

C&I All-in-one Hybrid ESS

RENA1000 Series

RENA1000-E (50kW | 83.6kWh / 94kWh / 104.4kWh)

Features



Highly Integrated

All-in-one PV&ESS highly integrated
Compact design, space occupation <math>< 2\text{m}^2</math>
Fast installation, easy O&M



Extreme Safety

Cell / Pack / Cluster / System level Protection
IP55 outdoor design
Intelligent battery pack temperature management



Flexible Application

Support <math>< 20\text{ms}</math> UPS-level switchover (With STS100)
Support diesel generator connection (With STS100)
Support up to 5 units on-grid parallel connection



Smart Energy

Smart EMS and multi-scenario operation
Hundred milliseconds level security detection and response
Support profit calculation and report export



System Model	RENA1000-E		
Inverter Model	N3-49.9K		N3-50K
PV Input			
Max. Recommended PV Power [Wp]	75000		
Max. PV Input Voltage [V]	1000		
MPPT Voltage Range [V]	350 ~ 800		
Rated PV Input Voltage [V]	667		
Start-up Voltage [V]	350		
No. of MPP Trackers	3		
No. of Input Strings per Tracker	2 / 2 / 2		
Max. PV Input Current [A]	36 / 36 / 36		
Max. Short-circuit Current [A]	40 / 40 / 40		
AC Output			
Max. AC Output Apparent Power [VA]	54890	55000	
Max. AC Output Active Power [W]	49900	50000	
Max. AC Output Current [A]	79.6	80.0	
Rated AC Output Current [A]	72.4	72.5	
Rated AC Output Voltage [V]	3 / N / PE, 230 / 400		
Grid Frequency [Hz]	50 / 60		
Adjustable Power Factor [cos φ]	1 (0.9 leading ~ 0.9 lagging)		
Output THDi (@Rated Output)	< 3%		
AC Input			
Max. AC Input Apparent Power [VA]	54890	55000	
Max. AC Input Active Power [W]	49900	50000	
Max. AC Input Current [A]	79.6	80.0	
Rated AC Input Voltage [V]	3 / N / PE, 230 / 400		
Grid Frequency [Hz]	50 / 60		
Battery Model			
Battery Technology	BS80-E	BS90-E	BS100-E
Battery Technology	LiFePO ₄	LiFePO ₄	LiFePO ₄
Nominal Capacity [Ah]	204 (102 * 2)	204 (102 * 2)	204 (102 * 2)
Battery Configuration	16S2P * 8	16S2P * 9	16S2P * 10
Nominal Energy [kWh]	83.6	94	104.4
Normal Voltage [V]	409.6	460.8	512
Voltage Range [V]	358.4 ~ 467.2	403.2 ~ 525.6	448 ~ 584
Max. Continuous Charging / Discharging Current [A]	102 / 102	102 / 102	102 / 102
Nominal Power [kW]	41.8	47	52.2
Depth of Discharge	95%	95%	95%
System General Data			
Dimensions (with Inverter) (W * H * D) [mm]	1330 * 1950 * 1425		
Dimensions (without Inverter) (W * H * D) [mm]	1000 * 1950 * 1425		
Weight (with Inverter) [kg]	1227	1313.5	1400
Weight (without Inverter) [kg]	1152	1238.5	1325
Ambient Temperature Range [°C]	-20 ~ +55		
Relative Humidity	0 ~ 95%		
Operation Altitude [m]	≤ 2000		
Topology	Transformerless		
Cooling	Air-conditioner		
Fire Protection	Aerosol		
Communication	CAN, RS485, USB Update, WiFi, 4G, Ethernet		
Ingress Protection	Cabinet: IP55; Inverter: IP65		
Cycle Life	6000 @90% DOD / 25°C / 0.5C		
Certifications & Standards			
Grid Regulation	EN 50549-1, CEI 0-21, VDE4105, NRS 097-2-1		
Safety Regulation	IEC 62619, EN 62477-1, IEC 62109-1, IEC 62109-2, IEC62477-1, EN 62109-1, EN 62109-2		
EMC	EN / IEC 61000-6-2, EN / IEC 61000-6-4, EN IEC 61000-3-11, EN 61000-3-12		