



**RISUN
GREEN ENERGY**

**SOLAR
ENERGY**



公司
OUR COMPANY PANORAMA

INTELLIGENT MANUFACTURING

SMART MICROGRID

BUSINESS NETWORK + OUR CUSTOMERS



江西瑞安新能源有限公司
JIANGXI RISUN GREEN ENERGY CO.,LTD.

江西瑞晶太阳能科技有限公司
JIANGXI RISUN SOLAR ENERGY CO.,LTD.

总公司地址(Add)::中国江西省新余市渝水区新兴工业园大一路

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India office: Risun Green Private Limited

Add: 4/14, Twinkle star Chs Ltd, Ghatla Road, Chembur, Mumbai City, Maharashtra, 400071

Thailand office: Risun (Thailand) Co.,LTDR

Add: amkhamhaeng Road - Soi Ramkhamhaeng , 24/3 Khwaeng Hua Mak, Khet Bang Kapi, Krung Thep Maha Nakhon 10240 , Bangkok, Thailand

Germany office: RISUN GmbH

Maelzereistr. 3,90409 Nuernberg, Germany

French office: RISUN SOLAR ENERGY sas

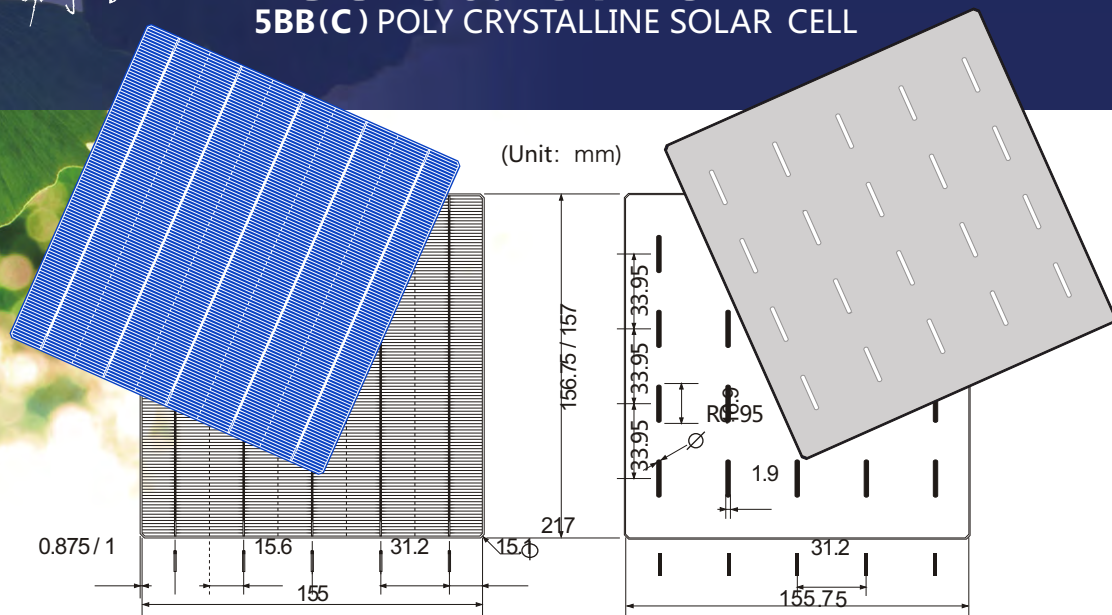
Add: 24 rue Beranger, 75003, Paris - FRANCE

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Green Risun Grasp future

RSC156.75 / 157P

5BB(C) POLY CRYSTALLINE SOLAR CELL



FEATURES

Ozonized PID resistant process

- Tighter color variation control
- <1.0mm graphite boat button size
- >1.5N peel strength for Front Ag busbar
- >2.0N peel strength for Back Ag busbar
- Cell bow <2.0mm

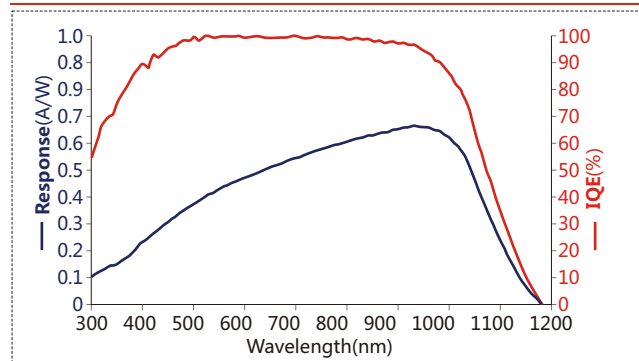
TEMPERATURE COEFFICIENTS

Voc (β)	-0.33% /°C
Isc (α)	+0.06% /°C
Pmp (γ)	-0.40% /°C

MECHANICAL DATA & DESIGN

Format	156.75mm × 156.75mm / 157mm × 157mm
Thickness	180 ± 18µm
Front	0.7mm wide continuous BB SiN Blue ARC
Back	2.0mm exposed BB width Al BSF

SPECTRAL RESPONSE, IQE AND IRRADIANCE DEPENDENCE



Irradiance W/m ²	Isc*	Voc*	Pmp*
1000	1.00	1.00	1.00
800	0.80	0.99	0.79
600	0.60	0.98	0.59
400	0.40	0.96	0.38
200	0.20	0.93	0.18

Values normalized to 1000 W/m² Irradiance

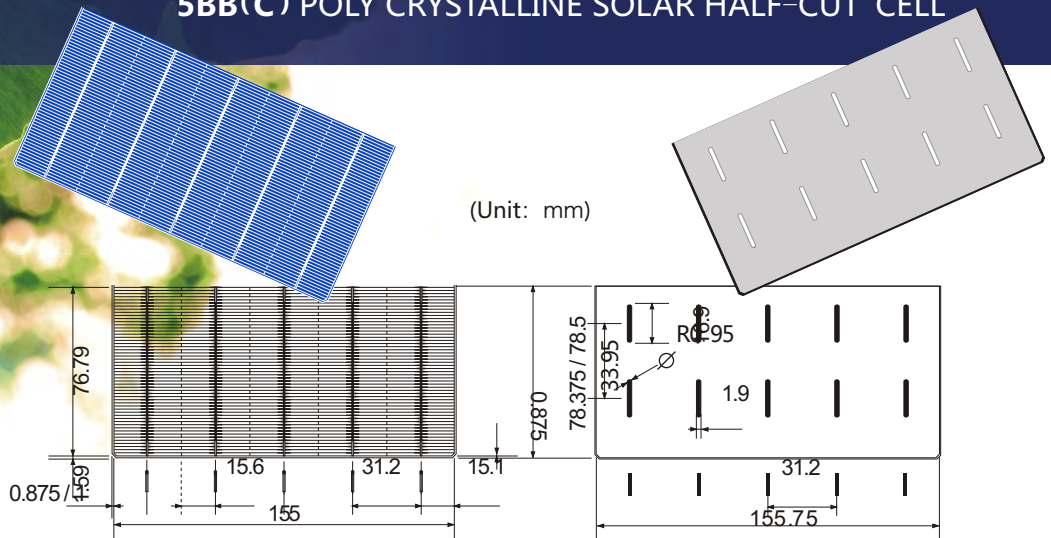
CELL SPECIFICATION

Eff, %	Pmpp, W	Vmpp, V	Imp, A	Voc, V	Isc, A	FF, %
19.70	4.84	0.551	8.784	0.653	9.321	79.52
19.60	4.82	0.550	8.757	0.652	9.294	79.48
19.50	4.79	0.549	8.727	0.651	9.263	79.45
19.40	4.77	0.548	8.701	0.650	9.239	79.38
19.30	4.74	0.547	8.669	0.649	9.209	79.34
19.20	4.72	0.546	8.639	0.648	9.180	79.30
19.10	4.69	0.545	8.611	0.647	9.156	79.22
19.00	4.67	0.544	8.581	0.646	9.130	79.15
18.90	4.64	0.543	8.553	0.645	9.102	79.11
18.80	4.62	0.542	8.522	0.644	9.074	79.05
18.70	4.59	0.541	8.494	0.643	9.047	78.99
18.60	4.57	0.540	8.466	0.642	9.020	78.93
19.20	4.72	0.544	8.70	0.639	9.20	80.46
19.10	4.70	0.542	8.68	0.637	9.18	80.44
19.00	4.68	0.541	8.64	0.636	9.16	80.43
18.90	4.64	0.547	8.50	0.641	9.00	80.62
18.80	4.62	0.545	8.48	0.640	8.98	80.52
18.70	4.60	0.544	8.48	0.639	8.96	80.43
18.60	4.58	0.542	8.46	0.637	8.96	80.35
18.50	4.56	0.541	8.44	0.636	8.94	80.25
18.40	4.52	0.539	8.42	0.634	8.92	80.23
18.30	4.50	0.538	8.40	0.633	8.90	80.16
18.20	4.48	0.536	8.38	0.631	8.88	80.08
18.10	4.46	0.535	8.34	0.630	8.86	79.82

Green Risun Grasp future

RSHC156.75 / 157P

5BB(C) POLY CRYSTALLINE SOLAR HALF-CUT CELL



FEATURES

Ozonized PID resistant process

- Tighter color variation control
- <1.0mm graphite boat button size
- >1.5N peel strength for Front Ag busbar
- >2.0N peel strength for Back Ag busbar
- Cell bow <2.0mm

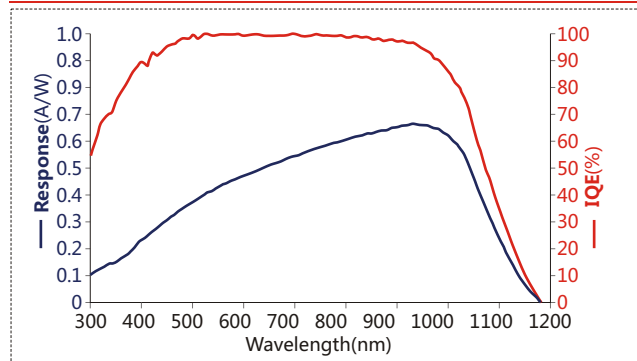
TEMPERATURE COEFFICIENTS

Voc (β)	-0.33% / °C
Isc (α)	+0.06% / °C
Pmp (γ)	-0.40% / °C

MECHANICAL DATA & DESIGN

Format	156.75mm × 78.375mm / 157mm × 78.5mm
Thickness	180 ± 18μ
Front	0.7mm wide continuous BB SiN Blue ARC
Back	2.0mm exposed BB width Al BSF

