MPack 233A

233kWh Liquid-Cooling Battery

MPack 233A is a high-performance energy storage solution for commercial and industrial use, featuring optimized thermal management, efficient energy cycling, advanced fire and gas detection, and intelligent power management for reliable and scalable energy integration.

Product Function

Advanced Energy Storage

Stores 233kWh of electricity for future use, ensuring a reliable energy reserve. It supports integration with multiple power sources, including solar energy, diesel generators, and the grid, offering versatility in energy input.

Smart Load Management

Balances grid demand by charging during off-peak hours and discharging during peak hours, optimizing energy distribution. By leveraging time-of-use pricing, it helps reduce electricity costs and enhance overall energy efficiency.

Intelligent Energy Management

Optimizes charging and discharging efficiency through an advanced Energy Management System (EMS). With remote monitoring and real-time control capabilities, it enhances operational oversight and improves energy utilization.

Reliable Backup Power

Provides a dependable backup power supply during grid failures, keeping critical equipment operational. With seamless, uninterrupted power delivery, it is ideal for mission-critical applications such as data centers and hospitals.

Independent Off-Grid Power

Delivers a stable power supply to homes, businesses, or communities in off-grid areas, enabling independent operation. As a key component of microgrid systems, it ensures efficient and reliable energy distribution.

Scalable & Flexible Design

Features a modular design that supports parallel system integration for seamless capacity expansion. Its customizable configuration allows adjustments in power output and storage capacity to meet specific energy demands.

Product Features

High Energy Density

Designed with high-energy-density 1P52S 280Ah batteries, this system offers a compact size, making it ideal for space-constrained environments. Its optimized structure reduces weight, enhancing ease of installation and transportation.

Long Lifespan

Designed for longevity, it supports over 8000 charge-discharge cycles with minimal degradation, ensuring stable long-term performance.

High-Efficiency Conversion

With superior charge and discharge efficiency and a charge/discharge current of 150A, it minimizes energy loss while delivering millisecond-level response times to meet urgent power demands.

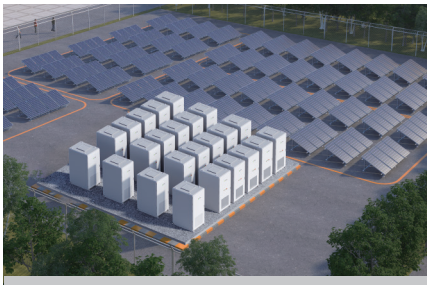
Safe & Reliable

Equipped with multiple protection mechanisms, including safeguards against overcharging, over-discharging, overheating, and short circuits. With an IP54 protection rating, fire-resistant materials, and a flame-retardant design, it further enhances operational safety.

