CanadianSolar

EP CUBE

www.epcube.com/eu

EP CUBE

More flexible, more intelligent Residential Energy Storage System

Features

Flexible and convenient

- Modular battery makes transport and installation easy.
- Capacity options from 6.6 kWh to 19.9 kWh.

Cost-saving

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

Power guarantee

- Automated power supply during grid outage.
- High-power electrical appliances continue to function normally in case of grid blackout.

Safe and reliable battery

- LFP technology.
- Meets highest certification standards.
- IP67 protection.

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.

Perfect compatibility

- Compatible with existing and newly installed PV systems.
- Allows up to 16A DC PV input per MPPT.
- Compatible with maximum 7.4 kW EV chargers.

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.

Power guarantee

The EP Cube detects power outages in real time, so it is always ready to provide back-up power to your home. This ensures the operation of even high-power appliances during outages.

A complete solution with unrivalled flexibility

The EP Cube storage system aesthetically and compactly integrates a hybrid inverter, UPS functionality and lightweight, stackable battery modules via plug & play connectors. Each module has a capacity of up to 3.3 kWh and weighs less than 35 kg, making it easy to transport, handle and install. The minimum capacity of the EP Cube is 6.6 kWh with the possibility to stack modules up to a capacity of 19.9 kWh, offering a wide range of possibilities for every household.

