

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 | 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 | | |