SPECTRAL RESPONSE, IQE AND IRRADIANCE DEPENDENCE



Irradiance W/m ²	Isc*	Voc*	Pmp*
1000	1.00	1.00	1.00
800	0.80	0.99	0.79
600	0.60	0.98	0.59
400	0.40	0.96	0.38
200	0.20	0.93	0.18

Values normalized to 1000 W/m² Irradiance

CELL SPECIFICATION

Eff, %	Pmpp, W	Vmpp, V	Imp, A	Voc, V	Isc, A	FF, %
19.70	2.42	0.551	4.392	0.653	4.661	79.52
19.60	2.41	0.550	4.379	0.652	4.647	79.48
19.50	2.40	0.549	4.364	0.651	4.632	79.45
19.40	2.38	0.548	4.351	0.650	4.620	79.38
19.30	2.37	0.547	4.335	0.649	4.605	79.34
19.20	2.36	0.546	4.320	0.648	4.590	79.30
19.10	2.35	0.545	4.306	0.647	4.578	79.22
19.00	2.33	0.544	4.291	0.646	4.565	79.15
18.90	2.32	0.543	4.277	0.645	4.551	79.11
18.80	2.31	0.542	4.261	0.644	4.537	79.05
18.70	2.30	0.541	4.247	0.643	4.524	78.99
18.60	2.29	0.540	4.233	0.642	4.511	78.93
19.20	2.36	0.544	4.35	0.639	4.60	80.46
19.10	2.35	0.542	4.34	0.637	4.59	80.44
19.00	2.34	0.541	4.32	0.636	4.58	80.43
18.90	2.32	0.547	4.25	0.641	4.50	80.62
18.80	2.31	0.545	4.24	0.640	4.49	80.52
18.70	2.30	0.544	4.24	0.639	4.48	80.43
18.60	2.29	0.542	4.23	0.637	4.48	80.35
18.50	2.28	0.541	4.22	0.636	4.47	80.25
18.40	2.26	0.539	4.21	0.634	4.46	80.23
18.30	2.25	0.538	4.20	0.633	4.45	80.16
18.20	2.24	0.536	4.19	0.631	4.44	80.08
18.10	2.23	0.535	4.17	0.630	4.43	79.82

RSM60-156P

260 – 295W

Green Risun Grasp future

KEY FEATURES



PID resistant



Excellent module efficiency



Positive power tolerance to +5W



100% electroluminescence



Design Load/Safety Factors:
3600Pa/1.5 (downward) 1600Pa/1.5 (upward)



IP67 junction box for long term endurance



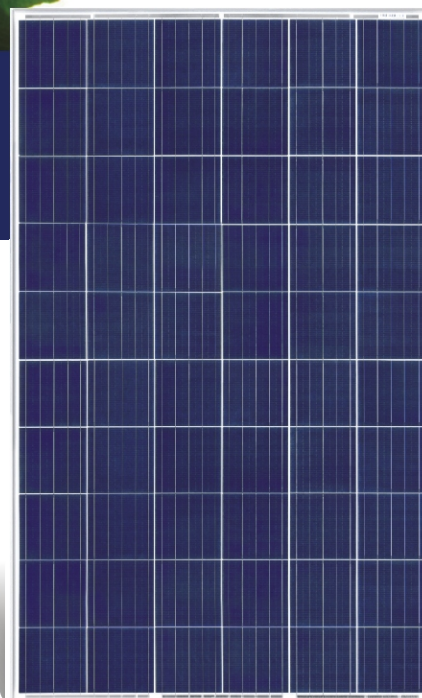
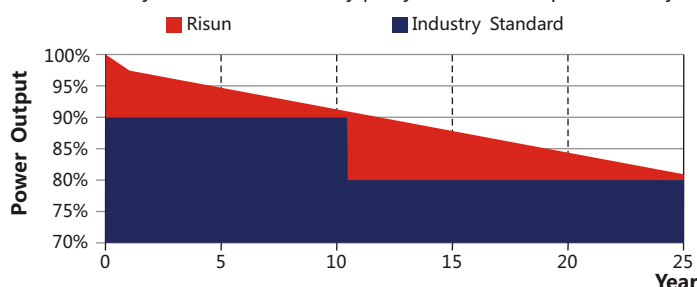
10 years product warranty



25 years linear power warranty

LINEAR PERFORMANCE WARRANTY

10 year Product Warranty | 25 year Power Output Warranty



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MANAGEMENT SYSTEMS CERTIFICATES



Management System
ISO9001:2015
www.tuv.com
ID 9105016347



Management System
ISO9001:2015
ISO14001:2015
OHSAS18001:2007

PRODUCT CERTIFICATES



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Overseas Business

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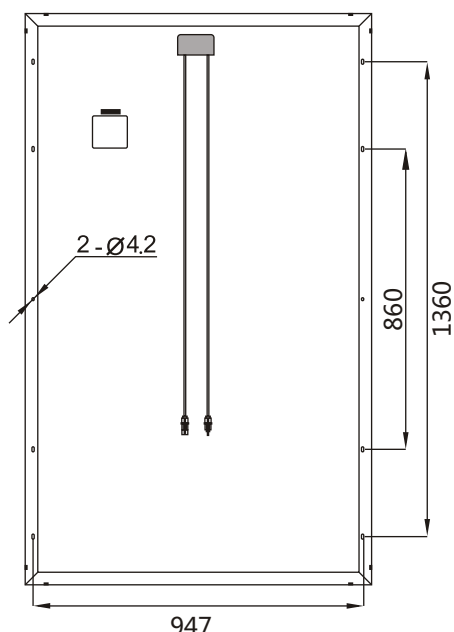
Add: Maelzereistr. 3,90409 Nuernberg, Germany

French office: RISUN SOLAR ENERGY sas

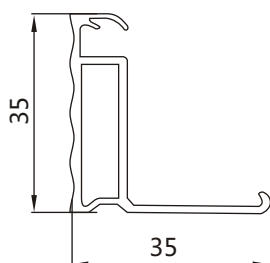
Add: 24 rue Beranger, 75003, Paris - FRANCE

+33 (0) 673 377 108 / contact@risunsolar.fr / www.risunsolar.fr

RSM60-156P 260 – 295W



Module Dimension (Unit: mm)



Frame Dimension (Unit: mm)

ELECTRICAL CHARACTERISTICS

Maximum Power P_{mp} , [Watt]	260	265	270	275	280	285	290	295
Power Tolerance, [W]	0 / +5							
Voltage at Maximum Power Point V_{mpp} , [V]	30.56	30.81	31.06	31.31	31.56	31.81	32.06	32.31
Current at Maximum Power Point I_{mpp} , [A]	8.51	8.60	8.69	8.78	8.87	8.96	9.05	9.13
Open Circuit Voltage V_{oc} , [V]	37.66	37.91	38.15	38.39	38.63	38.87	39.11	39.35
Short Circuit Current I_{sc} , [A]	9.06	9.13	9.20	9.26	9.32	9.38	9.44	9.50
Module Efficiency, [%]	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1

Measurements under Standard Test Conditions (STC)
Irradiance 1000W/m², AM1.5G Spectrum and Cell Temperature 25°C

MECHANICAL CHARACTERISTICS

Cell Type	Poly-crystalline, 156.75mm × 156.75mm / 157mm × 157mm
Cell Configuration	60 cells (6 × 10)
Module Dimension	1640mm × 992mm × 35mm
Module Weight	18.2 Kg
Glass	3.2mm, low Iron tempered Solar Glass
Frame	Anodized Al alloy Type 6063 T5; Silver grey
J-Box	Potted, IP67, 1000V/1500V DC, (3 bypass diode) IEC & UL certified
Cable	4.0mm ² / 12 AWG, 900 mm, IP67
Connectors	QC4.10

THERMAL CHARACTERISTICS

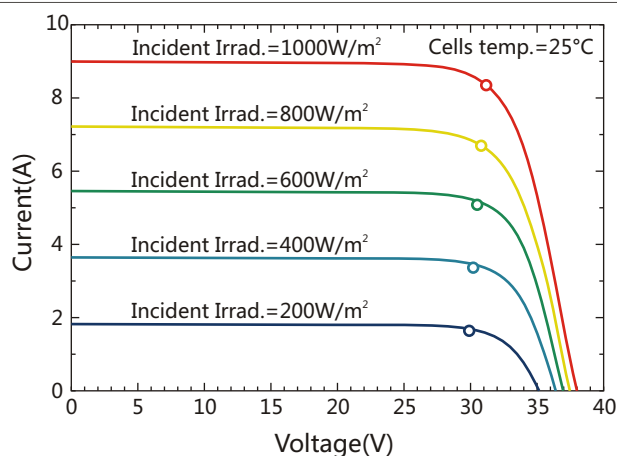
Nominal Operating Temperature NOCT	45 ± 2°C
Temperature Coefficient of I_{sc} , α	+0.049 %/°C
Temperature Coefficient of V_{oc} , β	-0.309 %/°C
Temperature Coefficient of P_{max} , γ	-0.416 %/°C

MAXIMUM OPERATING INSTRUCTIONS

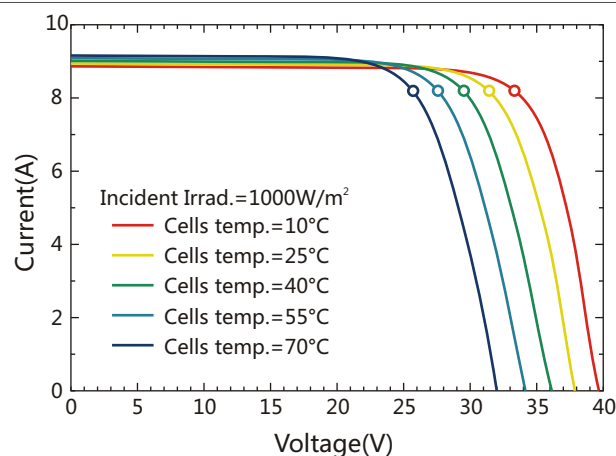
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1000V/1500V
Maximum Series Fuse Rating	15A

