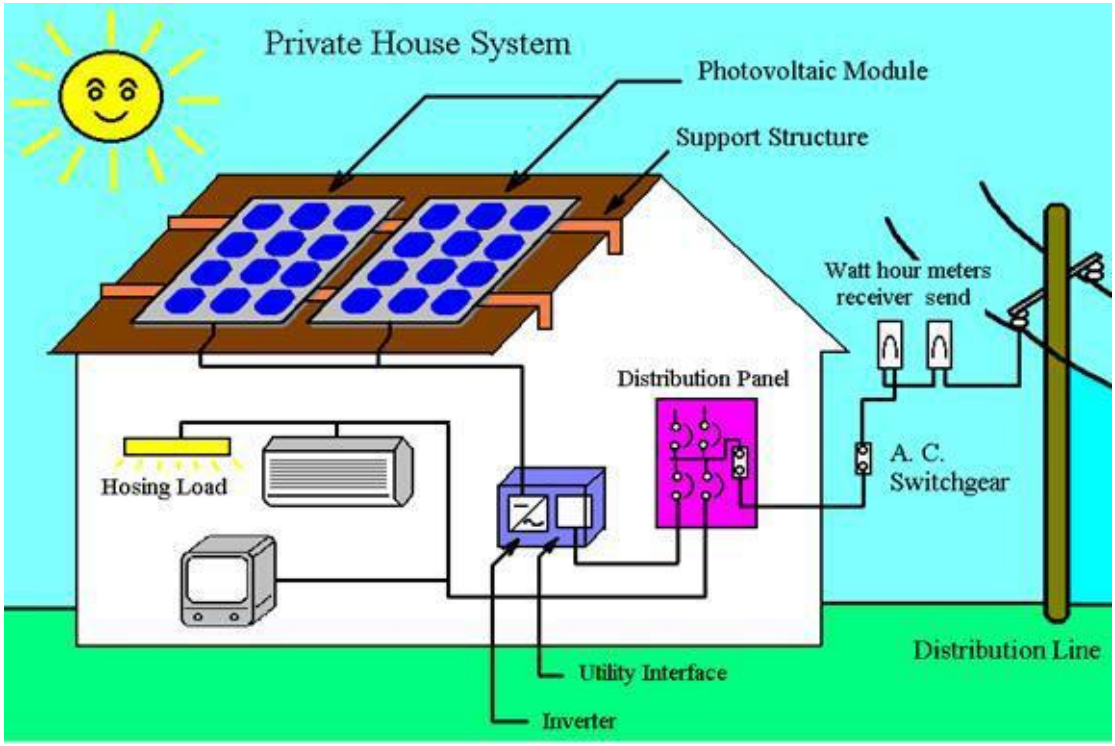
PV Grid-tied 5~6KWp Power System

Standardized Configuration Scheme



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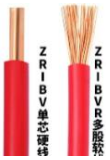
5.74KWp 并网光伏发电系统的评估 (使用单晶硅组件)
The Estimation of A 5.74KWp Grid-tied PV Power System w/i Mono-crystalline Solar Module

（1）系统配置一览表（Table of System Standard Components）：

Item	Description	Qty.	Picture of Item
PV Module	TD-410MC-108HC, mono-crystalline, 410watt w/i MC4 connectors and leading PV cables;	14 Pcs.	
PV Rack	PV panel mounting bracket on sloping roof	1 Set	
	Hook		
	Guiding Rail		
MC4 Connector	Rated voltage: 1500V DC (IEC) /800V DC(UL); Rated current: 30A; Ambient Temp.: -40~85℃; (IEC) Protection Grade: IP67; Male /Female;	3 Pairs	
DC Extension Cable	MC4 solarline 2 (latching) extender cable of 2.5mm^2, 15m length, male /female, 2Pcs. ×15.0m /Pcs.;	2 Pcs.	
PV-side Disconnector Box	With DC circuit breaker, DC Surge Protection Device and DC Rated Fuses; Waterproof Grade: IP65	1 Pcs.	

