



**CHUBB
INSURANCE**

240W~260W

POLYCRYSTALLINE MODULE 60x6"

Characteristics & Performance

- Use of only certified materials at highest quality standards.
- The process of cell and module production is fully automated with 100% quality control and product traceability.
- Heavy load mechanical resistance: TÜV certified (5400Pa tested against snow and 2400Pa test against wind)
- Excellent performances even during low solar radiation
- Guaranteed positive tolerance 0 to +3% of power for each module

Certifications for Incentives

■ Quality, Environment, Health & Safety

ISO9001:2008, ISO14001:2004, OHSAS18001:2007

Full Member PV Cycle Association AISBL

■ Product Certifications

Quality and Robustness: IEC61215:2005

Safety: IEC61730 -1/-2, MCS, CEC

Resistance to salt corrosion (salt fog): IEC61701:2000

Resistance to ammonia fumes: Ammonia Resistance Test

25 Year Linear Power Guarantee

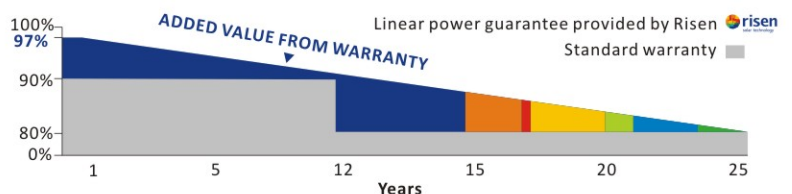
■ Commercial

12 years on material and manufacturing defects

■ Performance

Power not less than 90% of power peak during the first 12 years

Power not less than 80% of power peak during the subsequent 13 years.



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai

315609, Ningbo | China

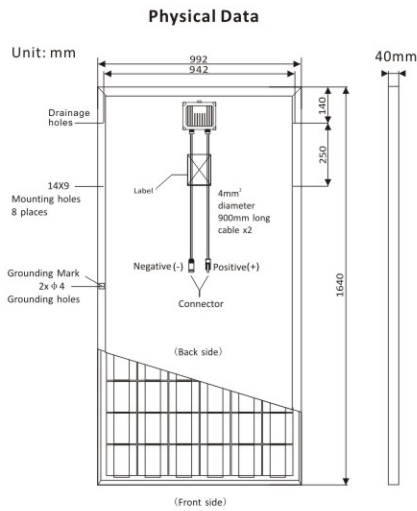
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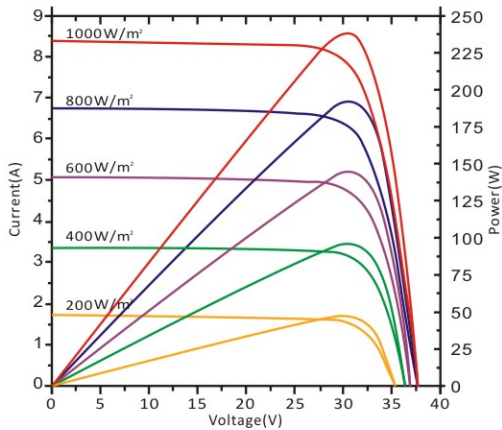
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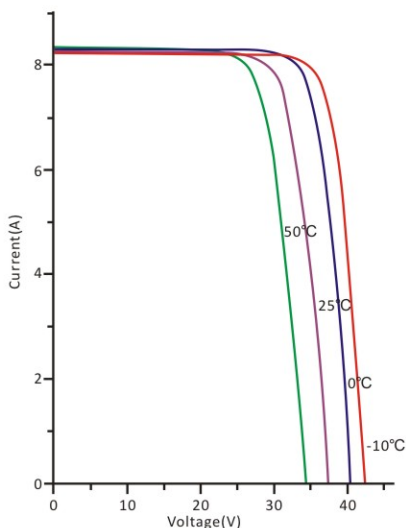


SYP240S

Electrical characteristics at different irradiances (25°C)



I-V characteristics at different cell temperatures (AM1.5, 1000W/m²)