Application Scenario

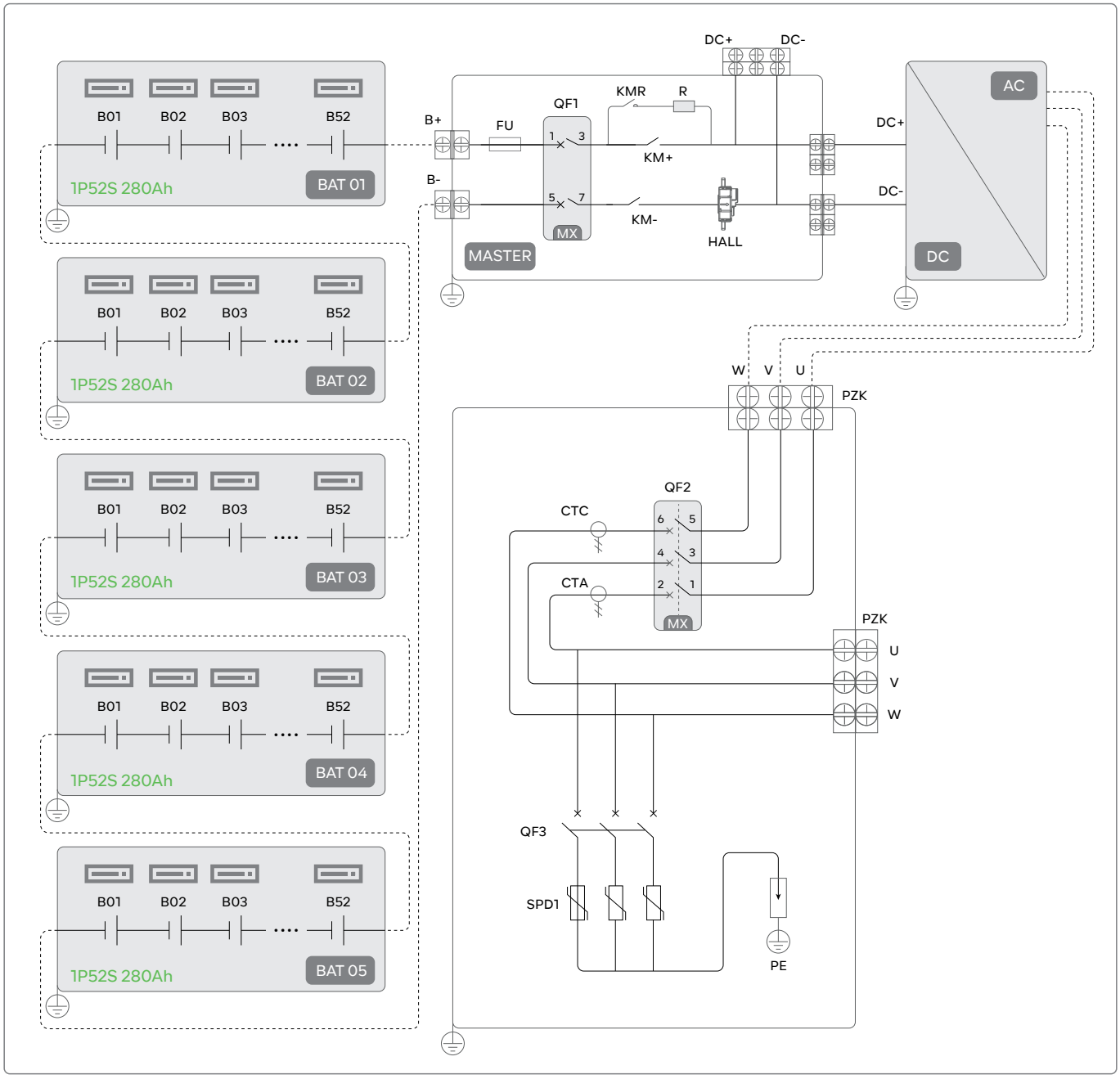
AGRICULTURE

DATA CENTERS

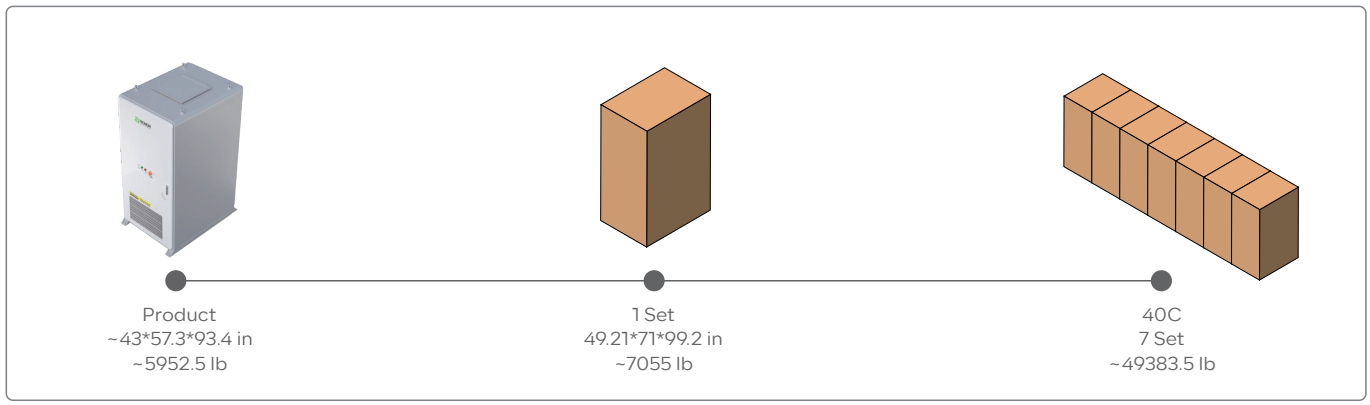


UTILITIES

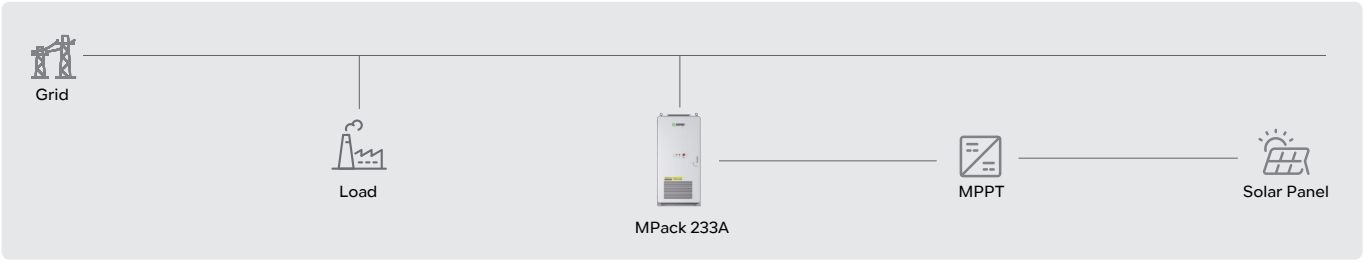
Product Topology

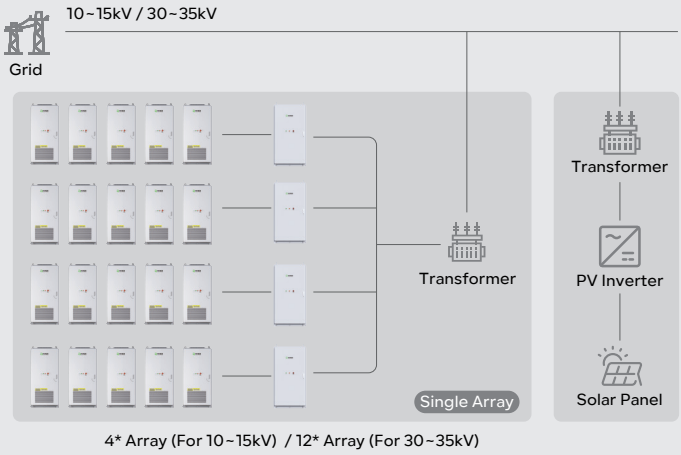


Packaging & Shipping Details



Single / Max. Parallel System Layout



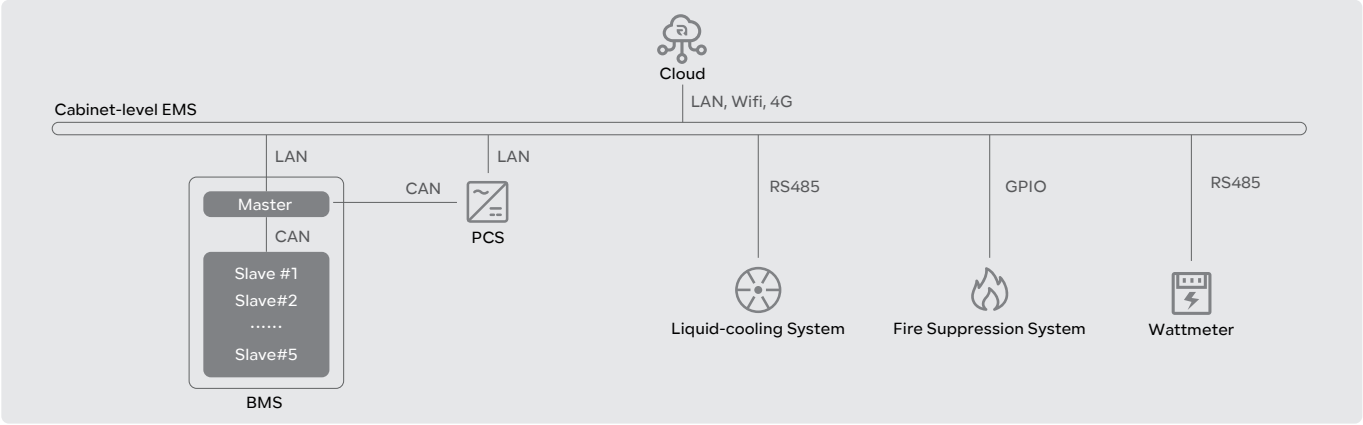


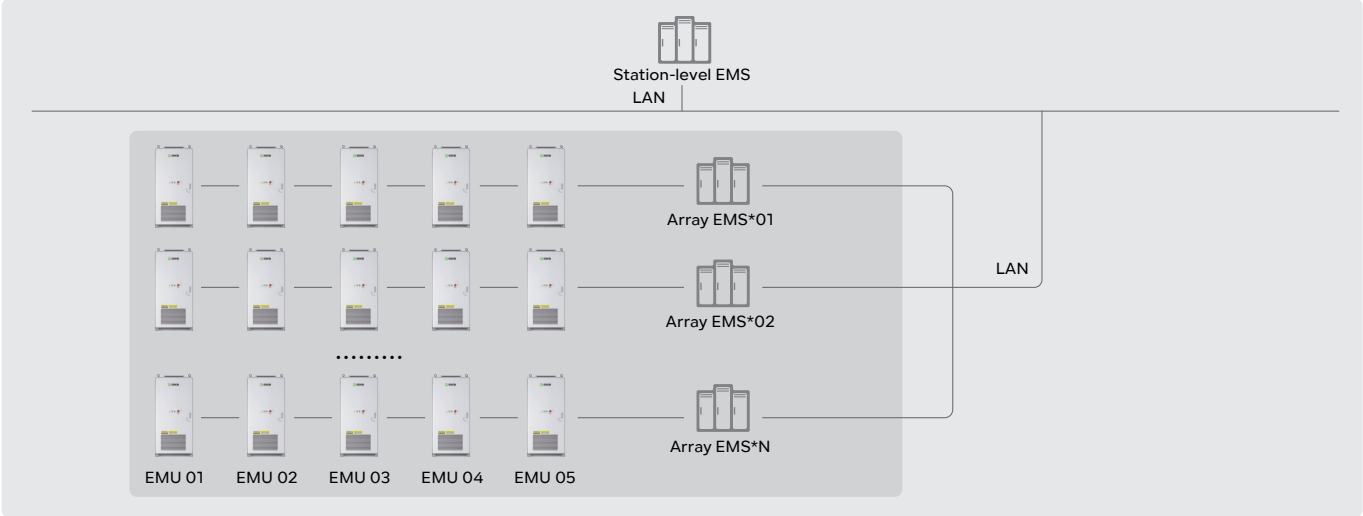
4* Array (For 10~15kV) / 12* Array (For 30~35kV)

Grid Voltage	10~15kV
Number of ESS	80(4*20)
Number of Array	4
Total Capacity(MWh)	18.64(4*20*233kWh)

Grid Voltage	30~35kV
Number of ESS	240(12*20)
Number of Array	12
Total Capacity(MWh)	55.92(12*20*233kWh)

Energy Management System(EMS) Structure





Product Parameter

Battery Energy Storage	
