

FlexCube-05C2H125K

Highly Integrated, Safe & Reliable, Fast-Delivery Liquid-Cooled Outdoor Cabinet

FlexCube-05C2H125K

The FlexCube-05C2H125K Series is a next-generation outdoor cabinet energy storage system designed for efficiency, reliability, convenient, and intelligent performance. Built with a highly integrated architecture, it combines advanced safety mechanisms with smart energy management, offering customers a solution that is not only safe and reliable, but also intelligent and cost-effective.



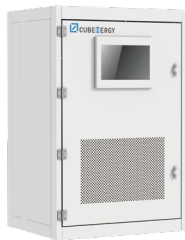
Battery

Provides stable and long-lasting energy storage.



Integrated PCS

Integrated PCS + HVU, High-efficiency energy conversion management, intelligent protection, and CMU monitoring.



GridPoint Controller (GPC)

An advanced one-stop BESS control and status information and management center.



Liquid Chiller Unit

Maintains optimal operating temperature to guarantee long-term performance.

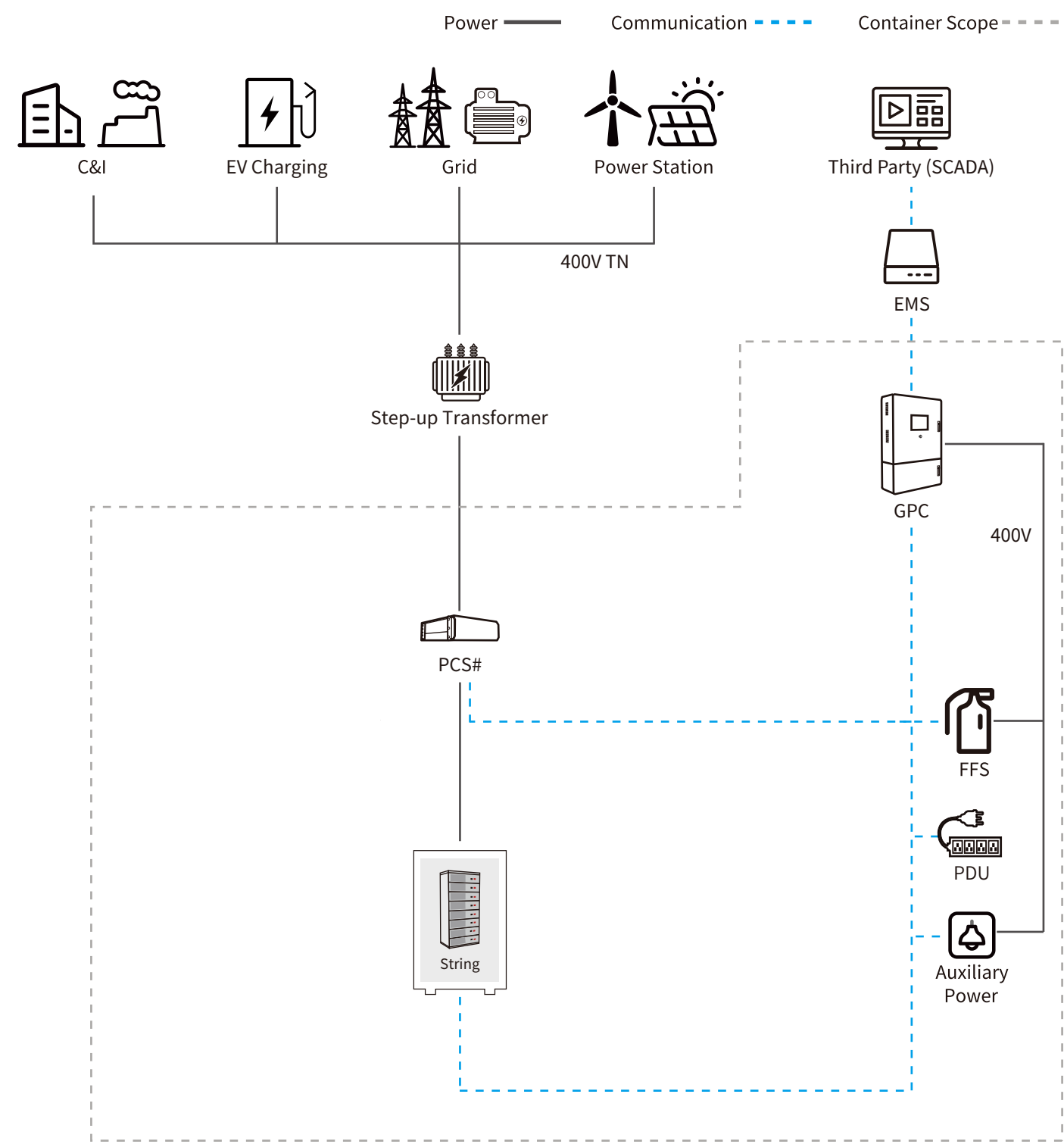


Application

- 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

System Technical Specifications

Item	05C2H125K
DC Data	
Battery chemistry	Lithium Iron Phosphate (LFP)
Cell life cycle	8,000 cycles with 70% retention @ 0.5C 25°C
