

Megacube-20C2H1200K

Resilient, Reliable, and Quick Delivery Air Cooling Energy Station



Megacube-20C2H1200K



Today, energy storage system plays the critical and growing role in decarbonizing the electric system and improving the electricity quality. More broadly, ESS deployed behind the meter, whether as integrated components of wind and solar power facilities or as stand-alone projects, is providing system capacity and flexible generation to maintain reliability as the growing contributions of renewables from electricity generation.

Megacube, a high-performance, all-in-one, containerized battery energy storage system developed by Cubenergy, provides C&I users with the intelligent and reliable solution to optimize energy efficiency and resilience. As the leading BESS product, Megacube is certificated by UL1973, UL9540A, UL9540, IEC62619, CE, UN38.3, complied with IEC62933, IEC62056, NFPA855, provides secure, reliable and safe power supply.

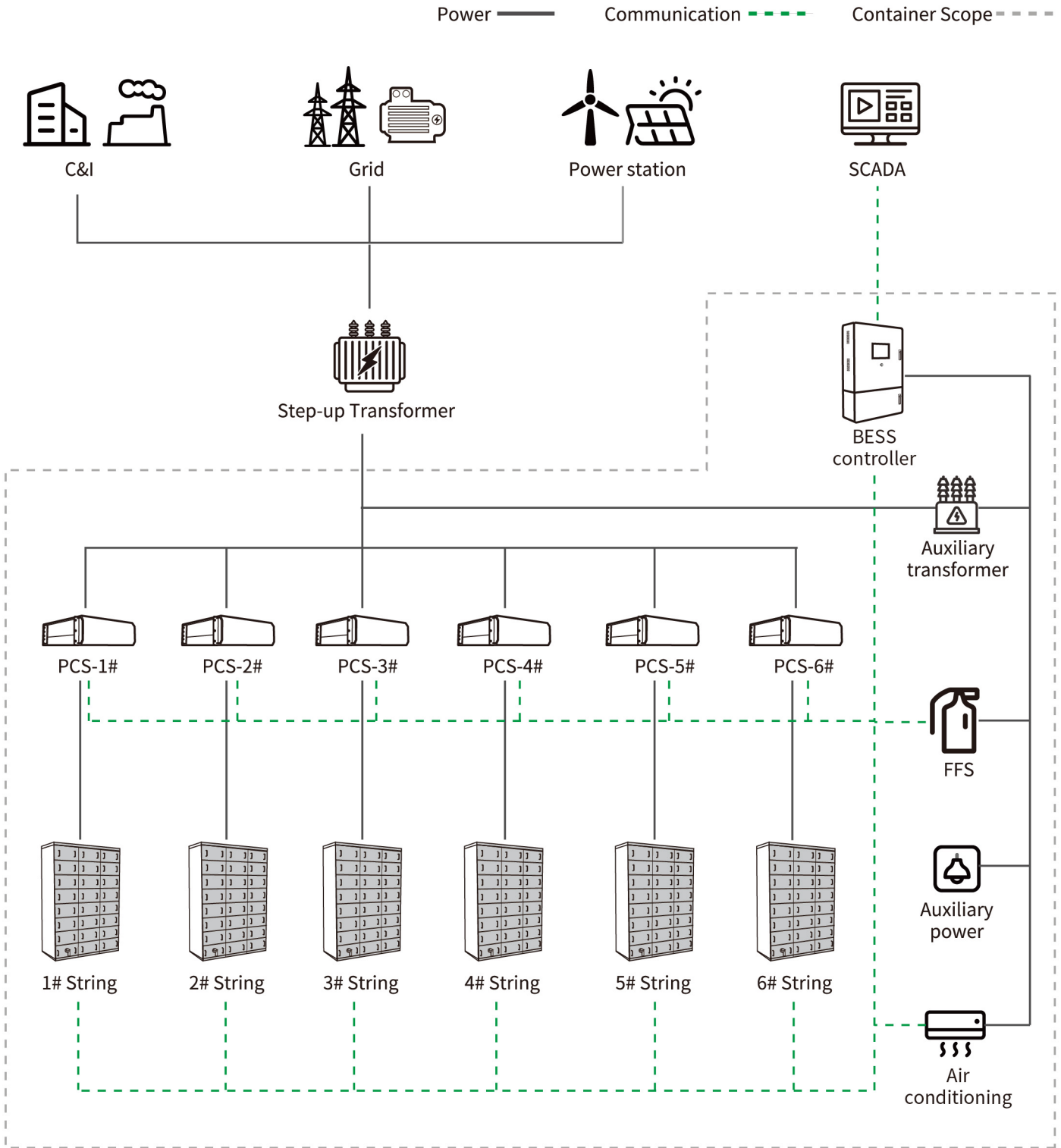
Megacube-20C2H1200K, with capacity of 2,064kWh@20ft and 2,256Wh@20ft, is ideal for mostly utility and C&I applications, such as renewable energy power plant supplement, factories, buildings, etc. The integrated and easy-to-install BESS can be easily connected and matched with the equipment, while the advanced BMS and cloud-based operation platforms bring superior interaction experience for users.

