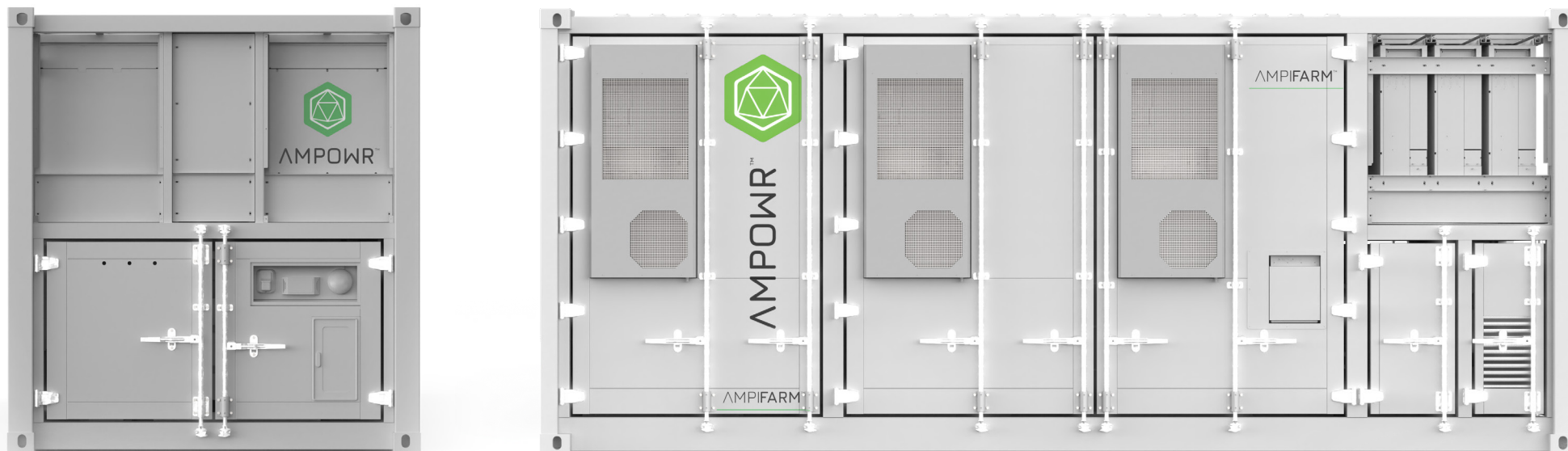


DATASHEET



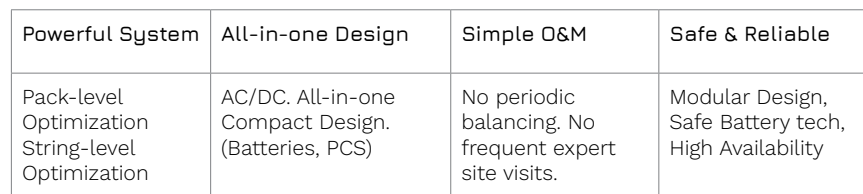
AMPIFARM | AF-C20-CY-1100-NCPB-500

Battery Energy Storage System, 1100kWh Battery Capacity, 500kW Power Conditioning System (PCS)

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

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

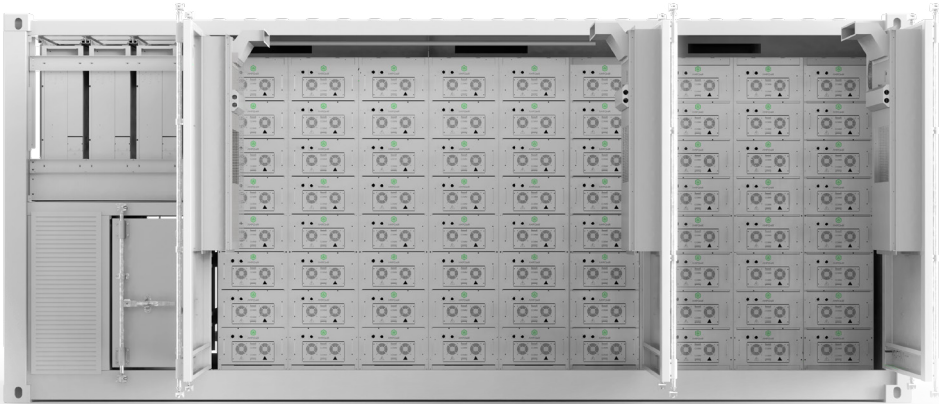
SYSTEM TOPOLOGY



PRODUCT LAYOUT



Product Model	Battery string type	Nominal capacity	AC Connection	Isolation	Grid-connected voltage	Dimensions (WxDxH)
AF-C20-CY-1100-NCPB-500-N	NCPB 1389P51	1,100kWh	3-Phase 4-Wire+PE	Built-in Transformer	480V	6,058 x 2,438 x 2,591mm
AF-C20-CY-1100-NCPB-500-E			3-Phase+PE	Non-isolation	400V	



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	1,100kWh
DC RATED ENERGY CAPACITY	1,105.92kWh
RATED VOLTAGE	768V
VOLTAGE RANGE	672V~852V
BMS COMMUNICATION INTERFACE	RS485, Ethernet
BMS COMMUNICATION PROTOCOL	Modbus RTU, Modbus TCP

