



AMPIFARM | AF-C20-KR-700-NCPB-250

Battery Energy Storage System, 700kWh Battery Capacity, 250kW 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.



AMPIFARM™ ESS

AMPIFARM - 695KWH ESS - 250KW PCS

The AmpifARM™ Series Energy Storage System integrates with the Battery, BMS, PCS to deliver a total power delivery of 695kWh. The AmpifARM™ is housed in a 20ft containerized housing which employs a unique air duct design, resourceful temperature control technology and state of the art FM200 fire suppression.

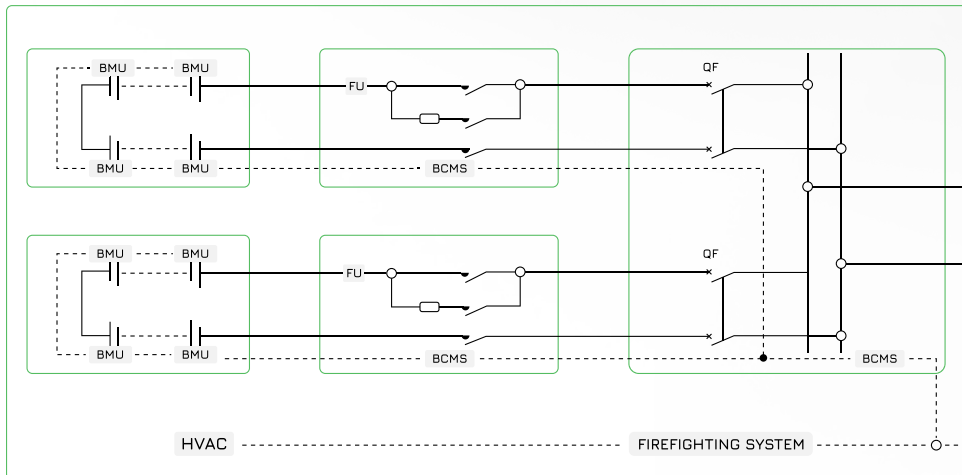
NO.	ITEM	SPECIFICATION	QTY	REMARK
1	AMPIFARM	250kW PCS / Battery 695kWH	1	Including 1.1-1.6
1.1	Power Conditioning System (PCS)	AMP-T0520-ESG, 400Vac / 50Hz, 3Ph+PE+N	1	
1.2	Local Controller	AMP-0001-SME; AMP-10-UME-KSM	1	
1.3	Battery System (Battery rack)	175kWh,0.5C Module(2P12S) 19S +1 control box, 729.6V/638.4~820.8V	4	Total 695kWh
1.4	Battery System (BMS)	Matched with battery system	1	
1.5	Container Enclosure	20' container with PCS chamber and battery chamber (including lighting and power distribution)	1	20ft container
1.6	Container HVAC	7.5kW	2	
1.7	Container Firefighting System	Including fire controller, FM200, smoke sensing, temperature sensing, alarm and other fire control systems	1	
1.8	DC Combiner Cabinet	AMP-8-1-SCDK	1	
1.9	AC&DC Cable	Cables for module connection	/	All required cables included
TOTAL PCS CAPACITY (KWH)			250	
TOTAL BATTERY CAPACITY (KWH)			695	