Application

- Smooth New Energy Output
- Voltage, Frequency Support, Frequency Modulation
- Peak Valley Arbitrage
- Demand Management
- Construction of Microgrid

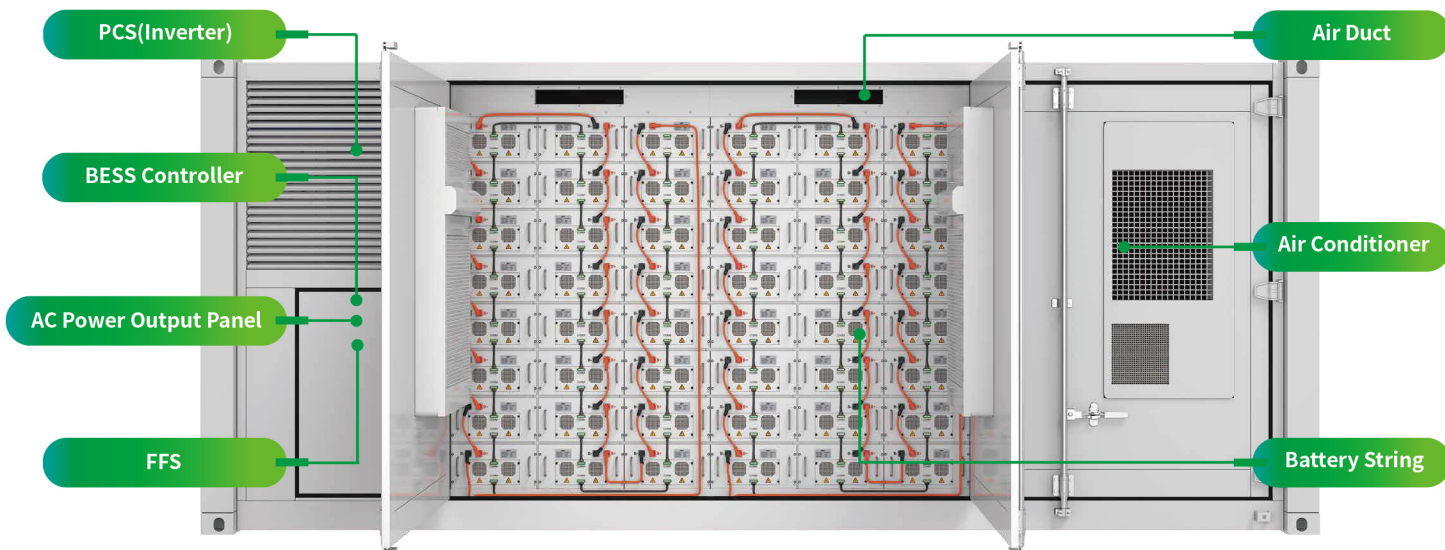


System Topology



More Energy	All-in-one Design	Simple O&M	Safe & Reliable
Pack-level Optimization String-level Optimization	AC/DC All-in-one Design Reducing Initial Investment	No periodic balancing No experts site visit	Modular Design High Availability