Electrical Characteristics at STC

Type		SYP240S	SYP245S	SYP250P	★SYP255P	★SYP260P
Maximum Power	P _{max} (W)	240W	245W	250W	255W	260W
Tolerance Value for Power	%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Maximum Power Voltage	V _{mpp} (V)	30.20	30.30	30.30	30.50	30.50
Maximum Power Current	I _{mpp} (A)	7.96	8.09	8.26	8.38	8.53
Open Circuit Voltage	V _{oc} (V)	37.20	37.30	37.30	37.40	37.50
Short Circuit Current	I _{sc} (A)	8.33	8.34	8.90	9.05	9.24
Module Efficiency	η	>14.78%	>15.07%	>15.37%	>15.67%	>15.98%

★Note: RSM60-6-xxxP modified to SYPxxxP, Recommended dimensions:1650x992x35mm
Performance at STC: Irradiance of 1000W/m², Module temperature 77±3.6°F (25±2°C)
AM 1.5 Power measurement tolerance: ±3%

Electrical Characteristics at NOCT

Type		SYP240S	SYP245S	SYP250P	SYP255P	SYP260P
Maximum Power	P _{max} (W)	173.04	179.10	183.20	187.40	189.28
Maximum Power Voltage	V _{mpp} (V)	26.56	27.30	27.50	27.60	27.80
Maximum Power Current	I _{mpp} (A)	6.52	6.56	6.66	6.79	6.81
Open Circuit Voltage	V _{oc} (V)	33.65	34.20	34.30	34.40	34.50
Short Circuit Current	I _{sc} (A)	6.8	7.02	7.11	7.23	7.32

Performance at NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s
Power measurement tolerance: ±3%

Temperature Coefficients(T_c)

NOCT(Nominal Operating Cell temperature)	45±2°C
Temperature Coefficient of VOC(β)	-0.33%/°C
Temperature Coefficient of ISC(α)	+0.033%/°C
Temperature Coefficient of P _{max}	-0.39%/°C

Permissible Operating Conditions

Maximum System Voltage	1000 V
Operating Temperature Range	-40°C ~ +85°C
Maximum Surface Load Capacity	Test up to 5400Pa according to IEC61215 (Advanced test)
Resistance Against Hail	Maximum diameter of 1in.(25mm) impact speed of 51.5mph(23m/s)

Mechanical specifications

Cells	Polycrystalline cell with 3-busbars,6"(6x10)
Junction Box	IP67,combined with 3 by-pass diodes
Front Glass Thickness	3.2mm
Connecting Cable/Connector	MC4 compatible connector/4mm ² diameter, 900mm length
Frame Dimension	1640x992x40mm
Weight	19.5KG

Packing Features

Frame Height	40mm
Qty/Pallet (PCS)	26
Qty/40HC container (PCS)	728



**CHUBB
INSURANCE**



285W~320W

POLYCRYSTALLINE MODULE 72x6"

Characteristics & Performance

- Use of only certified materials at highest quality standards.
- The process of cell and module production is fully automated with 100% quality control and product traceability.
- Heavy load mechanical resistance: TÜV certified (5400Pa tested against snow and 2400Pa test against wind)
- Excellent performances even during low solar radiation
- Guaranteed positive tolerance 0 to +3% of power for each module

Certifications for Incentives

■ Quality, Environment, Health & Safety

ISO9001:2008, ISO14001:2004, OHSAS18001:2007

Full Member PV Cycle Association AISBL

■ Product Certifications

Quality and Robustness: IEC61215:2005

Safety: IEC61730 -1/-2, MCS, CEC

Resistance to salt corrosion (salt fog): IEC61701:2000

Resistance to ammonia fumes: Ammonia Resistance Test

25 Year Linear Power Guarantee

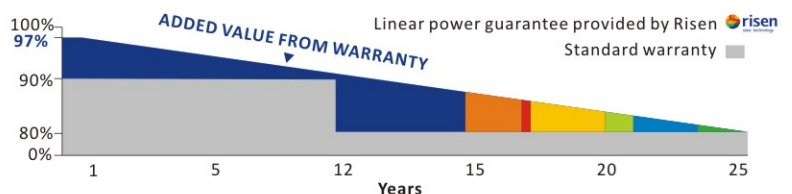
■ Commercial

12 years on material and manufacturing defects

■ Performance

Power not less than 90% of power peak during the first 12 years

Power not less than 80% of power peak during the subsequent 13 years.



