

AC/DC INTELLIGENT Micro-Grid

ENERGY STORAGE SYSTEM



Strong Capacity

Utility-size distributed ESS solution, supporting 56MW of output power and 104MWh of capacity in a standard array.

Superb Performance

Safe LFP, 8000 cycles, high density, and embedded liquid-cooling thermal management system to remain working esp in extreme weather.

Optimized for Modese

Work with PV side and store power for later use. Help in peak-shaving application. Pos virtual scheduling application.sesses VPP

Pioneering Tech

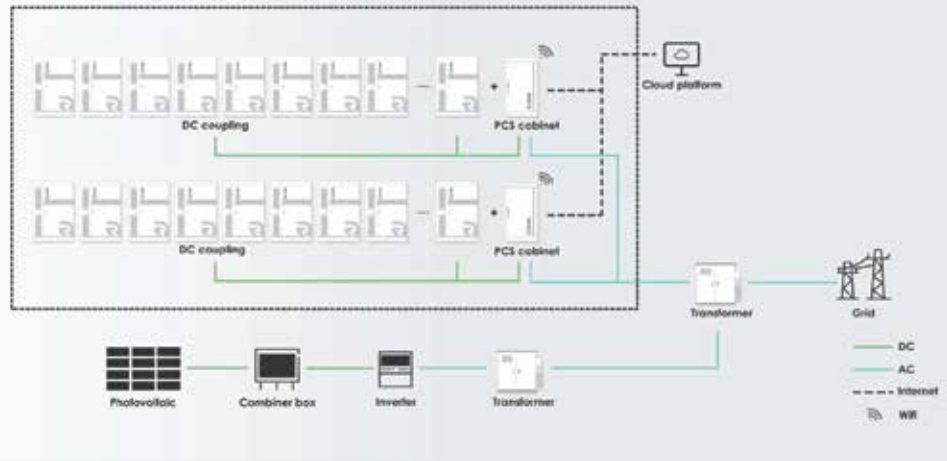
With a DCDC controller, realize the bus parallel connection of the battery cluster, which can carry out system-level active equalization control.

RENEWABLE. RELIABLE. REMARKABLE.



Matrix Series DC

Renon Smart Matrix Series is a distributed liquid cooling system for massive energy storage with AC couple and DC couple solutions to meet different usage requirements. Smart Matrix enables low-cost, high-density utility projects at a gigawatt-hour scale. It ships ready to install with fully integrated battery modules, Controller System, and other key components. One Matrix-Controller can carry a maximum of 14 systems of the mono pack, matrix arrangement for infinitely scalable. The batteries and software control store and dispatch energy, creating a more stable and economic power grid.



DC-MPack Specification

Battery Combination	1P416S
Cell Capacity (Ah)	280
Nominal Energy (kWh)	372.736
Nominal DC Voltage (Vdc)	1331.2
Battery Voltage Range (V)	1248~1476.8
C-rate and D-rate	≤1C
Max. DC Voltage (Vdc)	1500
Nominal DC Power (kW)	200
Max. DC Current (A)	200
Max. System Efficiency	99%
Switching Time (ms)	<100
DOD	90%
Cycle Life	8000 times
Communication Interface	Ethernet
Enclosure	IP65
Noise Level	< 80db(A)
Altitude	≤2000m
Thermal Management (DC-DC)	Air Cooling
Thermal Management (Battery)	Liquid Cooling

General Parameters

Operating Temperature	-20°C~50°C
Operating Humidity (RH)	0~100% (non-condensing)
Compliance	UL9540, UL9540A, UL1973, UL1741+SA, IEEE1547, UN 38.3
Warranty ^[1]	10 Years

[1] Please refer to the warranty manual for details

Matrix-Controller Specification

Max. DC Voltage (Vdc)	1500
Rated Power (kW)	2800
Rated Current (A)	2800
Short-circuit Protection	YES
AC Access/Output Channel	16 / 1
Communication Interface	Ethernet, Wifi, 4G
Certifications	IEC104, IEC61850, CAN2.0B, Modbus (TCP, RTU)
Enclosure	IP65
Noise Level	< 50db(A)
Altitude	≤2000m

D-DESS Standard Array

DC-MPack Quantity	14
Matrix-Controller Quantity	1
Nominal Energy (MWh)	5.2
Nominal AC Power (MW)	2.8
Max. AC Voltage (Vdc)	1331.2

D-DESS Distributed Matrix

D-DESS Standard Array	20
Nominal Energy (MWh)	104
Nominal AC Power (MW)	56
Max. AC Voltage (Vdc)	1331.2