MEDDORE-NA-200KW/200KWH

200 kW / 200 kWh Liquid-Cooled Sodium-Ion Energy Storage Cabinet - Technical Datasheet



Outdoor all-in-one liquid-cooled sodium-ion energy storage cabinet for commercial & industrial applications. Integrates 8 sodium-ion battery packs, BMS, 2 x 100 kW PCS, 2 x 100 kW DC/DC, PDU, EMS, 6 kW liquid cooling unit and multi-level aerosol fire suppression in a single IP54 cabinet. Supports peak shaving, PV integration, grid-tied and off-grid operation.

System Specifications

Cell Type	NFPP 3.2 V / 160 Ah sodium-ion
Configuration	1P416S
Rated Energy	199.68 kWh
Nominal Voltage	DC 1248 V (748.8 - 1435.2 V)
Charge / Discharge Rate	0.8P
Conversion Efficiency	>= 92%
Cycle Life	>= 3,000 cycles
Cooling	Liquid cooling (6 kW chiller)
Working Temperature	-25 ~ +55 deg C (derating above 45 deg C)
Working Humidity	0 - 95% RH, non-condensing
Communication	Ethernet / RS485, Modbus TCP / Modbus RTU
Altitude	<= 2,000 m (derating above)
Protection Rating	IP54
Dimensions (D x W x H)	1,650 x 1,375 x 2,450 mm
Weight	approx. 3,200 kg
Standards	GB/T 36276, GB/T 34120, GB/T 34131, UN38.3, IEC 62619, CE-EMC

Battery Pack (Tray)

Configuration	1P52S
Nominal Capacity / Energy	160 Ah / 24.96 kWh
Nominal Voltage	DC 126 V (93.6 - 179.4 V)
Cooling	Smart liquid cooling

Discharge Temperature	-40 ~ +55 deg C
Charge Temperature	0 ~ +55 deg C
Storage Temperature	0 ~ +40 deg C (within 3 months)
Quantity	8 packs

High-Voltage Box (PDU)

Max Voltage	1,500 V
Rated Current	250 A
Quantity	2 (one per cluster)

Liquid Cooling Unit

Rated Input	220 VAC +/-10% / 50 Hz
Cooling Capacity	6 kW
Coolant Flow / Pressure	50 L/min / 90 kPa
Supply Temperature	18 deg C @ 45 deg C ambient, RH 50%
Rated Input Power / COP	3.8 kW / 2.1
Heating Capacity	2 kW
Noise	<= 75 dB(A)
Refrigerant	R410A
Service Life	> 10 years

Fire Protection

Pack Level	Aerosol module in each pack, auto detect & extinguish (GB/T 42288)
Cluster Level	Aerosol system, smoke / heat detection, EMS alarm

DC/DC Converter

Rated Power	100 kW (peak 110 kW, 10 min)
LV Side Voltage	300 - 900 V (full load 380 - 900 V)
LV / HV Rated Current	275 A / 200 A
Max Efficiency	>= 99%
Charge-Discharge Transfer	< 20 ms
MPPT	Supported, 1 route
Quantity	2

PCS (Grid-Tied)

Rated Power	100 kW, three-level topology, bidirectional
DC Voltage Range	DC 630 - 900 V (full load)
Max DC Current	190 A
AC Output	400 VAC, 145 A, three-phase four-wire
Overload Capability	1.1 x continuous, 1.2 x 1 min (<= 35 deg C)
Grid Voltage / Frequency	340 - 460 V / 50-60 Hz +/- 2.5 Hz

Current THD / PF	<= 3% (full load) / -0.99 ~ +0.99
Max Efficiency	>= 98%
Charge-Discharge Transfer	< 100 ms

PCS (Off-Grid)

Output Voltage / Frequency	400 VAC +/-3% / 50-60 Hz
Output Distortion (THDU)	<= 3% (linear load)
Unbalanced Load Capability	100%
Quantity / Weight	2 modules / 70 kg each
Environment	-25 ~ +60 deg C, IP20 (module), CAN + Ethernet/RS485

Standard Configuration

Outdoor liquid-cooled cabinet	1 set, 200 kWh, 1,650 x 1,375 x 2,450 mm
Battery pack (1P52S, 160 Ah Na-ion)	8 pcs
High-voltage box (PDU)	2 pcs, 250 A / DC1500 V
PCS module	2 pcs, 100 kW each
DC/DC converter	2 pcs, 100 kW each
Liquid cooling unit incl. piping	1 set, 6 kW
EMS controller	1 set
Fire suppression	PACK + cluster level aerosol
Accessories	Breaker, SPD, MCB