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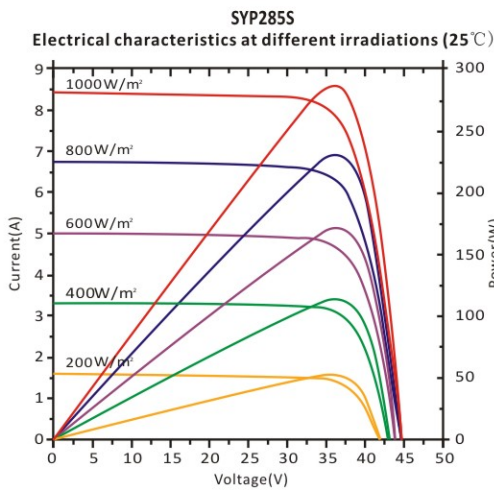
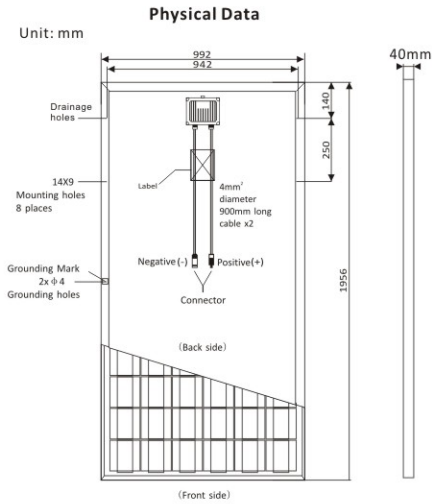
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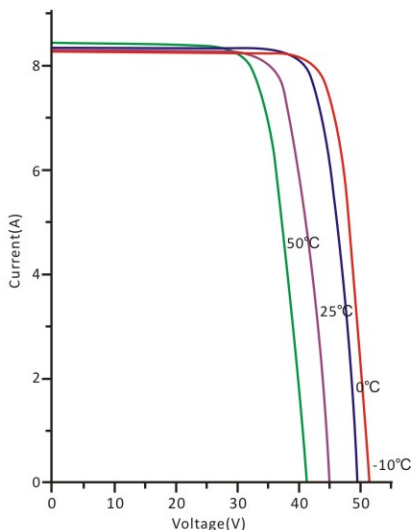
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I-V characteristics at different cell temperatures (AM1.5, 1000W/m²)



Electrical Characteristics at STC

Type	SYP285S	SYP290S	SYP295S	SYP300S	SYP305S	SYP310S	SYP315S	SYP320S	
Maximum Power	Pmax(W)	285W	290W	295W	300W	305W	310W	315W	320W
Tolerance Value for Power	%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Maximum Power Voltage	Vmpp(V)	35.32	35.41	35.60	35.90	36.20	36.40	36.60	36.80
Maximum Power Current	Imp(A)	8.07	8.19	8.29	8.36	8.43	8.52	8.61	8.70
Open Circuit Voltage	Voc(V)	44.80	44.80	44.80	44.90	44.92	44.94	44.96	45.02
Short Circuit Current	Isc(A)	8.48	8.63	8.70	8.85	8.95	9.15	9.25	9.34
Module Efficiency	η	>14.68%	>14.94%	>15.20%	>15.46%	>15.72%	>15.98%	>16.24%	>16.49%

Performance at STC: Irradiance of 1000W/m², Module temperature 77 \pm 3.6°F (25 \pm 2°C)
AM 1.5 Power measurement tolerance: \pm 3%

