THE POWER OF RISING VALUE

RISEN ENERGY CO. , LTD
Add:Tashan Industry Zone,Meilin,
Ninghai 315609,Ningbo ,China
Tel:400 0566 000 +86 574 59953228
Fax:+86 574 65173959
E-mail:info@risenenergy.com
Web:www.risenenergy.com

YOUR DEALER:

risen
solar technology

2014-V2
SOLAR MODULES
PRODUCT CATALOGUE

Introduction

OVERVIEW

Risen Company Founded in 2002, has evolved from a manufacturer of lamp to a leading professional solar PV manufacturer providing world first class quality in its high performance PV modules, solar cells and solar lighting products.

Risen successfully launched IPO in Shenzhen Stock Exchange Market in 2010, Stock code: 300118.

In 2011, Risen start to operate internationally by opening office in Germany to deliver best value to customers. At the end of 2013, Risen reached capacity to 800MW, with totally 3200 workers in 4 manufacturing plants in Ninghai, east of China.

Risen has established long term relationship with partners from EU, North American, South Africa and Southeast Asia, more than 30 countries and regions.

Quality Control and Internal Test

Strict Quality Control System is applied to ensure 100% qualified modules delivered; 10 years' module manufacturing experience is a basis of knowing-how to produce the best quality.

Risen is applying a quality control project start from Incoming material until final packaging. Specially, Risen applies two stages(before & after lamination) 100% EL test to filter out modules with micro-crack and other critical defects; Berger simulator and other test equipments are also calibrated by TUV Reinland and other global-known independent institutes to ensure real power of each module. To back up, a complete barcode system is applied to record material, IV curve of each module, and this data is traceable for 25 years.

National Class Laboratory in the R & D center is established to develop new module versions and regularly checking the module materials and finished modules for various properties. Under head of Dr. Zeng , equipped with global-known testers, Risen tests not only including all types of modules with result free from PID(potential induced degradation), NO Hot Spots, but also undergo a series tests with standard DOUBLE of IEC61215, IEC61730! All of these extremely rigorous tests ensured the modules delivered by Risen of reliable high quality, in plain English, our partner can sit back and relax!

Combination of Human, Enterprise and Product

This is the core value of Risen. We put human factor as No.1 leading to perfection. Through running a public enterprise, Risen teams up 3200 workers together to deliver clean energy on the planet and improve the quality of life sustainably.

Value of Partner: Reliable partnership, Rising Value;

Working Attitude: Be Careful, fast, committed, promise to complete mission, No excuse.

Business Concept: Scalability, Innovation, Excellence.

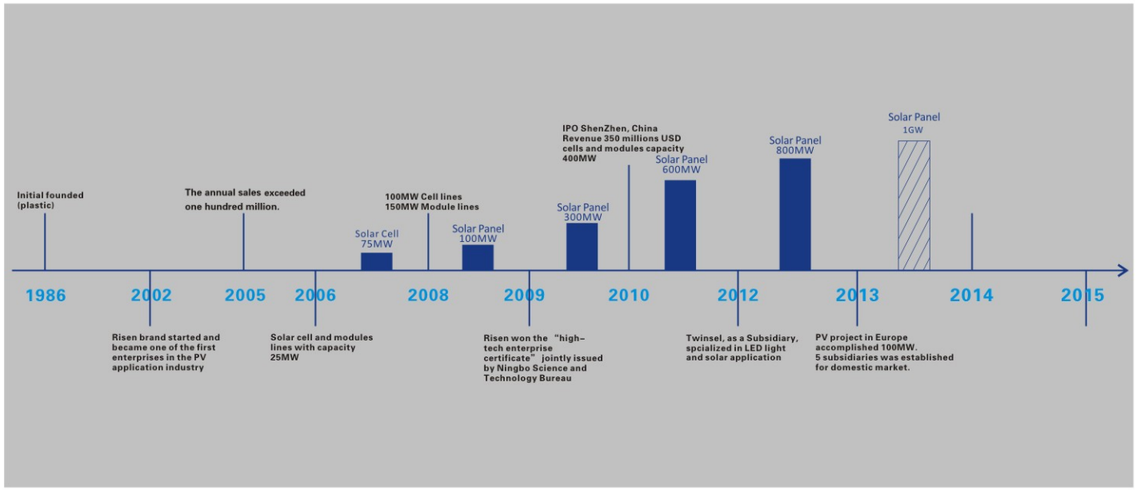
Brand Concept: The power of rising value.