6.6 kWh

9.9 kWh

13.3 kWh

16.6 kWh

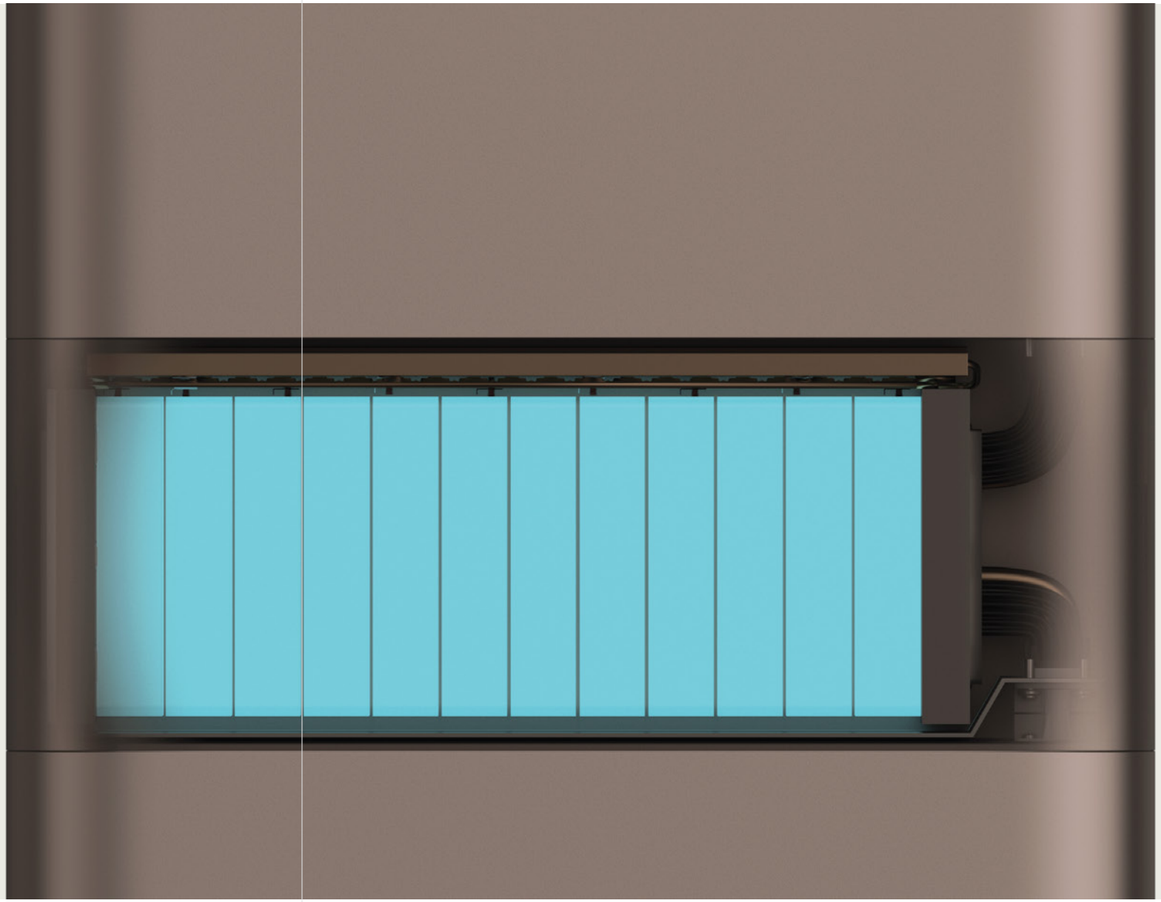
19.9 kWh

* These data are rounded. Please refer to the technical spoecifications

Safe and reliable

The EP Cube uses lithium ferrophosphate ($LiFePO_4$) technology in its batteries. IEC-certified and IP67-rated, it offers a system warranty of 10 years or 6,000 cycles.

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.



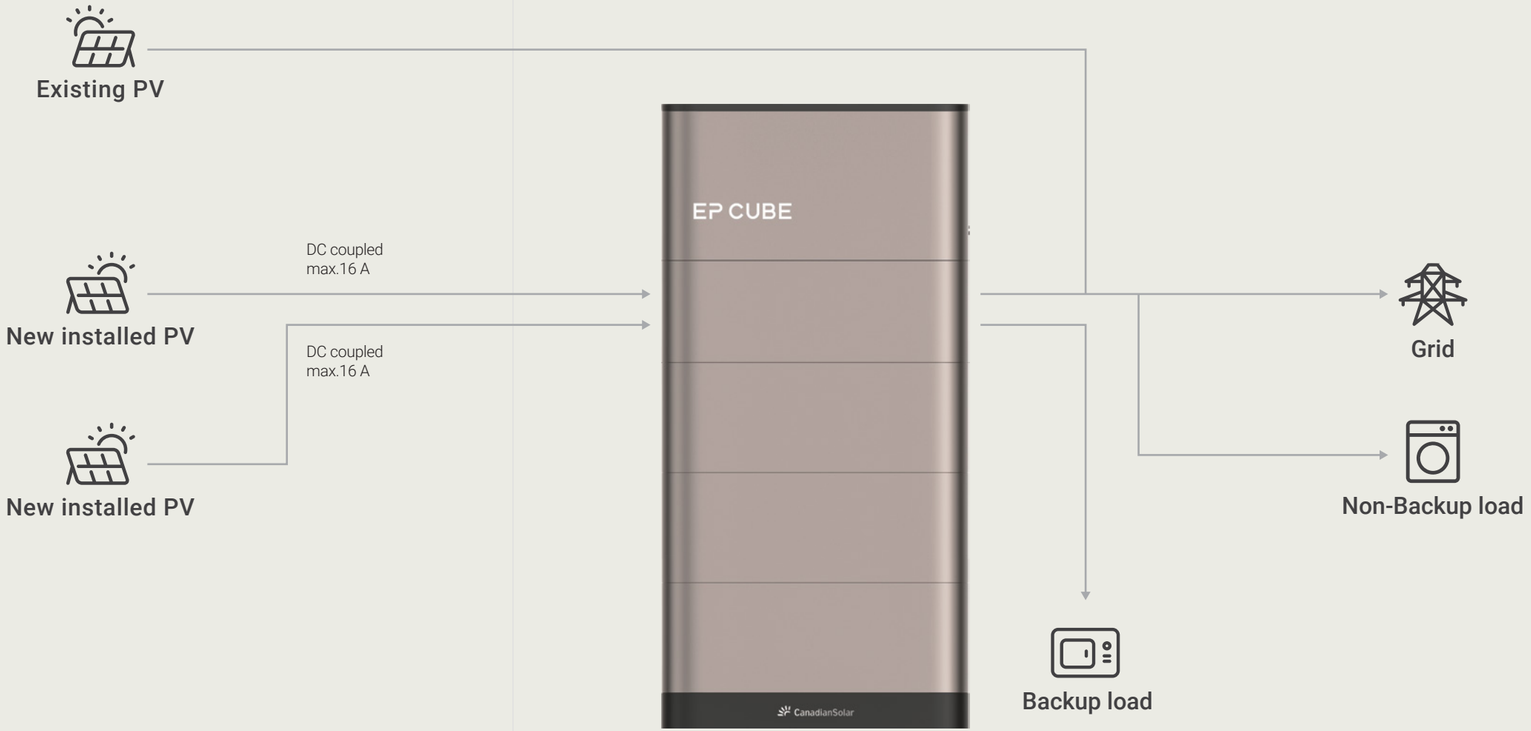
Perfect compatibility

With 2 MPPTs and an input current of 16A, 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.