PACKING INSTRUCTIONS

Number Of Modules Per Box / Pallet	30
Number of Pallets / 40' Container	28



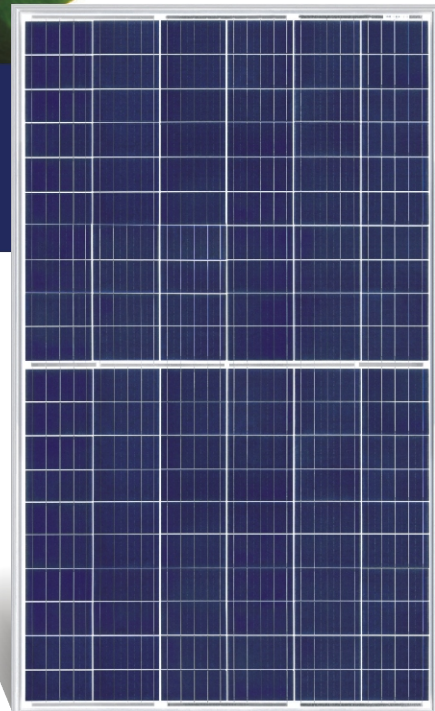
Best performance at Low Irradiance, +97% relative Module Efficiency from an Irradiance of 1000W/m² to 200W/m²



RSM60H-156P

270 – 300W

Green Risun Grasp future



KEY FEATURES



PID resistant



Excellent module efficiency



Positive power tolerance to +5W



100% electroluminescence



Design Load/Safety Factors:
3600Pa/1.5 (downward) 1600Pa/1.5 (upward)



IP67 junction box for long term endurance



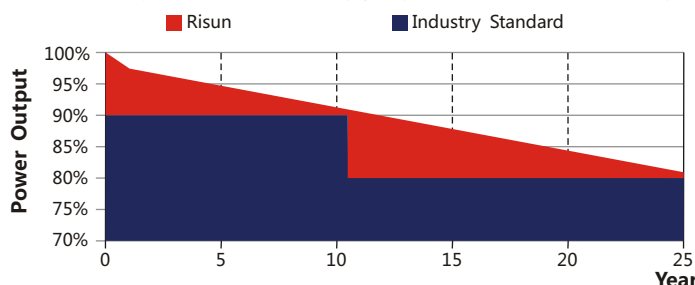
10 years product warranty



25 years linear power warranty

LINEAR PERFORMANCE WARRANTY

10 year Product Warranty | 25 year Power Output Warranty



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Management System
ISO9001:2015
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ID 9105016347



Management System
ISO9001:2015
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PRODUCT CERTIFICATES



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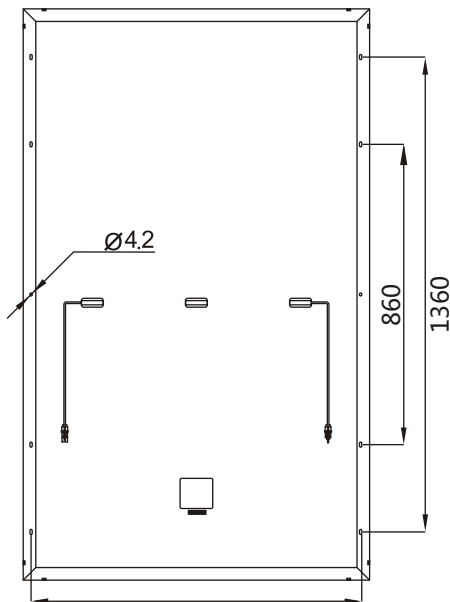
French office: RISUN SOLAR ENERGY sas

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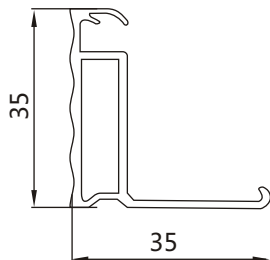
+33 (0) 673 377 108 / contact@risunsolar.fr / www.risunsolar.fr

RSM60H-156P

270 – 300W



Module Dimension (Unit: mm)



Frame Dimension (Unit: mm)

ELECTRICAL CHARACTERISTICS

Maximum Power P_{mp} , [Watt]	270	275	280	285	290	295	300
Power Tolerance, [W]	0 / +5						
Voltage at Maximum Power Point V_{mpp} , [V]	31.60	31.85	32.05	32.25	32.45	32.65	32.85
Current at Maximum Power Point I_{mpp} , [A]	8.54	8.63	8.74	8.84	8.94	9.04	9.13
Open Circuit Voltage V_{oc} , [V]	37.95	38.15	38.35	38.55	38.75	38.95	39.15
Short Circuit Current I_{sc} , [A]	9.05	9.15	9.23	9.35	9.46	9.56	9.66
Module Efficiency, [%]	16.3	16.6	16.9	17.2	17.5	17.8	18.1

Measurements under Standard Test Conditions (STC)
Irradiance 1000W/m², AM1.5G Spectrum and Cell Temperature 25°C

MECHANICAL CHARACTERISTICS

Cell Type	Poly-crystalline, 156.75mm × 78.375mm / 157mm × 78.5mm
Cell Configuration	120 cells (6 × 10 × 2)
Module Dimension	1670mm × 992mm × 35mm
Module Weight	18.2 Kg
Glass	3.2mm, low Iron tempered Solar Glass
Frame	Anodized Al alloy Type 6063 T5; Silver grey
J-Box	Potted, IP67, 1000V/1500V DC, (3 bypass diode) IEC & UL certified
Cable	4.0mm ² / 12 AWG, 300 mm, IP67
Connectors	QC4.10

THERMAL CHARACTERISTICS

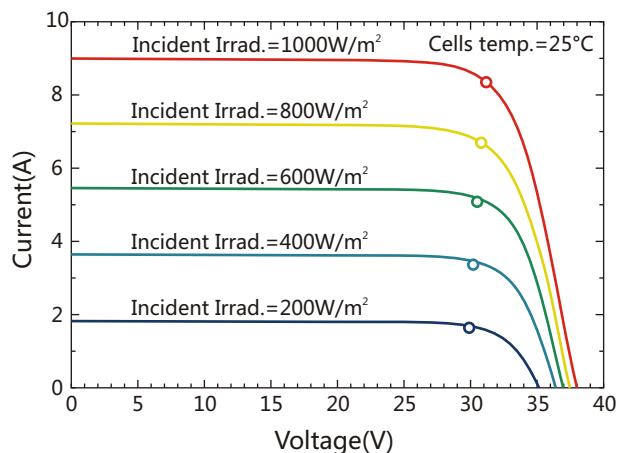
Nominal Operating Temperature NOCT	45 ± 2°C
Temperature Coefficient of I_{sc} , α	+0.049 %/°C
Temperature Coefficient of V_{oc} , β	-0.309 %/°C
Temperature Coefficient of P_{max} , γ	-0.416 %/°C

MAXIMUM OPERATING INSTRUCTIONS

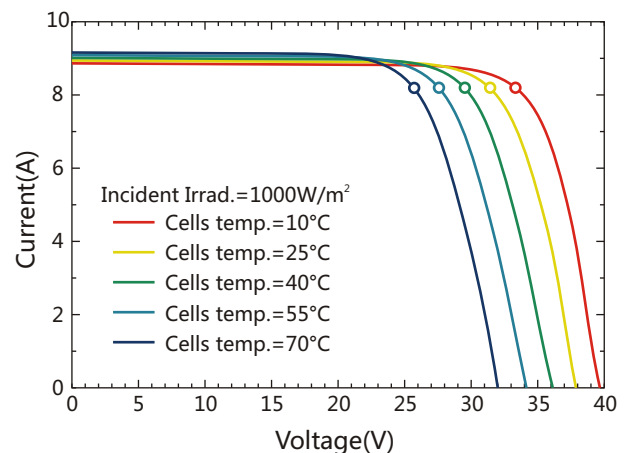
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1000V/1500V
Maximum Series Fuse Rating	15A

PACKING INSTRUCTIONS

Number Of Modules Per Box / Pallet	30
Number of Pallets / 40' Container	26



Best performance at Low Irradiance, +97% relative Module Efficiency from an Irradiance of 1000W/m² to 200W/m²



RSM72-156P

325 – 350W

Green Risun Grasp future

KEY FEATURES



PID resistant



Excellent module efficiency



Positive power tolerance to +5W



100% electroluminescence



Design Load/Safety Factors:
3600Pa/1.5 (downward) 1600Pa/1.5 (upward)



IP67 junction box for long term endurance



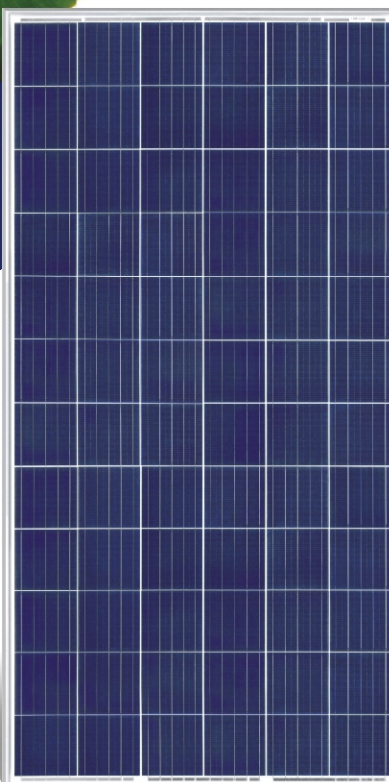
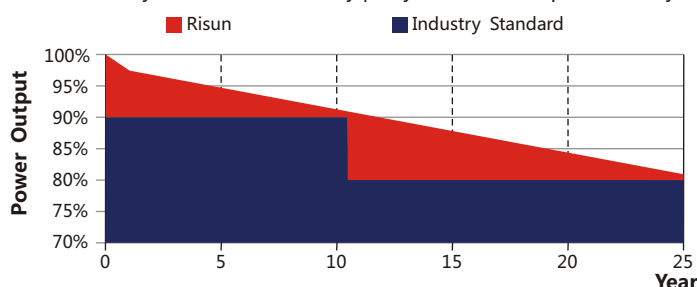
10 years product warranty



