

MICRO GRID SYSTEM

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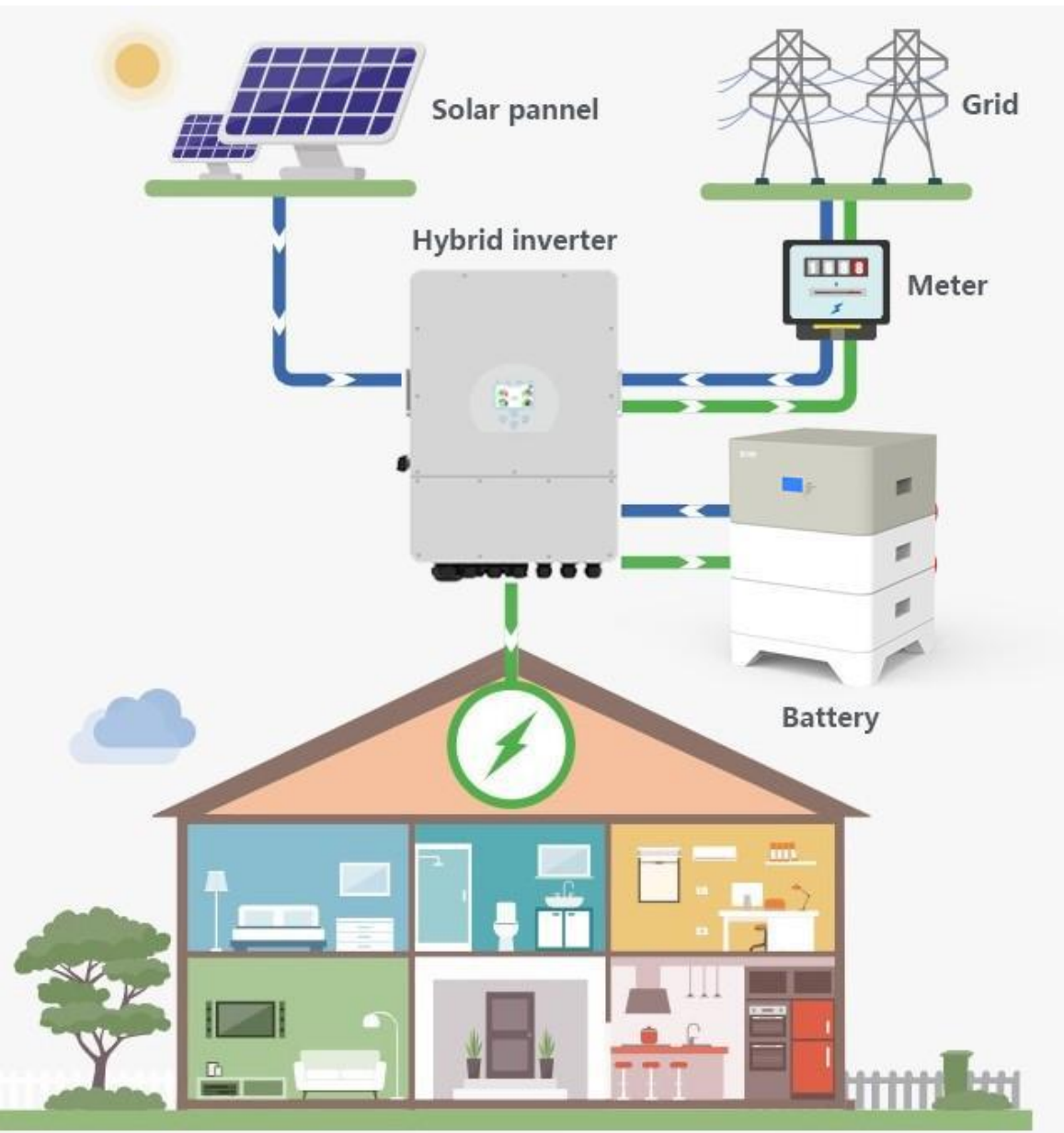




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System introduction >



Micro-Grid is composed of a small power distribution system consisting of distributed power sources, Solar power system, energy storage batteries, energy conversion devices, load, monitoring and connection and protection devices.

There are two types of common microgrid forms:

Grid-connected microgrid

Off-grid microgrid

- **System feature**

- Off-grid use is suitable for islands, mountainous areas, border posts, communication base stations and other remote areas or areas with unstable power supply, and also for light storage and charging energy optimization systems in new science and technology parks.

