

RENA5000 C&I BESS

BESS+PVS+STS



STS
Micro-grid control
System

PVS (MPPT DC/DC)
PV Controller

BESS
Battery+PCS+ EMS

Model	Basic information
ESS-261	C&I BESS, 125kW / 261kWh
ESS-261-S	C&I BESS, 125kW / 261kWh, Integrated 175kW STS module
STS-400	Micro-grid System (D/G max. power 400kW)
PVS-125K	PV Controller, 125kW



1
PV&BESS&DG
All-in-one design



3^H
Quick
Installation



100%
Off-grid unbalanced
loads, transformerless



<20_{ms}
On/off-grid
auto-transfer time



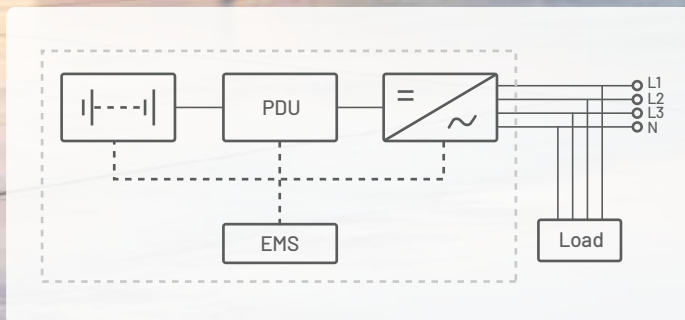
VSG
BESS&DG
cooperation



PV
PV Plant
retrofit

ESS-261

C&I BESS | 125kW / 261kWh

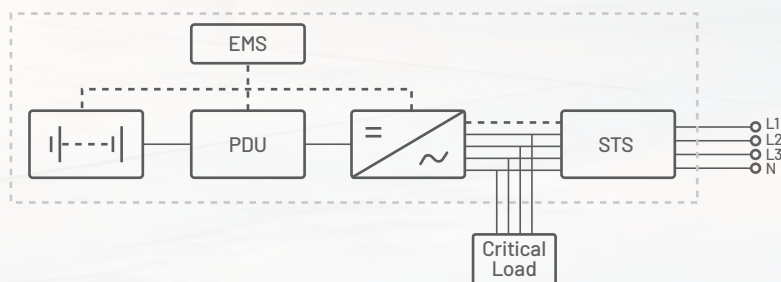


- ▶ All-in-one design, flexible capacity expansion
- ▶ Remote firmware upgrade & setting
- ▶ Support 110% long-term overload
- ▶ Efficient PV integration, support DC coupling or AC coupling
- ▶ 3L/N/PE output, transformerless design
- ▶ Support 100% unbalanced loads

Model	ESS-261
System Parameters	
Rate Power [kW]	125
Nominal Energy [kWh]	261
Battery Technology	LFP(LiFePO ₄)
IP Protection	IP54 (Battery IP55)
Warranty	5 Years Product warranty ,10 Years Battery Performance warranty
Battery Parameters	
Nominal Energy of Module [kWh]	52.25
Module Configuration	1P52S
Number of Modules	5
Rated Voltage [V]	832
Voltage Range [V]	650 ~ 949
Max. Charging / Discharging Current [A]	200
AC Parameters	
Rated AC Power [kW]	125
Max. AC Apparent Power [kVA]	138
Rated AC Voltage [V]	400, 3L / N / PE
AC Voltage Range [V]	400 ± 10%
Rated Frequency [Hz]	50/60
Max. AC Current [A]	200
Adjustable Power Factor [cosφ]	0.99 (-1~1)
THDi (@Rated Output) [On Grid]	< 3%
THDv (@Linear Load) [Off Grid]	< 3%
System Efficiency	88%
Protection	
Integrated	Battery Reverse Polarity Protection,AC OV/OC/SC Protection, DC/AC Surge Protection(Type II),Emergency Stop
General Parameters	
Ambient Temperature Range [°C]	-25~+55 (>45° Derating)
Relative Humidity	5~95% (No Condensing)
Operation Altitude [m]	≤4000 (>2000 Derating)
Cooling	Liquid
User interface	WEB + APP
Communication	WiFi / 4G / Ethernet
Communication protocol	Modbus RTU, Modbus TCP
Weight [kg]	2600
Dimensions (W * H * D) [mm]	1100 * 2310 * 1400
Topology	Transformerless
Fire Protection	Pack/Cluste: Aerosol Walter Interface Reserved
Certification	
Grid Regulation	IEC 61727, IEC 62116, EN50549-1, EN50549-2, EN 50549-PL
Safety Regulation	CE-LVD, CE-EMC, UN38.3