*Currently under development.

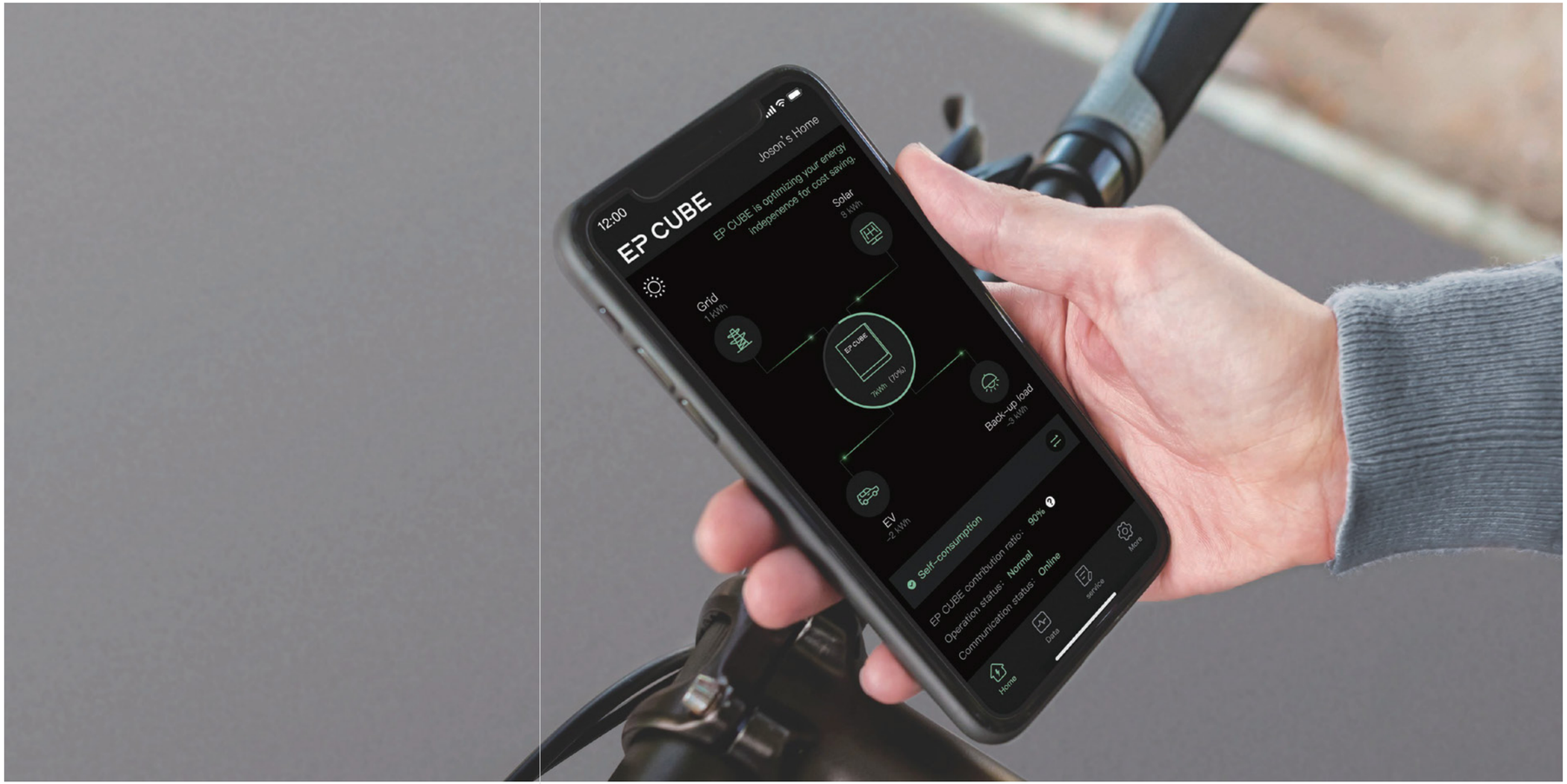
Complete Residential energy solutions

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.



Intelligent management

The EP Cube supports Ethernet and WiFi connection. Through the EP Cube application, 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.



