



# PowerCombo-20C2H1600K

Resilient, Reliable, and Quick Delivery Liquid Cooling Energy Station

# PowerCombo-20C2H1600K



PowerCombo, 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, PowerCombo is certificated by UL1973, UL9540A, IEC62619, CE , UN38.3, provides secure, reliable and safe power supply.

PowerCombo-20C2H1600K, with capacity of 2,752kWh@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.

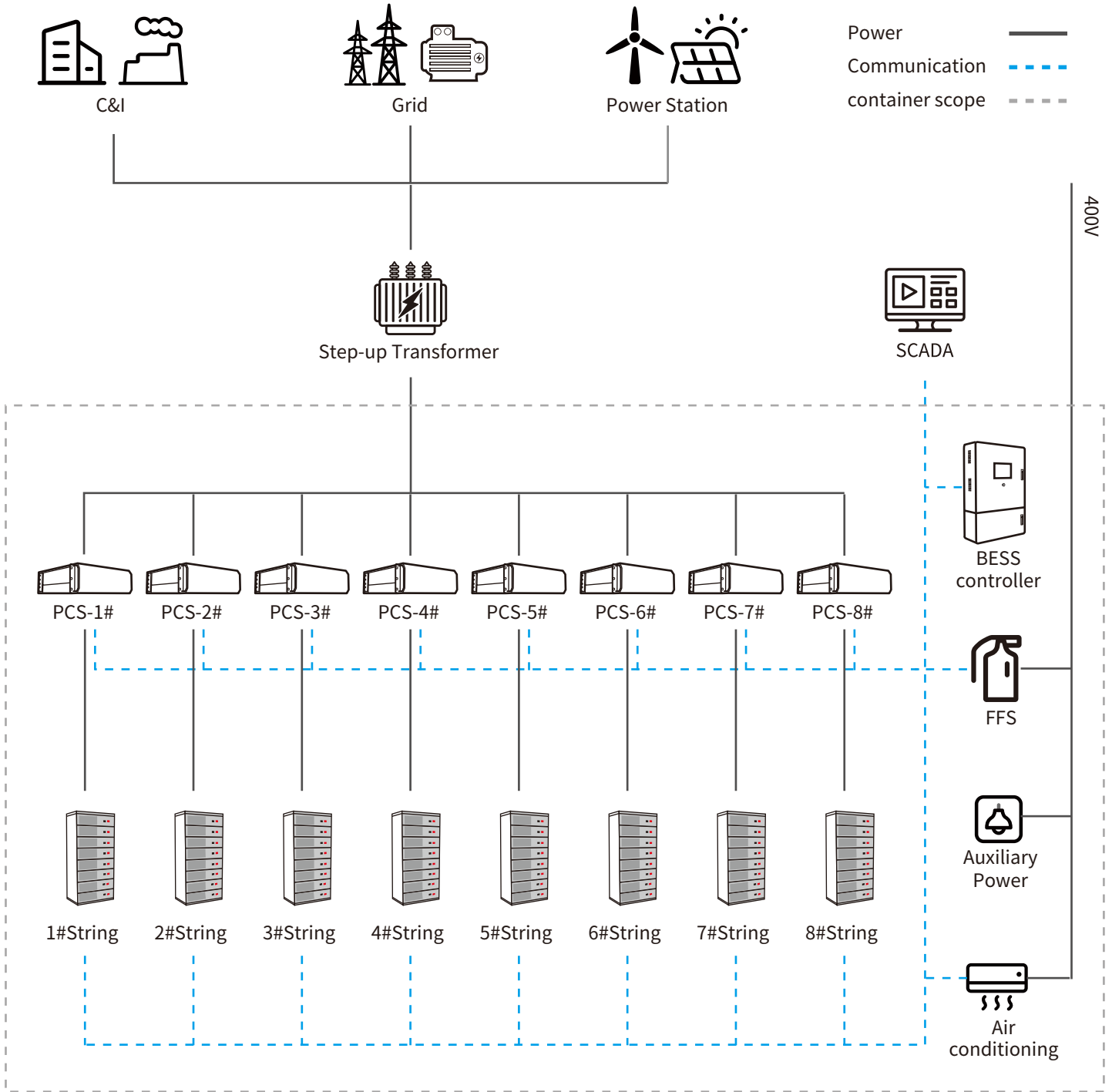


## Application Areas

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

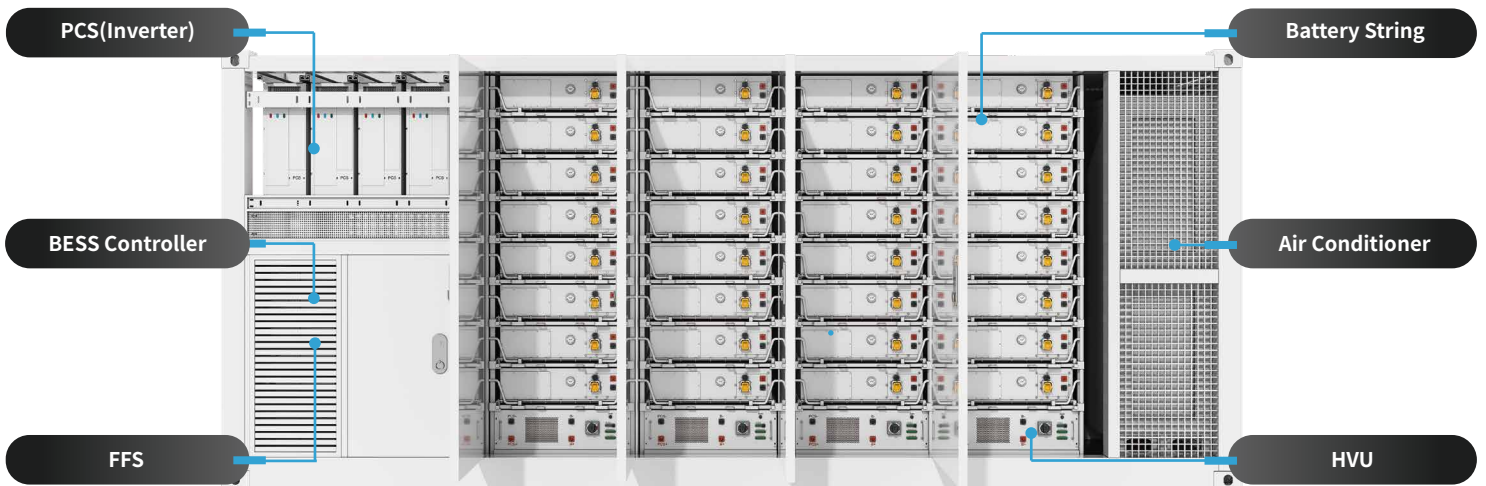


# System Topology



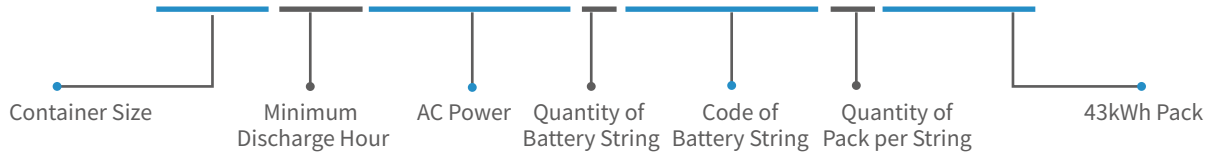
More Energy	All-in-one Design	Simple O&M	Safe & Reliable
Pack-level Optimization String-level Optimization	AC/DC All-in-one Design Reducing Initial Investment	No periodic balancing No experts site visit	Modular Design High Availability

## □ Product Layout



## □ Product Model Definition

**20C2H1600K-8LS344-8LP43**



## □ Product Configuration

Product Model	Battery String Type	String Qty	Nominal Capacity	DC Voltage Range	Grid-connected Voltage	Dimensions (WDH mm)
