

AMPIFARM | AF-C20-CY-550-NCPB-500

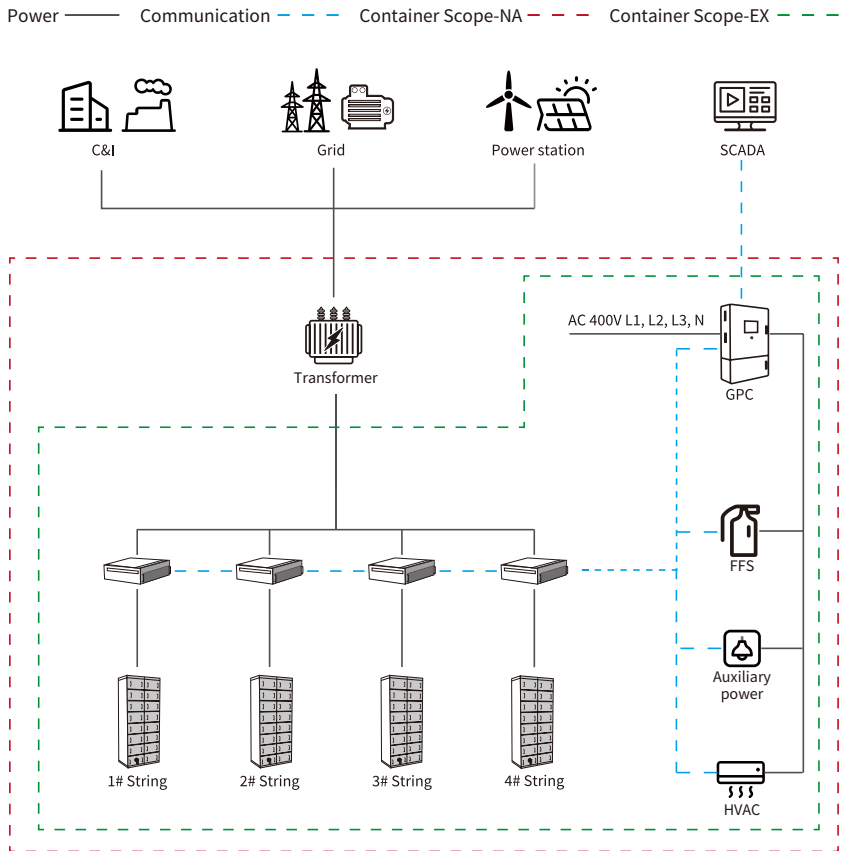
Battery Energy Storage System, 550kWh Battery Capacity, 500kW Power Conditioning System (PCS)

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.

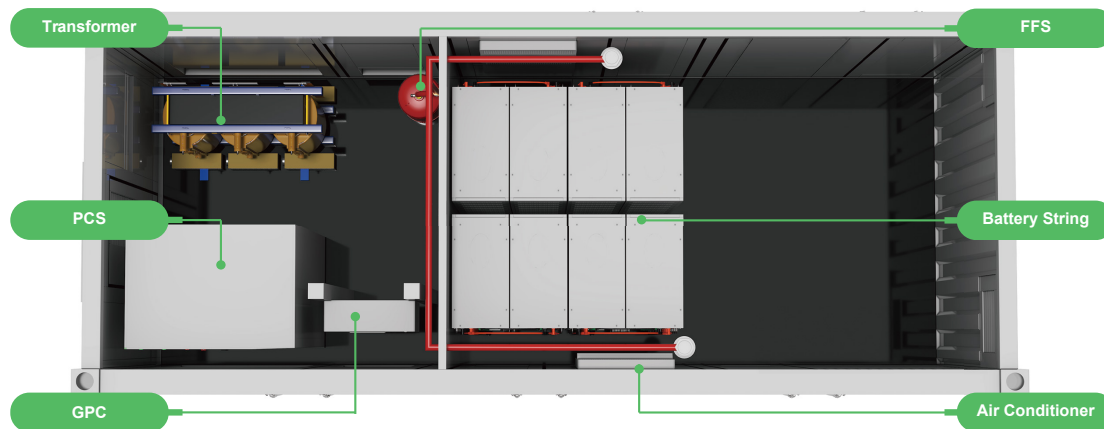
AmpiFARM systems utilize the most recent advancements in battery technology (Nano-Crystal™ Phosphate), ensuring fire safety, reliability, and longevity. AmpiFARM is an adaptable and scalable energy solution that can be expanded when needed. The System connects to Ampowr Cosmos™ (EMS): Our state-of-the-art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

