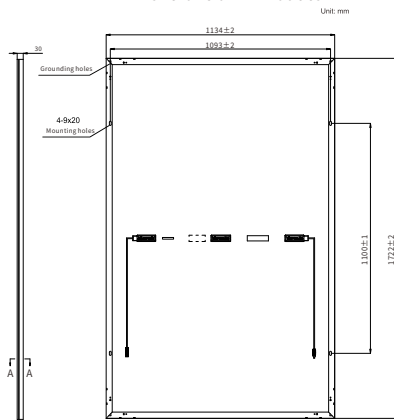


Dimensions of PV Module



ELECTRICAL DATA (STC)

Model Type	RSM108-9-440NDG
Rated Power in Watts-Pmax(Wp)	440
Open Circuit Voltage-Voc(V)	39.65
Short Circuit Current-Isc(A)	14.09
Maximum Power Voltage-Vmpp(V)	33.38
Maximum Power Current-Impp(A)	13.19
Module Efficiency (%) ★	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-5W Measurement tolerance: ±3%

Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty

The first year degradation:1%, annual degradation:0.4%, power retention rate within 30 years:87.4%

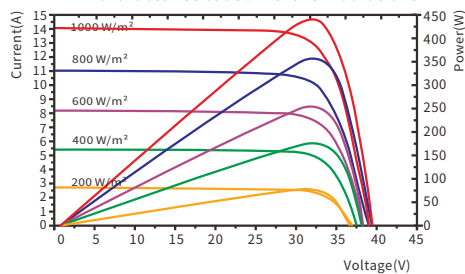
ELECTRICAL DATA (NMOT)

Model Type	RSM108-9-440NDG
Maximum Power-Pmax (Wp)	333.4
Open Circuit Voltage-Voc (V)	36.84
Short Circuit Current-Isc (A)	11.55
Maximum Power Voltage-Vmpp (V)	30.98
Maximum Power Current-Impp (A)	10.76

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

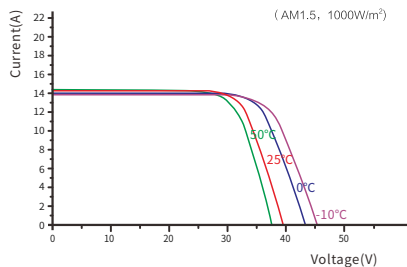
RSM108-9-425NDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	108 cells (6×9+6×9)
Module dimensions	1722×1134×30/35mm
Weight	20.5~28.5kg
Superstrate	High Transmission, Low Iron, Semi-Tempered ARC Glass
Substrate	Semi-Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)1200mm, Negative(-)1200mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UL790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1745×1110×1260	
Box gross weight [kg]	780	



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

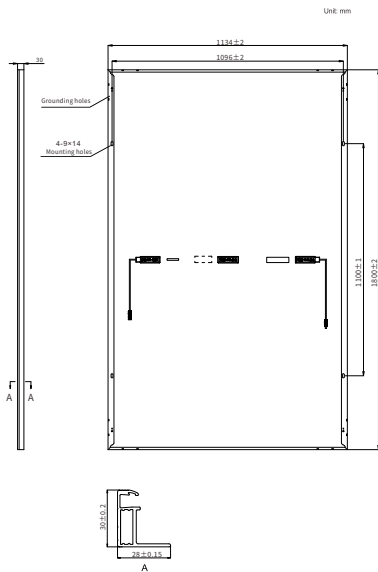
THE POWER OF RISING VALUE

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

© 2024 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

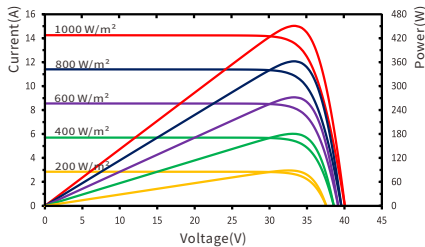
No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module

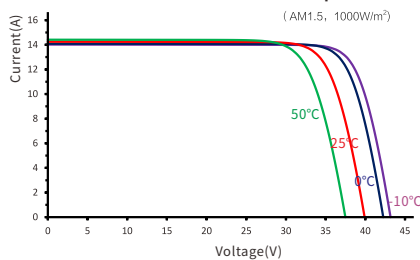


RSM108-10-455NDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	864	216
Number of modules per pallet	36	36
Number of pallets per container	24	6
Packaging box dimensions (LxWxH) in mm	1820×1110×1260	
Box gross weight[kg]	950	

ELECTRICAL DATA (STC)

Model Type	RSM108-10-440NDG	RSM108-10-445NDG	RSM108-10-450NDG	RSM108-10-455NDG	RSM108-10-460NDG
Rated Power in Watts-Pmax(Wp)	440	445	450	455	460
Open Circuit Voltage-Voc(V)	38.61	38.83	39.05	39.26	39.47
Short Circuit Current-Isc(A)	14.55	14.61	14.66	14.72	14.79
Maximum Power Voltage-Vmpp(V)	32.08	32.26	32.44	32.64	32.84
Maximum Power Current-Impp(A)	13.74	13.82	13.88	13.94	14.01
Module Efficiency (%) *	21.6	21.8	22.1	22.3	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-5W Measurement tolerance: ±3%

Short Circuit Current tolerance: ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty

The first year degradation:1%, annual degradation:0.4%, power retention rate within 30 years:87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM108-10-440NDG	RSM108-10-445NDG	RSM108-10-450NDG	RSM108-10-455NDG	RSM108-10-460NDG
Maximum Power-Pmax (Wp)	333.7	337.7	341.0	344.7	348.4
Open Circuit Voltage-Voc (V)	35.91	36.11	36.32	36.51	36.71
Short Circuit Current-Isc (A)	11.93	11.98	12.02	12.07	12.13
Maximum Power Voltage-Vmpp (V)	29.77	29.94	30.10	30.29	30.48
Maximum Power Current-Impp (A)	11.21	11.28	11.33	11.38	11.43