- **Operation logic :**

- When there is sunshine:

The solar energy preferentially supply the load > charge the battery > connect the grid and sell electricity

- When there is no sunshine:

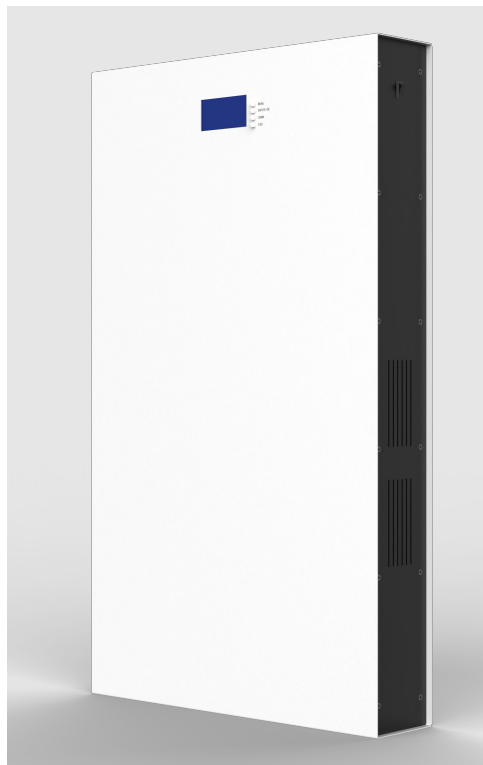
The battery preferentially supply the load > grid supplement

System configuration list >

System configuration: configure the microgrid system according to the actual power demand, load, installation location, installation area, etc

Model	5KWH- on grid and off grid	10KWH-on grid and off grid	15KWH-on grid and off grid	20KWH-on grid and off grid
PV pannel	RM-580W-182M/ 144TB*4	RM-580W-182M/ 144TB*10	RM-580W-182M/ 144TB*12	RM-580W- 182M/144TB*14
inverter	SUN-5K-SG04LP3- EU	SUN-10K-SG01LP3	SUN- 10K-SG04LP3- EU	SUN- 10K-SG04LP3- EU
Energy storage battery	LFP51.2V100AH	LFP51.2V100AH*2	LFP51.2V100A3H*3	LFP51.2V100AH*4
PV Box	ECEPV-5000	ECEPV-10000	ECEPV-15000	ECEPV-20000
PV cable	Red + black /200 M			
Battery cable	Including			
Connector	Including			
PV bracket	Roof or floor customization is optional			
System efficiency	85%-95%			
Life	25 years+			

Battery system > Wall-mounted -low voltage



No.	parameter	5KWh	10KWh	15KWh	20KWh
1	Rated Voltage(V)	51.2	51.2	51.2	51.2
2	RatedCapacity (Ah)	100	200	300	400
3	Rated energy(KWh)	5.12	10.24	15.36	20.48
4	System operating voltage range(V)	40-58.4	40-58.4	40-58.4	40-58.4
5	Max continuous charge current(A)	100	200		
6	Max continuous discharge current(A)	100	200		
7	Recommended C rate	0.2-0.5C			
8	Recomend charge/ discharge current(A)	50	100	150	180
9	Operating temperature(°C)	-20~+60			
10	Communicating function	CAN/RS485			
11	Battery size (W*D*H/mm)	Unit : 450 * 113) * 815			
12	Battery box	Iron			
13	Weight(Kg)	50	100	150	200
14	Pros	can be used in offgrid and hybrid steups,compact design			
15	Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.			

Product features:

- Single battery energy 5,120 Wh
- The capacity can be increased to 80 KW by parallel 16 units
- Match hybrid inverter such as Goodwe, Victron, SMA, Victronic, Deye etc

Battery system > Stackable battery-low voltage



Product features:

- Single battery energy 5,120 Wh
- The capacity can be increased to 80 KWh by parallel 16 units
- Match hybrid inverter such as Goodwe, Victron, SMA, Victronic, Deye etc.