DATASHEET

SYSTEM TOPOLOGY



PRODUCT LAYOUT

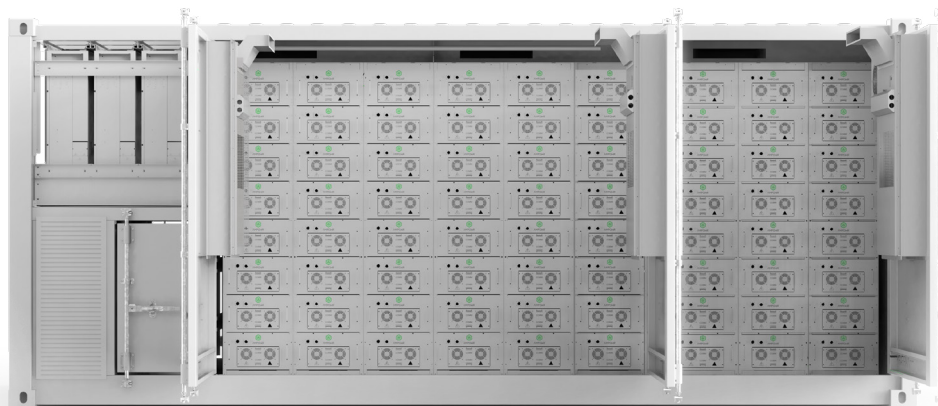


SYSTEM CONFIGURATION

| Product Model | Battery string type | Nominal Capacity | AC Connection | Isolation | Grid-connected voltage | Dimensions (WxDxH) |
|--------------------------|---------------------|------------------|-------------------|----------------------|------------------------|-------------------------|
| AF-C20-CY-550-NCPB-500-N | NCPB-41P42373S | 550kWh | 3-Phase 4-Wire+PE | Built-in Transformer | 480V | 6,058 x 2,438 x 2,591mm |
| AF-C20-CY-550-NCPB-500-E | | | 3-Phase+PE | Non-isolation | 400V | |

| Powerful System | All-in-one Design | Simple O&M | Safe & Reliable |
|--|--|--|--|
| Pack-level Optimization String-level Optimization | AC/DC. All-in-one Compact Design. (Batteries, PCS) | No periodic balancing. No frequent expert site visits. | Modular Design, Safe Battery tech, High Availability |

DATASHEET



DC DATA

| | |
|--------------------------------|--|
| BATTERY CHEMISTRY | Nano Crystal Batteries Lithium Iron Phosphate (LFP) |
| CELL LIFE CYCLE | 80% Retention with 5,000 Cycles @ 1C 25 °C |
| CELL SPEC | 3.2V/90Ah |
| STRING CONFIGURATION | 2P240S |
| NUMBER OF STRINGS | 4 |
| RATED ENERGY CAPACITY | 550kWh |
| DC RATED ENERGY CAPACITY | 552.96kWh |
| 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-550-NCPB-500-N | AF-C20-CY-550-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-550-NCPB-500-N | AF-C20-CY-550-NCPB-500-E |
|----------------------------------|---|--------------------------|
| DIMENSION W/D CLEARANCES (L*W*H) | 6,058 x 2,438 x 2,591mm | |
| WEIGHT OF THE WHOLE SYSTEM | 14.5t | 13.2t |
| DEGREE OF PROTECTION | IP54 | |
| OPERATING TEMPERATURE RANGE | -20~40 °C | |
| RELATIVE HUMIDITY | 0~95% (non-condensing) | |
| MAX WORKING ALTITUDE | 3,000m / 10,000feet (> 2000m/6500feet derating) | |
| COOLING CONCEPT OF DC HATCH | HVAC | |
| FIRE FIGHTING SYSTEM | NOVEC1230 / FM-200 | |
| COMMUNICATION INTERFACES | RS485, Ethernet, GPRS | |
| CERTIFICATES | UL9540, IEC62933, UN3536 | |