ESS-261-S (Integrated 175kW STS module)

C&I BESS | 125kW / 261kWh



- ▶ All-in-one design
- ▶ Efficient PV integration, support DC coupling or AC coupling
- ▶ Support 110% long-term overload
- ▶ Integrated STS module, seamless switching between on/off-grid modes, switching time<20ms
- ▶ 3L/N/PE output, transformerless design
- ▶ Support 100% unbalanced loads

Model	ESS-261-S
System Parameters	
Rate Power [kW]	125
Nominal Energy [kWh]	261
Battery Technology	LFP(LiFePO ₄)
IP Protection	IP54 (Battery IP55)
Switch time	<20ms
Warranty	5 Years Product warranty ,10 Years Battery Performance warranty
Battery Parameters	
Nominal Energy of Module [kWh]	52.25
Module Configuration	1P52S
Number of Modules	5
Rated Voltage [V]	832
Voltage Range [V]	650 ~ 949
Max. Charging / Discharging Current [A]	200
Max. Charging / Discharging Power [kW]	138
AC Parameters (On-grid)	
Max.AC Input Power [kW]	175
Max. AC Input Current [A]	250
Rated AC Output Power [kW]	125
Rated AC Output Current [A]	180
Rated AC Voltage [V]	400±10%, 3L/N/PE
Rated Frequency [Hz]	50 / 60
Adjustable Power Factor [cosφ]	0.99/-1~1
THDi (@Rated Output)	< 3%
System Efficiency	88%
AC Parameters (Off-grid)	
Rated AC Power [kW]	125
Rated AC Voltage [V]	400±10%, 3L/N/PE
Rated Frequency [Hz]	50/60
Rated AC Current [A]	180
Adjustable Power Factor [cosφ]	0.99/-1~1
THDv (@Linear Load)	< 3%
Protection	
Integrated	Battery Reverse Polarity Protection,AC OV/OC/SC Protection, DC/AC Surge Protection(Type II),Emergency Stop
General Parameters	
Ambient Temperature Range [°C]	-25~+55 (>45° Derating)
Relative Humidity	5~95% (No Condensing)
Operation Altitude [m]	≤4000 (>2000 Derating)
Cooling	Liquid
User interface	WEB + APP
Communication	WiFi / 4G / Ethernet
Communication protocol	Modbus RTU, Modbus TCP
Weight [kg]	2620
Dimensions (W * H * D) [mm]	1100 * 2310 * 1400
Topology	Transformerless
Fire Protection	Pack/Cluste: Aerosol Walter Interface Reserved
Certification	
Grid Regulation	IEC 61727, IEC 62116, EN50549-1, EN50549-2, EN 50549-PL
Safety Regulation	CE-LVD, CE-EMC, UN38.3

STS-400

Micro-grid Control System



- ▶ Seamless switching between on-grid and off-grid modes, switching time<20ms
- ▶ BESS, PV and DG cooperation, smoothly switch between on-grid, off-grid and DG modes
- ▶ Modular design, support parallel connection, flexible capacity expansion
- ▶ Built-in data collection module and high accuracy meter

Model		STS-400	
		STS-400-G/D	STS-400-G
Grid	AC Voltage Range [V]	400±10%	400±10%
	Rated Current [A]	630	630
	Max. Input Power [kW]	400	400
	Automatic Switch Time [ms]	< 20	< 20
DG	AC Voltage Range [V]	400±10%	-
	Rated Current [A]	630	-
	Max. Input Power [kW]	400	-
	Automatic Switch Time [ms]	< 20 ^[1]	-
ESS	Rated AC Power [kW]	375	375
	Nominal Energy [kWh]	783	783
	Rated AC Voltage [V]	380/400, 3L+N+PE	380/400, 3L+N+PE
	Rated AC Current [A]	541	541
	Rated Charging / Discharging Power [kW]	375	375
	PV access (optional) [kW]	≤375	≤375
Load	Rated AC Power [kW]	375	375
	Rated AC Voltage [V]	380/400, 3L+N+PE	380/400, 3L+N+PE
	Rated AC Current [A]	541	541
General Data of STS	Electrical Durability	20000	20000
	Mechanical Durability	20000	20000
	Application Type	Interlock	Single
	Isolated Break Point	Yes	Yes
	AC Surge Protection	Type II	Type II
	Auxiliary power supply	Grid & ESS Dual Path, 24Vdc	
	Communication protocol	Modbus, RS485	
	Control Method	Dry Contact	Dry Contact
	Zero-crossing Detection	Wet Contact@24Vdc/0.05A	Wet Contact@DC24V/0.05A
	Zero-crossing Protection	NPE	NPE
	Grid Connection Form	3L+N+PE	
	Ingress Protection	IP54	
	Ambient Temperature Range [°C]	-30~50	
	Relative Humidity	≤95%	
	Operation Altitude [m]	4000 (>2000 Derating)	
Enclosure	Dimensions (W * H * D) [mm]	400*2310*1400 (Without mounting bracket)	
	Environmental Category	Outdoor	
	Installation	Floor-Mounted	
	Cable Inlet and Outlet	Bottom	