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	108 cells (6×9+6×9)
Module dimensions	1800×1134×30/35mm
Weight	21.5~28.5kg
Superstrate	High Transmission, Low Iron, Semi-Tempered ARC Glass
Substrate	Semi-Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm², Positive(+) 350mm, Negative(-) 230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C ± 2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

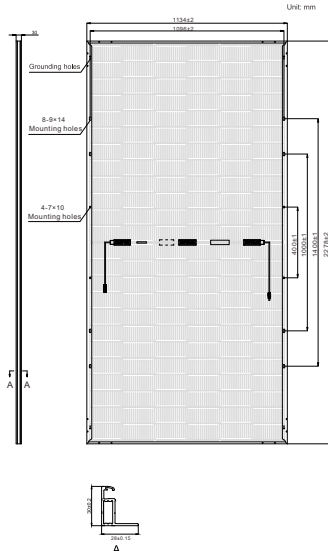
Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2024 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module



ELECTRICAL DATA (STC)

Model Type	RSM144-9-580BNDG	RSM144-9-585BNDG	RSM144-9-590BNDG
Rated Power in Watts-Pmax(Wp)	580	585	590
Open Circuit Voltage-Voc(V)	52.17	52.37	52.55
Short Circuit Current-Isc(A)	14.12	14.18	14.24
Maximum Power Voltage-Vmpp(V)	43.80	44.00	44.16
Maximum Power Current-Impp(A)	13.26	13.32	13.37
Module Efficiency (%) *	22.5	22.7	22.8
Short Circuit Current-Isc-aBSI(A)	17.30	17.37	17.44

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency (%): Round-off to the nearest number
 Sorting and binning tolerances: 0-5W Measurement tolerance: ±3%
 Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty, 30 Years Limited Power Warranty,
 Bifacial factor: 80±10% * Module Efficiency (%): Round-off to the nearest number
 The first year degradation: 1%, annual degradation: 0.4%, power retention rate within 30 years: 87.4%
 ϕVoc=95±5%, ϕIsc=80±10%, ϕPmax=80±10%;

Electrical characteristics with 13.5% rear side power gain

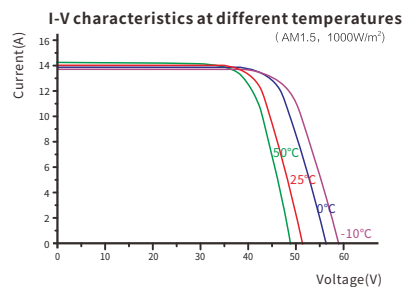
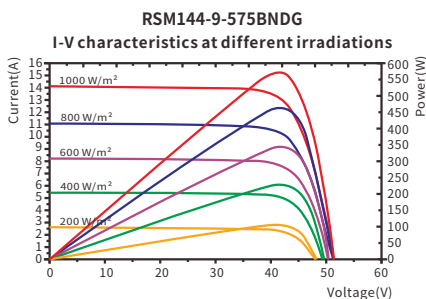
	638	644	649
Total Equivalent power -Pmax (Wp)			
Open Circuit Voltage-Voc(V)	52.17	52.37	52.55
Short Circuit Current-Isc(A)	15.53	15.60	15.66
Maximum Power Voltage-Vmpp(V)	43.80	44.00	44.16
Maximum Power Current-Impp(A)	14.59	14.65	14.71

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Type	RSM144-9-580BNDG	RSM144-9-585BNDG	RSM144-9-590BNDG
Maximum Power-Pmax (Wp)	439.8	443.6	447.1
Open Circuit Voltage-Voc (V)	48.52	48.70	48.87
Short Circuit Current-Isc (A)	11.58	11.63	11.68
Maximum Power Voltage-Vmpp (V)	40.65	40.83	40.98
Maximum Power Current-Impp (A)	10.82	10.87	10.91

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.



MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	144 cells (6×12+6×12)
Module dimensions	2278×1134×30/35mm
Weight	30.0~38.0kg
Superstrate	High Transmission, Low Iron, Semi-Tempered ARC Glass
Substrate	Semi-Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UL790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	720	180
Number of modules per pallet	36	36
Number of pallets per container	20	5
Packaging box dimensions (LxWxH) in mm	2290×1110×1260	
Box gross weight[kg]	1170	



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2024 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

THE POWER OF RISING VALUE

ELECTRICAL DATA (STC)

Model Type	RSM144-10-605BNDG	RSM144-10-610BNDG
Rated Power in Watts-Pmax(Wp)	605	610
Open Circuit Voltage-Voc(V)	52.24	52.43
Short Circuit Current-Isc(A)	14.71	14.77
Maximum Power Voltage-Vmpp(V)	43.40	43.56
Maximum Power Current-Impp(A)	13.95	14.01
Module Efficiency (%) *	22.4	22.6
Short Circuit Current-Isc-aBSI(A)	18.02	18.09

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency (%): Round-off to the nearest number
 Sorting and binning tolerances: 0.5W Measurement tolerance: ±3%
 Short Circuit Current tolerance: ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty;
 Bifacial factor: 80±10% * Module Efficiency (%): Round-off to the nearest number
 The first year degradation: 1% annual degradation: 0.4% power retention rate within 30 years: 87.4%
 ϕVoc=95%±5%, ϕIsc=80%±10%, ϕPmax=80%±10%;

Electrical characteristics with 13.5% rear side power gain

Total Equivalent power -Pmax (Wp)	666	671
Open Circuit Voltage-Voc(V)	52.24	52.43
Short Circuit Current-Isc(A)	16.18	16.25
Maximum Power Voltage-Vmpp(V)	43.40	43.56
Maximum Power Current-Impp(A)	15.35	15.41

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Type	RSM144-10-605BNDG	RSM144-10-610BNDG
Maximum Power-Pmax (Wp)	458.5	462.1
Open Circuit Voltage-Voc (V)	48.58	48.76
Short Circuit Current-Isc (A)	12.06	12.11
Maximum Power Voltage-Vmpp (V)	40.28	40.42
Maximum Power Current-Impp (A)	11.38	11.43