No.	parameter	5KWh	10KWh	15KWh	20KWh
1	Rated Voltage(V)	51.2	51.2	51.2	51.2
2	RatedCapacity (Ah)	100	200	300	400
3	Rated energy(KWh)	5.12	10.24	15.36	20.48
4	System operating voltage range(V)	40-58.4	40-58.4	40-58.4	40-58.4
5	Max continuous charge current(A)	100	200		
6	Max continuous discharge current(A)	100	200		
7	Recommended C rate	0.2-0.5C			
8	Recomend charge/ discharge current(A)	50	100	150	180
9	Operating temperature(°C)	-20~+60			
10	Communicating function	CAN/RS485			
11	Battery size (W*D*H/mm)	520*500*350	520*500*520	520*500*690	520*500*860
12	Battery box	Iron			
13	Weight(Kg)	65	120	175	240
14	Pros	can be used in offgrid and hybrid steups,compact design			
15	Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.			

Battery system > Stackable battery-low voltage

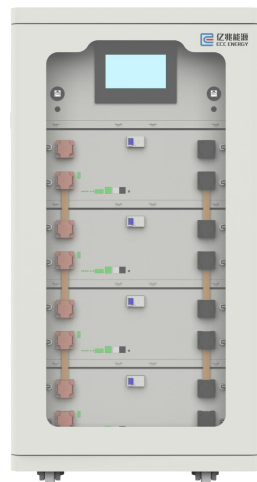


Product features:

- Low-pressure, free-way stacking
- Single-set energy of 5,120 Wh
- Support for parallel expansion of capacity, up to 80KWh
- Above 20 KWh, multiple reactor parallel mode can be adopted.
- Match hybrid inverter such as Goodwe, Victron, SMA, Victronic, Deye etc

No.	parameter	25KWh	30KWh	35KWh	40KWh	45KWh
1	Rated Voltage(V)	51.2				
2	RatedCapacity (Ah)	500	600	700	800	900
3	Rated energy(KWh)	25.6	30.72	35.84	40.96	46.08
4	System operating voltage range(V)	40-58.4V				
5	Max continuous charge current(A)	200A				
6	Max continuous discharge current(A)	200A				
7	Recommended C rate	unit battery module0.2-0.5C				
8	Recomend charge/discharge current(A)	180A				
9	Operating temperature(°C)	-20°C~+60°C				
10	Communicating function	CAN/RS485				
11	Battery size (W*D*H/mm)	with screen : 520 * 500 * 320 no screen : 520* 500 * 170 base : 520 * 500 * 100				
12	Battery box	Iron				
13	Weight(Kg)	≈330KG	≈400KG	≈460KG	≈530KG	≈600KG
14	Pros	can be used in offgrid and hybrid steups,compact design				
15	Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.				

Battery system > Cabinet-type -low voltage

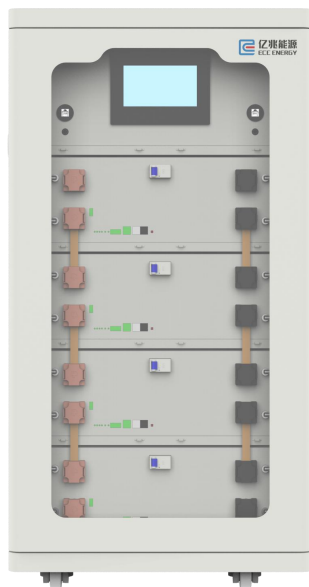


Product features:

- Low-pressure, parallel connection, cabinet type
- Single-set energy of 5,120 Wh
- Support for parallel expansion of capacity, up to 80 KWh
- Match hybrid inverter such as Goodwe, Victron, SMA, Victronic, Deye etc

No.	parameter	5KWh	10KWh	15KWh	20KWh	55KWh
1	Rated Voltage(V)	51.2				
2	RatedCapacity (Ah)	100	200	300	400	500
3	Rated energy(KWh)	5.16	10.24	15.36	20.48	25.6
4	System operating voltage range(V)	40-58.4				
5	Max continuous charge current(A)	200				
6	Max continuous discharge current(A)	200				
7	Recommended C rate	unit battery module0.2-0.5C				
8	Recomend charge/discharge current(A)	50A	100	150	180	
9	Operating temperature(°C)	-20~+60				
10	Communicating function	CAN/RS485				
11	Battery size (W*D*H/mm)	Unit battery module:516*480*178mm Black cabinet: 590*630*1170.1 White cabinet : 630*630*1208.5				
12	Battery box	Iron				
13	Weight(Kg)	Unit battery module:50kg Cabinet:60kg				
14	Pros	can be used in offgrid and hybrid steups,compact design				
15	Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.				