Cell Type	LFP 3.2V / 280Ah
Module Combination	1P52S
System Combination (Modules)	5 in series
Capacity (kWh)	233
Nominal Voltage (V)	832
Voltage Range (Vdc)	702~936
Discharge Depth	90% DoD
Thermal Management Mode	liquid cooling
Thermal Control Management	Aerosol Extinguishing

AC Output	
Rated AC Output Power (kW)	125
Max. AC Output Power (kVA)	137.5
Rated Output Voltage (Vac)	480
Output Voltage Range (Vac)	-15%~10%(settable)
Rated Grid Frequency (Hz)	60(settable)
Max. Output Current (A)	165.4
Adjustable Power Factor	＞0.99
THDi	＜3%

DC Input/Output	
Max. Power (kW)	250
Voltage Range (V)	761~923
Max. Current (A)	320

* The charging power of the DC interface is related to the load power, battery SOC and temperature.The discharge power of the DC interface is related to the battery's state of charge

System Characteristic	
Communication Interface	CAN, RS485, WiFi, LTE
Warranty	5 years
Certifications	ANSI/CAN/UL 1973:2022, ANSI/CAN/UL 9540:2020, UL 9540A:2019, UL 1741:2012 Ed.3+R:19May2023 UL 1741:2021 Ed.3(Supplement SB), CSA C22.2#107.1:2016 Ed.4+U1, IEEE 1547:2018,IEEE 1547.1:2020

General Parameters	
Battery Model	R-MP233125A0-US
Dimensions - W*D*H (in)	~43.3*57.3*92.1
Total Weight (lb)	~5952.5
Operation Altitude	≤4000m/13122ft (2000m/6561ft derating)
Noise Level @1m	<75 dB(A)
IP Rating	IP54
Operating Temperature (°C/°F)	–20~55/-4~131
Operating Humidity (RH)	0 to 95%, non-condensation
Storage Conditions	–20~30°C/–4~86°F, Up to 95% RH, non-condensation, State of Energy (SoE): 50% initial