[1]: Warm up DG in advance.

PVS-125K_(MPPT DC/DC)

PV Controller | 125kW

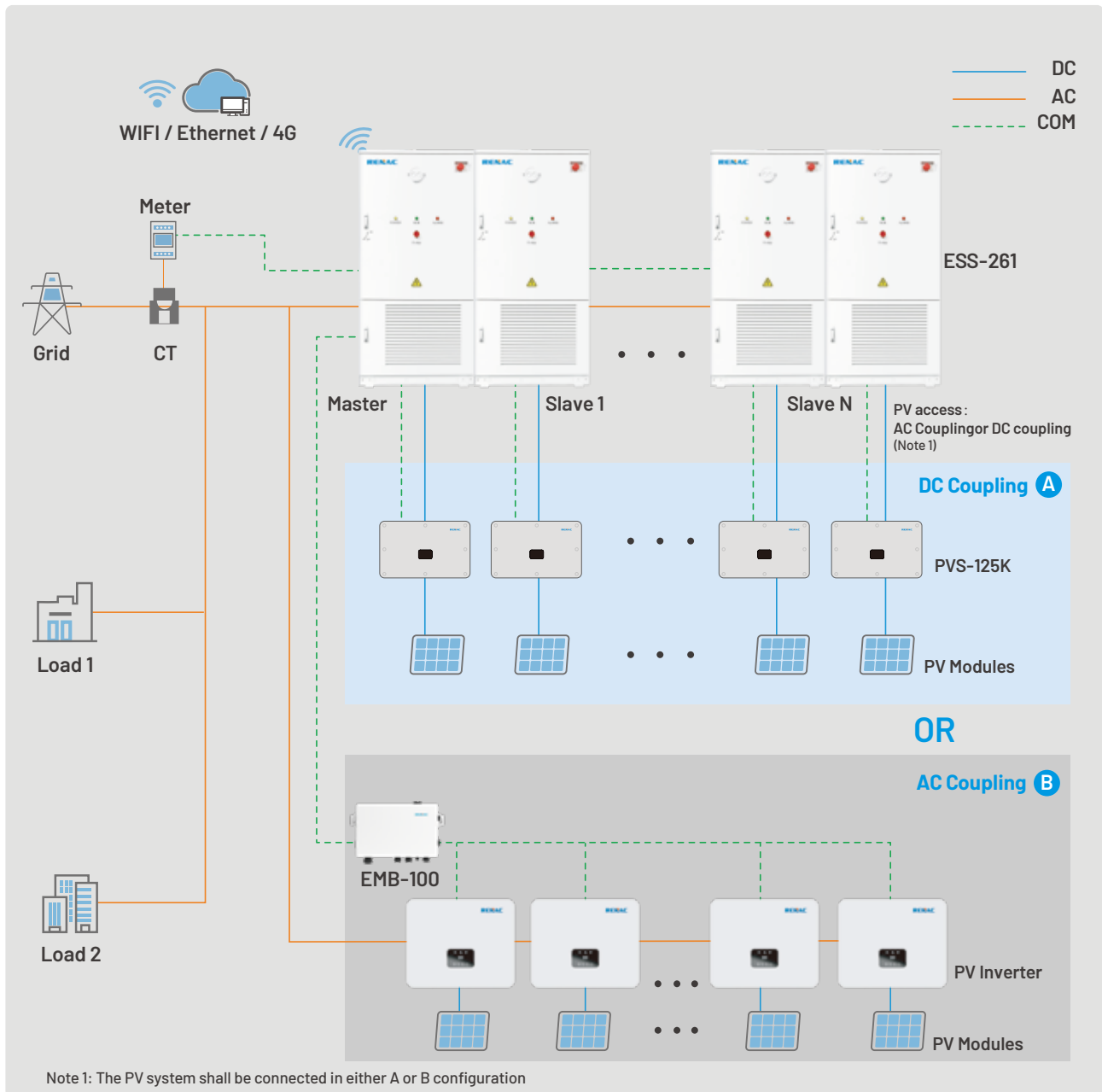


- ▶ 150% PV input oversizing
- ▶ 10 MPP trackers, 20 input strings totally
- ▶ IP65 outdoor design
- ▶ Up to 40A input per MPPT, compatible with 700W+ high power PV modules

Model	PVS-125K
Input	
Max. Recommended PV Power [kWp]	187.5
Max. PV Input Voltage [V]	730
MPPT Voltage Range [V]	180~600
Rated PV Input Voltage [V]	550
Start-up Voltage [V]	200
No. of MPP Trackers	10
No. of Input Strings per Tracker	2
Max. PV Input Current [A]	40
Max. Short-circuit Current [A]	50
Output	
Rated DC Output Voltage [V]	832
Output Voltage Range [V]	650-949
Rated DC Output Power [kW]	125
Max. DC Output Power [kW]	125
Max. DC Output Current [A]	183
General Data	
Ingress Protection	IP65
Cooling	Fan
Other Functions	String current sensing, PID/AFCI(Optional)
Power Supply	Self-powered
Communication	RS485 / LAN
Ambient Temperature Range [C]	-30~60
Relative Humidity	≤95%
Operation Altitude [m]	4000 (>2000 Derating)
Dimensions (W * H * D) [mm]	890 * 594.8 * 326.2
Weight [kg]	51.5
Environmental Category	Outdoor
Installation	Wall-Mounted
Cable Inlet and Outlet	Bottom