Electrical Characteristics at NOCT

Type	SYP285S	SYP290S	SYP295S	SYP300S	SYP305S	SYP310S	SYP315S	SYP320S	
Maximum Power	Pmax(W)	207.95	212.95	216.74	220.70	224.13	227.85	231.25	235.91
Maximum Power Voltage	Vmpp(V)	32.15	32.24	32.35	32.65	32.96	33.13	33.32	33.51
Maximum Power Current	Imp(A)	6.47	6.61	6.70	6.73	6.80	6.87	6.94	7.01
Open Circuit Voltage	Voc(V)	40.60	40.72	41.01	41.38	41.76	42.02	42.29	42.52
Short Circuit Current	Isc(A)	6.91	7.06	7.37	7.42	7.48	7.55	7.68	7.71

Performance at NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s
Power measurement tolerance: \pm 3%

Temperature Coefficients(Tc)

NOCT(Nominal Operating Cell temperature)	45 \pm 2°C
Temperature Coefficient of VOC(β)	-0.32%/°C
Temperature Coefficient of ISC(α)	+0.034%/°C
Temperature Coefficient of Pmax	-0.40%/°C

Permissible Operating Conditions

Maximum System Voltage	1000 V
Operating Temperature Range	-40°C ~ +85°C
Maximum Surface Load Capacity	Test up to 5400Pa according to IEC61215 (Advanced test)
Resistance Against Hail	Maximum diameter of 1in.(25mm) impact speed of 51.5mph(23m/s)

Mechanical specifications

Cells	Polycrystalline cell with 3-busbars,6"(6x12)
Junction Box	IP67,combined with 3 by-pass diodes
Front Glass Thickness	4.0mm
Connecting Cable/Connector	MC4 compatible connector/4mm ϕ diameter, 900mm length
Frame Dimension	1956x992x40mm
Weight	23KG

Packing Features

Frame Height	40mm
Qty/Pallet (PCS)	28
Qty/40HC container (PCS)	672



**CHUBB
INSURANCE**



250W BLACK

MONOCRYSTALLINE MODULE 60x6"

Characteristics & Performance

- Use of only certified materials at highest quality standards.
- The process of cell and module production is fully automated with 100% quality control and product traceability.
- Heavy load mechanical resistance: TÜV certified (5400Pa tested against snow and 2400Pa test against wind)
- Excellent performances even during low solar radiation
- Guaranteed positive tolerance 0 to +3% of power for each module

Certifications for Incentives

■ Quality, Environment, Health & Safety

ISO9001:2008, ISO14001:2004, OHSAS18001:2007
Full Member PV Cycle Association AISBL

■ Product Certifications

Quality and Robustness: IEC61215:2005
Safety: IEC61730 -1/-2, MCS, CEC
Resistance to salt corrosion (salt fog): IEC61701:2000
Resistance to ammonia fumes: Ammonia Resistance Test

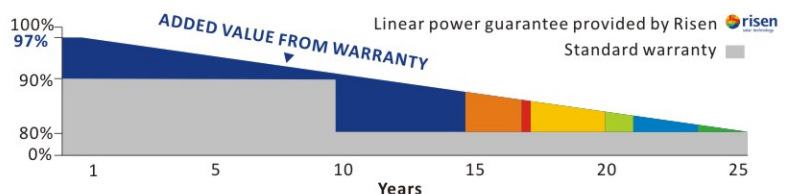
25 Year Linear Power Guarantee

■ Commercial

12 years on material and manufacturing defects

■ Performance

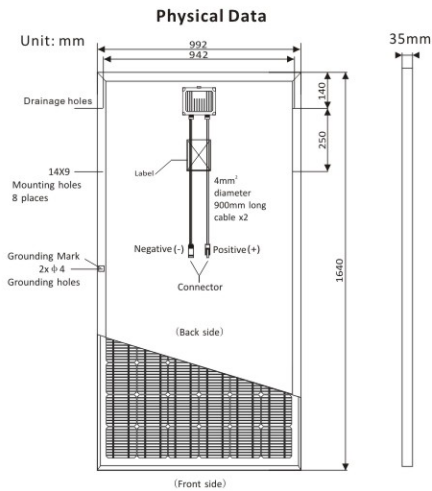
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Power not less than 80% of power peak during the subsequent 13 years.