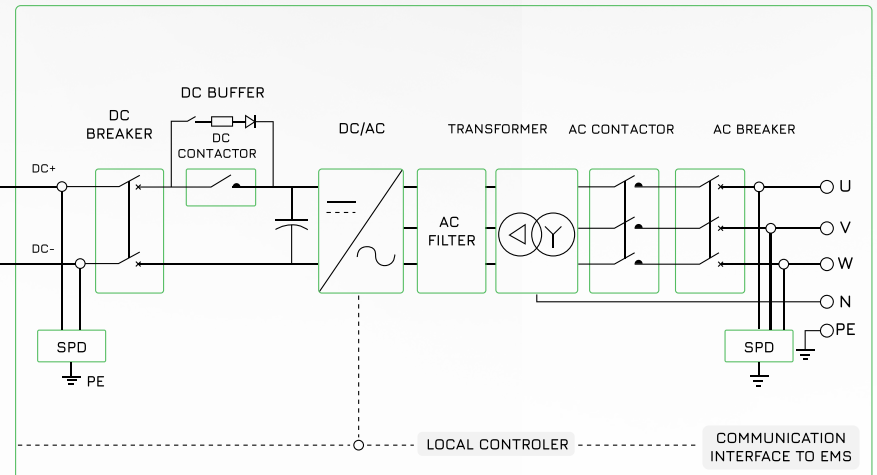
DATASHEET

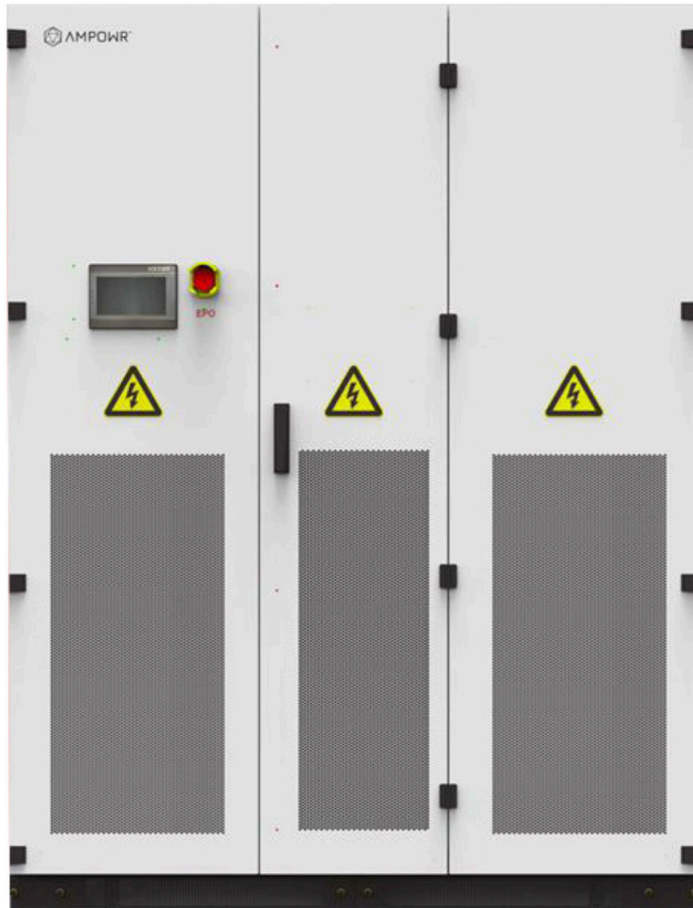


BATTERY SILO



PCS SILO





POWER CONDITIONING SYSTEM

AMP-T0520ESG (PCS)

DC SIDE

MAX. DC VOLTAGE	1000 V
DC VOLTAGE RANGE FOR NOMINAL POWER	500 ~ 850Vdc
MAX. DC CURRENT	565A
AUTO-BUFFER FUNCTION	Yes

AC SIDE (GRID)

AC OUTPUT POWER	250kW
MAX. AC POWER	275kVA
MAX. AC CURRENT	400A
NOMINAL AC VOLTAGE	400Vac, 3W+N+PE
AC VOLTAGE RANGE	400Vac (-20% ~ +15%)
NOMINAL GRID FREQUENCY (GRID FREQUENCY RANGE)	50/60Hz (± 2Hz)
AC CURRENT THD (TOTAL HARMONIC DISTORTION)	<3%
POWER FACTOR AT NOMINAL POWER	>0.99/1 leading – 1 lagging
ADJUSTABLE REACTIVE POWER	-100% ~ 100%

GENERAL DATA

DIMENSIONS (W X H X D)	1200 x 935 x 2000mm (63 x 36.8 x 78.7 inch)
WEIGHT	930kg (2050lbs)
BYPASS ATS MODULE	Optional
ISOLATION METHOD	Transformer
CHARGE/DISCHARGE SWITCHING TIME	<40ms
INGRESS PROTECTION RATING	IP21
OPERATING AMBIENT TEMPERATURE RANGE	-30 °C - +55 °C (-22 °F - +131 °F)
RELATIVE HUMIDITY RANGE	0~95% (no condensation)
COOLING METHOD	Intelligent forced air cooling
MAX. OPERATING ALTITUDE	5000m (>3000m derating)
DISPLAY	Touchscreen
COMMUNICATION	RS485 / CAN 2.0 (to BMS), RS485 / Ethernet (to EMS)
GRID SUPPORT	L/HVRT, L / HFRT, active & reactive power control and power ramp rate control

BATTERY SYSTEM

The energy storage system adopts a 3.2V / 120Ah Nano Crystal Battery Cell. The battery cell is packed into a battery module with a voltage of 38.4V and a capacity of 9.216kWh through two parallel strings in a series of 12. 14 modules are connected in series to form a battery rack with a voltage of 537.6V and a capacity of 129kWh. Each battery container system consists of 8 battery banks, with a total energy storage capacity of 700kWh.