20C2H1600K	LS344	8	2,752kWh	1075.2V~1363.2V	690V	6,058x2,438x2,896mm
20C2H1600K(DC)	LS344	10	3,440kWh	1,075.2V~1,363.2V	690V	6,058x2,438x2,896mm

# □ System Technical Specifications

Item	20C2H1600K
<b>DC Data</b>	
Battery chemistry	Lithium Iron Phosphate (LFP)
Cell life cycle	80% Retention with 6,000 Cycles @ 0.5C 25°C
Cell spec	3.2V/280Ah
String configuration	1P384S
Number of strings	8
DC rated energy capacity	2,752kWh
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
<b>AC Data</b>	
Rated AC Power	1,600kW
Maximum AC power	1,760kW
Rated voltage	690V
Grid voltage range	586.5~759V(Optional)
AC rate of current	1,339.2A
Output THDi	<3%
AC PF	-1~+1
AC output	3W+PE
<b>General Data</b>	
Dimension w/o clearances (L*W*H)	6,058x2,438x2,896mm
Weight of the whole system	28.5t
Degree of protection	IP54
Operating temperature range	-20~50°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	Liquid Cooling
Fire fighting system	FK-5-1-12(NOVEC1230)
Communication interfaces	RS485, Ethernet
Certificates	UL9540, DNV Bankability, UN3536