Cell specification	3.2V/314Ah
String configuration	1P260S
Number of strings	1
DC rated energy capacity	261kWh
Rated voltage	832V
Voltage range	728~923V
BMS communication interface	RS485, Ethernet
BMS communication protocol	Modbus RTU, Modbus TCP
AC Data	
Rated AC Power	125kW
Maximum AC power	137.5kW
Rated voltage	400V
Grid voltage range	340~440V
AC rate of current	180.4A
Output THDi	<3%
AC PF	-1~+1
Grid type	3W+N+PE
General Data	
Dimension w/o clearances (L*W*H)	1,000x1,450x2,400mm
Weight of the whole system	≤2800kg
Maximum system efficiency	≥90%
Noise Level	≤70dB
Degree of protection	IP55
Operating temperature range	-30~55°C
Relative humidity	0~95% (non-condensing)
Max working altitude	2,000m/6,562feet (non-derating)
Thermal management method	Liquid cooling
Fire fighting system	System-level aerosol fire suppression + water fire suppression interface
Grid connection type	On-grid/Off-grid
Communication interfaces	LAN, RS485
Certificates	CE

□ 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

Item	Data
Battery module	LS417
Pack module	166.4V/314Ah@1P52S
Pack QTY	5
String Rated capacity	261
String Rated voltage	832V
DC voltage range	728~923V
DC protection	Contactor+Fuse

