

3.2 Product Parameters

3.2.1 Overall Product Parameters



Figure 3-2: System Appearance

Table 3-1: Overall Product Parameters

Model		HCUPSAP261	HC-UPSA261
(Enjoy Version)		125kW/261.248kWh	
Grid Side (On-grid)	Rated Output Power	125kW	
	Max. Output Power	138kW	
	Max.Output Current	200A	
	Rated Voltage	230V/400V	
	Voltage Range	-15%~15%	
	Connection Type	3P3L/3P4L+PE	
	Rate Grid Frequency	50/60Hz(±5Hz)	
	PF	0.99 (1 Leading~1 Lagging)	
	THDi	<2% (Rated Power)	
	DC Component	<0.5%	
	Overload	110% Long-term	
	Max.Efficiency	98.50%	
	Grid Support	LVRT/HVRT, Active/Reactive Power Control	

Grid Side (Off-grid)	Rated Output Power	125kW	
	Max. Output Power	138kVA	
	Max.Output Current	200A	
	Rated Output Voltage	230V/400V	
	THDu	<3% (Rated Power)	
	Rate Frequency	50/60Hz(±5Hz)	
PV	Max Usable PV Input Power	120kW	/
	Recommended Max PV Array Ssize	120kW	/
	Max. Input Voltage	1000V	/
	MPPT Voltage Range	200V~950V	/
	Full Load MPPT Voltage Range	500V~900V	/
	Max. Input Current	50A/50A/50A/50A	/
	MPPT Number/Max Input Strings Number	1/4	/
Battery	Cell Type	LFP/314Ah	
	Pack Configuration	52S1P (52.249kWh)	
	System Configuration	52S1P*5	
	Rated Voltage	832V	
	Voltage Range	728V~910V	
	Full Load Voltage Range Compatible With PCS	615~950 (3W3L+PE) /680~950 (3W4L+PE)	
	Work Voltage Range Compatible With PCS	615~950 (3W3L+PE) /650~950 (3W4L+PE)	
	Rated Charge/Discharge C-rate	0.5CP	
	Max. Charge/Discharge Current	203A	
	Cell Cycle Life	≥8000 Cycles (80%SOH@Standard Cycle)	
System	RTE	≥85%	
	Cooling	Liquid Cooling	
	IP Rating	IP54	
	Operating Temperature	-20~50℃ (>45℃ Derating)	

	Corrosion Protection Class	C3-M	
	Altitude	2000m	
	Operating Humidity	5~95%RH (Non-condensing)	
	Fire Suppression Agent	Aerosol / FK-5-1-12	
	Communication	CAN, RS485, Ethernet,	
	Dimensions (W*D*H)	1560×2150×1350mm	
	Weight	2.4T	
Certification & Compliance	Grid Connection Standard	EN 50549-1, EN 50549-2, EN 50549-10, C10/11, AS4777, IEC61727&62116, VDE-AR-N 4105, VDE-AR-N 4110, VDE-AR-N 4120, CEI 0-21, CEI 0-16, G99-typeB/C/D, G100, 50549-2/-10+Finland, 50549-2+Netherlands, 50549-1/-2/-10 +France, South Africa NRS-097, 50549-1+Greece, 50549-1+Poland typeA, 50549-2+Poland typeB/C/D, PN-EN 50549-2 (dakks), 50549-1+Denmark, 50549-2+Czech Republic, 50549-2+Sweden, 50549-2/-10+Switzerland, Austria TOR EZA, Type A & B, 50549-2+Hungary, 217001, 217002, NTS631, , 50549-2+Romania, The Saudi Arabian, Slovenia, Estonia	
	Safety/EMC Standard	CE-LVD-62477, CE-LVD-62109, CE-EMC-61000	
Features	PV Connection	OT/SC Terminal	/
	AC Connection	OT/SC Terminal	
	Display	HMI+Cloud	