□ Product Layout



□ Product Model Definition

20C2H1200K-6S373-24P1X



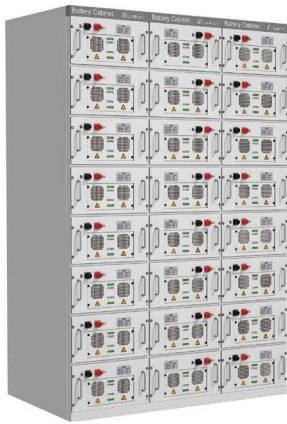
□ Product Configuration

Product Model	Battery String Type	String Qty	Nominal Capacity	DC Voltage Range	Grid-connected Max Rated Voltage	Dimensions (WDH mm)
20C2H1200K	S373-24P14	6	2,064kWh	1,075.2V~1,363.2V	690V	6,058x2,438x2,591mm
20C2H1200K	S407-24P16	6	2,256kWh	1,075.2V~1,363.2V	690V	6,058x2,438x2,591mm

□ System Technical Specifications

Item	20C2H1200K	
DC Data		
Battery chemistry	Lithium Iron Phosphate (LFP)	
Cell life cycle	5,000 cycles with 80% retention @ 0.5C 25°C	8,000 cycles with 70% retention @ 0.5C 25°C
Cell spec	3.2V/280Ah	3.2V/306Ah
String configuration	1P384S	
Number of strings	6	6
DC rated energy capacity	2,064kWh	2,256kWh
Rated voltage	1,228.8V	
Voltage range	1,075.2V~1,363.2V	
BMS communication interface	RS485, Ethernet	
BMS communication protocol	Modbus RTU, Modbus TCP	
AC Data		
	Standard Output	Optional Output
Rated AC Power	1,200kW	(1,020kW / 840kW / 690kW)
Maximum AC power	1,320kW	(1,122kW / 924kW / 759kW)
Rated voltage	690V	(600V / 480V / 400V)
Grid voltage range	586.5~759V(configurable)	(85~110% of Rated voltage)
AC rate of current	1004.1A	
Output THDi	<3%	
AC PF	0.1~1 leading or lagging (controllable)	
AC output	3-Phase 3-Wire, PE(without transformer)	
General Data		
Dimension w/o clearances (L*W*H)	6,058x2,438x2,591mm	
Weight of the whole system	26.5t	
Degree of protection	IP54	
Operating temperature range	-20~40°C (Max. -30~55°C)	
Relative humidity	0~95% (non-condensing)	
Max working altitude	3,000m/9,842feet (non-derating)	
Cooling concept of DC hatch	Air cooling	
Fire fighting system	FK-5-1-12	
Communication interfaces	RS485, Ethernet	
Certificates	UL9540, IEC 62933, UN3536, CE MARK by TÜV Rheinland	

□ Key Components



- 0.5C Charge/Discharge;
- Power supply can be single battery string or parallel battery strings;
- Easy configuration and maintenance.



- Single-stage three-level modularization;
- Multi-branch input to reduce battery series and parallels connection;
- One-to-one Management of Battery string and PCS.



- All-round signal collection;
- Comprehensive logical control;
- Multilevel electric & control protection;
- Intelligentize Sub-System management ;
- Quick and Simple Configuration and Connect with third-part SCADA and EMS.

Battery String-S373

Item	Data	
Battery module	S373-24P14	S407-24P16
Pack QTY	24	
Rated capacity	344.06kWh	376.01kWh
Rated voltage	1,228.8V	
DC voltage range	1,075.2V~1,363.2V	
Pack	51.2V/280Ah@1P16S	51.2V/306Ah@1P16S
Communication	Ethernet, CAN, RS485	
Dimensions (W×D×H)	1,440×750×2,150mm	
Weight	2,940kg	
Certifications	UL1973, UL9540A, IEC62619, UN38.3	