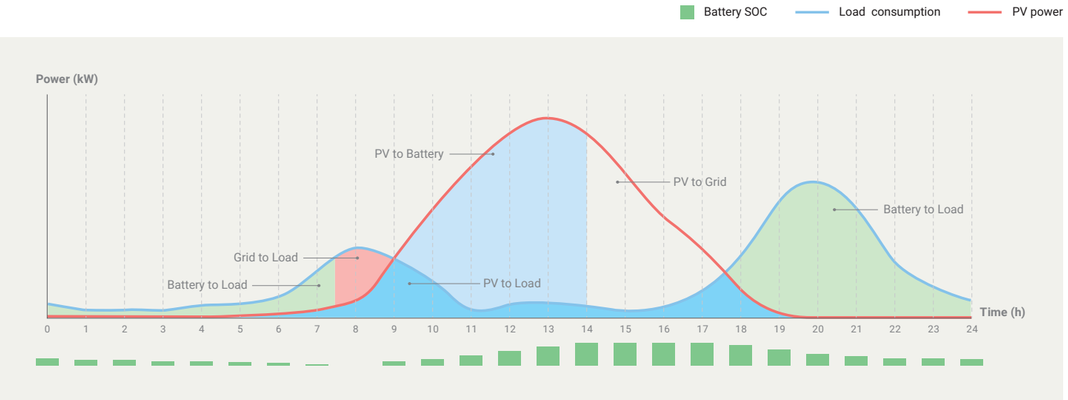
Created to meet your specific energy needs

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.

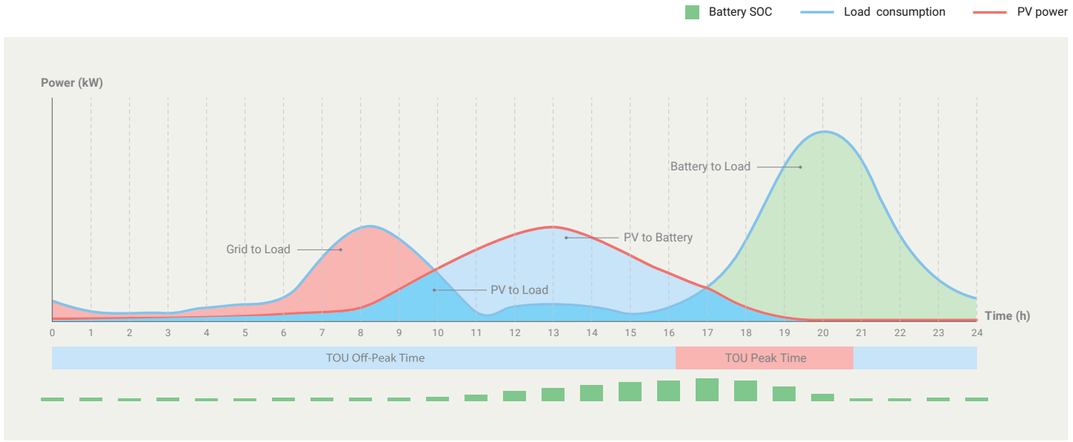
Self-consumption mode

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.



Time-of-use mode

The user can configure up to three 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.



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.

EP CUBE TECHNICAL SPECIFICATION

EP Cube HES-EU1-706G	EP Cube HES-EU1-710G	EP Cube HES-EU1-713G	EP Cube HES-EU1-716G	EP Cube HES-EU1-720G

System components					
Type of inverter	Hybrid bidirectional				
Number of inverters	1				
Number of battery modules	2	3	4	5	6
Base	1				
Hybrid inverter - DC Input (PV)					
Max PV input power	10 kWp				
MPPTs	2				
Number of inputs per MPPT	1				
Max input power per MPPT	5 kWp				
Max PV input voltage	600 V_{DC}				
MPPT voltage range	90 V_{DC} - 550 V_{DC}				
Max MPPT input current	16 A				
Max MPPT short current	20 A				
MPPT start-up voltage	120 V_{DC}				
Hybrid inverter - AC On-grid					
Rated AC output voltage	Single phase / L+N+PE / 230 V_{AC}				
Rated grid frequency	50 Hz				
Max continuous power (battery + PV)	7.6 kW [1]				
Max continuous current (battery + PV)	33.0 A [2]				
Output power factor	~1 (adjustable from 0.8 leading to 0.8 lagging)				
Total harmonic distortion @7.6 kW	< 3% (rated power)				