Battery system > Cabinet-type -high voltage



No.	parameter	25KWh	30KWh	35KWh	40KWh	45KWh	50KWh	55KWh	60KWh	65KWh	70KWh	75KWh	80KWh
1	Rated Voltage (V)	256	307.2	358.4	409.6	460.8	512	563.2	614.4	665.6	716.8	768	819.2
2	Rated Capacity (Ah)	100Ah											
3	Rated energy(kwh)	25.6	30.72	35.84	40.96	46.08	51.2	56.32	61.44	66.56	71.68	76.8	81.92
4	System operating voltage range(V)	200 ~ 292	240 ~ 350.4	280 ~ 408.8	320 ~ 467.2	360 ~ 525.6	400 ~ 584	440 ~ 642.4	480 ~ 700.8	520 ~ 759.2	560 ~ 817.6	600 ~ 876	640 ~ 934.4
5	Max continuous charge current(A)	100											
6	Max continuous discharge current(A)	100											
7	Standard discharge current(A)	50											
8	Standard charge current(A)	50											
9	Operating temperature	-20 ~ +60											
10	Communicating function	CAN /RS485											
11	Battery size(mm)	1180 *800 *1195	1180 *800 *1195	1180 *800 *1195	1180 *800 *1400	1180 *800 *1400	1180 *800 *1600	1180 *800 *1600	1700 *800 *1400	1700 *800 *1400	1700 *800 *1400	1700 *800 *1600	1700 *800 *1600
12	Battery box	Iron											
13	Weight(Kg)	≈300	≈350	≈390	≈460	≈500	≈550	≈600	≈660	≈700	≈750	≈800	≈860
14	Pros	can be used in offgrid and hybrid steups,compact design											
15	Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.											

Product features:

- High voltage、 Series connection,cabinet type
- Series expansion of capacity, up to 100 KWh
- Match hybrid inverter such as Goodwe,Victron,SMA,Victronic,Deye etc

System parts > Solar panel



Model	RM-410W-182M/108	RM-530W-182M/144	RM-530W-182M/144TB
Rated Power in Watts- Pmax(Wp)	410	530	580
Open Circuit Voltage- Voc(V)	37.67	49.32	51.47
Short Circuit Current- Isc(A)	13.88	13.70	14.37
Max. Power Voltage- Vmpp(V)	31.18	41.41	42.59
Max. Power Current- Imp(A)	13.15	12.81	13.62
Module Efficiency(%)	21.00	20.94	22.44
Solar Cells	Monocrystalline	Monocrystalline	Monocrystalline
Module Dimensions(mm)	1722× 1134×35	2279× 1134×35	2279× 1134× 35
Weight	21.5kg	28.6kg	34kg
Operational Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Max. System Voltage	1500V DC	1500V DC	1500V DC
Max. Series Fuse Rating	25A	25A	
Number of Modules Per Container	806	620	620
Number of Modules Per Pallet	31	31	31
Number of Pallets Per Container	26	20	20
Packaging Box Dimensions (l×w×h) (mm)	1750× 1120× 1260	2310× 1135× 1260	2300× 1120× 1260

System parts > Solar bracket

According to the different installation surface of the user:

	Aluminum alloy bracket	Steel bracket
Anti-corrosion performance	Later use process does not need corrosion maintenance, good corrosion performance	Hot penetration galvanizing is generally used(>65um);Anti-corrosion maintenance is required in the later use
Mechanical strength	The deformation amount of aluminum alloy is about 2.9 times higher than that of steel	The steel strength is about 1.5 times that of aluminum alloy
Material weight	About 2.71kg / m ²	About 7.85kg / m ²
Material price	Aluminum alloy price is about 3 times that of steel	
Applicable project	Household rooftop power station for load-bearing requirements;Power roof of industrial plants against corrosive requirements	Strong wind area、 large span area and power stations with strength requirements



System parts > Hybrid Inverter



Product features:
Matching 48V series battery cabinet (low voltage)