DATASHEET



- 1C 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;



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

Battery String

| | |
|--------------------|--|
| BATTERY MODULE | NCPBS1815P9 |
| 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 @1C, 25℃ |
| DIMENSIONS (W×D×H) | 800 × 750 × 2,050mm |
| WEIGHT | 1,467kg |
| CERTIFICATIONS | UL1973, UL9540A, IEC62619, CE , UN38.3 |

Power Conversion System

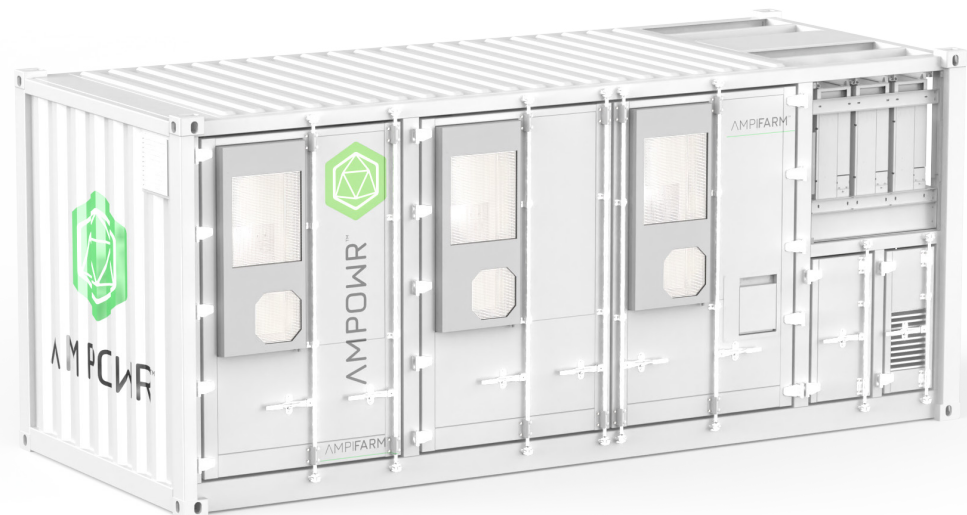
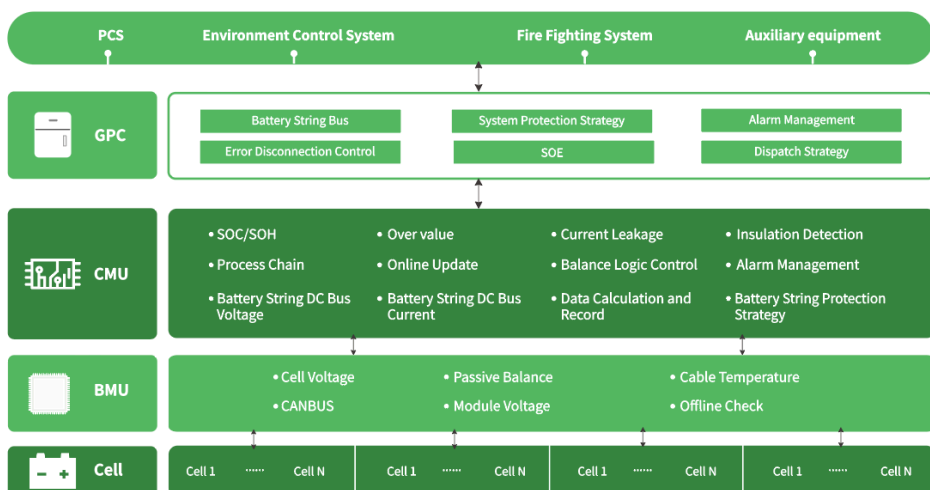
| | AP-AN-LTK005-1SWP | AP-XE-LTK005-1SWP |
|------------------------|-----------------------|-----------------------|
| BATTERY VOLTAGE RANGE | 630~900V | 600~900V |
| DC MAX CURRENT | 873A | |
| RATED AC POWER | 500kW | |
| MAXIMUM AC POWER | 550kW | |
| RATED VOLTAGE | 480V | 400V |
| GRID VOLTAGE 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 |

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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