DC Cable from Disconnector Box to Inverter	BV/BVR1*4mm^2,2*10m length; plus one pair of MC4 Connector;	1 Set.	
PV Grid-tied Inverter	MG5KTL-2M	1 Pcs.	
AC Grid-tied Box	single-phase grid connection	1 Pcs.	
合计价格（Grand-total Price）			

Remarks:

① The PV panel of this system, if being fixed on your rooftop, could occupied an area of about 28㎡.

② To pursue a high-efficiency of this power generation system, when in installation, please pay attention to keeping the consistency of all PV module' level &orientation, so that to avoid a mismatch of the PV modules.

③ With high-quality and efficiency of our components, you could only positively expected an average annual output of solar electricity to be at a quite high level; If you use unqualified components, it may let you down.

④ For the confirmation of ordering PV mounting rack and accessories, you need to have a further discussion with our salesman to clear necessary information.

6.15KWp 并网光伏发电系统的评估 (使用单晶硅组件)
The Estimation of A 6.15KWp Grid-tied PV Power System w/i Mono-crystalline Solar Module

（1）系统配置一览表（Table of System Standard Components）：

Item	Description	Qty.	Picture of Item
PV Module	TD-410MC-108HC, mono-crystalline, 410watt w/i MC4 connectors and leading PV cables;	15 Pcs.	
PV Rack	PV panel mounting bracket on sloping roof	1 Set	

	Hook		
	Guiding Rail		
MC4 Connector	Rated voltage: 1500V DC (IEC) /800V DC(UL); Rated current: 30A; Ambient Temp.: -40~85℃; (IEC) Protection Grade: IP67; Male /Female;	4 Pairs	
DC Extension Cable	MC4 solarline 2 (latching) extender cable of 2.5mm^2, 15m length, male /female, 2Pcs. ×15.0m /Pcs.;	4 Pcs.	
PV-side Disconnector Box	With DC circuit breaker, DC Surge Protection Device and DC Rated Fuses; Waterproof Grade: IP65	1 Pcs.	
DC Cable from Disconnector Box to Inverter	BV/BVR1*4mm^2,4*10m length; plus one pair of MC4 Connector;	1 Set.	
PV Grid-tied Inverter	MG6KTL-2M	1 Pcs.	
AC Grid-tied Box	single-phase grid connection	1 Pcs.	
合计价格（**Grand-total Price**）			

Remarks:

① The PV panel of this system, if being fixed on your rooftop, could occupied an area of about 30㎡.

② To pursue a high-efficiency of this power generation system, when in installation, please pay attention to keeping the consistency of all PV module' level &orientation, so that to avoid a mismatch of the PV modules.

③ With high-quality and efficiency of our components, you could only positively expected an average annual output

of solar electricity to be at a quite high level; If you use unqualified components, it may let you down.

④ For the confirmation of ordering PV mounting rack and accessories, you need to have a further discussion with our salesman to clear necessary information.

以上各设计系统中拟使用的系统主要部件的参数一览表
List of Parameters for Main Components in the Above System Designed