GROWTH PROCESS

Witnessing the rise of China PV industry

EXTENSIVE SALES NETWORK

We exert ourselves to develop specific target groups through in-depth investigation, rapid emergency response and comprehensive marketing strategy. Meanwhile, our products are exported to more than 30 countries and regions, most of which are exported to Europe, North America, South Africa, and Southeast Asia.



PARK	
Location	Martinsheim, Germany
Installation Date	Q4.2013
System Size	4.39MW
Module type	RSM60-6-235P

PARK	
Location	Salonta, Romania
Installation Date	Q4.2013
System Size	5MW
Module type	RSM60-6-240P

PARK	
Location	Wales,UK
Installation Date	Q1 2011
System Size	5.0MW
Module type	RSM60-6-230P

PARK	
Location	Italy
Installation Date	Q3 2011
System Size	2.3MW
Module type	RSM60-6-235P

PARK	
Location	Osorhei, Romania
Installation Date	Q4.2013
System Size	3.0MW
Module type	RSM60-6-240P

PARK	
Location	Witzendorf,Germany
Installation Date	Q2.2012
System Size	6.96MW
Module type	RSM72-5-200M

PARK	
Location	Altenburg,Germany
Installation Date	Q2 2012
System Size	2.14MW
Module type	RSM72-5-200M

PARK	
Location	Kapatovo,Bulgaria
Installation Date	Q2 2012
System Size	2.58MW
Module type	RSM60-6-230P

PARK	
Location	Straklevo,Bulgaria
Installation Date	Q2 2012
System Size	1.51MW
Module type	RSM60-6-230P

PARK	
Location	Koprivlen,Bulgaria
Installation Date	Q2 2012
System Size	5.49MW
Module type	RSM60-6-245P

PARK	
Location	Qinghai,China
Installation Date	Q1 2013
System Size	20MW
Module type	RSM60-6-240/245P

PARK	
Location	Sardinia,Italy
Installation Date	Q1 2013
System Size	10.1MW
Module type	RSM60-6-240/245P

▲ ABB Automatic Lay-up

▲ Teamtechnik Automatic welding Line

▲ SCHMID Texturing & Loading

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1.Centrotherm PECVD
2.DEK Screen Printer
3.Delta Cell Sorting with Berger Testing

State-of- the-art manufacturing shows the core concept of Risen Energy: Reliable Partnership & Rising Value.

By partnering with industry-leading equipment and technology suppliers from Germany, UK, USA and PR. of China, Risen combines facility with patent technology perfectly. This combination not just shorten lead time and lower manufacturing cost, but also develop high performing modules with robust reliability.

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POLY CRYSTALLINE MODULE
72x6"/280-320W

Qualified, IEC61215
Qualified, IEC61730

Electrical Characteristics

Model	Pm(Wp)	Tolerance	Vm(V)	Im(A)	Voc(V)	Isc(A)	η
RSM72-6-280P	280W	0~+3%	35.20	7.96	44.80	8.33	>14.47%
RSM72-6-285P	285W	0~+3%	35.32	8.07	44.80	8.48	>14.68%
RSM72-6-290P	290W	0~+3%	35.41	8.19	44.80	8.63	>14.94%
RSM72-6-295P	295W	0~+3%	35.60	8.29	44.80	8.70	>15.20%
RSM72-6-300P	300W	0~+3%	35.90	8.36	44.90	8.85	>15.46%
RSM72-6-305P	305W	0~+3%	36.20	8.43	44.92	8.95	>15.72%
RSM72-6-310P	310W	0~+3%	36.40	8.52	44.94	9.15	>15.98%
RSM72-6-315P	315W	0~+3%	36.60	8.61	44.96	9.25	>16.24%
RSM72-6-320P	320W	0~+3%	36.80	8.70	45.02	9.34	>16.49%

Valued at STC (AM 1.5, 1000W/m², 25℃)

Temperature Coefficients

Temperature Coefficient of VOC(β)	-0.32%/℃
Temperature Coefficient of ISC(α)	+0.034%/℃
Temperature Coefficient of Pmax	-0.40%/℃
Nominal Operating Cell Temperature (NOCT)	45±2℃

