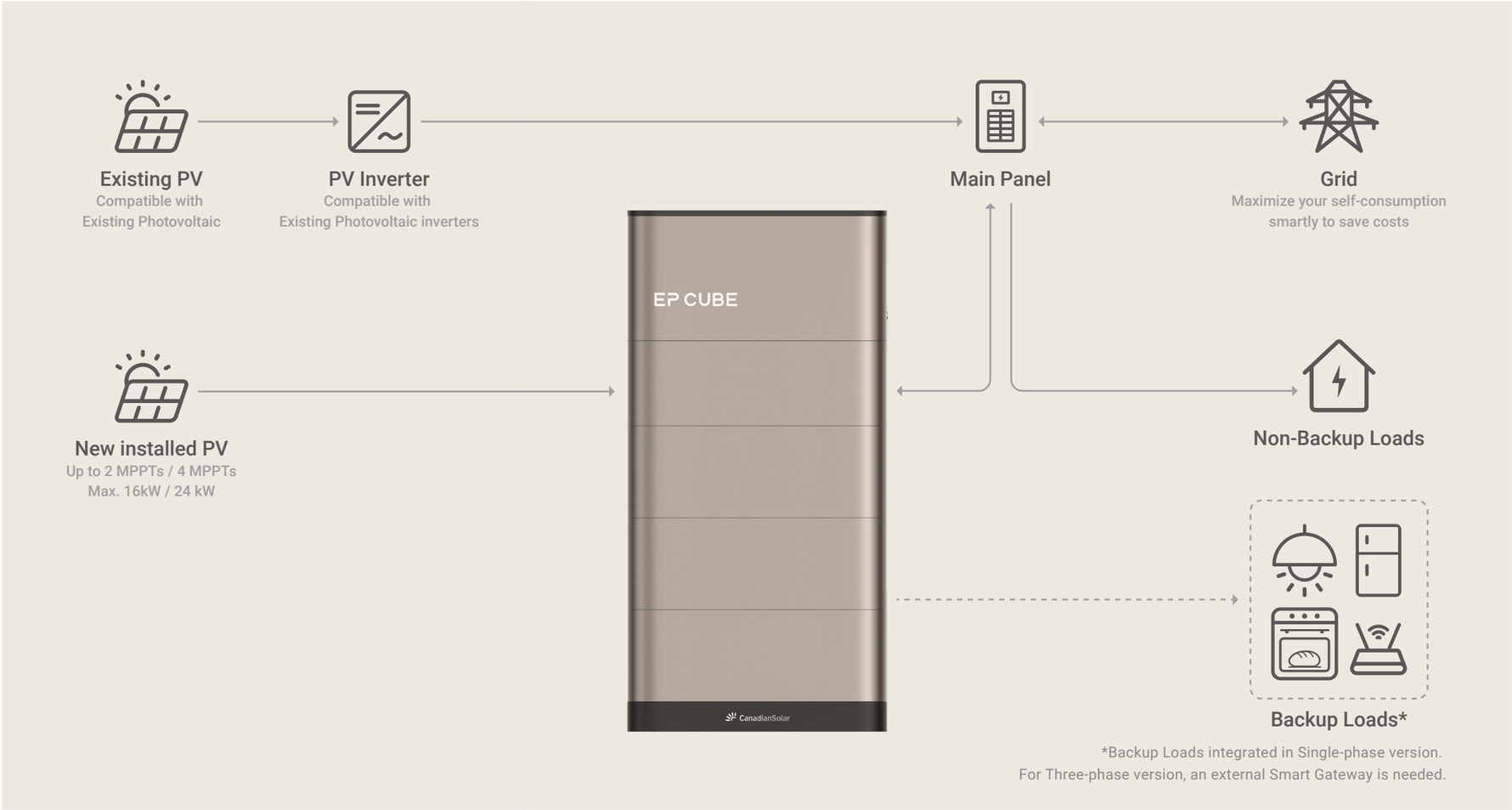
Green and cost-saving

With a comprehensive all-in-one design, EP Cube offers significant savings in system installation time and cost. The EP Cube storage system allows the storage and use of green electricity, generated by photovoltaic systems, thus reducing dependence on the grid, helping to reduce CO_2 emissions and enabling cost saving.



