

DATASHEET



AMPIFARM | AF-C10-CY-275-NCPB-125

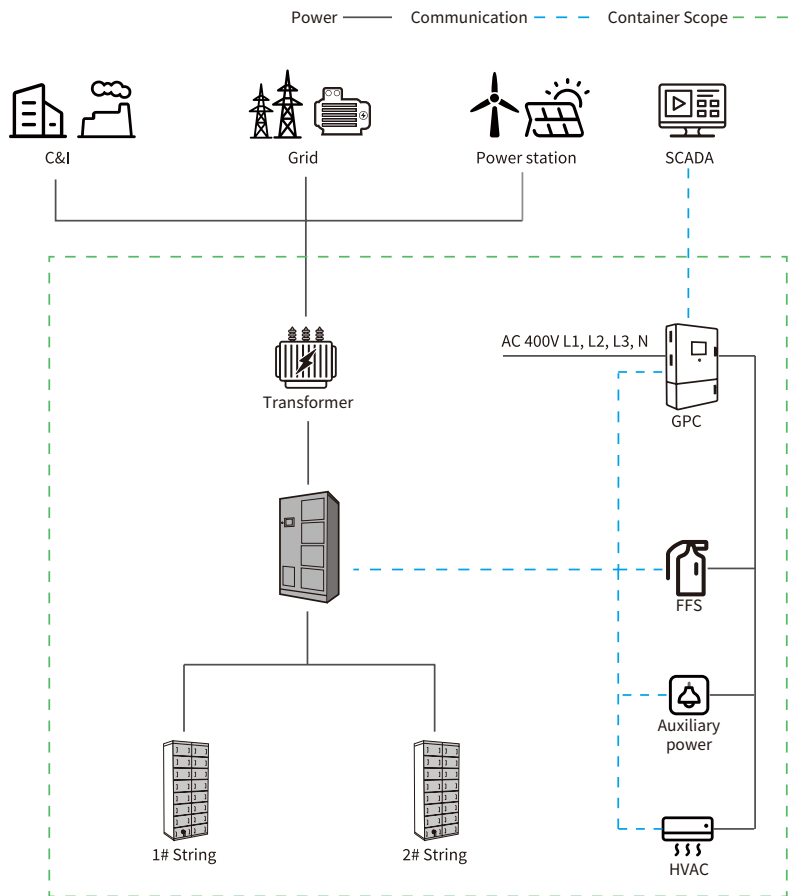
Battery Energy Storage System, 275kWh Battery Capacity, 125kW Power Conditioning System (PCS)

AmpoFarm Energy Storage Solution: Safety, Efficiency, and Profitability Combined. Our system is specifically designed to meet the unique needs of industrial and commercial customers. AmpoFarm seamlessly integrates cutting-edge technology, offering unmatched safety and reliability while maximizing financial returns.

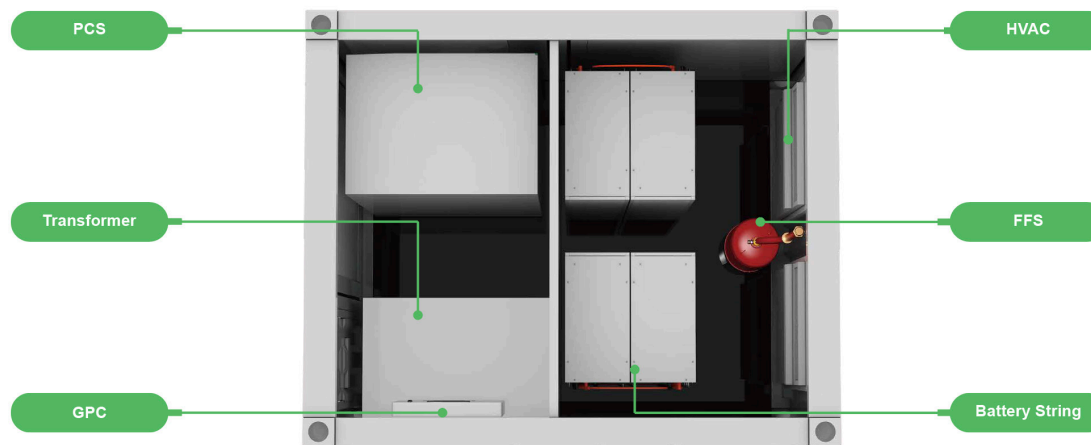
AmpoFarm systems utilize the most recent advancements in battery technology (Nano-Crystal™ Phosphate), ensuring fire safety, reliability, and longevity. AmpoFarm is an adaptable and scalable energy solution that can be expanded when needed. The System connects to AmpoFarm Cosmos™ (EMS): Our state-of-the-art EMS, which ensures the highest level of data safety while enabling efficient energy consumption monitoring and optimization.