AC DATA

SYSTEM	AF-C20-CY- 1100-NCPB- 500-N	AF-C20-CY- 1100-NCPB- 500-E
RATED AC POWER	500kW	
MAXIMUM AC POWER	550kW	
RATED VOLTAGE	480V	400V
GRID VOLTAGE RANGE	432~528V (Configurable)	342~418V (Configurable)
AC RATE OF CURRENT	601.4A	721.7A
OUTPUT THDI	< 3%	
AC PF	0.1~1 leading or lagging (Controllable)	
AC OUTPUT	3-Phase 4-Wire+PE	3-Phase+PE

GENERAL DATA

	AF-C20-CY-1100-NCPB-500-N	AF-C20-CY-1100-NCPB-500-E
DIMENSION W/O CLEARANCES (L*W*H)	6,058 x 2,438 x 2,591mm	
WEIGHT OF THE WHOLE SYSTEM	20t	18.7t
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	

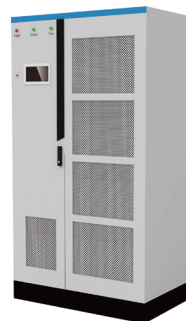
DATASHEET



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

Battery String

BATTERY MODULE	NCPB1389P51
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-LTK005-1SWP	AP-XE-LTK005-1SWP
BATTERY VOLTAGE RANGE	630~900V	600~900V
DC MAX CURRENT	873A	
RATED AC POWER	500kW	
MAXIMUM AC POWER	550kW	
RATED VOLTAGE	480V	400V
GRID VOLTAGE RANGE	432~528V	342~418V
AC RATE OF CURRENT	601.4A	721.7A
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	Non-isolation
DIMENSIONS (W*D*H)-PCS	2,200 × 800 × 2,160mm	1,100 × 800 × 2,160mm
WEIGHT	2,000kg	600kg



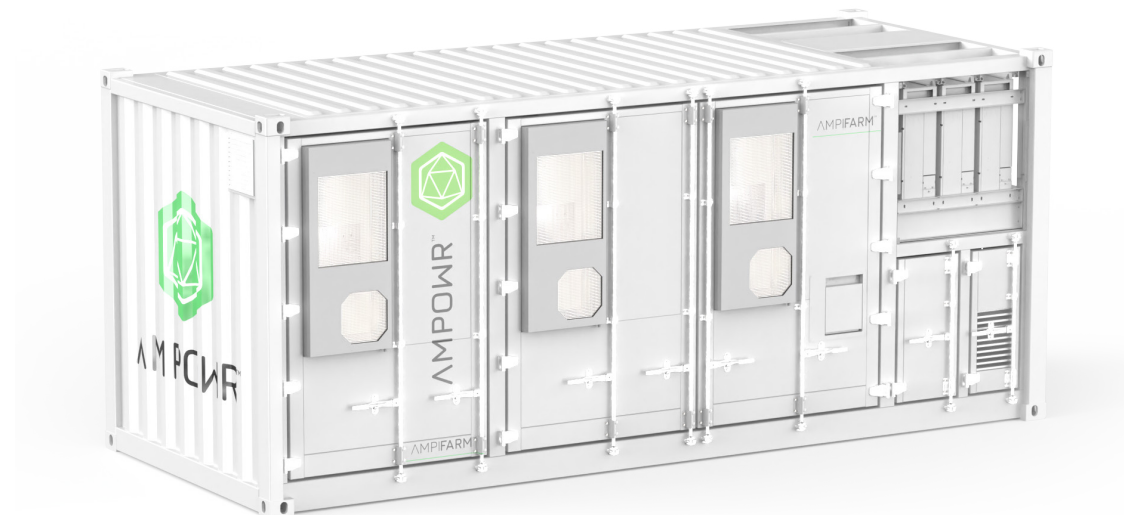
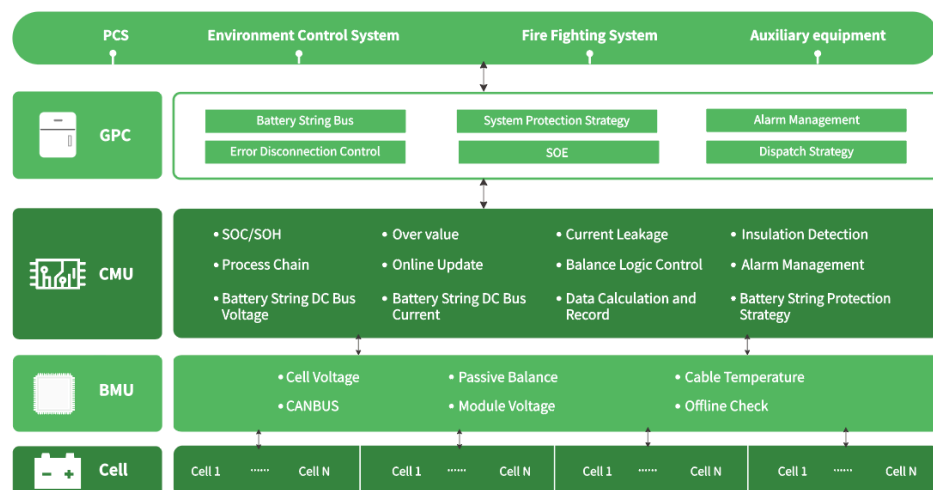
- All-round signal collection;
- Comprehensive logical control;
- Multilevel electric & control protection;
- Intelligentize Communication management;
- Simple Configuration.

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

DATASHEET

BMS with Real-time Passive Balance



BMU		CMU	
Cell Voltage Measurement Accuracy	±5 mV	Battery String Voltage Measurement Range	100~1,000Vv
Cell Voltage Monitoring Interval	≤200ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2 °C	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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