25 years linear power warranty

LINEAR PERFORMANCE WARRANTY

10 year Product Warranty | 25 year Power Output Warranty



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Management System
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PRODUCT CERTIFICATES



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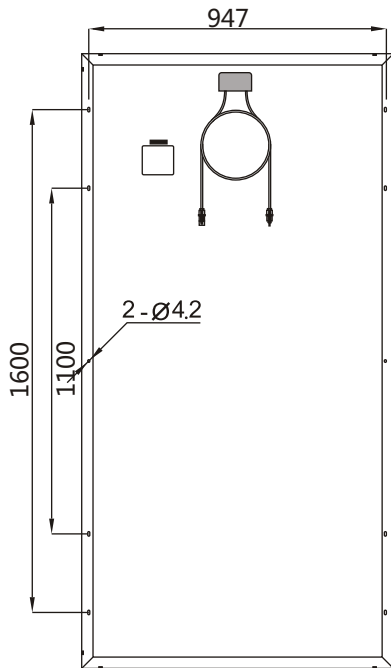
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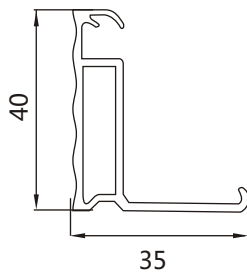
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RSM72-156P 325 – 350W



Module Dimension (Unit: mm)



Frame Dimension (Unit: mm)

ELECTRICAL CHARACTERISTICS

Maximum Power P_{mp} , [Watt]	325	330	335	340	345	350
Power Tolerance, [W]	0 / +5					
Voltage at Maximum Power Point V_{mpp} , [V]	37.53	37.80	38.11	38.36	38.61	38.86
Current at Maximum Power Point I_{mpp} , [A]	8.66	8.73	8.79	8.86	8.94	9.01
Open Circuit Voltage V_{oc} , [V]	46.00	46.20	46.40	46.60	46.80	47.00
Short Circuit Current I_{sc} , [A]	9.15	9.23	9.27	9.36	9.45	9.52
Module Efficiency, [%]	16.7	17.0	17.3	17.5	17.8	18.1

Measurements under Standard Test Conditions (STC)
Irradiance 1000W/m², AM1.5G Spectrum and Cell Temperature 25°C

MECHANICAL CHARACTERISTICS

Cell Type	Poly-crystalline, 156.75mm×156.75mm / 157mm×157mm
Cell Configuration	72 cells (6×12)
Module Dimension	1956mm × 992mm × 35 / 40mm
Module Weight	20.5 / 21.5 kg
Glass	3.2mm / 4.0mm , low Iron tempered Solar Glass
Frame	Anodized Al alloy Type 6063 T5; Silver grey
J-Box	Potted, IP67, 1000V/1500V DC, (3 bypass diode) IEC & UL certified
Cable	4.0mm ² / 12 AWG, 900 mm, IP67
Connectors	QC4.10

THERMAL CHARACTERISTICS

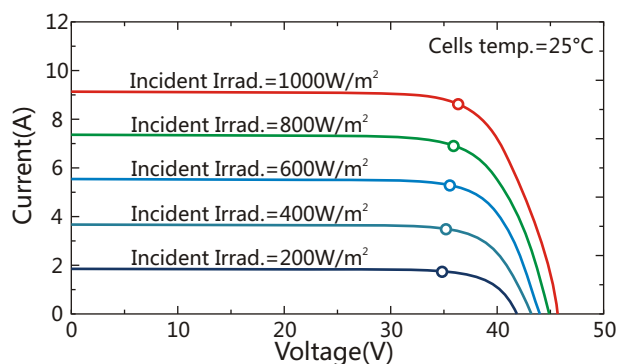
Nominal Operating Temperature NOCT	45 ± 2°C
Temperature Coefficient of I_{sc} , α	+0.049 %/°C
Temperature Coefficient of V_{oc} , β	-0.309 %/°C
Temperature Coefficient of P_{max} , γ	-0.416 %/°C

MAXIMUM OPERATING INSTRUCTIONS

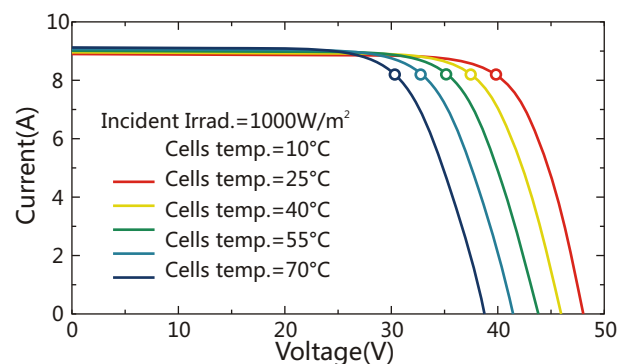
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1000V/1500V
Maximum Series Fuse Rating	15A

PACKING INSTRUCTIONS

Number Of Modules Per Box / Pallet	27
Number of Pallets / 40' Container	24



Best performance at Low Irradiance, +97% relative Module Efficiency from an Irradiance of 1000W/m² to 200W/m²



RSM72H-156P

325 – 360W

Green Risun Grasp future

KEY FEATURES



PID resistant



Excellent module efficiency



Positive power tolerance to +5W



100% electroluminescence



Design Load/Safety Factors:
3600Pa/1.5 (downward) 1600Pa/1.5 (upward)



IP67 junction box for long term endurance



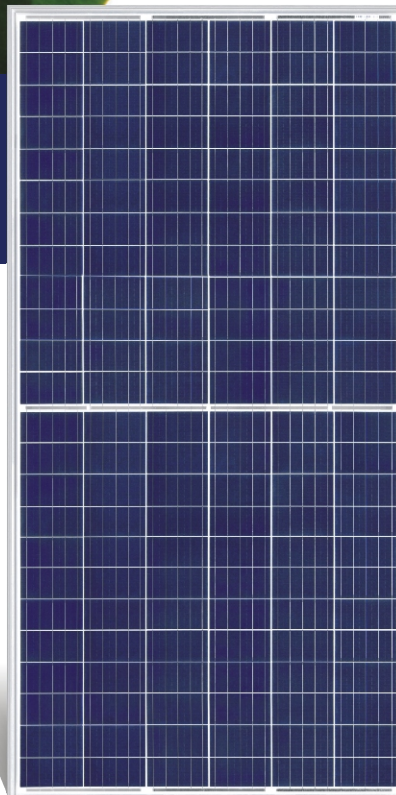
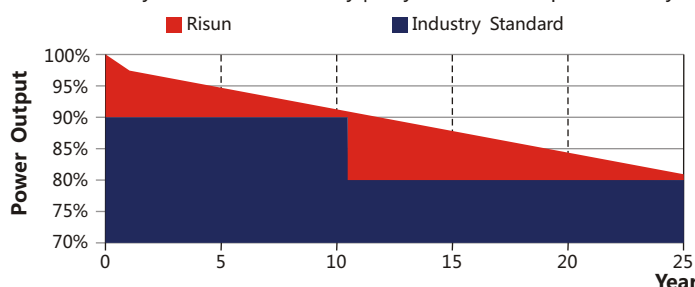
10 years product warranty



25 years linear power warranty

LINEAR PERFORMANCE WARRANTY

10 year Product Warranty | 25 year Power Output Warranty



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MANAGEMENT SYSTEMS CERTIFICATES



Management System
ISO9001:2015
www.tuv.com
ID 9105016347



Management System
ISO9001:2015
ISO14001:2015
OHSAS18001:2007

PRODUCT CERTIFICATES



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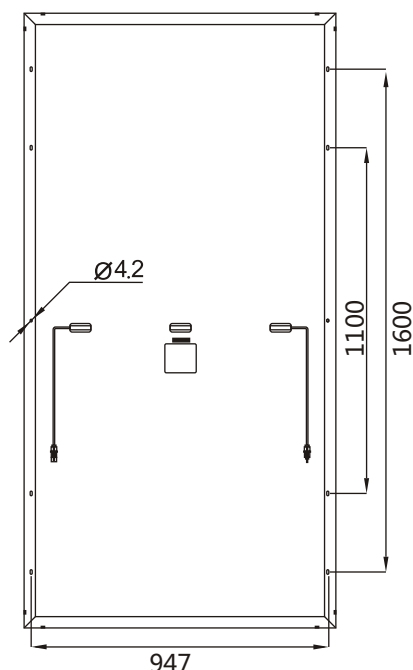
French office: RISUN SOLAR ENERGY sas

Add: 24 rue Beranger, 75003, Paris - FRANCE

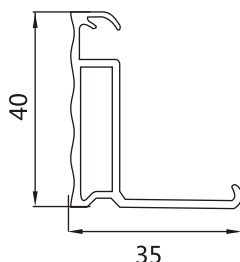
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RSM72H-156P

325 – 360W



Module Dimension (Unit: mm)



Frame Dimension (Unit: mm)

ELECTRICAL CHARACTERISTICS

Maximum Power P_{mp} , [Watt]	325	330	335	340	345	350	355	360
Power Tolerance, [W]	0 / +5							
Voltage at Maximum Power Point V_{mpp} , [V]	38.21	38.41	38.61	38.81	39.01	39.21	39.41	39.61
Current at Maximum Power Point I_{mpp} , [A]	8.51	8.59	8.68	8.76	8.84	8.93	9.01	9.09
Open Circuit Voltage V_{oc} , [V]	45.58	45.78	45.98	46.18	46.38	46.58	46.78	46.98
Short Circuit Current I_{sc} , [A]	8.93	9.03	9.12	9.22	9.31	9.38	9.46	9.54
Module Efficiency, [%]	16.4	16.6	16.9	17.1	17.4	17.6	17.8	18.0