Complete Residential energy solutions

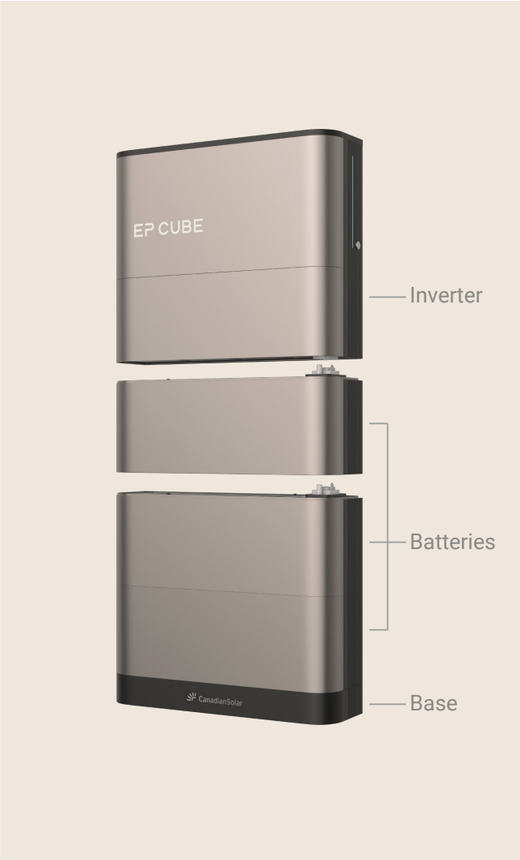
The EP Cube considers the energy needs of users from various perspectives: generation, storage and consumption. In this way, users can store and use clean energy efficiently, reduce grid dependency, save money and reduce carbon emissions.



A complete solution with unrivalled flexibility

The EP Cube storage system aesthetically and compactly integrates a hybrid inverter, EPS functionality and lightweight, stackable battery modules via plug & play connectors. Each module has a capacity of up to 5 kWh and weighs less than 42 kg, making it easy to transport, handle and install.

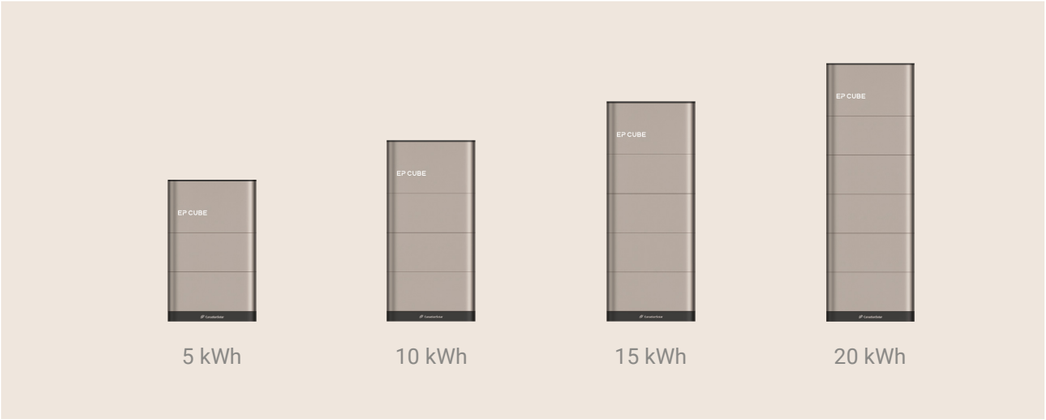
The minimum capacity of the EP Cube Single-Phase is 5 kWh with the possibility to stack modules up to a capacity of 20 kWh. The minimum capacity of the EP Cube Three-Phase is 10 kWh with the possibility of stacking modules up to a capacity of 40 kWh*. This flexibility offers a wide range of possibilities for every household.



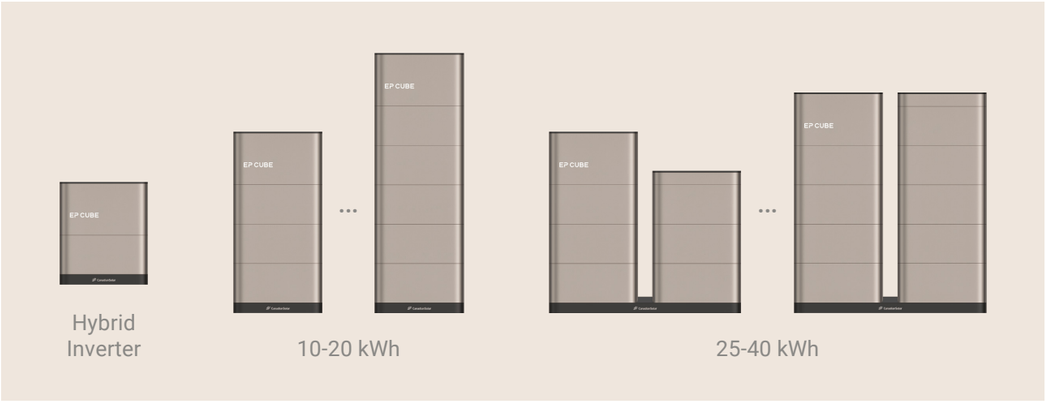
* Up to 80 kWh when connecting 2 EP Cube Three-Phase units in parallel.

