

3.2 System Parameters

3.2.1 System Parameter Table



Figure 3-3 System appearance

Table 3-1 Basic system parameters

Item	Spec.	Parameter items	Parameter value	Remark
1	DC side parameters	Battery cell type	LFP 3.2V/280Ah	
2		Rated capacity	71.68 kWh	
3		System Configuration	5 * 1P16S	
4		Voltage range	216 V~ 288 V	
5		Depth of discharge	90% DOD	
6	AC side parameters	Rated power	30kW	
7		Rated voltage	400Vac	
8		AC access method	3W3P/N/PE	
9		Rated grid frequency	50/60 Hz	
10		Power Factor	0.8 (leading) ~ 0.8 (lagging)	
11		Voltage harmonics	< 2 %	
12		Current distortion rate	<3%	
13		DC component	<0.5%	

14	Photovoltaic parameters	Maximum allowable input power	60 kW p	
15		Maximum input current	40A* 3	
16		Maximum short-circuit current	60A* 3	
17		Maximum input voltage	1000V	
18		MPPT voltage range	150~850V	
19		Starting voltage	180V	
20		MPPT quantity	3	
21	System parameters	System efficiency	≥85%	0.5 CP
22		Operating temperature	-20 ~ 50 °C	Valuation downgraded by 4-5 °C
23		relative humidity	5%~90%RH	No condensation
24		altitude	< 20 00m	Above derating
25		Protection level	IP54	
26		Corrosion resistance level	C4	
27		Cooling method	Air cooling	
28		Fire protection system	Aerosol	
29		noise	≤75dB	
30		Communication methods	Ethernet	
31		Dimensions (width*height*depth)	650*1 041 * 1630 mm	
32		weight	< 1.5 T	
33		Cycle life	≥6000 Cycles	80% SOH @ Standard

3.2.2 Component parameter table

1、Battery cell parameters



Figure 3-4 Appearance of battery cell

Table 3-2 Basic parameters of battery cells

Item	Parameter items	Parameter value	Remark
1	Battery model	LF280K	
2	Nominal capacity	280Ah	
3	Nominal voltage	3.2V	
4	Battery internal resistance	$\leq 0.25\text{m}\Omega$	
5	Charging limit voltage	3.65V	
6	Discharge cut-off voltage	$2.5\text{VT} > 0\text{ }^{\circ}\text{C}$ $2.0\text{VT} \leq 0\text{ }^{\circ}\text{C}$	
7	Standard charging power	448W	0.5P
8	Standard discharge power	448W	0.5P
9	25 °C standard cycle	6000 Cycles	Under 300±20 kgf clamping force , 25 °C ±2 °C , 0.5P/0.5P, 2.5~3.65V, energy retention rate ≥80%
10	Charging operating temperature	0~60 °C	
11	Discharge operating temperature	-30~60 °C	
12	Storage temperature	0~35°C (1 year) -20~45°C (1 month)	
13	Battery weight	5490g±300g	
14	Dimensions (width*height*depth)	173.7×207.2×71.7mm	Error: ±0.5mm

2、Battery module parameters



Figure 3-5 Appearance of the battery module

Table 3-3 Basic parameters of battery modules

Item	Parameter items	Parameter value	Remark
1	Grouping method	1P16S	16 cells in series
2	Rated capacity	280Ah	
3	Rated voltage	51.2V	
4	Voltage range	43.2~57.6V	Corresponding single unit 2.7~3.6V
5	Rated energy	14.336KWh	
6	Maximum continuous charge and discharge current	140A	0.5CP
7	Maximum charge and discharge current	280A	1CP , duration ≤ 10 min
8	Operating temperature range	0~40 °C	
9	Storage temperature range	-20~45 °C	
10	Dimensions (width*height*depth)	475×230×704mm	
11	weight	103 kg	

3、Battery cluster parameters

Table 3- 4 Battery Cluster Parameter Table

Item	Parameter items	Parameter value	Remark
1	Grouping method	1P 5S	5 modules connected in series
2	Rated capacity	280Ah	
3	Rated voltage	256 V	
4	Voltage range	216 ~ 288 V	Corresponding single unit 2.7~3.6V
5	Rated energy	71.68 kWh	
6	Rated charge and discharge current	140A	
7	Operating temperature range	Charging temperature: 5 °C ~ 48 °C Discharge temperature -10 °C ~48 °C	

4、Inverter parameters



Figure 3-6 Inverter appearance

Table 3-5 Inverter parameters

Item	Parameter Type	Parameter items	Parameter value	Remark
1	DC side	Maximum input voltage	1000Vdc	
2		Battery voltage range	150 ~ 800Vdc	
3		Number of input channels	2	
4		Maximum charge and discharge current	70A *2	
5	AC side (Grid-connected)	Voltage range	380/400Vac	Rated 400V
6		Rated power	30kW	
7		Maximum apparent power	30VA	
8		Rated output current	45.6 A / 43.3 A	
9		Maximum output current	45.6 A / 43.3 A	
10		Power Factor	>0.99	(0.8 lead - 0.8 lag)
11		AC current harmonics THDi	<3%	
12		Maximum discharge efficiency	97.8 %	