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

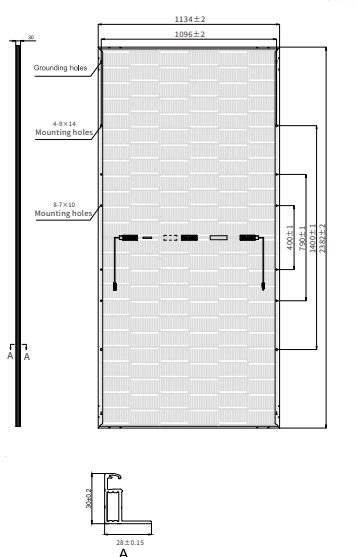
MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	144 cells (6×12×6×12)
Module dimensions	2382/2384×1134×30/35mm
Weight	30.0~38.0kg
Superstrate	High Transmission, Low Iron, Semi-Tempered ARC Glass
Substrate	Semi-Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

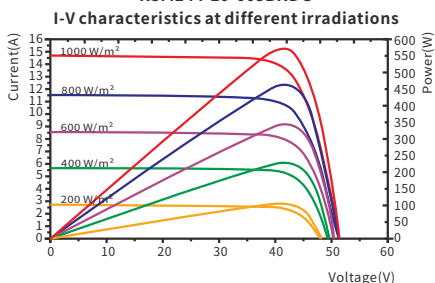
TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

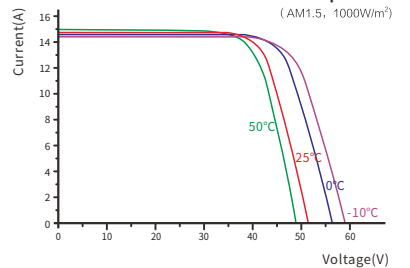
Dimensions of PV Module



RSM144-10-605BNDG



I-V characteristics at different temperatures



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	720	144
Number of modules per pallet	36	36
Number of pallets per container	20	4
Packaging box dimensions (LxWxH) in mm	2395×1110×1260	
Box gross weight [kg]	1220	



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

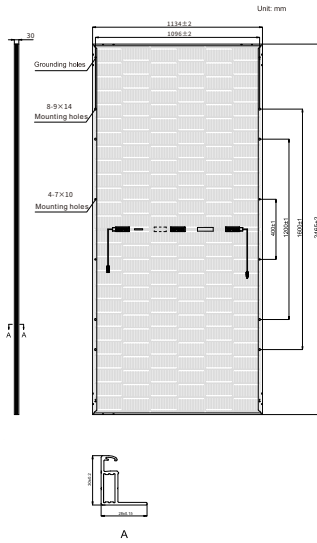
Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2024 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

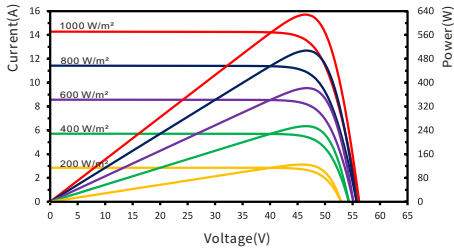
No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module

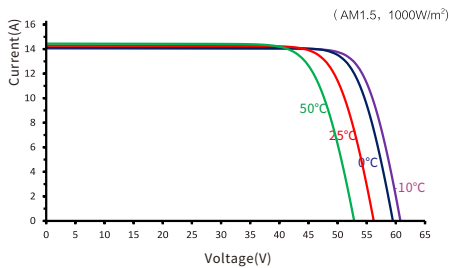


RSM156-9-630BNDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	576	144
Number of modules per pallet	36	36
Number of pallets per container	16	4
Packaging box dimensions (LxWxH) in mm	2485×1110×1260	
Box gross weight [kg]	1270	

ELECTRICAL DATA (STC)

Model Type	RSM156-9-625BNDG	RSM156-9-630BNDG
Rated Power in Watts-Pmax(Wp)	625	630
Open Circuit Voltage-Voc(V)	56.01	56.20
Short Circuit Current-Isc(A)	14.22	14.28
Maximum Power Voltage-Vmpp(V)	46.82	46.98
Maximum Power Current-Impp(A)	13.36	13.42
Module Efficiency (%) *	22.4	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency(%): Round-off to the nearest number
 Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%
 Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)
 The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM156-9-625BNDG	RSM156-9-630BNDG
Maximum Power-Pmax (Wp)	473.9	477.6
Open Circuit Voltage-Voc (V)	52.09	52.27
Short Circuit Current-Isc (A)	11.66	11.71
Maximum Power Voltage-Vmpp (V)	43.45	43.60
Maximum Power Current-Impp (A)	10.91	10.95

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	156 cells (6×13+6×13)
Module dimensions	2465×1134×30/35mm
Weight	33.5~34.5kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

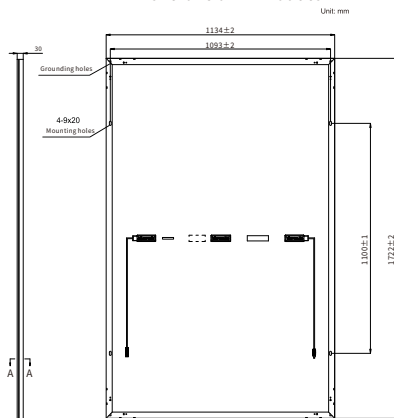
Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2024 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module



ELECTRICAL DATA (STC)

Model Type	RSM108-9-440BNDG
Rated Power in Watts-Pmax(Wp)	440
Open Circuit Voltage-Voc(V)	39.65
Short Circuit Current-Isc(A)	14.09
Maximum Power Voltage-Vmpp(V)	33.38
Maximum Power Current-Impp(A)	13.19
Module Efficiency (%) ★	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency(%): Round-off to the nearest number
 Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%
 Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)
 The first year degradation:1%, annual degradation:0.4%, power retention rate within 30 years:87.4%