Permissible Operating Conditions

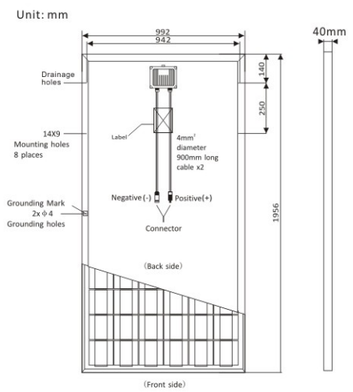
Maximum system voltage	1000VDC
Operating temperature	-40~+85℃
Snow load	Max 5400 Pa
Wind load	Max 120km/h

Mechanical Characteristics

Number of poly crystalline solar cell	72pcsx6"
Aluminum frame, dimension	1956x992x40mm
Glass thickness	4.0mm
Weight	23kg
Junction box	IP67
Module	IP67
Tolerance of Rating	0~+3%
Number of bypass diodes	3

Warranty

12 years with 100% product warranty
12 years 90% rated power output
25 years 80% rated power output



280-320 Watt
POLY-CRYSTALLINE SOLAR PANEL

Excellent Quality

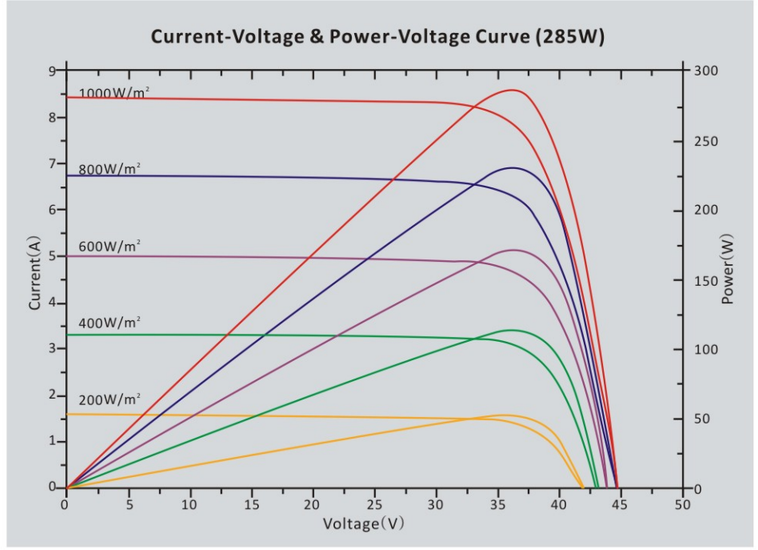
>Automatic production and testing processes;
>More than 18 IEC tests program in State-Level PV Laboratory of Risen;
>Third party liability and quality insurance;
>ISO9001,ISO14001 and OHSAS18001 management system.

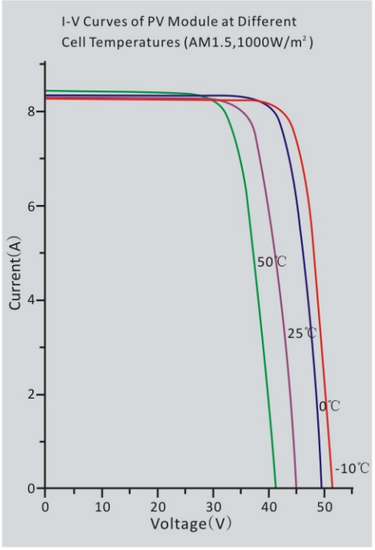
Easy for installation

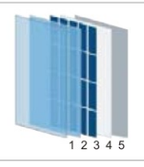
>Low weight, convenient format;
>Horizontal and Vertical installation applicable;
>Compatible with all standard rooftop and ground mounting systems.

Maximum Yield

>Only Positive tolerance assorted;
>Photon test with TOP performance;
>Averagely,installed projects actual power yield is 5% higher than theoretical yield.