Note: These data are rounded. Please refer to the technical specifications.

Single-phase version



Three-phase version



Safe and reliable

The EP Cube uses lithium iron-phosphate ($LiFePO_4$) technology in its batteries. IEC-certified and IP67-rated, it offers a system warranty of 10 years.

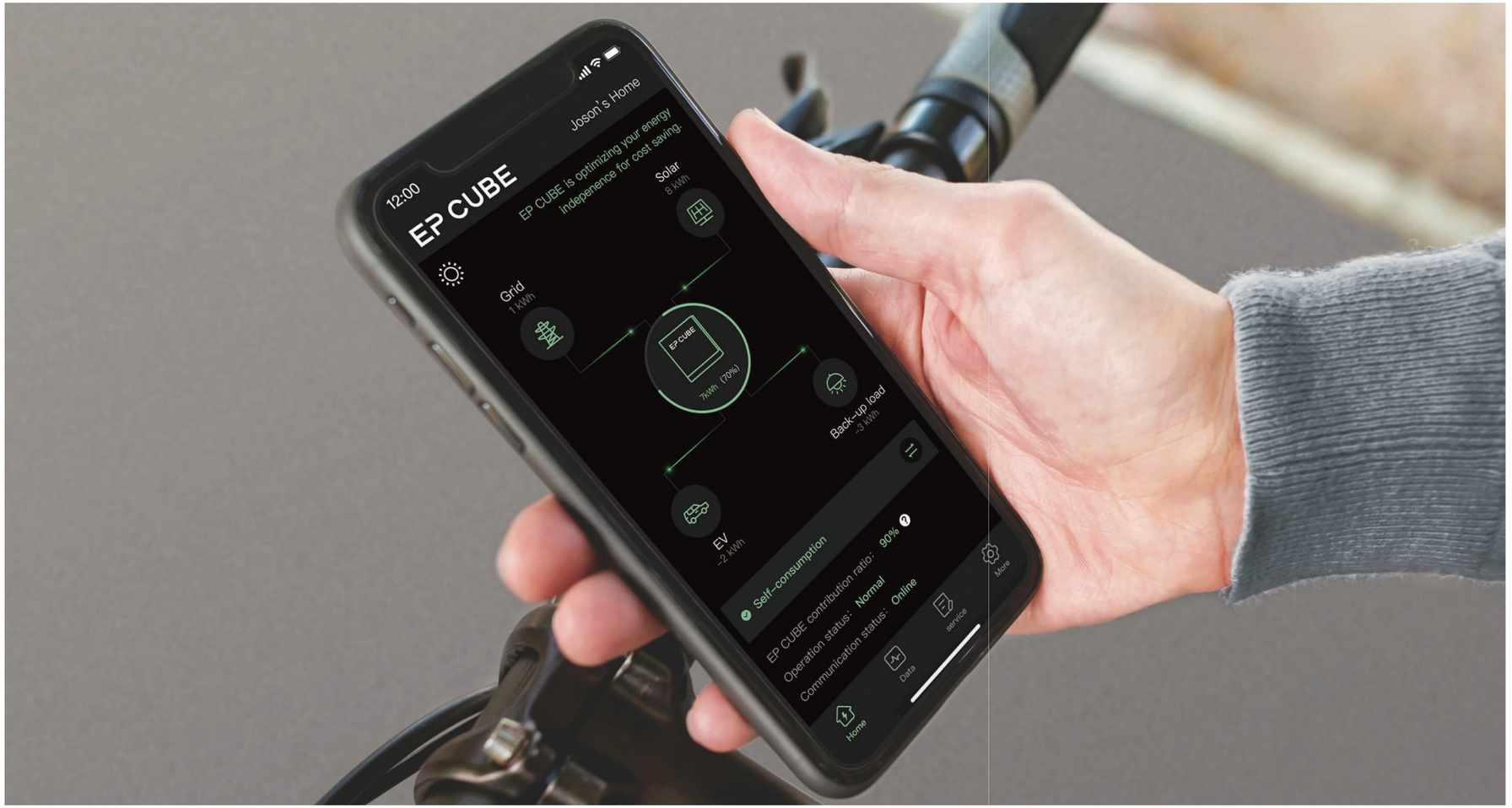
Safer and more reliable with multiple quality guarantees. Our strict quality controls ensure one of the safest and most reliable storage solutions on the market.