Model	Single-phase hybrid (Wall-mounted)					
Battery voltage (V)	48					
Maximum PV input power(W)	6500	10400	13000	15600	18200	20800
PV rated input voltage(V)	550 (160 ~ 800)		550 (160 ~ 800)		370 (125 ~ 500)	
MPPT Operating voltage range(V)	200 ~ 650		200 ~ 650		150 ~ 425	
MPPT Maximum charging current(A)	13+13		26+13		26+26+26	
Each group string short circuit input current(A)	17+17	17+17	34+17	44+44+44		
Total strings of all MPPT	2	2	2	3		
Output rating (W)	5500	8800	11000	12000	14000	16000
Emergency output power(W)	5000	8000	10000	10000	12000	14000
Rated output AC voltage(V)	L/N/PE 220/230Vac (single phase)					

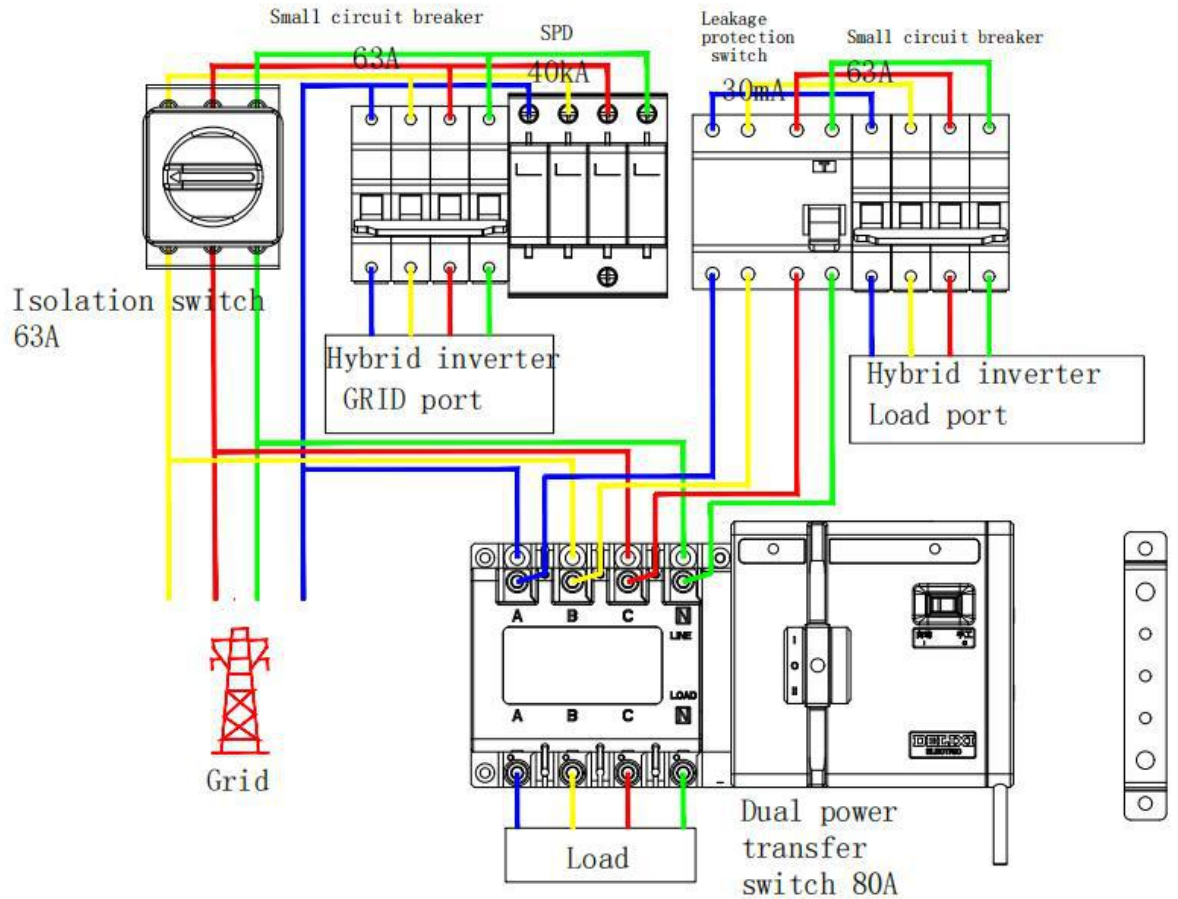
System parts > Hybrid Inverter



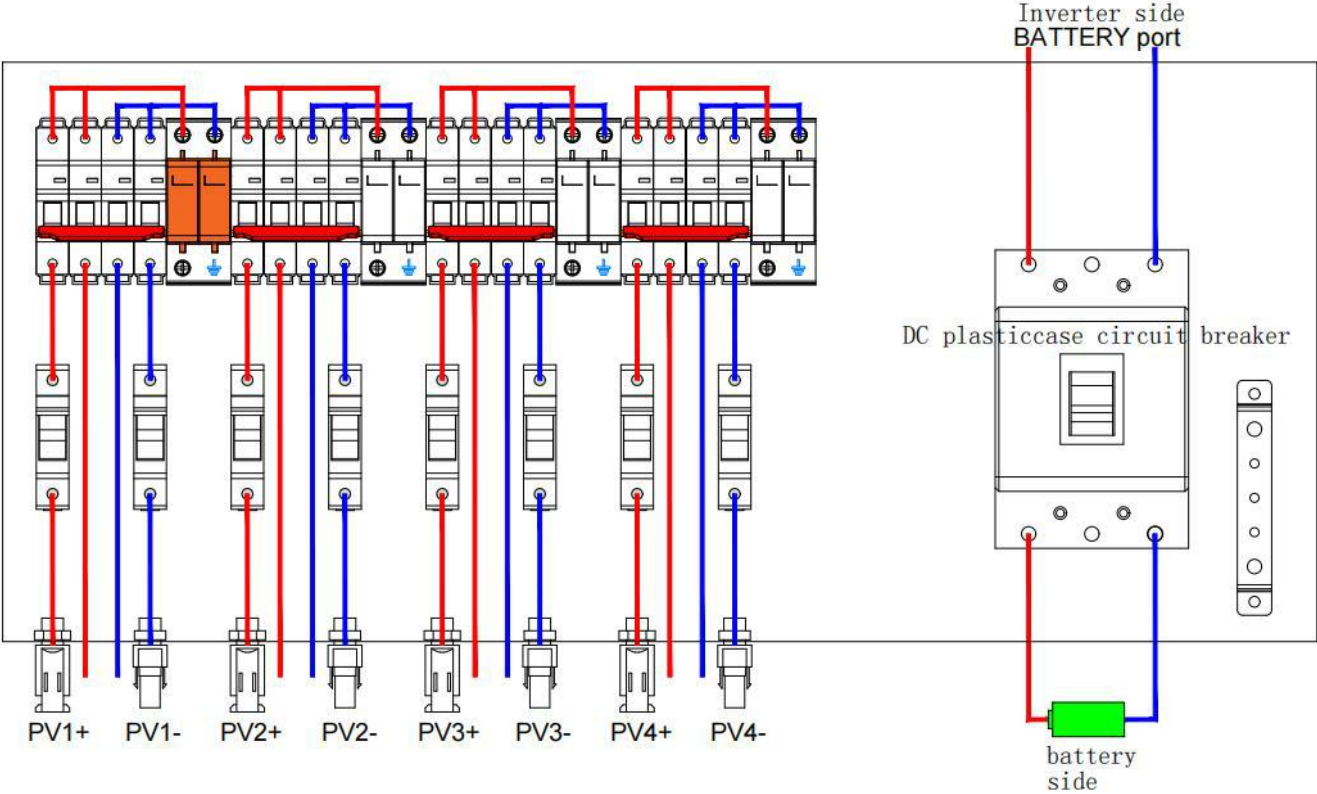
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Battery voltage(V)	48					
Maximum PV input power(W)	6500	10400	13000	15600	18200	20800
PV rated input voltage(V)	550 (160 ~ 800)			550 (160 ~ 800)	370 (125 ~ 500)	
MPPTOperating voltage range (V)	200 ~ 650			200 ~ 650	150 ~ 425	
MPPTMaximum charging current (A)	13+13		26+13	26+26+26		
Each group string short circuit input current (A)	17+17	17+17	34+17	44+44+44		
Total strings of all MPPT	2	2	2	3		
Output rating (W)	5500	8800	11000	12000	14000	16000
Emergency output power (W)	5000	8000	10000	10000	12000	14000
Rated output AC voltage (V)	L/N/PE 220/230Vac (single phase)					

System parts > PV Box-AC

AC PV Box is an important power supply protection part suitable for the photovoltaic cluster power generation system to undertake the cluster inverter and the power grid system. The input line of this PV box adopts circuit breaker input, the output adopts circuit breaker or load isolation switch, the circuit protection part adopts photovoltaic grid-connected circuit breaker and isolation switch, and the secondary lightning protection is adopted.



System parts > PV Box-DC



Case

