



The Sketching Of A Grid-connected PV System »

A grid connected PV system, which uses PV modules to convert sunshine into electricity and feeds power into the national grid via grid connected inverters without battery storage during the process by a maximum power point tracking(MPPT) technology. On grid PV power generation is the direction of PV industry, and represents the most attractive energy utilization technology of the 21st Century.

The inverter changes the DC electricity generated by solar modules into pure sine wave current which has same frequency and phases with the national grid. Part of the electricity will power local loads and the rest will be sent to national grid. The power regulator inside the inverter will send the electricity back to national grid in maximum. The national grid itself may absorb huge amount of energy, and there'll be no need for storage batteries, thus saves the system investment and reduces maintenance cost and endows the on grid PV system with vast application potential.

3-5KW Layout Of A Grid-connected Solar Power System »

General Principle »

The general principle is to keep the basic frame of the original circuit. Therefore, we should embed the solar power system into the original circuitry with a low voltage distribution cabinet.

Considering the security and reliability of this grid-connected system, we should add DC distribution cabinet at the input port of inverters.

The output of grid-connected inverter is three-phase four-wire system.

System Configuration »

PV array »

Including PV modules, brackets, bases, combiner boxes, cables, etc.

DC-AC inverters »

Including DC distribution cabinets, inverters, etc.

Step-up equipments »

Including step-up transformer, distribution vacuum circuit breaker, high-voltage Including lightning proof & earthing protection arrester.

Controlling & Testing System »

Including controllers, data processing/displaying system, remote information exchange and control facilities.

Ancillary Facilities »

Including lightning proof & earth protection, cleaning equipments, offices, enclosure, roadbeds, etc.

SOLAR POWER SYSTEM

3-5KW grid connected inverter parameters

Specifications	ZDNY-3000	ZDNY-5000
Input Data		
Max.DC Input Power	3180W	5200W
Max.DC Input Voltage	500V	550V
PV Voltage Range MPPT	180V-500V	180V-500V
Max. Input Current	13A	22A
DC Voltage Ripple	<5%	<5%
Max. Number Of Strings	2	4
Ground Fault Monitoring	Yes	Yes
Reverse Polarity Protection	Short-circuit Diode	Short-circuit Diode
Output Data		
Max. AC Power	3000W	5000W
Nominal AC Output	2800W	5000W
Thd Of AC Current	<3%	<3%
Nominal AC Voltage	220V-240V	220V-240V
Nominal AC Frequency	50Hz/60Hz	50Hz/60Hz
Power Factor	1	1
Short-circuit Proofing	Yes	Yes
Efficiency		
Max. Efficiency	96.50%	98.00%
Euro ETA	95.50%	97.50%
Protection Rating	IP/43	IP65
Mechanical		
Width/height/depth(mm)	400/315/120	460/350/150
Weight	13.1KG	17KG

System Configuration

3000W Model

No.	Item	Model	Unit	Quantity	Remark
1	Solar Module	175W	Piece	18	Total 3150W
2	Brackets and Cables		Set	1	8*2 In Series
3	Grid-Connected Inverter	2.8KW	Piece	1	
4	Combiner Box	DC/AC	Piece	2	
5	Lightning Arrester		Set	2	
6	Distribution Room		m ²	1 - 2	

5000W Model

No.	Item	Model	Unit	Quantity	Remark
1	Solar Module	185W	Piece	27	Total 4995W
2	Brackets and Cables		Set	1	8*2 In Series
3	Grid-Connected Inverter	5KW	Piece	1	
4	Connection Box	DC/AC	Piece	2	
5	Lightning Arrester		Set	2	
6	Distribution Room		m ²	2 - 4	

Demonstration Projects Of Solar Power Systems »

7.6KW grid connected photovoltaic tracking system in Italy



10KW roof power system in Belgium



1.6MW PV power station in Madrid Airport of Spain



35KW grid connected solar roof system in Dunkirk, France