Measurements under Standard Test Conditions (STC)
Irradiance 1000W/m², AM1.5G Spectrum and Cell Temperature 25°C

MECHANICAL CHARACTERISTICS

Cell Type	Poly-crystalline, 156.75mm × 78.375mm / 157mm × 78.5mm
Cell Configuration	144 cells (6 × 12 × 2)
Module Dimension	2000mm × 992mm × 40mm
Module Weight	21.5 Kg
Glass	3.2mm , low Iron tempered Solar Glass
Frame	Anodized Al alloy Type 6063 T5; Silver grey
J-Box	Potted, IP67, 1000V/1500V DC, (3 bypass diode) IEC & UL certified
Cable	4.0mm ² / 12 AWG, 300 mm, IP67
Connectors	QC4.10

THERMAL CHARACTERISTICS

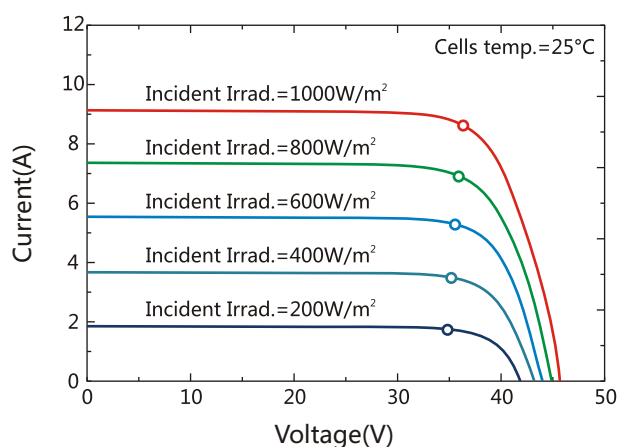
Nominal Operating Temperature NOCT	45 ± 2°C
Temperature Coefficient of I_{sc} , α	+0.049 %/°C
Temperature Coefficient of V_{oc} , β	-0.309 %/°C
Temperature Coefficient of P_{max} , γ	-0.416 %/°C

MAXIMUM OPERATING INSTRUCTIONS

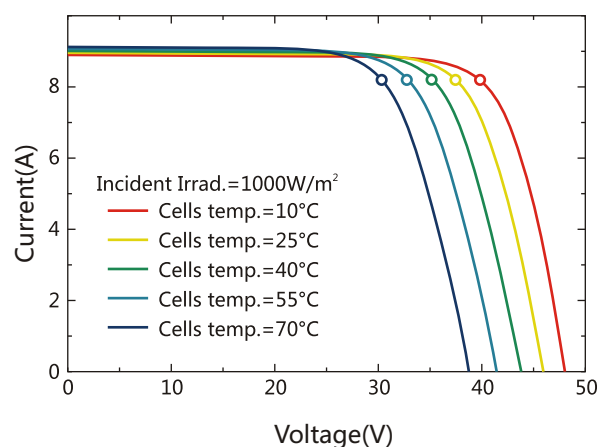
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1000V/1500V
Maximum Series Fuse Rating	15A

PACKING INSTRUCTIONS

Number Of Modules Per Box / Pallet	27
Number of Pallets / 40' Container	22



Best performance at Low Irradiance, +97% relative Module Efficiency from an Irradiance of 1000W/m² to 200W/m²



RSM60-156M | RSM72-156M

300 – 320W | 365 – 385W

Green Risun Catch future

KEY FEATURES



PID resistant



Excellent module efficiency



Positive power tolerance to +5W



100% electroluminescence



Design Load/Safety Factors:
3600Pa/1.5 (downward) 1600Pa/1.5 (upward)



IP67 junction box for long term endurance



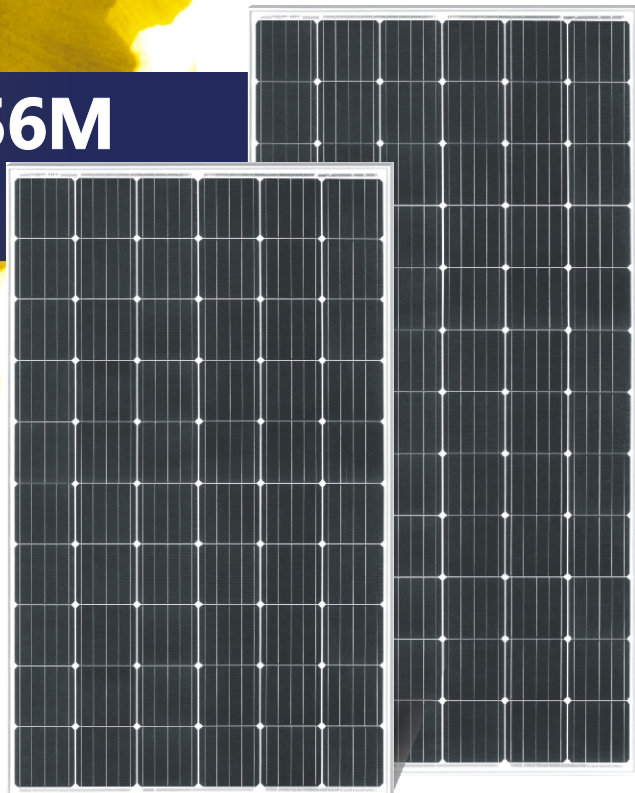
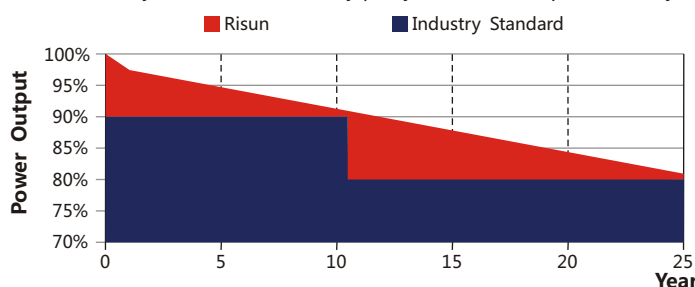
10 years product warranty



25 years linear power warranty

LINEAR PERFORMANCE WARRANTY

10 year Product Warranty | 25 year Power Output Warranty



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PRODUCT CERTIFICATES



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RSM60-156M | RSM72-156M

300 – 320W | 365 – 385W

ELECTRICAL CHARACTERISTICS

Maximum Power P _{mp} , [Watt]	300	305	310	315	320	365	370	375	380	385
Power Tolerance, [W]	0 / +5									
Voltage at Maximum Power Point V _{mp} , [V]	31.90	32.10	32.30	32.50	32.70	38.70	38.90	39.10	39.30	39.50
Current at Maximum Power Point I _{mp} , [A]	9.41	9.50	9.60	9.69	9.79	9.43	9.51	9.59	9.67	9.75
Open Circuit Voltage V _{oc} , [V]	39.30	39.50	39.70	39.90	40.10	47.50	47.70	47.90	48.10	48.30
Short Circuit Current I _{sc} , [A]	9.75	9.82	9.91	10.00	10.09	9.78	9.82	9.85	9.89	9.95
Module Efficiency, [%]	18.3	18.6	18.9	19.2	19.6	18.8	19.1	19.3	19.6	19.8

Measurements under Standard Test Conditions (STC)

Irradiance 1000W/m², AM1.5G Spectrum and Cell Temperature 25°C

MECHANICAL CHARACTERISTICS

Cell Type	Mono-crystalline, 156.75mm × 156.75mm / 157mm × 157mm
Cell Configuration	60 cells (6 × 10) / 72 cells (6 × 12)
Module Dimension	1650mm × 992mm × 35mm / 1956mm × 992mm × 40mm
Module Weight	18.5 Kg / 21.5 Kg
Glass	3.2mm, low Iron tempered Solar Glass
Frame	Anodized Al alloy Type 6063 T5; Silver grey
J-Box	Potted, IP67, 1000V / 1500V DC, IEC & UL certified
Cable	4.0mm ² / 12 AWG, 900 mm, IP67
Connectors	QC4.10

THERMAL CHARACTERISTICS

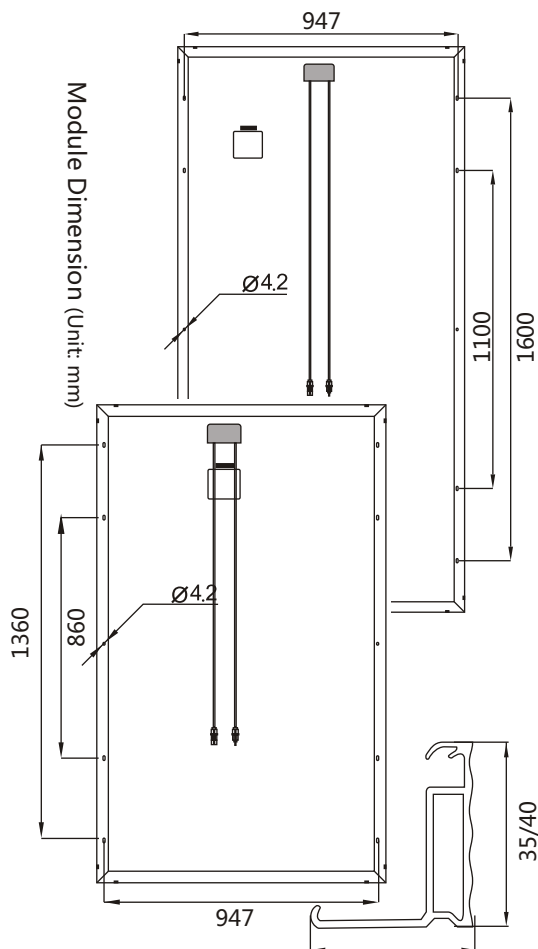
Nominal Operating Temperature NOCT	45 ± 2°C
Temperature Coefficient of I _{sc} , α	+0.06 %/°C
Temperature Coefficient of V _{oc} , β	-0.34 %/°C
Temperature Coefficient of P _{max} , γ	-0.41 %/°C