# □ Key Components



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

## Battery String-LS344

Item	Data
Battery module	LS344
Pack QTY	8
Rated capacity	344.06kWh
Rated voltage	1,228.8V
DC voltage range	1,075.2V~1,363.2V
Pack	153.6V/280Ah@1P48S
Communication	Ethernet, CAN, RS485
Lifespan	>6,000 cycles@0.5C, 25°C
Dimensions (W×D×H)	862×1,100×2,228mm
Weight	2,540kg
Certifications	UL1973, UL9540A, IEC62619, CE , UN38.3



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

## Power Conversion System

Item	Data
DC voltage range	1000~1,500V
Maximum DC current	224.5A * 8
Rated output power	200kW * 8
Rated grid voltage	690V, 3W+PE
Grid voltage range	586.5~759V(Optional)
Grid frequency	50Hz/60Hz
Max AC current	184.1A * 8
AC PF	-1~+1
Weight	100kg * 8
Certifications	UL 1741, IEEE 1547, IEC62477-1, IEC 61000

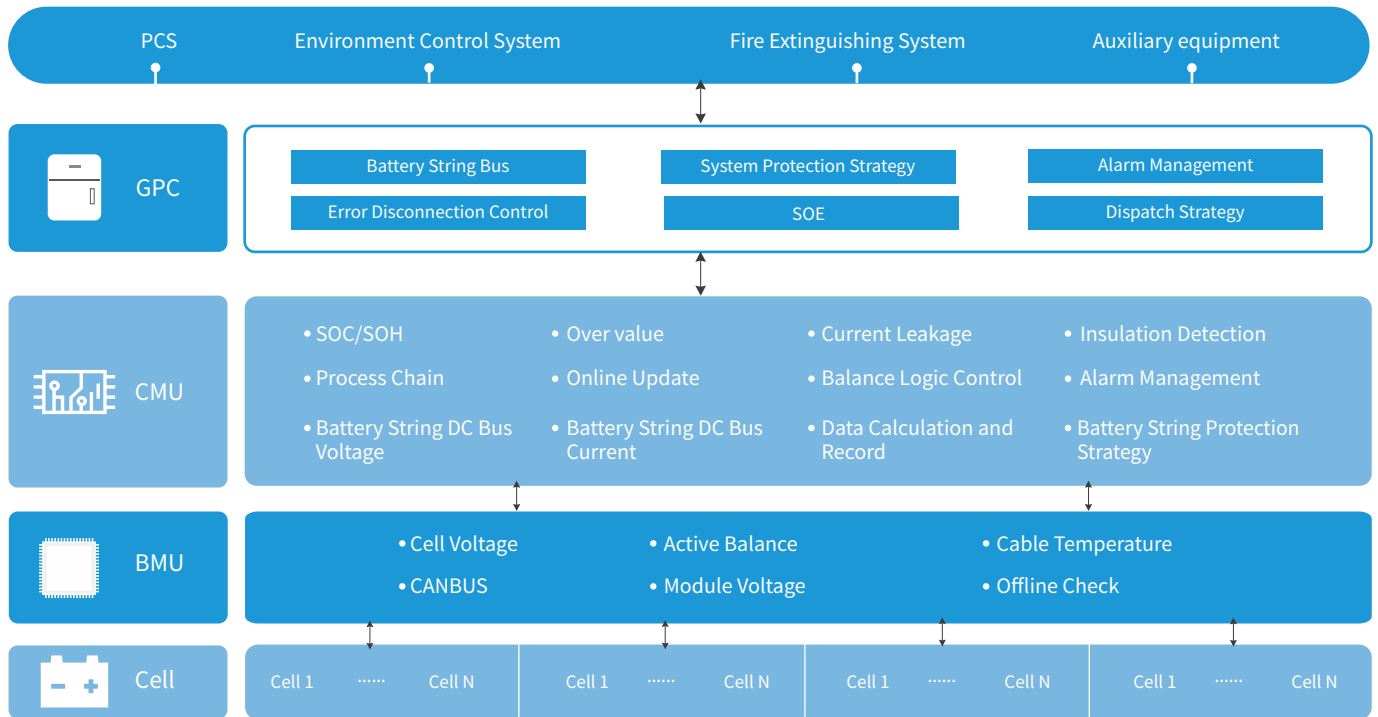


- All-round signal collection;
- Comprehensive logical control;
- Multilevel electric & control protection;
- Intelligentize Communication management ;
- Simple Configuration.

## GridPoint Controller (GPC)

	Data
Power interface	AC400V/DC24V
Communication	Modbus RTU、 Modbus TCP
Relay	24 stem node input / output
Grid control application	Time-of-use, Peak shaving, Renewable smoothing

# □ 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

# NOTES

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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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