

# C&I All-in-one Hybrid ESS

< **20**ms

PV & ESS & Generator  
UPS-level Switchover

IP**55**

Fast Installation  
Modular Design

All-in-**1**

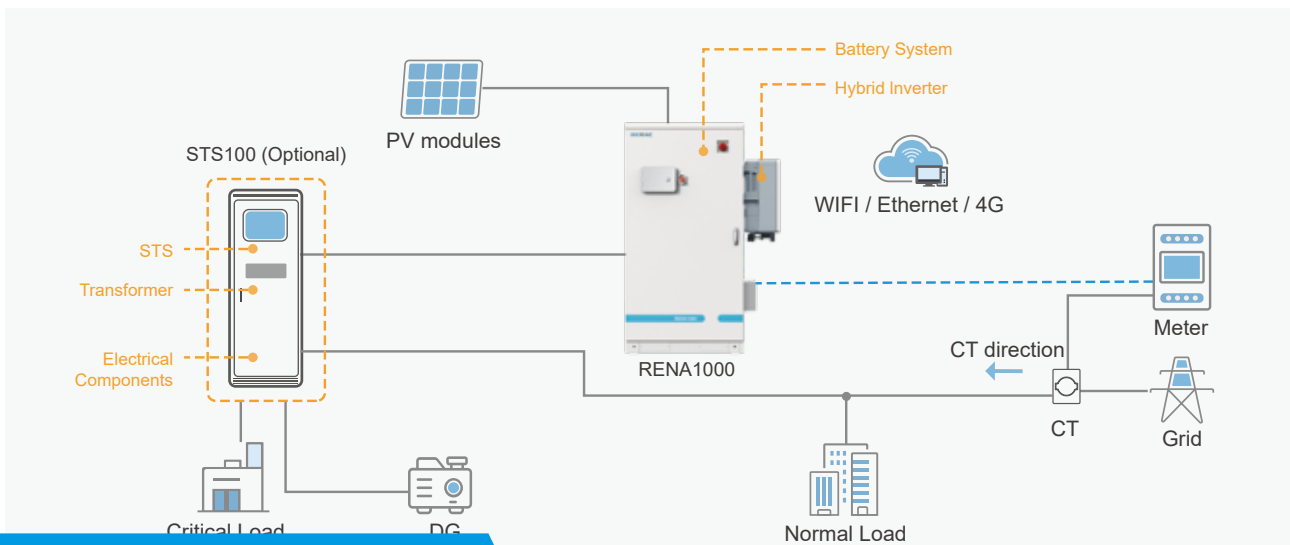
PV&ESS Highly  
Integrated



## RENA1000

50kW | 83.6kWh / 94kWh / 104.4kWh

- ▶ PV&ESS, Generator and grid 3-way power supply
- ▶ Intelligent battery module temperature management
- ▶ Cell / Pack / Cluster / System level protection
- ▶ Smart EMS and multi-scenario operation



System Model		RENA1000-E		
Inverter Model		N3-49.9K		N3-50K
<b>PV Input</b>				
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		
<b>AC Output</b>				
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%		
<b>AC Input</b>				
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		
<b>Battery Model</b>				
Battery Technology	BS80-E	BS90-E	BS100-E	
Battery Technology	LiFePO <sub>4</sub>	LiFePO <sub>4</sub>	LiFePO <sub>4</sub>	
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%	
<b>System General Data</b>				
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		
<b>Certifications &amp; Standards</b>				
Grid Regulation		EN 50549-1, CEI 0-21, VDE4105, NRS 097-2-1		
Safety Regulation		IEC 62618, 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		