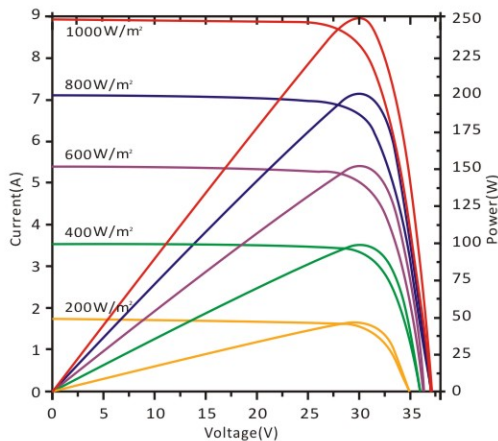
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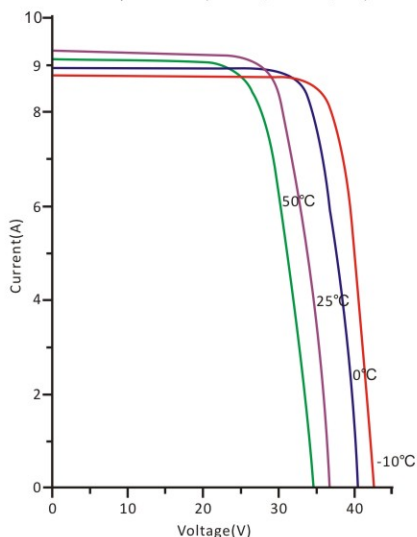




RSM60-6-250M BLACK
Electrical characteristics at different irradiances (25°C)



I-V characteristics at different cell temperatures (AM1.5, 1000W/m²)



Electrical Characteristics at STC

Type		RSM60-6-250M BLACK
Maximum Power	Pmax(W)	250W
Tolerance Value for Power	%	0~+3%
Maximum Power Voltage	Vmpp(V)	30.70
Maximum Power Current	Imp(A)	8.15
Open Circuit Voltage	Voc(V)	37.40
Short Circuit Current	Isc(A)	8.63
Module Efficiency	η	>15.40%

Performance at STC: Irradiance of 1000W/m², Module temperature 77±3.6°F (25±2°C)
AM 1.5 Power measurement tolerance: ±3%

Electrical Characteristics at NOCT

Type		RSM60-6-250M BLACK
Maximum Power	Pmax(W)	184.00
Maximum Power Voltage	Vmpp(V)	28.10
Maximum Power Current	Imp(A)	6.55
Open Circuit Voltage	Voc(V)	34.70
Short Circuit Current	Isc(A)	6.97

Performance at NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/S
Power measurement tolerance: ±3%

Temperature Coefficients(Tc)

NOCT(Nominal Operating Cell temperature)	45±2°C
Temperature Coefficient of VOC(β)	-0.34%/°C
Temperature Coefficient of ISC(α)	+0.05%/°C
Temperature Coefficient of Pmax	-0.45%/°C

Permissible Operating Conditions

Maximum System Voltage	1000 V
Operating Temperature Range	-40°C ~ +85°C
Maximum Surface Load Capacity	Test up to 5400Pa according to IEC61215 (Advanced test)
Resistance Against Hail	Maximum diameter of 1in.(25mm) impact speed of 51.5mph(23m/s)

Mechanical specifications

Cells	Monocrystalline cell,6"(6x10)
Junction Box	IP67,combined with 6 by-pass diodes
Front Glass Thickness	4.0mm
Connecting Cable/Connector	MC4 compatible connector/4mm ² diameter, 900mm length
Frame Dimension	1650x992x35mm
Weight	20.0KG

Packing Features

Frame Height	35mm
Qty/Pallet (PCS)	29
Qty/40HC container (PCS)	812