3.2.2 Component Parameters

3.2.2.1 Battery Cell Parameters



Figure 3-3: Battery Cell Appearance

Table 3-2: Basic Cell Parameters

No.	Parameter	Value	Remarks
1	Cell Model	MB31	
2	Minimum Capacity	314Ah	0.5C, 25±2℃, 2.5-3.65V
3	Minimum Energy	1004.8Wh	0.5C, 25±2℃, 2.5-3.65V
4	Nominal Voltage	3.2V	0.5C, 2.5~3.65V
5	Internal Resistance	≤0.25mΩ	AC, 1kHz, 40%SOC
6	Charge Cut-off Voltage	3.65V	
7	Discharge Cut-off Voltage	2.5V (T>0℃); 2.0V (T≤0℃)	
8	Standard Charge Power	502.4W	0.5C
9	Standard Discharge Power	502.4W	0.5C
10	Standard Cycle Life @ 25℃	8000 Cycles	300±20 kgf clamping force, 25℃±2℃, 0.5C/0.5C, 2.5~3.65V, energy retention ≥80%
11	Charge Operating Temperature	0~60℃	
12	Discharge Operating Temperature	-30~60℃	
13	Storage Temperature	0~35℃ / -20~45℃	1 year / 1 month
14	Cell Weight	5490g±300g	
15	Dimensions (W×H×D)	73.7×207.2×71.7mm	Tolerance: ±0.5mm

3.2.2.2 Battery Module Parameters

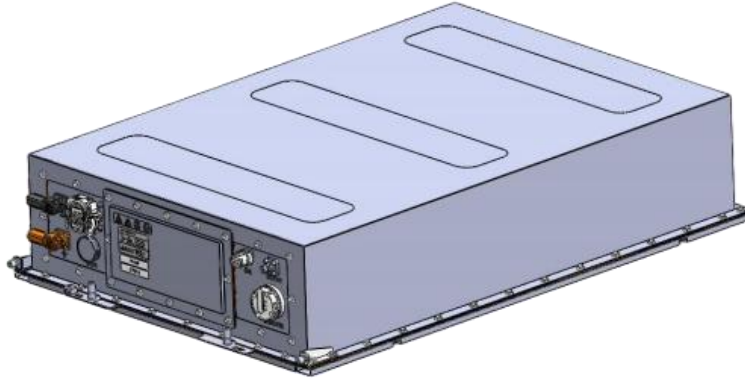


Figure 3-4: Battery Module Appearance

Table 3-3: Basic Battery Module Parameters

No.	Parameter	Value
1	Cell Type	CB75, 3.2V, 314Ah, LFP
2	Nominal Voltage	166.4V
3	Nominal Capacity	314Ah
4	Nominal Energy	52.2496kWh
5	Operating Voltage Range	130~189.8V ($55^{\circ}\text{C} \geq T > 0^{\circ}\text{C}$); 104~189.8V ($0^{\circ}\text{C} \geq T > -20^{\circ}\text{C}$)
6	Cell Voltage Diff. in Pack	$\leq 10\text{mV}$
7	Max Continuous Charge Power	0.5C
8	Max Continuous Discharge Power	0.5C
9	Operating Temperature Range	Charge: $0 \sim 55^{\circ}\text{C}$; Discharge: $-20 \sim 55^{\circ}\text{C}$
10	Storage Temperature Range	$-20 \sim 55^{\circ}\text{C}$
11	Storage Humidity Range	$\leq 90\%\text{RH}$, no condensation
12	Cooling Method	Liquid Cooling
13	Voltage/Temperature Sampling Ratio	100%:50%
14	Battery Pack Weight	$325 \pm 10\text{kg}$
15	Dimensions (W×H×D)	792×244×1148mm

3.2.2.3 Battery Cluster Parameters



Figure 3-5: Battery Cluster Appearance

Table 3-4: Battery Cluster Parameters

No.	Parameter	Value	Remarks
1	Configuration	1P5S	5 battery modules in series
2	Rated Capacity	314Ah	
3	Rated Voltage	832V	
4	Voltage Range	702~936V	Corresponds to cell 2.7~3.6V
5	Rated Energy	261.248kWh	
6	Max Continuous Charge Current	157A	0.5C
7	Max Discharge Current	157A	0.5C
8	Operating Temperature Range	Charge: 0~55℃; Discharge: -20~55℃	
9	Storage Temperature Range	-20~55℃	
10	Communication Method	Ethernet	
11	Altitude	<2000m	
12	Cooling Method	Liquid Cooling	
13	Protection Level	IP54	
14	Weight	Approx. 2.5T	