MAXIMUM OPERATING INSTRUCTIONS

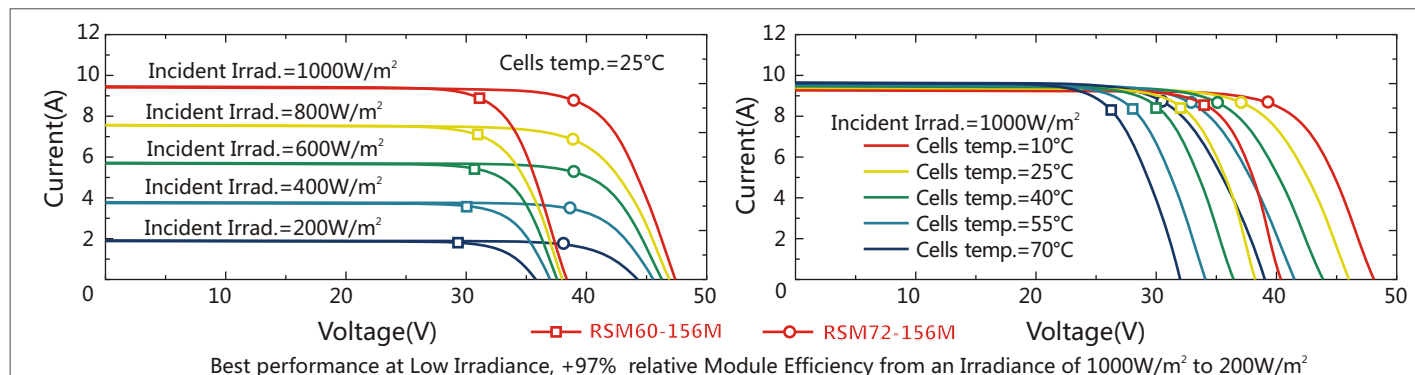
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1000V / 1500V
Maximum Series Fuse Rating	15A

PACKING INSTRUCTIONS

Number Of Modules Per Box / Pallet	30 / 27
Number of Pallets / 40' Container	28 / 24



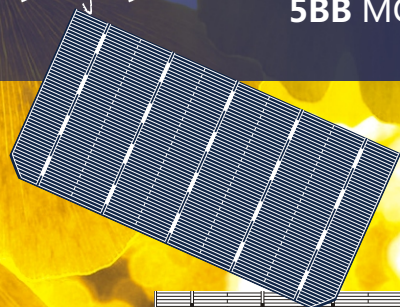
Frame Dimension (Unit: mm) 35



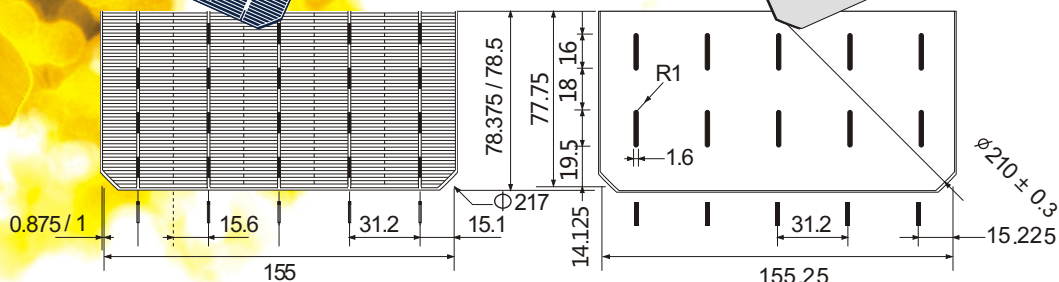
Green Risun Catch future

RSHC156.75 / 157M

5BB MONO CRYSTALLINE SOLAR HALF-CUT CELL



(Unit: mm)



FEATURES

- Ozonized PID resistant process
- Tighter color variation control^①
- <1.0mm graphite boat button size^②
- >1.5N peel strength for Front Ag busbar^③
- >2.0N peel strength for Back Ag busbar^③
- Cell bow <2.0mm

MECHANICAL DATA & DESIGN

Format	78.5mm×157mm / 78.375mm×156.75mm
Thickness	180 ± 18μm
Front	0.8mm wide discontinuous BB SiN Blue ARC
Back	1.6mm exposed BB width Al BSF

TEMPERATURE COEFFICIENTS

Voc (β)	-0.36% /°C
Isc (α)	+0.07% /°C
Pmp (γ)	-0.38% /°C

① Ref: Risun Optical Inspection Standard; Please contact sales@risunsolar.com for the document.

② Graphite button mark not protruding the extreme fingers or cover fingers.

③ Peel strength test referenced to 180° peel angle using Auto Tab Pull Tester.

CELL SPECIFICATION

Eff, %	Pmpp, W	Vmpp, V	Impp, A	Voc, V	Isc, A	FF, %
22.10	2.70	0.578	4.670	0.679	4.935	80.70
22.00	2.69	0.577	4.660	0.678	4.925	80.66
21.90	2.67	0.576	4.645	0.676	4.920	80.61
21.80	2.66	0.575	4.630	0.675	4.895	80.55
21.70	2.65	0.573	4.625	0.674	4.890	80.50
21.60	2.64	0.572	4.615	0.672	4.882	80.46
21.50	2.63	0.570	4.608	0.669	4.882	80.42
21.40	2.62	0.569	4.595	0.668	4.870	80.36
21.30	2.60	0.568	4.581	0.667	4.858	80.31
21.20	2.59	0.567	4.568	0.666	4.845	80.27
21.10	2.58	0.566	4.554	0.665	4.832	80.22
21.00	2.57	0.565	4.541	0.664	4.820	80.16
20.90	2.56	0.564	4.527	0.663	4.806	80.12
20.80	2.54	0.563	4.513	0.662	4.796	80.04
20.70	2.53	0.562	4.500	0.661	4.784	79.96
20.60	2.52	0.561	4.486	0.660	4.772	79.90
20.70	2.53	0.552	4.56	0.651	4.81	80.73
20.60	2.52	0.551	4.55	0.650	4.80	80.71
20.50	2.51	0.550	4.54	0.649	4.78	80.68
20.40	2.49	0.549	4.52	0.648	4.77	80.66
20.30	2.48	0.548	4.51	0.647	4.76	80.61
20.20	2.47	0.547	4.49	0.646	4.74	80.59
20.10	2.46	0.546	4.48	0.645	4.73	80.57
20.00	2.45	0.545	4.47	0.644	4.72	80.46
19.90	2.43	0.544	4.45	0.643	4.71	80.35
19.80	2.42	0.543	4.44	0.642	4.70	80.25

PERC

Measurements at Standard Test Conditions (STC), 1000W/m², 25°C, AM1.5G Spectrum

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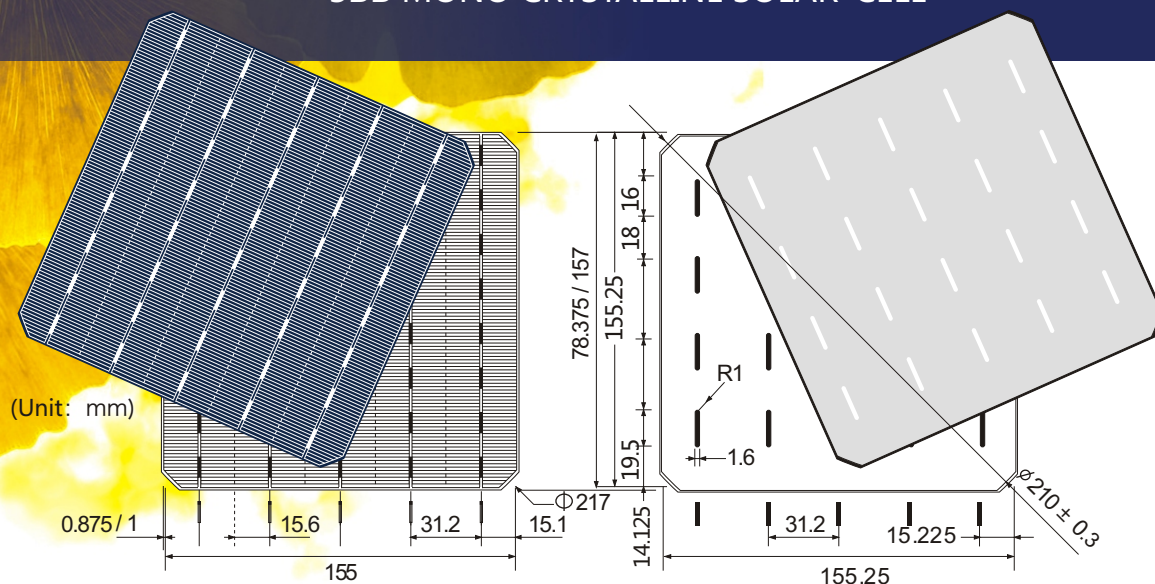
Remark: Product specifications are subject to change without notice. Risun reserves the right for the final interpretation of all figures reported in this specification document.

Rev : 01

Green Risun Catch future

RSC156.75 / 157M

5BB MONO CRYSTALLINE SOLAR CELL



FEATURES

- Ozonized PID resistant process
- Tighter color variation control^①
- <1.0mm graphite boat button size^②
- >1.5N peel strength for Front Ag busbar^③
- >2.0N peel strength for Back Ag busbar^③
- Cell bow <2.0mm

MECHANICAL DATA & DESIGN

Format	157mm×157mm / 156.75mm×156.75mm
Thickness	180 ± 18μm
Front	0.8mm wide discontinuous BB SiN Blue ARC
Back	1.6mm exposed BB width Al BSF

TEMPERATURE COEFFICIENTS

Voc (β)	-0.36% /°C
Isc (α)	+0.07% /°C
Pmp (γ)	-0.38% /°C

① Ref: Risun. Optical Inspection Standard; Please contact sales@risunsolar.com for the document.

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③ Peel strength test referenced to 180° peel angle using Auto Tab Pull Tester.