NCPB3.2-120CL - BATTERY CELL

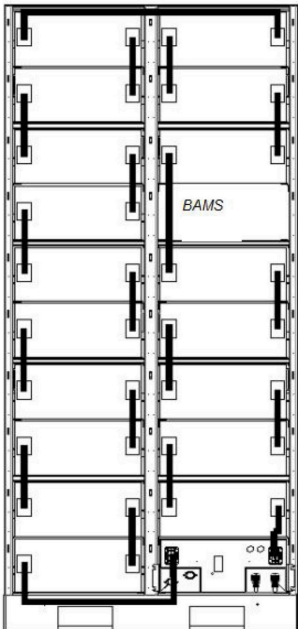
CAPACITY	≥ 120Ah @ 25 °C (77 °F), 0.25C, BOL	NOMINAL GRID FREQUENCY (GRID FREQUENCY RANGE)	50/60Hz (± 2Hz)
NOMINAL VOLTAGE	3.2V	REVERSIBLE CAPACITY LOSS, 25 °C (77 °F), 100% SOC / MONTH	≤ 3.5%
DIMENSION (W X H X D)	173.9 x 170 x 485mm (6.86 x 6.7 x 19.1inch)	OPERATION TEMPERATURE	-20 °C ~ 55 °C (-4 °F ~ 131 °F)
WEIGHT	≤2.86kg (6.3lbs)	STORAGE TEMPERATURE	-30 °C ~ 60 °C (-22 °F ~ 140 °F)
IMPEDANCE (1KHZ, BOL, 40% SOC)	≤0.3mΩ	CERTIFICATION	IEC 62619, UL1973, UN38.3

NCPB38.4-9.2BP - BATTERY PACK

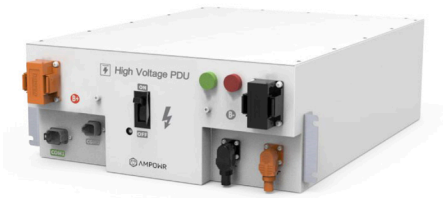
NOMINAL ENERGY	9.216kWh @25 °C (77 °F), BOL, 2P12S	OPERATION TEMPERATURE	Min. 0 °C (32 °F) - Max. 40 °C (104 °F)
RATED VOLTAGE	38.4V	COOLING METHOD	Air Cooling
VOLTAGE RANGE	Min: 33.6V Max: 43.8V	HUMIDITY	0%~95%, non condensing
WEIGHT	86kg (189.6lbs)	COMMUNICATION PROTOCOL	Rack BMS: CAN;
DIMENSION (H X W X D)	202 x 642 x 676mm (8 x 25.3 x 26.6inch)	Note: CSC (Cel Sensor Circuit) includes passive balancing, cell voltage measurement, temperature measurement.	

BATTERY RACK

CONFIGURATION	(2P12S) 14S	DIMENSION (H X W X D)	2220 x 1080mm x 725 (87.4 x 42.5 x 28.5 inch)
NOMINAL ENERGY	129kWh @25 °C (77 °F), BOL, NCPB3.2-120CL	OPERATION TEMPERATURE	Min. 0 °C (32 °F) - Max. 40 °C (104 °F)
RATED VOLTAGE	537.6V	COOLING METHOD	Air Cooling
VOLTAGE RANGE	470.4V ~ 604.8V	HUMIDITY	0%~95%, non condensing
WEIGHT	~1850kg (<4078lbs)	COMMUNICATION PROTOCOL	Modbus + CAN