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SYSTEM TOPOLOGY



PRODUCT LAYOUT

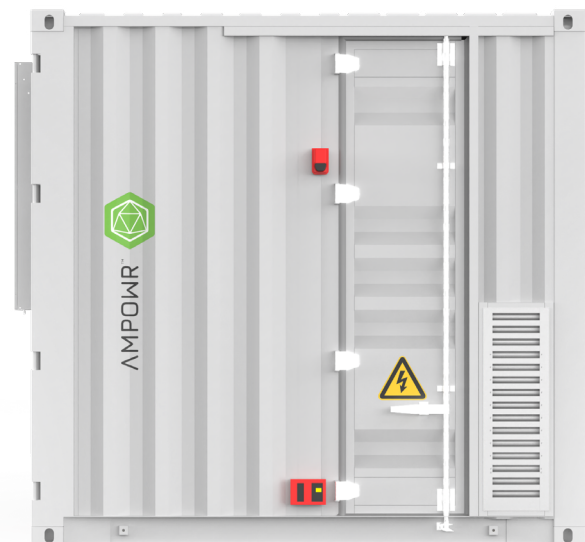


SYSTEM CONFIGURATION

Battery string type	Nominal capacity	AC connection	Isolation	Grid-connected voltage options	Dimensions (WDH mm)
NCPB-9P51-831S	275kWh	3-Phase 4-Wire+PE	Built-in Transformer	480V 400V	2,991 x 2,438 x 2,591mm

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

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DC DATA

BATTERY CHEMISTRY	Nano Crystal Batteries Lithium Iron Phosphate (LFP)
CELL LIFE CYCLE	80% Retention with 5,000 Cycles @ 0.5C 25 °C
CELL SPEC	3.2V/90Ah
STRING CONFIGURATION	2P240S
NUMBER OF STRINGS	8
RATED ENERGY CAPACITY	275kWh
DC RATED ENERGY CAPACITY	276,48kWh
RATED VOLTAGE	768V
VOLTAGE RANGE	672V~852V
BMS COMMUNICATION INTERFACE	RS485, Ethernet
BMS COMMUNICATION PROTOCOL	Modbus RTU, Modbus TCP

AC DATA

SYSTEM	AF-C10-CY-275-NCPB-125-N	AF-C10-CY-275-NCPB-125-E
RATED AC POWER	125kW	
MAXIMUM AC POWER	275kW	
RATED VOLTAGE	480V	400V
GRID VOLTAGE RANGE	432~528V (Configurable)	340~460V (Configurable)
AC RATE OF CURRENT	300.7A	360.8A
OUTPUT THDI	< 3%	
AC PF	0.1~1 leading or lagging (Controllable)	
AC OUTPUT	3-Phase 4-Wire+PE	

GENERAL DATA

	AF-C10-CY-275-NCPB-125-N	AF-C10-CY-275-NCPB-125-E
DIMENSION W/O CLEARANCES (L*W*H)	6,058 x 2,438 x 2,591mm	
WEIGHT OF THE WHOLE SYSTEM	11t	
DEGREE OF PROTECTION	IP54	
OPERATING TEMPERATURE RANGE	-20~40 °C	
RELATIVE HUMIDITY	0~95% (non-condensing)	
MAX WORKING ALTITUDE	3,000m / 10,000feet (> 2000m / 6500ft derating)	
COOLING CONCEPT OF DC HATCH	HVAC	
FIRE FIGHTING SYSTEM	NOVEC1230 / FM-200	
COMMUNICATION INTERFACES	RS485, Ethernet, GPRS	
CERTIFICATES	UL9540, IEC62933, UN3536	

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

Battery String

BATTERY MODULE	NCPB13815P9
PACK QTY	15
NOMINAL CAPACITY	138.24kWh
RATED VOLTAGE	768V
DC VOLTAGE RANGE	672V~852V
PACK	25.6V / 180Ah @2P16S
COMMUNICATION	Ethernet, CAN, RS485
LIFESPAN	>5,000 cycles @0.5C, 25℃
DIMENSIONS (W×D×H)	800 × 750 × 2,050mm
WEIGHT	1,467kg
CERTIFICATIONS	UL1973, UL9540A, IEC62619, CE , UN38.3



- Single-stage three-level modularization;
- Multi-branch input to reduce battery series and parallels connection;