3.2.2.4 PCS Parameters



Figure 3-6: PCS Front/Rear Appearance

Table 3-5: PCS Parameters

No.	Parameter Type	Item	Parameter
1	DC Side	Operating Voltage Range (V)	615~950 (3W+PE) / 650~950 (3W+N+PE)
2		Full Load Voltage Range (V)	615~950 (3W+PE) / 680~950 (3W+N+PE)
3		Input Channels	1
4		Max Current (A)	203
5	AC Side (On-grid)	Rated Voltage (V)	230V/400V/480V
6		Voltage Deviation	-15%~+15%
7		AC Output Type	(3W+PE) 3-phase 3-wire / (3W+N+PE) 3-phase 4-wire
8		Rated Output Power (kW)	125
9		Max Output Power (kW)	138
10		Max Current (A)	200
11		Rated Grid Frequency (Hz)	50/60Hz
12		Power Factor	0.99
13		Power Factor Range	1 (leading) ~ 1 (lagging)
14		Current THD	<2% (rated power)
15		DC Component	0.50%
16		Overload Capacity	110% long-term
17		Max Efficiency	98.50%
18	AC Side (Off-grid)	Rated Output Voltage	230/400/480V
19		AC Voltage Harmonics	<3% (linear load)
20		Rated Output Power (kW)	125
21		Max Apparent Power (kVA)	138
22		Max Output Current (A)	200
23	General	Internal Dimensions (W×H×D, mm)	520×232×725
24		Weight (kg)	69

25		Altitude (m)	4000m (>2000m derating)
26		Operating Temperature	-30~55℃ (>45℃ derating)
27		Storage Temperature	-45~70℃
28		Humidity	0%RH~95%RH, no condensation
29		Cooling Method	Intelligent forced air cooling
30		Protection Level	IP20
31		Communication Interface	CAN/RS485/Ethernet
32		Grid Support	L/HVRT, Active/Reactive Power Control

3.2.2.5 DCDC Parameters

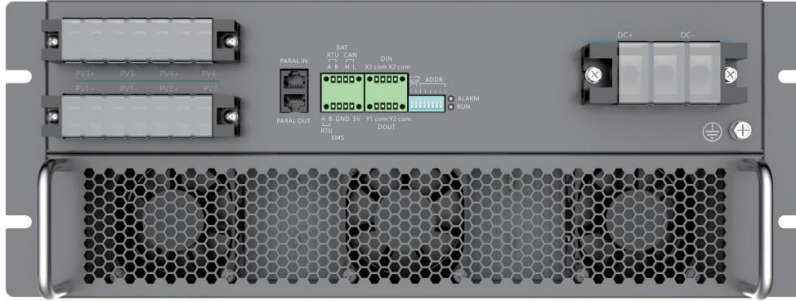


Figure 3-7: DCDC Appearance

Table 3-6: DCDC Parameters

No.	Parameter Type	Item	Parameter
1	Input/Output (MPPT/DC)	Rated Power	120kW
2		Voltage Range (V)	200~950V
3		MPPT Channels	4
4		Max Current (A)	50A×4
5	Input/Output (DC)	Rated Voltage (V)	500V-900V
6		Max Current	180A
7	System	Dimensions (W×H×D)	440×183×560mm
8		Temperature Range	-30℃ to 60℃
9		Cooling Method	Intelligent forced air cooling
10		Relative Humidity	0%~100%
11		Noise	50dB
12		Protection	Over-temp, over-current, over-voltage, ground short-circuit
13		Altitude	4000m (>3000m derating)
14		Communication Interface	RS485/Modbus TCP/CAN
15		Communication Protocol	Modbus TCP/Modbus RTU
16		Certification	CE

3.2.2.6 STS Parameters



Figure 3-8: STS Appearance

Table 3-7: STS Parameters

No.	Item	Parameter	Remarks
1	Grid Port Power (kW)	250	
2	Grid Port Max Current (A)	361	
3	Load-Side Port Power (kW)	250	
4	Rated Voltage (Vac)	400	
5	Grid-Side Voltage Range (Vac)	400±15%	
6	Rated Frequency (Hz)	50/60	
7	Grid/Off-grid Switching Time (ms)	<20	
8	Efficiency	>99.5%	
9	Power Supply	60W	
10	Wiring Method	3-phase 3-wire	
11	Altitude (m)	4000m	>2000m derating
12	Power Ports	Grid side: RST; Load side: UVW	
13	Dimensions	440×130×520mm	
14	Weight	22kg	

3.2.2.7 LC Parameters



Figure 3-9: LC (Lightweight EMS) Diagram

Table 3-8: LC Parameters

No.	Parameter	Value
1	External Communication Interface	Ethernet/RS485
2	External Communication Protocol	Modbus TCP/IP
3	DI Quantity	8 channels
4	DO Quantity	6 channels
5	Interface	Built-in
6	Power Supply	DC24V
7	Operating Temperature	-20~60℃
8	Ambient Humidity	10~90%RH, no condensation
9	Installation Method	Screw mounting
10	IP Rating	IP20
11	Dimensions	220×175×55mm
12	Certifications	CE, RoHS