Power Conversion System

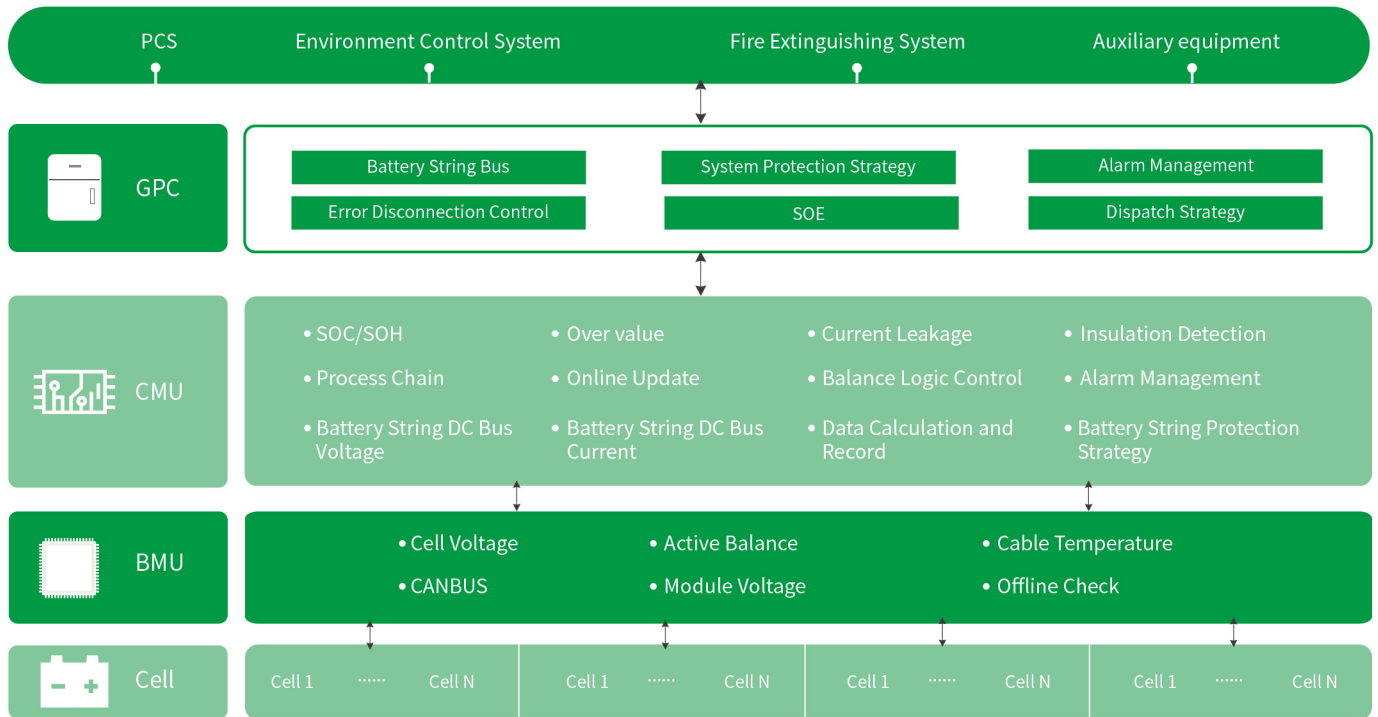
Item	Data
DC voltage range	1000~1,500V
Maximum DC current	224.5A * 6
Rated output power	200kW * 6
Rated grid voltage	690V
Grid voltage range	-15%~+10%
Grid frequency	50Hz/60Hz
Max AC current	184.1A * 6
AC PF	0.1~1 leading or lagging (Controllable)
Weight	100kg * 6
Certifications	UL 1741, IEEE 1547, EN50549, IEC62477, IEC 61000

* Data for 690V output version

GridPoint Controller (GPC)

Item	Data
Power interface	AC400V/DC24V
Communication and Relay	Modbus RTU、 Modbus TCP
Power backup for Monitoring	Reseverd UPS connection
Control mode with EMS	Time-of-use, Peak shaving, Flexibility service Renewable smoothing, Grid-Forming

□ BMS with Real-time Active Balance



BMU		CMU	
Cell Voltage Measurement Accuracy	±2.5 mV	Battery String Voltage Measurement Range	100~1,500V
Cell Voltage Monitoring Interval	≤500ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2°C	Battery String Voltage Monitoring Interval	≤200ms
Cell Temperature Measurement Interval	≤3s	Battery String Current Measurement Range	±300A
Cell Current Balance	Active Balance, 5A MAX	Battery String Current Measurement Accuracy	≤1%
Cell Voltage Measurement Range	1~5 V	Battery String Current Monitoring Interval	≤50ms
Over-current Protection	250A/1s	SOC Calculation Accuracy	≤8%
Short-Circuit Protection	500A/10ms	Input Insulation Resistance	≥10MQ, 1,000VDC