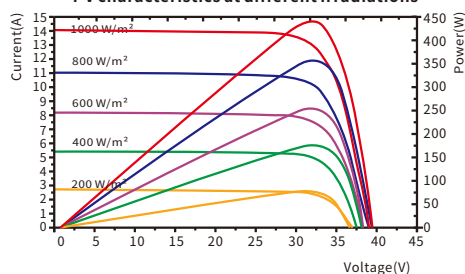
ELECTRICAL DATA (NMOT)

Model Type	RSM108-9-440BNDG
Maximum Power-Pmax (Wp)	333.4
Open Circuit Voltage-Voc (V)	36.84
Short Circuit Current-Isc (A)	11.55
Maximum Power Voltage-Vmpp (V)	30.98
Maximum Power Current-Impp (A)	10.76

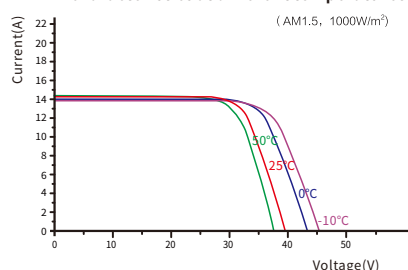
NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

RSM108-9-425BNDG

I-V characteristics at different irradiancies



I-V characteristics at different temperatures



MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	108 cells (6×9+6×9)
Module dimensions	1722×1134×30/35mm
Weight	22.5~28.5kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)1200mm, Negative(-)1200mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UL790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1745×1110×1260	
Box gross weight [kg]	780	



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

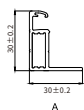
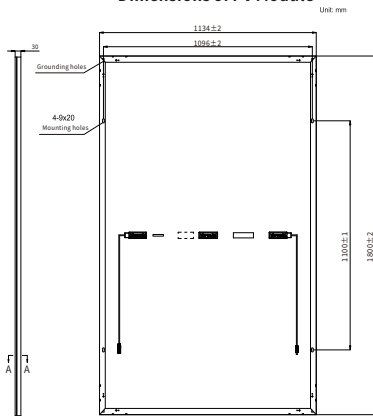
THE POWER OF RISING VALUE

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

© 2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

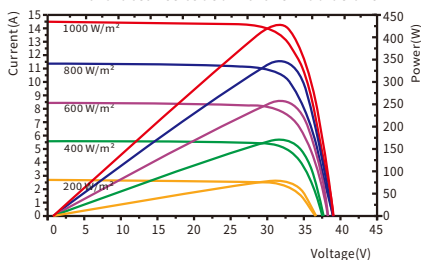
No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module

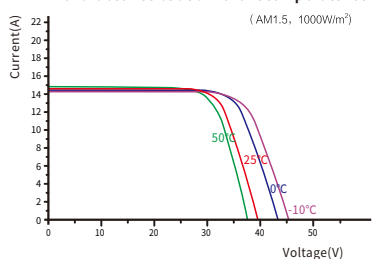


RSM108-10-440BNDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1816×1140×1260	
Box gross weight[kg]	945	

ELECTRICAL DATA (STC)

Model Type	RSM108-10-440BNDG	RSM108-10-445BNDG	RSM108-10-450BNDG
Rated Power in Watts-Pmax(Wp)	440	445	450
Open Circuit Voltage-Voc(V)	38.61	38.83	39.05
Short Circuit Current-Isc(A)	14.55	14.61	14.66
Maximum Power Voltage-Vmpp(V)	32.08	32.27	32.44
Maximum Power Current-Impp(A)	13.74	13.82	13.88
Module Efficiency (%) *	21.6	21.8	22.1

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency(%): Round-off to the nearest number
 Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%
 Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)
 The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM108-10-440BNDG	RSM108-10-445BNDG	RSM108-10-450BNDG
Maximum Power-Pmax (Wp)	333.9	337.7	341.0
Open Circuit Voltage-Voc (V)	35.91	36.11	36.32
Short Circuit Current-Isc (A)	11.93	11.98	12.02
Maximum Power Voltage-Vmpp (V)	29.77	29.94	30.10
Maximum Power Current-Impp (A)	11.21	11.28	11.33

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	108 cells (6×9+6×9)
Module dimensions	1800×1134×30/35mm
Weight	22.5~28.5kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)1200mm, Negative(-)1200mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UL790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

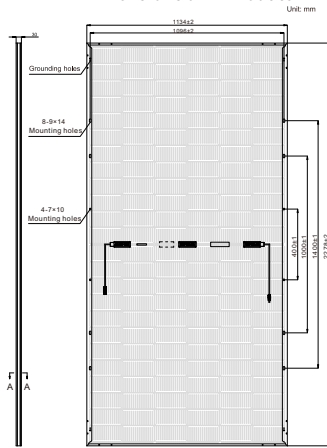
Website: www.risenenergy.com

THE POWER OF RISING VALUE

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

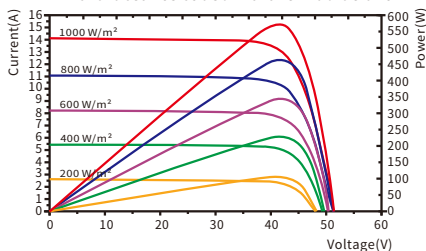
© 2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice. No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module



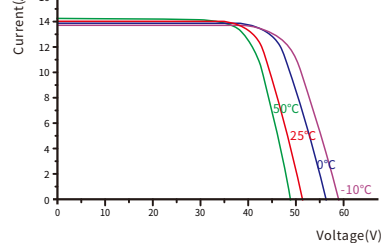
RSM144-9-575BNDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	720	180
Number of modules per pallet	36	36
Number of pallets per container	20	5
Packaging box dimensions (LxWxH) in mm	2290×1110×1260	
Box gross weight[kg]	1170	

ELECTRICAL DATA (STC)