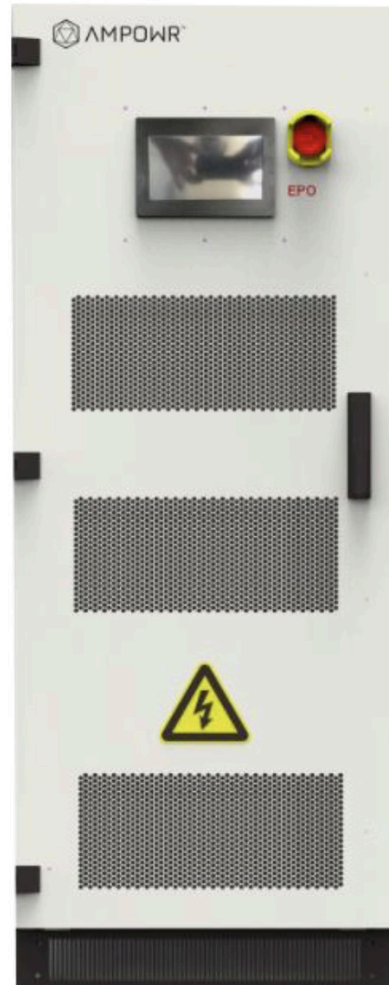
DATASHEET



CONTROL BOX WITH RACK BMS



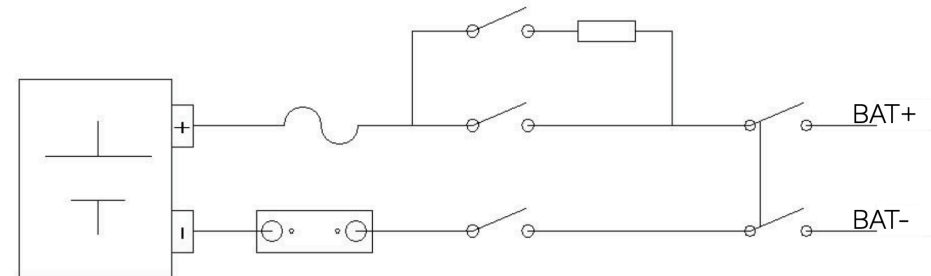
BATTERY MANAGEMENT SYSTEM



LOCAL CONTROLLER CABINET

BATTERY MANAGEMENT

The rack BMS has the ability to measure the full voltage and current of all units in the rack. It can protect the battery according to its own algorithm. Rack SOC (State of Charge) and SOH (State of Health) are also calculated automatically and updated very precisely by the rack BMS.



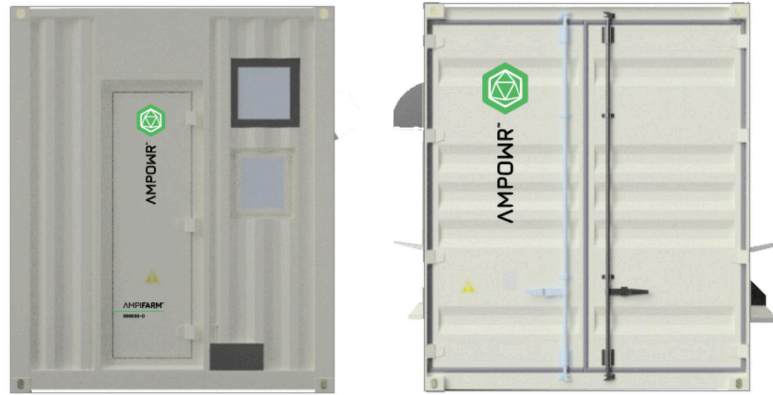
AMP-0001-SMEK - LOCAL CONTROLLER CABINET

The Local Controller Communication cabinet is specifically developed for energy storage power plants. It is integrated with functions of UPS (Uninterrupted Power Supply), power plant data collection and operation control, LCD display of operation data, upload of plant data and more.

RATED INPUT VOLTAGE	380Vac
AC OUTPUT POWER	/
ETHERNET CONFIGURATION	Network switch (10M / 100M / 1000M)
4G COMMUNICATION	Yes, Function reserved
RS485 COMMUNICATION	10 Ports (with isolation)

RS232 COMMUNICATION	1 Port (only for debugging)
INPUT DETECTION CONFIGURATION	16 (Extended to 72)
OUTPUT DRY CONTACT CONFIGURATION	16 (NO + NC)
COMMUNICATION PROTOCOL	Rack BMS: CAN; TOCOL
DISPLAY	HD Touch LCD

AMPIFARM™ CONTAINER



EQUIPMENT	SPECIFICATION / MODULE	UNIT	QTY	REMARK
CONTAINER BODY	20ft HC, high cube container	Set	1	1, Six sides of insulation, the thickness of the insulation layer shall not be less than 50mm 2, including lighting and power distribution
AIR CONDITIONER	7.5KW Industrial A/C	Set	2	Air conditioning power supply lines need to be concealed. Air conditioning communication port needs to be connected to Local controller cabinet
FIRE PROTECTION SYSTEM	Heptafluoropropane fire extinguishing system	Set	1	Including fire controller, Heptafluoropropane, smoke sensors, temperature sensors, alarm and other fire control systems
CONTAINER APPEARANCE		Set	1	Optional custom wrapping

* System co-branding is optional