13	AC side (Off-grid)	Rated output voltage	3/N/PE, 220 V / 380 V; 3/N/PE, 230 V / 400 V	
14		AC voltage harmonics THD v	<2%	
15		Output frequency	50 Hz / 60 Hz	
16		AC maximum output power	1.6 times rated power	Lasts 2 seconds
17	System parameters	Operating temperature	-25 ~ +60°C	
18		Ambient humidity	0 - 95%	
19		Cooling method	Smart fan cooling	
20		Protection level	IP66	
21		Maximum operating altitude	≤4000m	
22		Communication interface	CAN, RS485, Ethernet, Optional: Wi-Fi, Cellular, LAN	
23		Dimensions (W*D*H)	530 × 880 × 290 mm	
24		weight	73 kg	
25		Certification	IEC , EN, VDE	

5、LC parameters



Figure 3-7 Schematic diagram of LC (Lightweight EMS)

Table 3-8 LC parameter table

Item	Parameter items	Parameter value
1	External communication interface	Ethernet /RS485
2	External communication protocol	Modbus TCP/IP
3	DI number	8 -way
4	DO quantity	6 -way

5	interface	Bring your own
6	Power supply	DC24V
7	Operating temperature	-20~60 °C
8	Ambient humidity	10~90%RH , non-condensing
9	Installation	Screw-fix installation
10	IP rating	IP20
11	size	220*175*55mm
12	Certification	CE , RoHS

4 Sizes

4.1 Layout of the integrated solar & storage cabinet

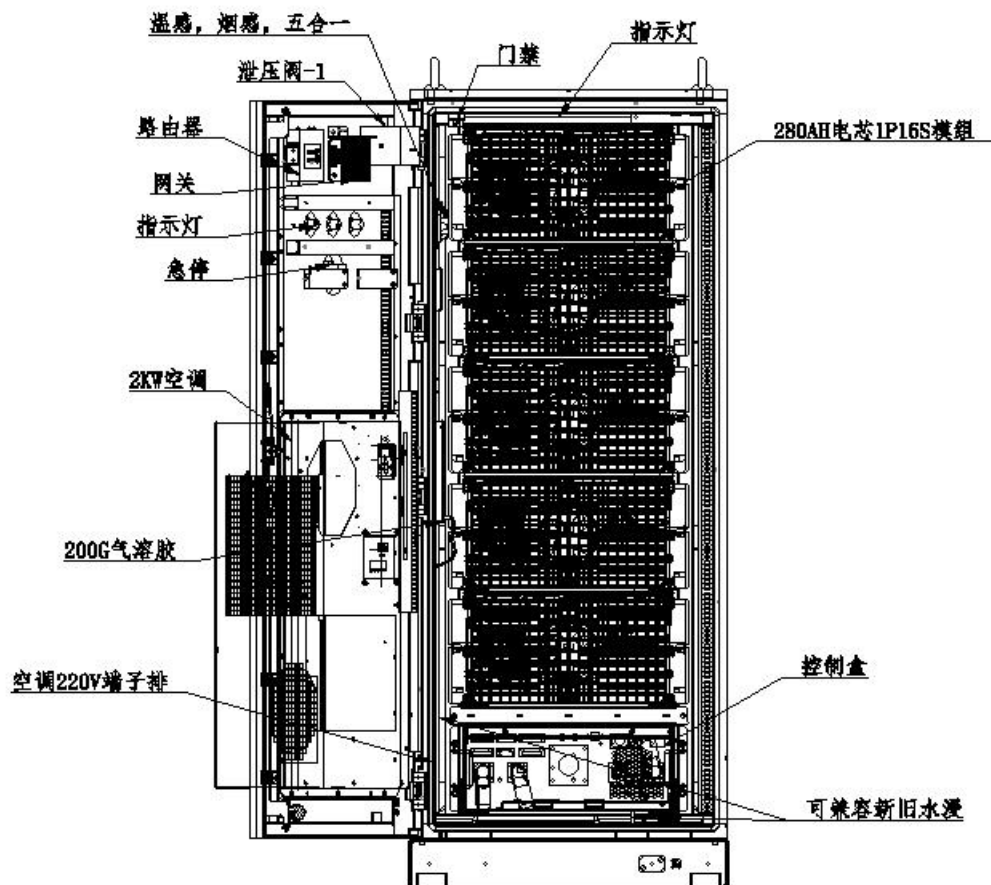


Figure 4-1 Layout of the integrated solar & storage cabinet