Model Type	RSM144-9-565BNDG	RSM144-9-570BNDG	RSM144-9-575BNDG	RSM144-9-580BNDG
Rated Power in Watts-Pmax(Wp)	565	570	575	580
Open Circuit Voltage-Voc(V)	51.57	51.77	51.97	52.17
Short Circuit Current-Isc(A)	13.95	14.01	14.06	14.12
Maximum Power Voltage-Vmpp(V)	43.20	43.40	43.60	43.80
Maximum Power Current-Impp(A)	13.10	13.15	13.21	13.26
Module Efficiency (%) *	21.9	22.1	22.3	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%

Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)

The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM144-9-565BNDG	RSM144-9-570BNDG	RSM144-9-575BNDG	RSM144-9-580BNDG
Maximum Power-Pmax (Wp)	428.6	432.3	436.1	439.8
Open Circuit Voltage-Voc (V)	47.96	48.15	48.33	48.52
Short Circuit Current-Isc (A)	11.44	11.48	11.53	11.58
Maximum Power Voltage-Vmpp (V)	40.09	40.28	40.46	40.65
Maximum Power Current-Impp (A)	10.69	10.73	10.78	10.82

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	144 cells (6×12×6×12)
Module dimensions	2278×1134×30/35mm
Weight	30.0~38.0kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)+350mm, Negative(-)-230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UL790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

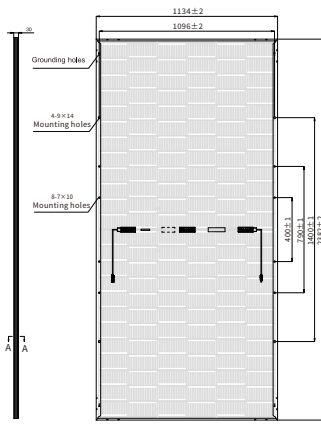
CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

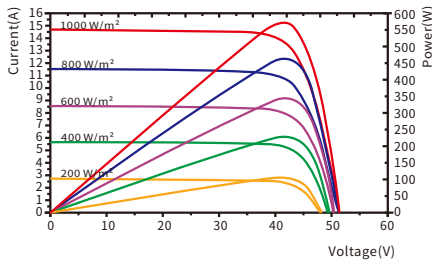
Dimensions of PV Module

Unit: mm



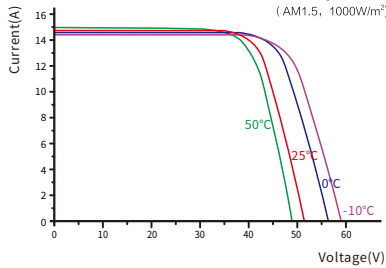
RSM144-10-605BNDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	720	144
Number of modules per pallet	36	36
Number of pallets per container	20	4
Packaging box dimensions (LxWxH) in mm	2395×1110×1260	
Box gross weight [kg]	1220	

ELECTRICAL DATA (STC)

Model Type	RSM144-10-605BNDG	RSM144-10-610BNDG
Rated Power in Watts-Pmax(Wp)	605	610
Open Circuit Voltage-Voc(V)	52.24	52.43
Short Circuit Current-Isc(A)	14.71	14.77
Maximum Power Voltage-Vmpp(V)	43.40	43.56
Maximum Power Current-Impp(A)	13.95	14.01
Module Efficiency (%) *	22.4	22.6

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%

Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)

The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM144-10-605BNDG	RSM144-10-610BNDG
Maximum Power-Pmax (Wp)	458.5	462.1
Open Circuit Voltage-Voc (V)	48.58	48.76
Short Circuit Current-Isc (A)	12.06	12.11
Maximum Power Voltage-Vmpp (V)	40.28	40.42
Maximum Power Current-Impp (A)	11.38	11.43

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	144 cells (6×12+6×12)
Module dimensions	2382/2384×1134×30/35mm
Weight	30.0~38.0kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



THE POWER OF RISING VALUE

RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

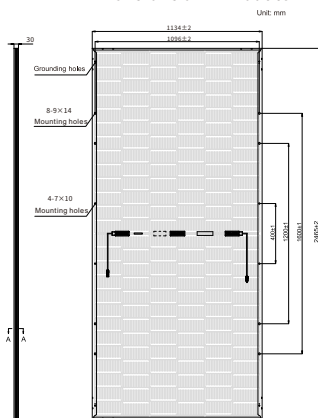
Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

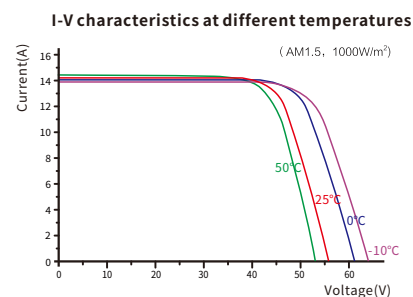
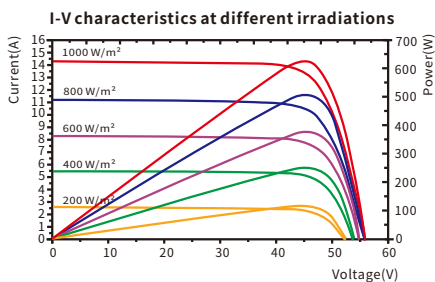
©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

Dimensions of PV Module



RSM156-9-615BNDG



PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	576	144
Number of modules per pallet	36	36
Number of pallets per container	16	4
Packaging box dimensions (LxWxH) in mm	2485×1110×1260	
Box gross weight[kg]	1270	

ELECTRICAL DATA (STC)

Model Type	RSM156-9-610BNDG	RSM156-9-615BNDG	RSM156-9-620BNDG
Rated Power in Watts-Pmax(Wp)	610	615	620
Open Circuit Voltage-Voc(V)	55.43	55.63	55.82
Short Circuit Current-Isc(A)	14.06	14.11	14.16
Maximum Power Voltage-Vmpp(V)	46.34	46.51	46.67
Maximum Power Current-Imp(A)	13.18	13.24	13.30
Module Efficiency (%) *	21.8	22.0	22.2