Perfect compatibility

With 2-4 MPPTs and an input current of 16/17A per MPPT, the EP Cube is compatible with high power modules, microinverters, optimizers and EV chargers. Furthermore, it can be integrated into both a new and an existing PV installation.



Intelligent management

The EP Cube supports Ethernet and WiFi connection. Through the EP Cube App, the user can remotely manage the system's operating mode, minimising energy costs, and monitor the storage status in real time, thus optimising self-consumption. Moreover, the system also allows OTA (Over-The-Air) firmware updates, ensuring optimal operation.

Home Energy Management System (HEMS) and VPP-Ready

EP Cube's Home Energy Management System (HEMS) optimizes energy consumption by intelligently managing household appliances based on solar production, energy pricing, and weather forecasts. At the same time, its Virtual Power Plant (VPP) functionality aggregates distributed assets to interact dynamically with the grid, enhancing self-consumption.



Created to meet your specific energy needs

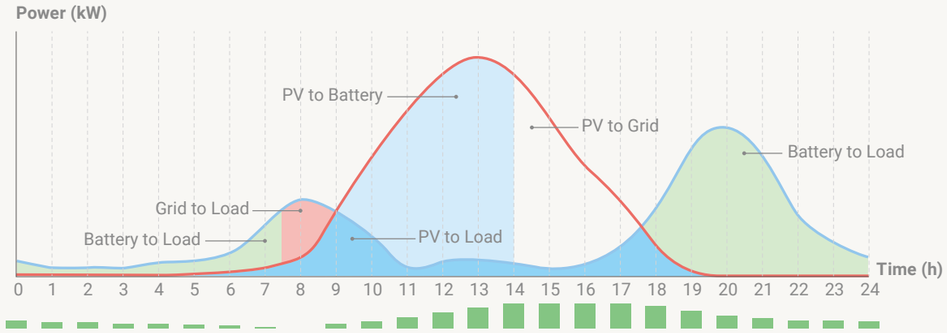
EP Cube has 3 operating modes that are designed to meet different needs.
- Self-consumption mode maximises the use of green energy.
- Time-of-use mode is best for users on electricity tariffs.
- Backup mode allows the EP Cube to be used as emergency backup power.

Detailed settings for each mode can be adjusted via the mobile app.

Self-consumption mode

Store surplus solar energy in the battery during the day and use it when solar power is not sufficient to maximise the use of renewable energy.

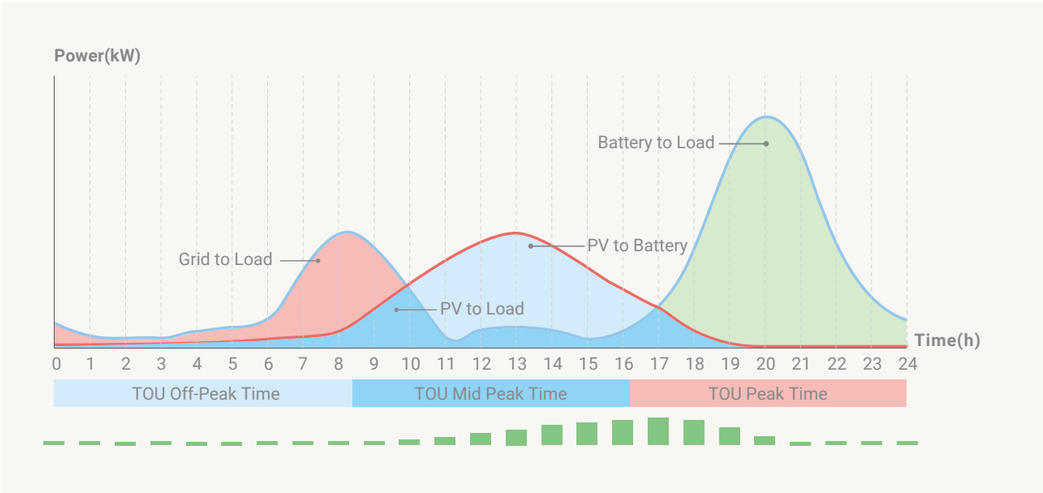
Battery SOC Load consumption PV power



Time-of-use mode

The user can configure up to three peak, mid-peak and off-peak periods in the application to reduce consumption from the grid during peak hours and charge the battery during off-peak hours. This results in significant cost savings.

Battery SOC Load consumption PV power



Back-up mode*

Ensures that the batteries are charged to supply power in the event of power outages. Weather monitoring option is available to cope with extreme weather conditions that may cause a power outage.

* Feature integrated in Single-phase version. For Three-phase version, an external Smart Gateway is needed.

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