Power Conversion System

	AP-AN-K052-1SWP	AP-XE-K052-1SWP
BATTERY VOLTAGE RANGE	500-850V	
DC MAX CURRENT	550A	
RATED AC POWER	125kW	
MAXIMUM AC POWER	275kW	
RATED VOLTAGE	480V	400V
GRID VOLTAGE RANGE	432-528V	340-460V
AC RATE OF CURRENT	300.7A	360.8A
OUTPUT THDI	≤3%	
ADJUSTABLE PF	1(leading) ~ 1(lagging)	
GRID FREQUENCY RANGE	60Hz (59.5~60.5Hz)	50 / 60±2.5Hz
ISOLATION METHOD	Built-in Transformer	
DIMENSIONS (W×D×H)-PCS	1,200 x 800 x 2,160mm	
WEIGHT	1,280kg	



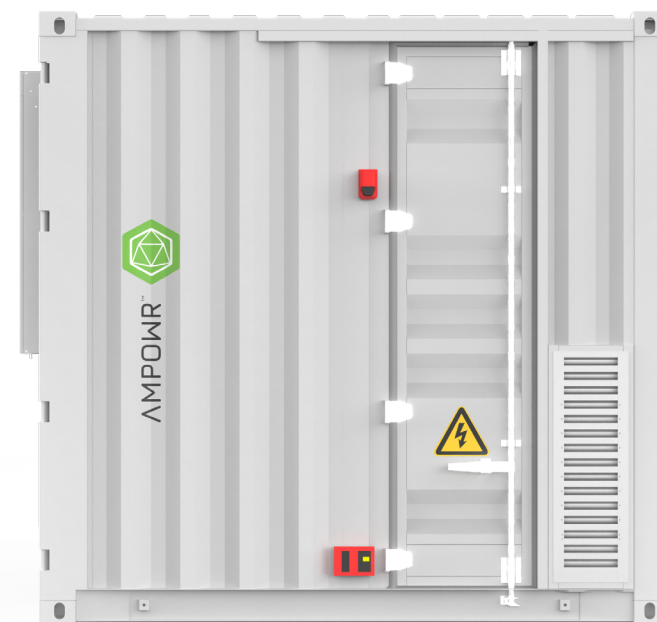
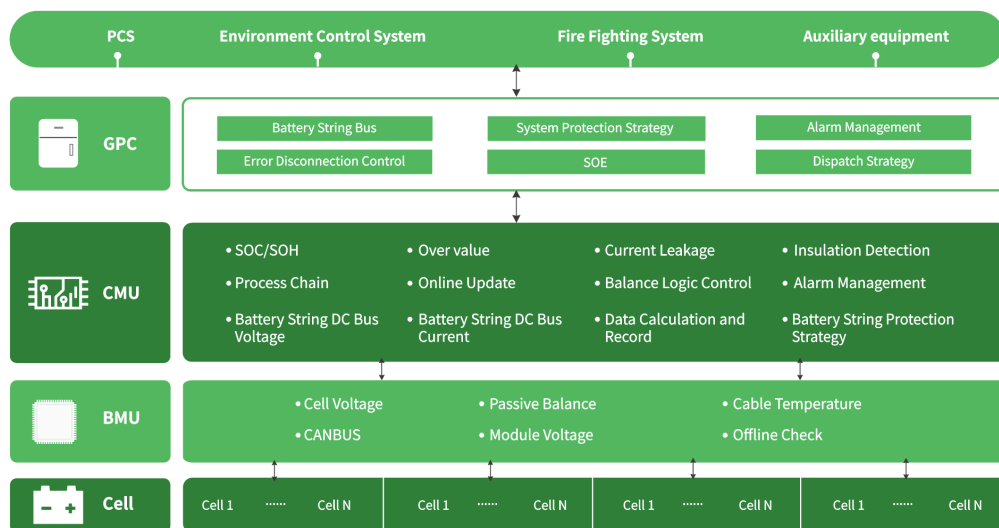
- All-round signal collection;
- Comprehensive logical control;
- Multilevel electric & control protection;
- Intelligentize Communication management;
- Simple Configuration.

GridPoint Controller (GPC)

POWER INTERFACE	AC220V / DC24V
COMMUNICATION	Modbus RTU, Modbus TCP
RELAY	24 stem node input / output
NETWORK CONTROL APPLICATION	Peak shifting and valley filling, peak cutting, smooth renewable energy output curve
OFFLINE CONTROL APPLICATION	Backup power supply, PV/DG/EV/ESS integrated micro-grid control

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BMS with Real-time Passive Balance



BMU		CMU	
Cell Voltage Measurement Accuracy	±5 mV	Battery String Voltage Measurement Range	100~1,000V
Cell Voltage Monitoring Interval	≤200ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2℃	Battery String Voltage Monitoring Interval	≤100ms
Cell Temperature Measurement Interval	≤3s	Battery String Current Measurement Range	±300A
Cell Current Balance	Passive Balance, 150mA 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

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