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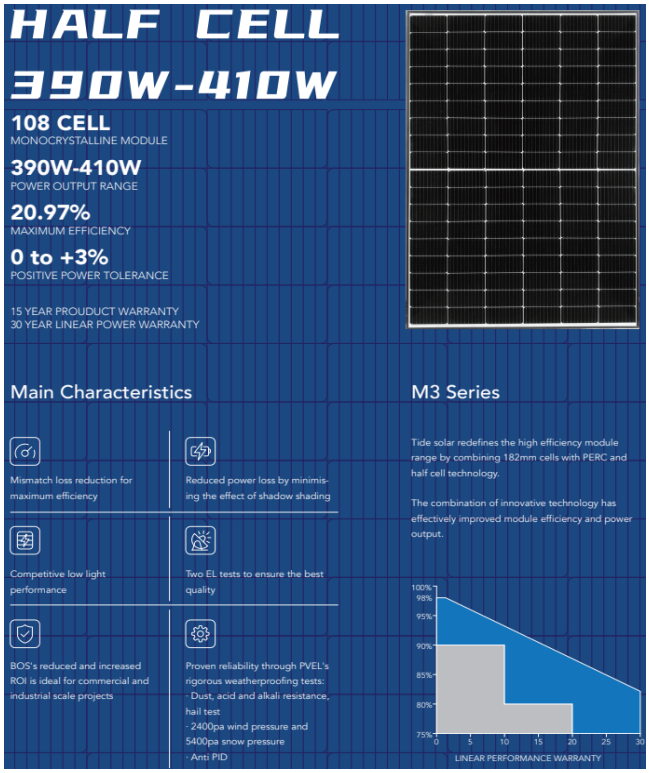
拟用太阳能电池组件的参数（Parameters of Proposed PV Module）：

108 CELL
MONOCRYSTALLINE MODULE
390W-410W
POWER OUTPUT RANGE
20.97%
MAXIMUM EFFICIENCY
0 to +3%
POSITIVE POWER TOLERANCE
LINEAR PERFORMANCE WARRANTY
15 Year Product Warranty
30 Year Linear Power Warranty



Structural Characteristics

Module Size	1724x1134x30mm
Weight	21kg
Battery	single crystal PERC182x91mm (108pieces)
Glass	3.2mm tempered coated glass, low iron
Frame	anodized aluminum alloy
Junction Box	IP68, 3 diodes
Output Lead	4.0mm 2250mm(+) / 350mm(-) or customized
Mechanical Load	front 5400pa / back 2400pa

Packing Method

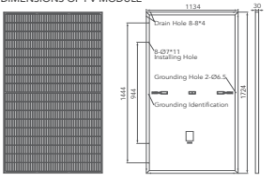
Module Size	1724x1134x30mm
Container	40' HQ
Quantity Per Pallet	36
Number Of Pallets Per Container	26
Quantity Per Container	936

Electrical Characteristics

Component Model	TD-390MC-108HC	TD-395MC-108HC	TD-400MC-108HC	TD-405MC-108HC	TD-410MC-108HC
Maximum Power (PMP)	STC	STC	STC	STC	STC
	390	395	400	405	410
Open Circuit Voltage (VOC)	36.9	37.01	37.12	37.22	37.32
Short Circuit Current (ISC)	13.4	13.5	13.6	13.7	13.8
Maximum Power Voltage (VMP)	30.59	30.69	30.81	30.93	31.05
Maximum Power Current (IMP)	12.78	12.88	12.99	13.10	13.20
Component Efficency (η_1)	19.95	20.20	20.46	20.72	20.97
Power Tolerance	(0, +3%)				
Maximum System Voltage	1500V DC				
Maximum Rated Fuse Current	25 A				

STC: Irradiance 1000 W/m² module temperature 25 °C AM=1.5

DIMENSIONS OF PV MODULE



Temperature Characteristics

Maximum Power Temperature Coefficient	-0.35 % / °C
Temperature Coefficient Of Open Circuit Voltage	-0.27 % / °C
Temperature Conefficient Of Short Circuit Current	+0.05 % / °C
Working Temperature	-40 ~ +85 °C
Nominal Operating Cell Temperature (NOCT)	45 ± 2 °C

拟用光伏汇流箱的参数（**Parameters of PV Sting DC Combiner Box**）：

SHLX-PV2/1 DC combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 2 PV input channel, 1 output channel, single MPPT inverter). Box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet,and other testing. IP65 protection grade.

Design and configuration strictly accordance with the "Technical specification for photovoltaic junction equipment" CGC/GF 037:2014.

Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

Product Advantages:

• High Reliability

With DC FUSE

With DC Surge Protection Device

With DC circuit breaker or DC load isolation switch

• Strong Adaptability

IP65 design, waterproof, anti dust and anti ultraviolet.