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%

Short Circuit Current tolerance: ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)

The first year degradation: 1%, annual degradation: 0.4%, power retention rate within 30 years: 87.4%

ELECTRICAL DATA (NMOT)

Model Type	RSM156-9-610BNDG	RSM156-9-615BNDG	RSM156-9-620BNDG
Maximum Power-Pmax (Wp)	462.5	466.2	469.9
Open Circuit Voltage-Voc (V)	51.55	51.74	51.91
Short Circuit Current-Isc (A)	11.53	11.57	11.61
Maximum Power Voltage-Vmpp (V)	43.00	43.16	43.31
Maximum Power Current-Imp (A)	10.76	10.80	10.85

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type TOPCon
Cell configuration	156 cells (6×13+6×13)
Module dimensions	2465×1134×30/35mm
Weight	33.5~34.5kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky by pass diodes
Cables	4.0mm ² , Positive(+)/350mm, Negative(-)/230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A



RISEN ENERGY CO., LTD.

Tashan Industry Zone, Meilin, Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

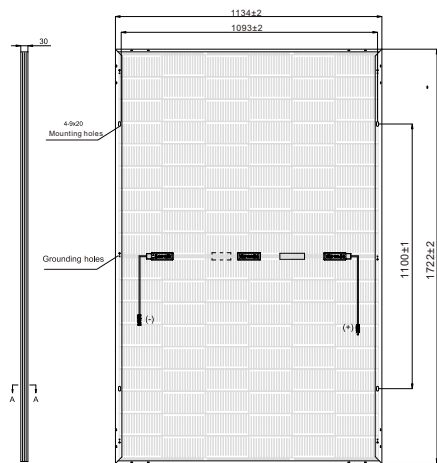
No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

THE POWER OF RISING VALUE

Version: REM156-BNDG-16BB-EN-H2-1-2023-AU

Dimensions of PV Module

Unit: mm



ELECTRICAL DATA (STC)

Model Number	RSM108-9-410BNDG	RSM108-9-415BNDG	RSM108-9-420BNDG	RSM108-9-425BNDG	RSM108-9-430BNDG	RSM108-9-435BNDG
Rated Power in Watts-Pmax(Wp)	410	415	420	425	430	435
Open Circuit Voltage-Voc(V)	38.47	38.67	38.87	39.07	39.26	39.46
Short Circuit Current-Isc(A)	13.61	13.69	13.78	13.86	13.94	14.01
Maximum Power Voltage-Vmpp(V)	32.20	32.39	32.59	32.78	32.98	33.18
Maximum Power Current-Impp(A)	12.75	12.83	12.91	12.99	13.06	13.12
Module Efficiency (%) ★	21.0	21.3	21.5	21.8	22.0	22.3

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

★ Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%

Short Circuit Current tolerance: ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)

The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

Electrical characteristics with 10% rear side power gain

Total Equivalent power -Pmax (Wp)	451	457	462	468	473	479
Open Circuit Voltage-Voc(V)	38.47	38.67	38.87	39.07	39.26	39.46
Short Circuit Current-Isc(A)	14.97	15.06	15.15	15.24	15.33	15.41
Maximum Power Voltage-Vmpp(V)	32.20	32.39	32.59	32.78	32.98	33.18
Maximum Power Current-Impp(A)	14.03	14.12	14.20	14.29	14.36	14.43

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Number	RSM108-9-410BNDG	RSM108-9-415BNDG	RSM108-9-420BNDG	RSM108-9-425BNDG	RSM108-9-430BNDG	RSM108-9-435BNDG
Maximum Power-Pmax (Wp)	310.9	314.8	318.6	322.4	326.0	329.6
Open Circuit Voltage-Voc (V)	35.78	35.96	36.15	36.34	36.51	36.70
Short Circuit Current-Isc (A)	11.16	11.23	11.30	11.36	11.43	11.49
Maximum Power Voltage-Vmpp (V)	29.88	30.06	30.24	30.42	30.61	30.79
Maximum Power Current-Impp (A)	10.40	10.47	10.54	10.60	10.65	10.71

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type
Cell configuration	108 cells (6×9+6×9)
Module dimensions	1722×1134×30/35mm
Weight	22.5~28.5kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.30%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Module Fire Performance	CLASS C (IEC)
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

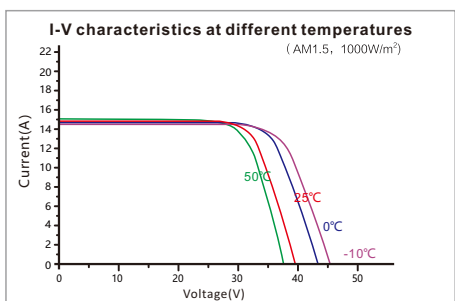
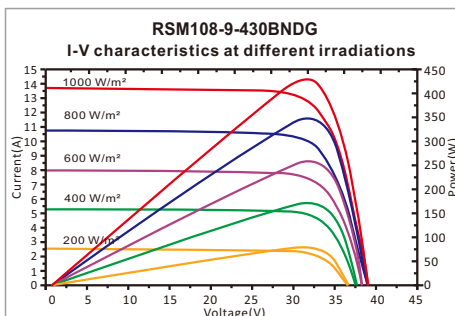
	40ft(HQ)	20ft
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1738×1140×1260	1738×1140×1260
Box gross weight[kg]	910	910

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

THE POWER OF RISING VALUE



RISEN ENERGY CO., LTD

Tashan Industry Zone, Meilin,
Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

Fax: +86-574-59953599

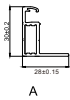
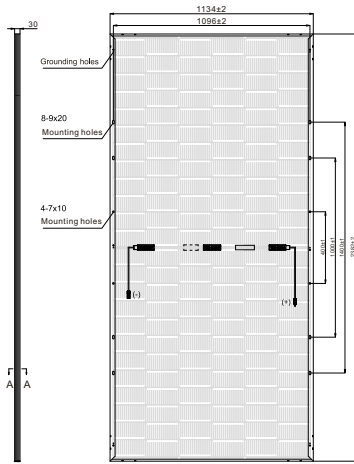
E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