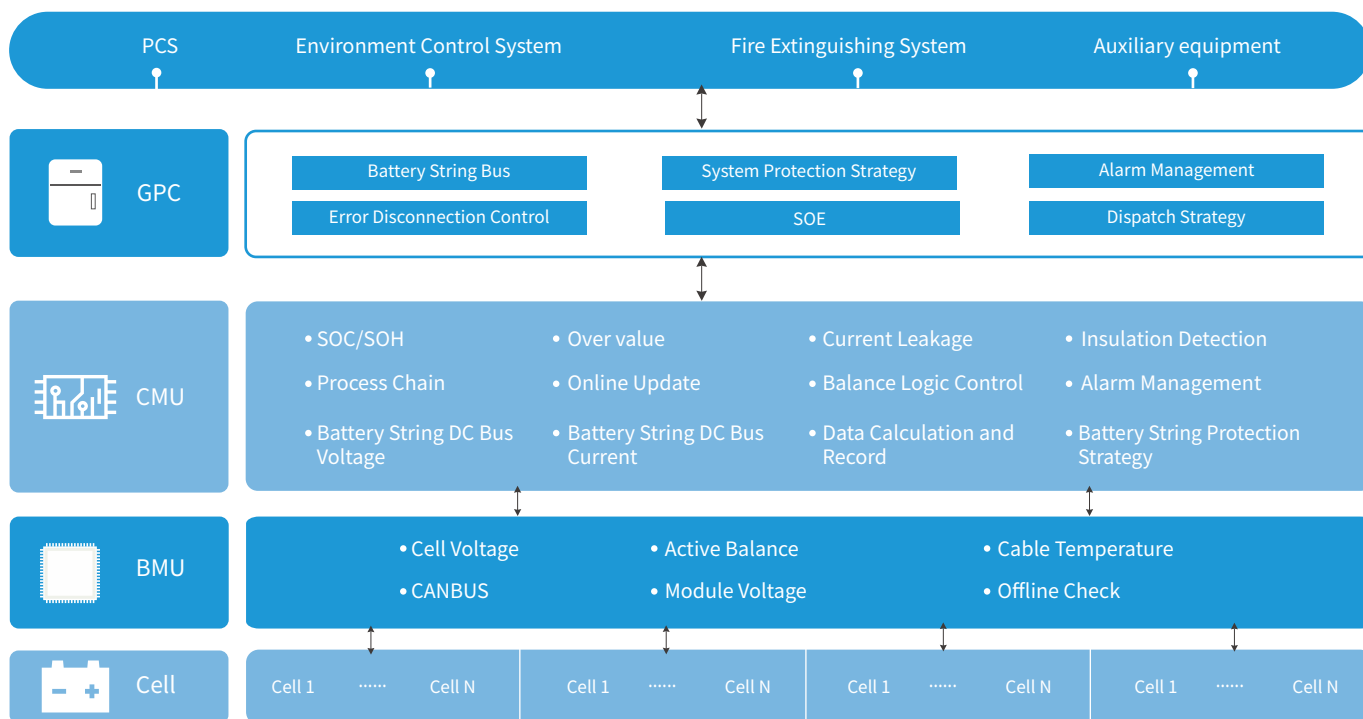
Integrated PCS

Item	Data
AC rated power	125kW
Grid frequency	50Hz/60Hz
Rated grid voltage	400V
Grid voltage range	340~440V
AC PF	-1~+1
AC current THD	<3%
Certifications	UL1741, IEEE1547, EN50549, IEC62477, IEC61000

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



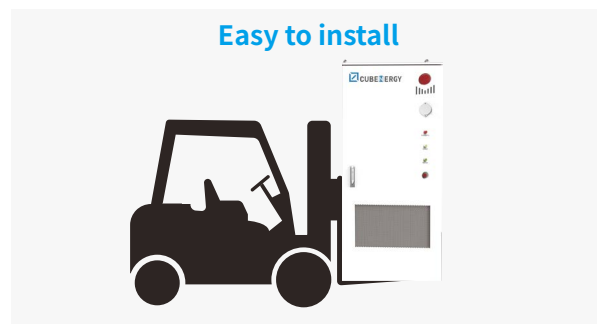
BMU		CMU	
Cell Voltage Measurement Accuracy	±2.5 mV	Battery String Voltage Measurement Range	100~1,500V
Cell Voltage Monitoring Interval	≤500ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2°C	Battery String Voltage Monitoring Interval	≤200ms
Cell Temperature 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	≥10MΩ, 1,000VDC

□ Outdoor Cabinet, Easy Transport & Installation

The FlexCube-05C2H125K Series is engineered for outdoor deployment with a robust cabinet design. Its compact structure greatly reduces transportation and installation challenges:



- A 30-ton truck can transport seven sets of 125kW/2h systems at one time, improving logistics efficiency.



- Installation is fast and straightforward — no heavy lifting required. The units can be placed directly with a forklift, saving time and reducing costs.

NOTES

Product dimensions and physical appearance in this brochure are nominal and are provided for the convenience of our customers. Cubenergy reserves the right to make changes from time to time, without prior notification, which may change the dimensions and physical appearance shown.

We therefore recommend you to consult with a Cubenergy sales representative before your purchase.

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