Hybrid inverter - AC Back-up [3]					
Rated AC output voltage	Single Phase / L+N+PE / 230 V_{AC}				
Rated output frequency	50 Hz				
Max continuous power (battery + PV)	7.6 kVA				
Max continuous current (battery + PV)	33.0 A				
Switching-time	< 30ms [4]				
Battery module					
Cell technology	$LiFePO_4$				
Number of battery modules	2	3	4	5	6
Nominal capacity [5]	6.6 kWh	9.9 kWh	13.3 kWh	16.6 kWh	19.9 kWh
Max continuous power (battery only)	3 kVA	5 kVA	6.5 kVA	7.6 kVA	7.6 kVA
DOD	100% [6]				
Voltage range	30 V_{DC} ~ 43.8 V_{DC}				
Nominal voltage	38.4 V_{DC}				
Weight	< 35 kg				
Dimensions (WxHxD)	600 x 215 x 165 mm				
IP Rating	IP 67 (stacked together)				
System					
Applications	Self consumption / TOU / Backup				
Type of inverter	Hybrid bidirectional				
Inverter dimension (WxHxD)	600 x 505 x 243 mm				
Inverter weight	< 38 kg				
Inverter topology	Transformerless				
DC battery protection	Fuse holder incl. fuses (+/-)				
Dimensions (WXHXD)	600 x 1006 x 243 mm	600 x 1221 x 243 mm	600 x 1436 x 243 mm	600 x 1651 x 243 mm	600 x 1866 x 243 mm
System weight	111.5 kg	146.5 kg	181.5 kg	216.5 kg	251.5 kg
Noise	< 30 dB				
IP Rating	IP 65				
Cooling type	Natural cooling				
Operating altitude	3,000 m				
Operating relative humidity	95% non-condensing				
Operating temperature range	- 20°C to 50°C [7]				
Recommended operating temperature	0°C to 30°C				

System	
Storage temperature	-20°C ~ 0°C and / or 35°C ~ 50°C less than 1 month / 0°C ~ 35°C up to 1 year [8]
Display	LED & APP
Installation method	Floor mounted (optional: wall mounted)
Communication interface	WiFi, ethernet, RS485, CAN, IO, API
Protection	
Battery Input Reverse / Polarity Protection	Integrated
Over load Protection (DC-AC side)	Integrated
AC Short Circuit Current Protection /Output Short Protection Integrated	Integrated
Output Over Current Protection Integrated	Integrated
DC (PV+Battery) Short Circuit Current Protection	Integrated
AC Surge Protection (SPD-Type) /Output Over Voltage Protection	Integrated
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Ground Fault Monitoring	Integrated
Temperature Protection (Inverter + Battery)	Integrated
Integrated DC Switch (PV - Disconnector)	Integrated
Emergency STOP	Integrated
Warranty	
Inverter	10 years
Battery [9]	> 80% capacity, up to 10 years or 6,000 cycles
Accessories [10]	2 years [11]
Certifications	
Safety	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 62477-1, IEC / EN 62619-1, IEC 60730 Annex H, IEC 60529, VDE 2510-50, UN 38.3
EMC	IEC 61000-6-3, IEC / EN 61000-6-1
Energy efficiency	IEC 61683
Grid stand ards	NTS 2.1 Type (A), UNE 217001, UNE 217002, RD 244, CEI 0-21, VIDE-AR-N 4105, DIN VDE V 0124-100, G99 type A, UKCA
Accessories	**Model**
EP Cube AC Switch Box	EP CUBE ASB1-40
EP Cube Smart Meter	EP Cube 1PHM1
EP Cube Wall-mount Kit	EP Cube Wall-mount Kit1

Notes

1. Rated AC output power is adjustable according to the grid code of each country. (6kW for CEI 0-21; 4.6kWA for VDE-AR-N 4105)
2. Rated AC output current is according to the grid code of each country. (26.1A for CEI 0-21; 19.5A for VDE-AR-N 4105)
3. Only in back-up mode in case of grid outage.
4. For reactive loads; time will be shorter for active loads.
5. Test conditions: 100% depth of discharge (DOD), 0.2C rate charge and discharge at 25°C, at the beginning of life.
6. EP Cube will maintain a minimum SOC of 15% during off-grid operation.
7. Performance may be de-rated at extreme operating temperatures.
8. Refer to the installation manual and follow the storage requirements and guidelines.
9. Battery capacity warranty up to 10 years or 6000 cycles, (whichever occurs first).
10. As per Limited Warranty Statement.
11. 3 year for Spain.

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