REM108-BNDG-16BB-EN-H2-1-2023-AU

Dimensions of PV Module

Unit: mm



ELECTRICAL DATA (STC)

Model Number	RSM144-10-570BNDG	RSM144-10-575BNDG	RSM144-10-580BNDG	RSM144-10-585BNDG	RSM144-10-590BNDG
Rated Power in Watts-Pmax(Wp)	570	575	580	585	590
Open Circuit Voltage-Voc(V)	50.86	51.07	51.28	51.48	51.67
Short Circuit Current-Isc(A)	14.34	14.39	14.44	14.50	14.55
Maximum Power Voltage-Vmpp(V)	42.26	42.44	42.61	42.78	42.94
Maximum Power Current-Impp(A)	13.51	13.57	13.63	13.70	13.76
Module Efficiency (%) *	21.1	21.3	21.5	21.6	21.8

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3

* Module Efficiency(%): Round-off to the nearest number

Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%

Short Circuit Current tolerance ±4% Open Circuit Voltage tolerance: ±3%

15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)

The first year degradation:1%, annual degradation:0.4%, power retention rate within 30 years:87.4%

Electrical characteristics with 10% rear side power gain

	627	633	638	644	649
Total Equivalent power -Pmax (Wp)	627	633	638	644	649
Open Circuit Voltage-Voc(V)	50.86	51.07	51.28	51.48	51.67
Short Circuit Current-Isc(A)	15.77	15.83	15.88	15.95	16.01
Maximum Power Voltage-Vmpp(V)	42.26	42.44	42.61	42.78	42.94
Maximum Power Current-Impp(A)	14.86	14.93	14.99	15.07	15.14

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Number	RSM144-10-570BNDG	RSM144-10-575BNDG	RSM144-10-580BNDG	RSM144-10-585BNDG	RSM144-10-590BNDG
Maximum Power-Pmax (Wp)	432.3	436.1	439.9	443.7	447.4
Open Circuit Voltage-Voc (V)	47.30	47.50	47.69	47.88	48.05
Short Circuit Current-Isc (A)	11.75	11.80	11.84	11.89	11.93
Maximum Power Voltage-Vmpp (V)	39.22	39.38	39.55	39.70	39.85
Maximum Power Current-Impp (A)	11.02	11.07	11.12	11.18	11.23

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type
Cell configuration	144 cells (6×12×6×12)
Module dimensions	2384/2382×1134×30/35mm
Weight	30.0~38.0kg
Substrate	High Transmission, AR Coated Heat Strengthened Glass
Substrate	Heat Strengthened Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.30%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

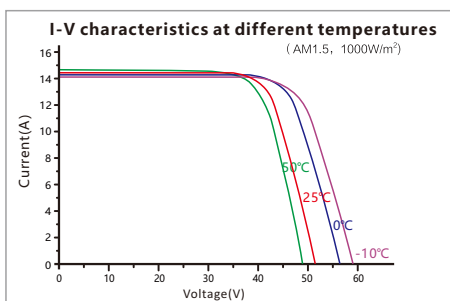
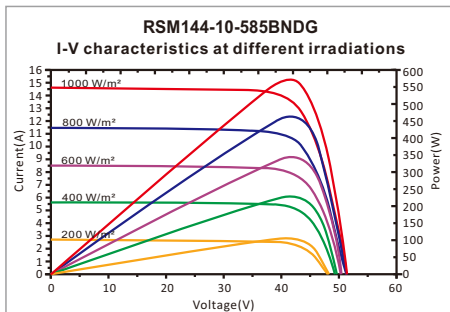
	40ft(HQ)	20ft
Number of modules per container	720	144
Number of modules per pallet	36	36
Number of pallets per container	20	4
Packaging box dimensions (LxWxH) in mm	2395×1110×1260	2395×1110×1260
Box gross weight[kg]	1220	1220

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.

No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

THE POWER OF RISING VALUE



RISEN ENERGY CO., LTD

Tashan Industry Zone, Meilin,
Ninghai 315609, Ningbo | PRC

Tel: +86-574-59953239

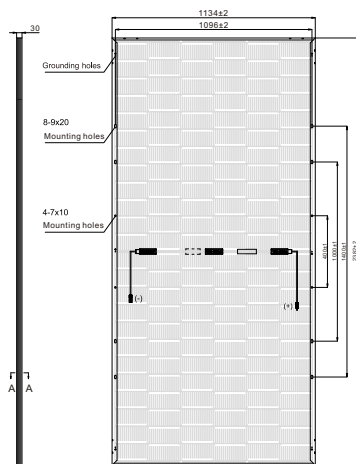
Fax: +86-574-59953599

E-mail: marketing@risenenergy.com

Website: www.risenenergy.com

REM144-BNDG-16BB-EN-H2-1-2023-AU

Dimensions of PV Module Unit: mm



ELECTRICAL DATA (STC)

Model Number	RSM144-10-585BNDG	RSM144-10-600BNDG
Rated Power in Watts-Pmax(Wp)	595	600
Open Circuit Voltage-Voc(V)	51.86	52.05
Short Circuit Current-Isc(A)	14.61	14.66
Maximum Power Voltage-Vmpp(V)	43.10	43.25
Maximum Power Current-Impp(A)	13.83	13.89
Module Efficiency (%) *	22.0	22.2

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3
 * Module Efficiency(%): Round-off to the nearest number
 Sorting and binning tolerances: 0-4.99W Measurement tolerance: ±3%
 Short Circuit Current tolerance±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty Bifacial factor: 80±10(%)
 The first year degradation:1%,annual degradation:0.4%,power retention rate within 30 years:87.4%

