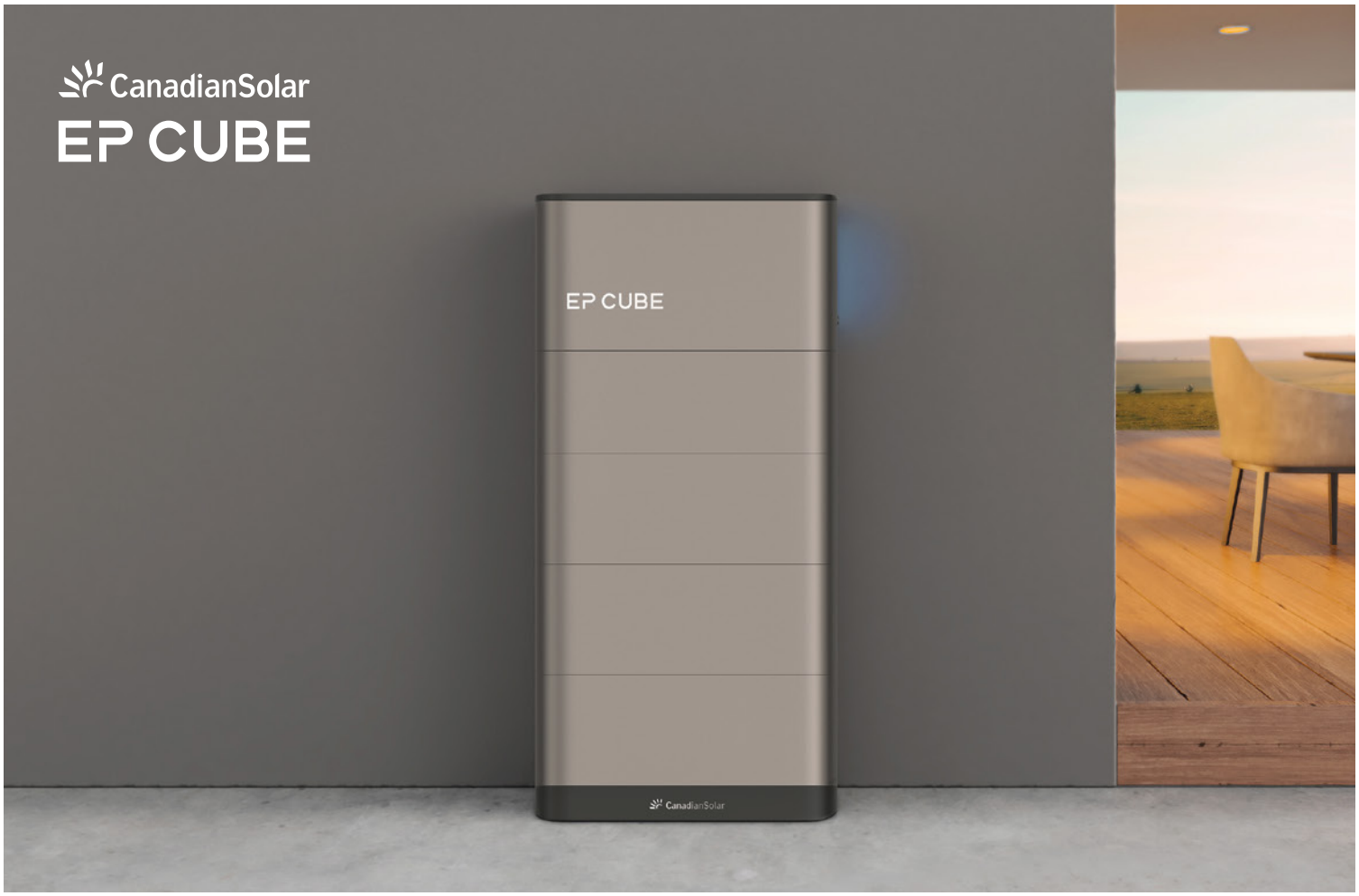
CanadianSolar

EP CUBE



The EP Cube is a flexible and intelligent all-in-one home energy storage solution for new and existing solar installations. With unrivalled flexibility and intelligent software management, it is designed to offer a quick and easy installation, simplified logistics, and cost-savings all round to make life easier for homeowners and installers.

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.

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.

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.

Canadian Solar EMEA GmbH
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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)		

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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				
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]				

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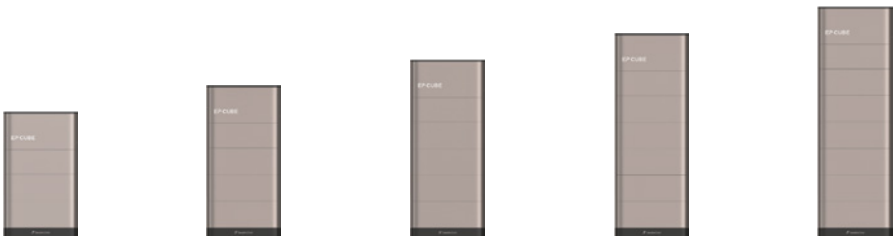

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Certifications	
Safety	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 62477-1, IEC / EN 62619-1, IEC 60730 Annex H, IEC 60529, VDE 2510-50, UN 38.3
EMC	IEC 61000-6-3, IEC / EN 61000-6-1
Energy efficiency	IEC 61683
Grid stand ards	NTS 2.1 Type (A), UNE 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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