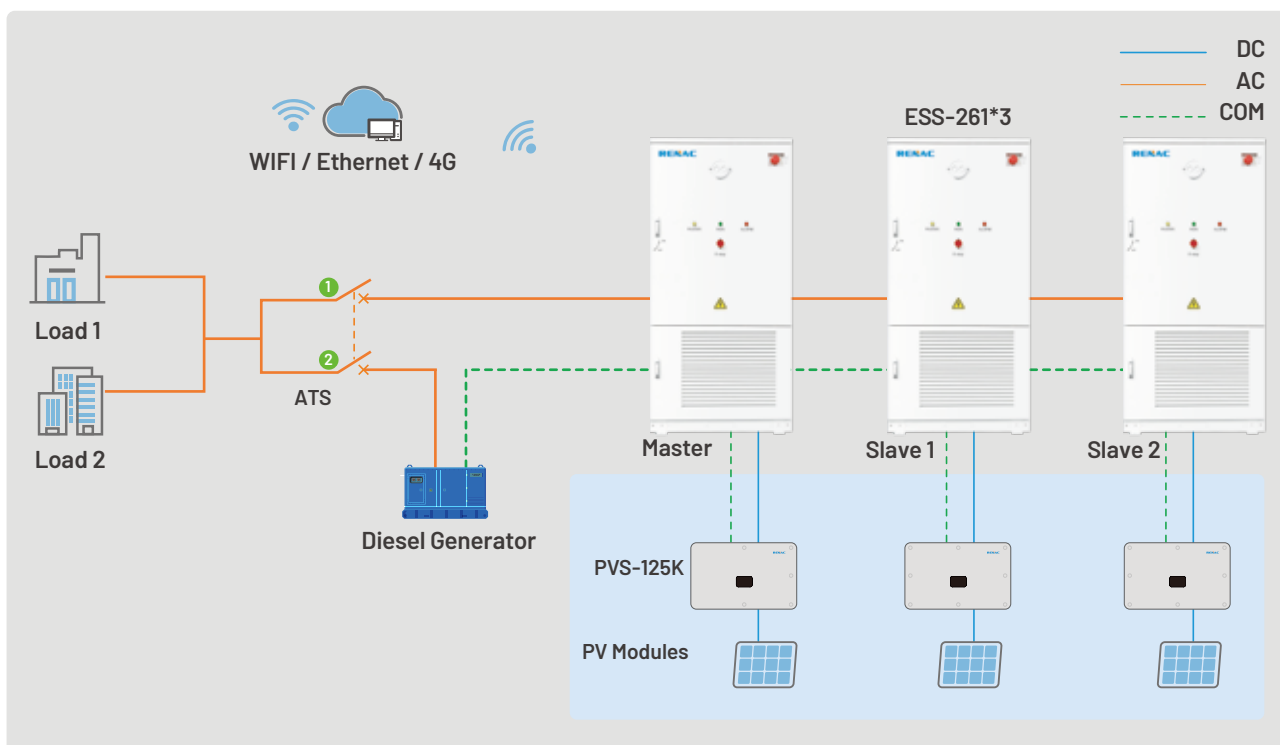
Scenario Configuration

On-Grid : PV+BESS



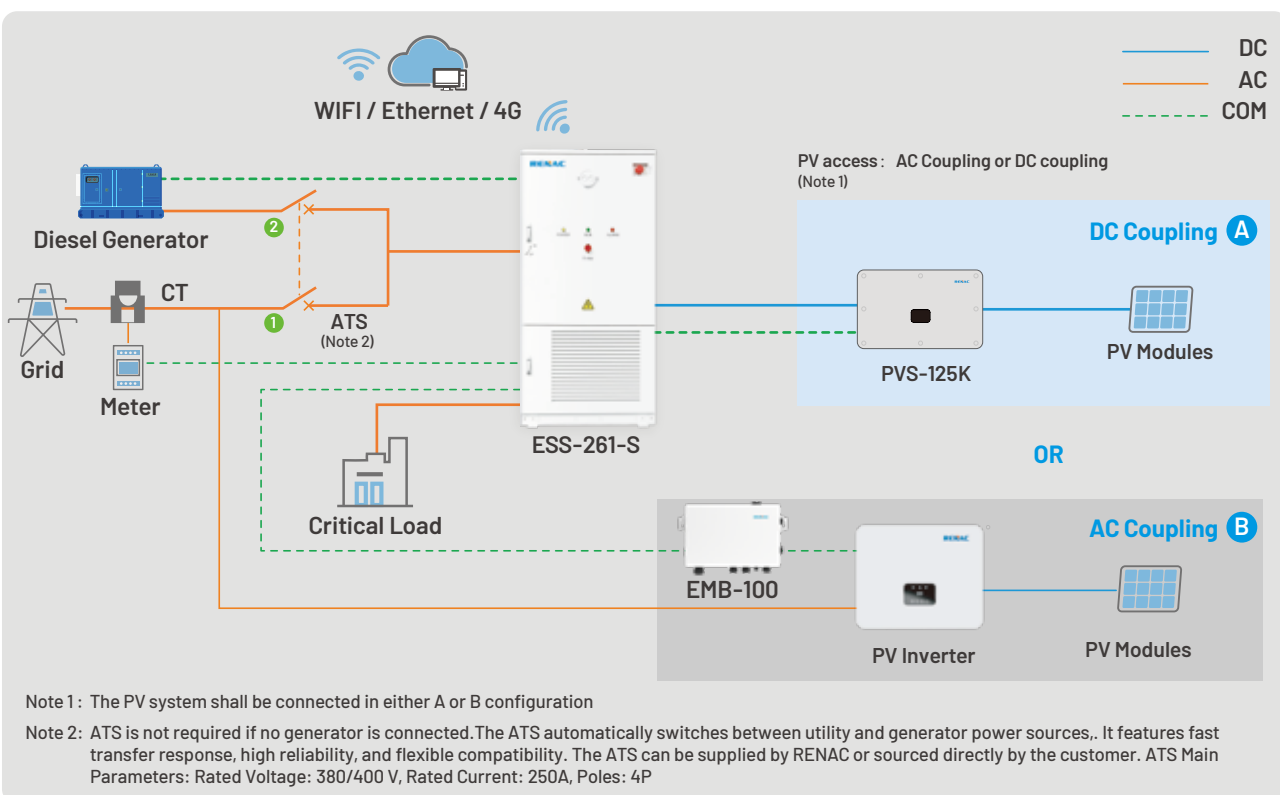
Off-Grid:PV+BESS+DG

► (125 -375)kW / (261-783)kWh



On/Off-Grid:PV+BESS+DG

► 125kW / 261kWh



On/Off-Grid: PV+BESS+DG

► (250 -375)kW / (522-783)kWh