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CELL SPECIFICATION

Eff, %	Pmpp, W	Vmpp, V	Impp, A	Voc, V	Isc, A	FF, %
22.20	5.42	0.587	9.268	0.685	9.766	80.73
22.10	5.40	0.585	9.260	0.684	9.759	80.70
22.00	5.38	0.584	9.252	0.683	9.752	80.66
21.90	5.35	0.582	9.243	0.682	9.745	80.61
21.80	5.33	0.580	9.230	0.680	9.734	80.55
21.70	5.30	0.579	9.212	0.679	9.725	80.50
21.60	5.28	0.577	9.191	0.678	9.716	80.46
21.50	5.25	0.570	9.216	0.669	9.764	80.42
21.40	5.23	0.569	9.189	0.668	9.677	80.36
21.30	5.20	0.568	9.162	0.667	9.715	80.31
21.20	5.18	0.567	9.135	0.666	9.690	80.27
21.10	5.16	0.566	9.108	0.665	9.663	80.22
21.00	5.13	0.565	9.081	0.664	9.640	80.16
20.90	5.11	0.564	9.054	0.663	9.612	80.12
20.80	5.08	0.563	9.026	0.662	9.591	80.04
20.70	5.06	0.562	8.999	0.661	9.568	79.96
20.60	5.03	0.561	8.971	0.660	9.544	79.90
20.70	5.06	0.552	9.12	0.651	9.62	80.73
20.60	5.03	0.551	9.09	0.650	9.59	80.71
20.50	5.01	0.550	9.07	0.649	9.56	80.68
20.40	4.98	0.549	9.04	0.648	9.54	80.66
20.30	4.96	0.548	9.01	0.647	9.51	80.61
20.20	4.94	0.547	8.98	0.646	9.48	80.59
20.10	4.91	0.546	8.95	0.645	9.45	80.57
20.00	4.89	0.545	8.93	0.644	9.43	80.46
19.90	4.86	0.544	8.89	0.643	9.41	80.35
19.80	4.84	0.543	8.87	0.642	9.39	80.25

Measurements at Standard Test Conditions (STC), 1000W/m², 25°C, AM1.5G Spectrum



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Rev : 02

PV SYSTEM PHOTOVOLTAIC PLANT



PHOTOVOLTAIC PLANT MATERIAL LIST

Product	Photovoltaic plant capacity			
	1kWp	3kWp	5kWp	10kWp
Panel	product style×quantity(Unit)			
Structure	270W×4pcs(1080Wp)	270W×12pcs(3240Wp)	270W×20pcs(5400Wp)	270W×40pcs(10800Wp)
Inverter	1KWp×1pcs	3KWp×1pcs	5KWp×1pcs	10KWp×1pcs
Cable	(PV1-F 1*4)×❶m	❶ Quantity based on the distance between the Inverter and modules		
	(ZRYJV-1KV-3*2.5)×❷(m)	(ZRYJV-1KV-3*4)×❷(m)	(ZRYJV-1KV-4*6)×❷(m)	(ZRYJV-1KV-3*10+1*6)×❷(m)
Photovoltaic Controller	❷ Quantity based on the distance between the Inverter and on-grid point			
	220V×1pcs			380V×1pcs
Spool	Dn25×❸m	❸ Quantity based on the distance between the Inverter and photovoltaic controller		
Ground Angle Steel	50*50/2.5m×1pcs			
Ground Flat Steel	4*40×❹m	❹ /Quantity based on the distance between the structure and ground		
Others	1sum			

Remarks : Panels can be customized and meet 1000V/1500V system voltage.

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French Office: +33 673 377 108 - Contact@risunsolar.fr

10KW PV ENERGY STORAGE INTEGRATION SYSTEM

RSSS9.8-14.4KWH Features

Lithium Battery: Longer Cycling Life and Higher Safety
High Efficiency: High Pressure Battery ,High System Efficiency, Electro-discharge Depth Above 80%
Intelligence: Build-In and Off-Grid Auto Switching Device To Assure Power Supplying In The Event Of Power Failure

RSSS9.8-14.4KWH System Parameter

PV Side Input		Cell Side Input		Battery Pack	
Maximum Input Power	9.8kW	Operating Voltage Range	288V	Nominal Capacity	14.4kWh
MPPT Voltage	350-800V	Max. Charging Power	8.0kW	Module/Unit	48V/50Ah Lithium Battery Module * 6 Groups
MPPT Amount	1	Max. Charging Current	27.7A	Cycle Life	80% Discharge Depth Cycle Life Above 6000 Times
		Charging/Discharging Efficiency	97%/96.5%	Size [W*H*D]	563*400*1610mm
				Weight	210kg

AC Output- Grid Connected Condition

Max. Output Power	9.5-5kW 【Grid Connected – Off Grid】
Output Voltage	220-400V
Rated Voltage&frequency	400±2%,50±2% V/Hz
Power Factor	[-0.95,+0.95]
Inverter Size[W*H*D]	540*670*275mm
Inverter Weight	55kg

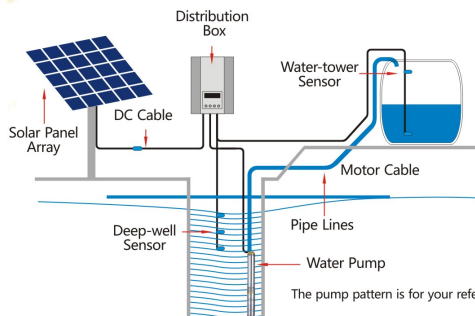


PV SYSTEM POWER FREQUENCY DIRECT DRIVE SOLAR PHOTOVOLTAIC PUMP



Remarks:

1. With high pressure detection protection, under-voltage protection, blocking protection, over-current protection, water protection function, to realize unattended, intelligent control.
2. Stainless steel pump body .
3. Water pump with 2 m cable, can make custom cable length, according to customer request according to different wire diameter and accounting.
4. According to the sunshine status of using land,matching component of power=pump power * 1.3 - 2.0.
5. This product provide one year quality warranty.
6. Panels can be customized and meet 1000V/1500V system voltage.



The pump pattern is for your reference only



Model	Power (W)	MPPT Voltage (V)	Open-circuit Voltage (V)	Rated Head (m)	Max Head (m)	Rated(Max) Flow (T/H)	Water Inlet (mm)	Water Outlet (Inch)	Level of protection	Measurement diameter (mm)	Height (mm)	Deep-well Sensor	Accessories Water-tower Sensor	Distribution Box	Module Power (W)
3SH1.5/7-0.18	180	36	44	24	30	1.5	76	1	IP68	76	740	1	1	1	270
3SH1.5/10-0.25	250	36	44	34	45	1.5	76	1	IP68	76	800	1	1	1	370
3SH1.5/14-0.37	370	36	44	48	59	1.5	76	1	IP68	76	950	1	1	1	550
3SH2.5/5-0.18	180	36	44	15	25	2.5	76	1	IP68	76	720	1	1	1	270
3SH2.5/7-0.25	250	36	44	21	32	2.5	76	1	IP68	76	770	1	1	1	370
3SH2.5/10-0.37	370	36	44	31	42	2.5	76	1	IP68	76	860	1	1	1	550
4SH1.5/7-0.25	250	36	44	30	49	1.5	100	1.25	IP68	96	890	1	1	1	370
4SJ1.5/10-0.37	370	110	140	49	70	1.5	100	1.25/1.5	IP68	96	774	1	1	1	550
4SJ1.5/14-0.55	550	110	140	68	98	1.5	100	1.25/1.5	IP68	96	890	1	1	1	800
4SJ2/8-0.37	370	110	140	44	56	2	100	1.25/1.5	IP68	96	719	1	1	1	550
4SJ2/11-0.55	550	110	140	61	77	2	100	1.25/1.5	IP68	96	809	1	1	1	800
4SJ4/6-0.37	370	110	140	30	43	4	100	1.25/1.5	IP68	96	694	1	1	1	550
4SJ4/8-0.55	550	110	140	39	58	4	100	1.25/1.5	IP68	96	766	1	1	1	800
4SJ6/6-0.37	370	110	140	18	33	6	100	1.25/1.5	IP68	96	694	1	1	1	550
4SJ6/7-0.55	550	110	140	26	46	6	100	1.25/1.5	IP68	96	770	1	1	1	800
4SJ8/5-0.55	550	110	140	19	32	8	100	1.25/1.5	IP68	96	746	1	1	1	800
4SJ10/4-0.55	550	110	140	14	19	10	100	1.25/1.5	IP68	96	708	1	1	1	800
4SC24-30	300	18-36	44	20	40	2(4)	100	1.2	IP68	/	/	/	/	/	450
4SC48-60	600	28-72	88	40	70	2(4)	100	1.2	IP68	/	/	/	/	/	900