Strict test for high and low temperature, used widely.

The simple installation,the simplified system wiring, the convenient wiring

The box body is made of cold rolled steel and other metal materials

• Flexible configuration

Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules.

Current rating of the photovoltaic fuse, circuit breaker, load isolation switch is modified.

TECHNICAL PARAMETERS

Name	SHLX-PV2/1	
	Electric parameter	
System maximum dc voltage	550	1000
Maximum input current for each string	15A	
Maximum input strings	2	
Maximum output switch current	20A/32A	
Number of inverter MPPT	1	
Number of Output strings	1	
	Lightning protection	
Category of test	II grade protection	
Nominal discharge current	20kA	
Maximum discharge current	40kA	
Voltage protection level	2.8kV	3.8kV
Maximum continuous operating voltage Uc	630V	1050V
Poles	2P	3P
Structure characteristic	Plug-push module	
	System	
Protection grade	IP65	
Output switch	DC isolation switch(standard)/DC circuit breaker(optional)	
SMC4 Waterproof Connectors	Standard	
PV dc fuse	Standard	
PV surge protector	Standard	
Monitoring module	Optional	
Preventing diode	Optional	
Box material	PVC	
Installation method	Wall mounting type	
Operating Temperature	-25℃~+55℃	
Elevation of temperature	2km	
Permissible relative humidity	0-95%，no condensation	
	Mechanical parameter	
Width×High×Depth	300×260×140	

拟用太阳能并网逆变器的参数（Parameters of Proposed PV On-grid Inverter）：

		MG5KTL-2M	MG6KTL-2M
Input (DC)			
Max. Input Power		6kW	6.3kW
Max. Input Voltage	600V		
Start Voltage / Min. Operating Voltage	120V / 100V		
MPPT Voltage Range	120V-550V		
MPPT Rated Voltage	360V		
Number of MPP Trackers / String per MPPT	2/1		
Max. Current per MPPT		15A	16A
Output (AC)			
Max. Output Current		24A	26A
Rated AC Power		5kW	6kW
Rated Grid Frequency	50Hz / 60Hz		
Rated Grid Voltage	230V, L+N+PE		
Power Factor	≥0.99 (at rated power)		
THDi	<3% (at rated power)		
Efficiency			
Max. Efficiency		97.80%	97.80%
European Efficiency		96.80%	96.80%
MPPT Efficiency	99.90%		
Protection			
Protection	DC switch, AC short-circuit protection, Over current protection, Over voltage protection, Isolation protection, RCD, Surge protection, Anti-islanding protection, Over-temperature protection, Ground fault monitoring, etc.		
Communication			
Display	LED (optional) / LCD (standard)		
System Language	English / Chinese / German / Dutch		
Communication	RS485 (standard) / WiFi / GPRS / Ethernet (optional)		
Standard Compliance			
Grid Connection Standards	IEC 61727:2004, IEC62116:2014, IEC 60068-2-1:2007, IEC 60068-2-2:2007, IEC 60068-2-14:2009, IEC 60068-2-30:2005, IEC 61683:1999, DIN VDE 0126-1-1:2013, DIN VDE V 0124-100:2020, VDE-AR-N 4105:2018, G98:2019, C10/11:2019, AS/NZS 4777.2:2020, NB/T 32004-2018, PEA, ZVR		
Safety / EMC	IEC/EN 62109-1:2010, IEC/EN 62109-2:2011, EN 61000-6-2:2019, EN 61000-6-3:2007/A1:2011		
General Data			
Dimensions (W x H x D)	360 x 462 x 150 mm		
Weight	18kg		
Operating Temperature Range	-25℃~+60℃ (derating above 45℃)		
Cooling Method	Natural Cooling		
Protection Degree	IP65		
Noise	<30dB		
Highest Altitude	3000m (derating above 2000m)		
Relative Humidity	0~95%		
Topology	Transformerless		
Night Power Consumption	<1W		
Warranty	5years (standard) / 10years (optional)		