◎1. Tempered Glass
◎2. EVA (Ethylene Vinyl Acetate)
◎3.Solar Cells
◎4. EVA (Ethylene Vinyl Acetate)
◎5. Backsheet

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POLY CRYSTALLINE MODULE
60x6"/240-275W

RSM72-6-280P

Qualified，IEC61215
Qualified，IEC61730

Electrical Characteristics

Model	Pm(Wp)	Tolerance	Vm(V)	Im(A)	Voc(V)	Isc(A)	η
RSM60-6-240P	240W	0~+3%	30.20	7.96	37.20	8.33	>14.66%
RSM60-6-245P	245W	0~+3%	30.30	8.09	37.30	8.34	>14.97%
RSM60-6-250P	250W	0~+3%	30.30	8.26	37.30	8.90	>15.27%
RSM60-6-255P	255W	0~+3%	30.50	8.38	37.40	9.05	>15.58%
RSM60-6-260P	260W	0~+3%	30.50	8.53	37.50	9.24	>15.88%
RSM60-6-265P	265W	0~+3%	30.70	8.64	37.70	9.29	>16.19%
RSM60-6-270P	270W	0~+3%	30.90	8.74	37.90	9.38	>16.49%
RSM60-6-275P	275W	0~+3%	31.10	8.84	38.10	9.47	>16.80%

Valued at STC (AM 1.5, 1000W/m², 25℃)

Temperature Coefficients

Temperature Coefficient of VOC(β)	-0.33%/℃
Temperature Coefficient of ISC(α)	+0.033%/℃
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Nominal Operating Cell Temperature (NOCT)	45±2℃

Permissible Operating Conditions

Maximum system voltage	1000VDC
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Number of poly crystalline solar cell	60pcsx6"
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Glass thickness	3.2mm
Weight	20.0kg
Junction box	IP67
Module	IP67
Tolerance of Rating	0~+3%
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Warranty

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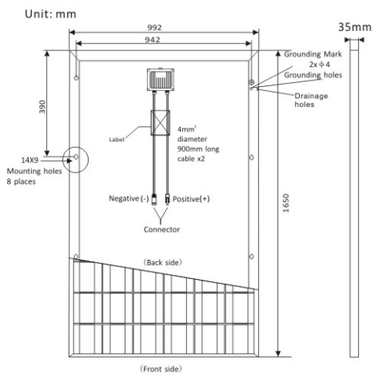

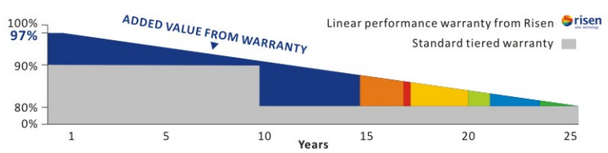

APPROVED PRODUCT MCS BABT
c UL us 47VC
PV CYCLE
TÜV NORD

240-275Watt
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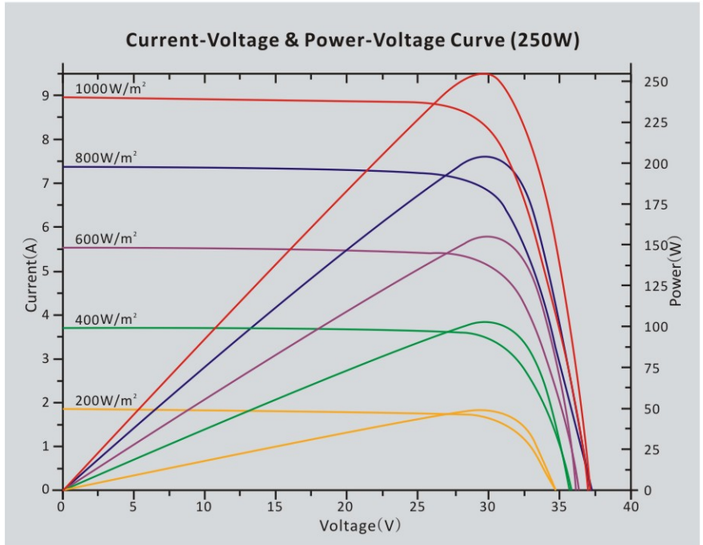

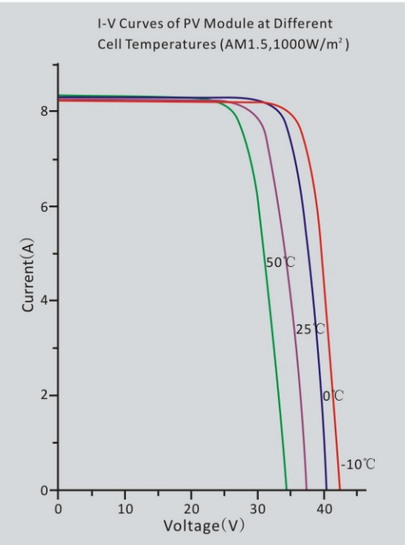

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