④ Household Solar Photovoltaic Pump

Solar PV Tank (SPVT) multi-energy complementary application system

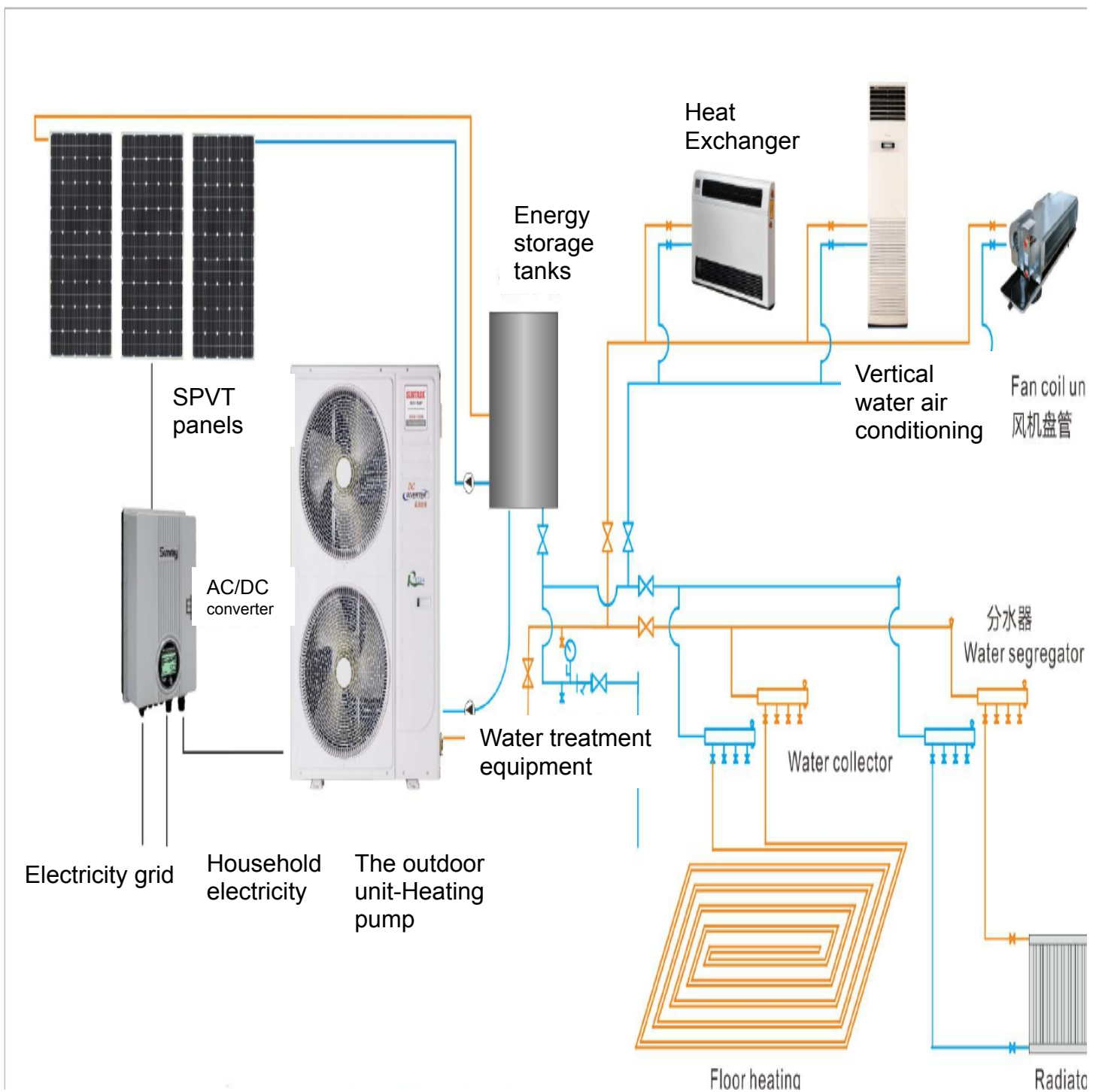
Jiangxi Risun Solar Photovoltaic
Application Engineering Co., Ltd.

SPVT complementary system

SPVT linkage power station

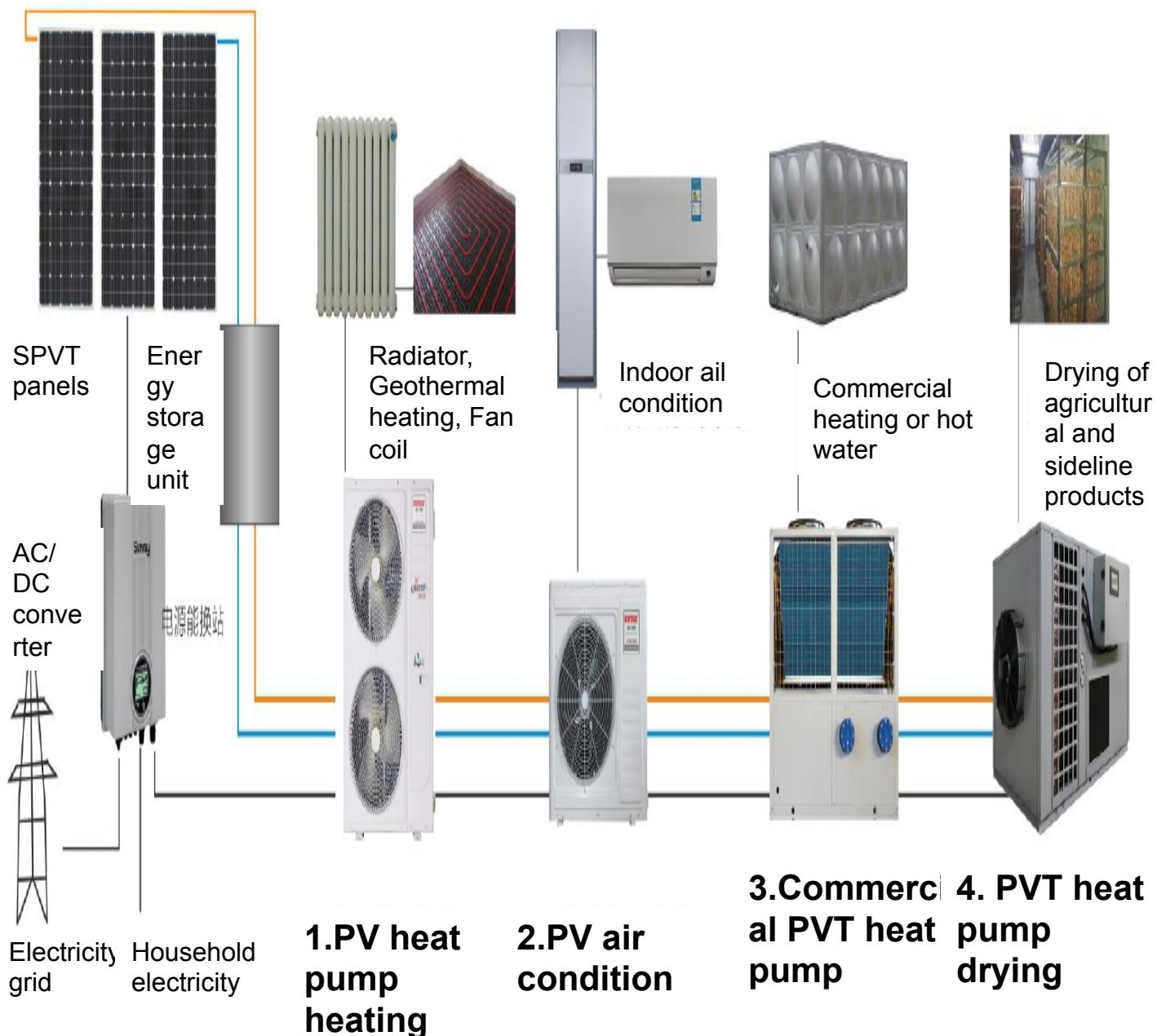
Heating and Power supply

- Power generation + Hot water + Heating
- Power generation increased by 10%
- Photovoltaic power can be got every seasons
- The added heat can be recovered
- Heat pump power supply can be automatically switched between photovoltaic and grid
- Electricity generation on Spring, summer and autumn can be made up for winter heating electricity
- Lower panels temperature and increase power generation



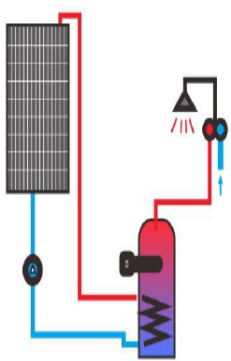
SPVT multi-energy complementary application system

Multiple applications

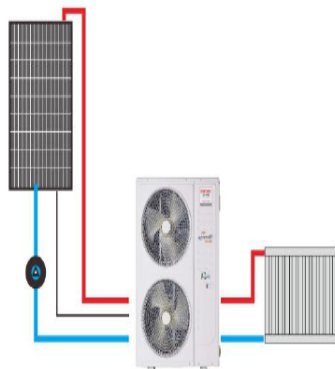


SPVT multi-energy complementary application system

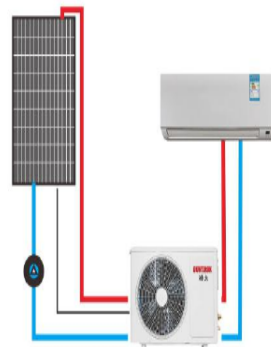
Application of PV added heat recovery



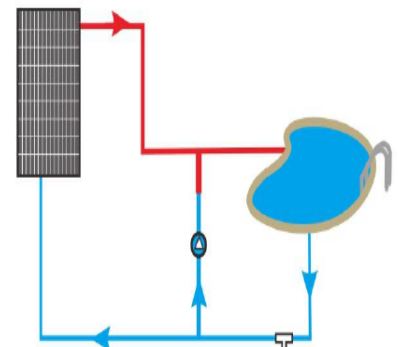
**Direct
heating of
household
water**



**Linkage
with PV
heat pump
to supply
heat**

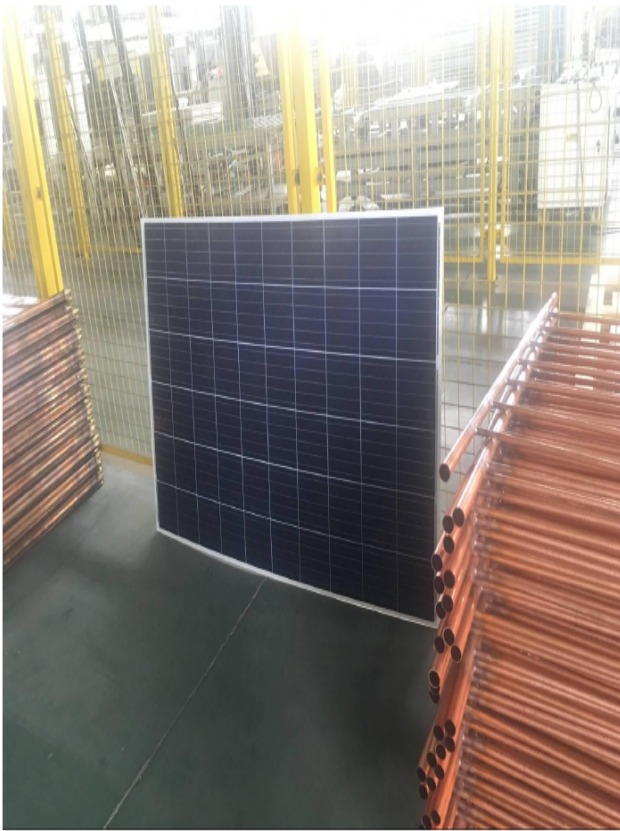


PV air condition



**Commercial
heating water**

Product advantages structure



Normal PV Panels



SPVT Panels
Add waste heat diversion
device