Electrical characteristics with 10% rear side power gain

	655	660
Total Equivalent power -Pmax (Wp)	655	660
Open Circuit Voltage-Voc(V)	51.86	52.05
Short Circuit Current-Isc(A)	16.07	16.13
Maximum Power Voltage-Vmpp(V)	43.10	43.25
Maximum Power Current-Impp(A)	15.21	15.28

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Number	RSM144-10-585BNDG	RSM144-10-600BNDG
Maximum Power-Pmax (Wp)	451.3	454.9
Open Circuit Voltage-Voc (V)	48.23	48.41
Short Circuit Current-Isc (A)	11.98	12.02
Maximum Power Voltage-Vmpp (V)	39.99	40.13
Maximum Power Current-Impp (A)	11.28	11.33

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	n-type
Cell configuration	144 cells (6×12+6×12)
Module dimensions	2384/2382×1134×30/35mm
Weight	30.0~38.0kg
Substrate	Heat Strengthened Glass
Superstrate	High Transmission, AR Coated Heat Strengthened Glass
Frame	Anodized Aluminium Alloy, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm ² , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Zhejiang Twinsel Electronic Technology Co.,Ltd. PV-SY02, IP68

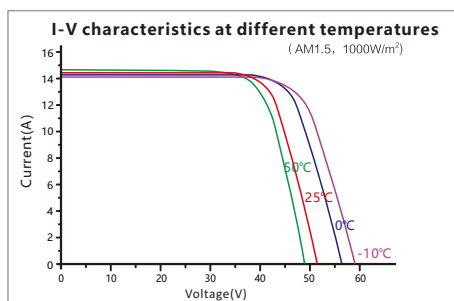
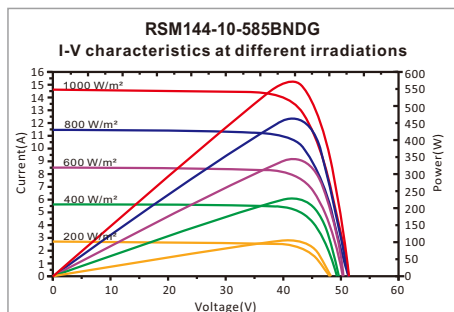
TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.30%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Fire Class According to UI790	CLASS C
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	720	144
Number of modules per pallet	36	36
Number of pallets per container	20	4
Packaging box dimensions (LxWxH) in mm	2395×1110×1260	2395×1110×1260
Box gross weight[kg]	1220	1220

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
 ©2023 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.
 No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

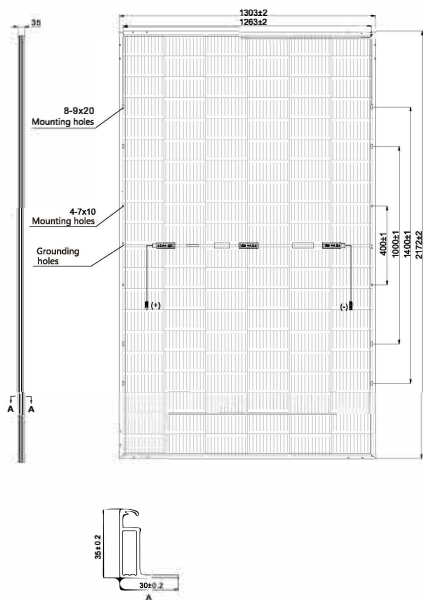


RISEN ENERGY CO., LTD

Tashan Industry Zone, Meilin,
 Ninghai 315609, Ningbo | PRC
 Tel: +86-574-59953239
 Fax: +86-574-59953599
 E-mail: marketing@risenenergy.com
 Website: www.risenenergy.com

REM144-BNDG-16BB-EN-H2-1-2023-AU

Dimensions of PV Module Unit: mm



ELECTRICAL DATA (STC)

Model Number	RSM120-8-605BNDG	RSM120-8-610BNDG	RSM120-8-615BNDG	RSM120-8-620BNDG	RSM120-8-625BNDG	RSM120-8-630BNDG
Rated Power in Watts-Pmax(Wp)	605	610	615	620	625	630
Open Circuit Voltage-Voc(V)	42.58	42.79	43.00	43.21	43.42	43.63
Short Circuit Current-Isc(A)	17.90	17.96	18.02	18.08	18.14	18.20
Maximum Power Voltage-Vmpp(V)	35.48	35.67	35.86	36.05	36.24	36.43
Maximum Power Current-Imp(A)	17.07	17.12	17.17	17.22	17.27	17.32
Module Efficiency (%) ★	21.4	21.6	21.7	21.9	22.1	22.3

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
 Bifacial factor: 80%±5 ★ Module Efficiency (%): Round-off to the nearest number
 Sorting and binning tolerances: 0~4.99W Measurement tolerance: ±3%
 Short Circuit Current tolerance: ±4% Open Circuit Voltage tolerance: ±3%
 15 Years Limited Product Warranty; 30 Years Limited Power Warranty

Electrical characteristics with 10% rear side power gain

	666	672	677	683	688	694
Total Equivalent power-Pmax (Wp)	666	672	677	683	688	694
Open Circuit Voltage-Voc(V)	42.58	42.79	43.00	43.21	43.42	43.63
Short Circuit Current-Isc(A)	19.69	19.76	19.82	19.89	19.95	20.02
Maximum Power Voltage-Vmpp(V)	35.48	35.67	35.86	36.05	36.24	36.43
Maximum Power Current-Imp(A)	18.78	18.83	18.89	18.94	19.00	19.05

Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

Model Number	RSM120-8-605BNDG	RSM120-8-610BNDG	RSM120-8-615BNDG	RSM120-8-620BNDG	RSM120-8-625BNDG	RSM120-8-630BNDG
Maximum Power-Pmax (Wp)	458.6	462.4	466.2	470.1	473.9	477.8
Open Circuit Voltage-Voc (V)	39.60	39.79	39.99	40.19	40.38	40.58
Short Circuit Current-Isc (A)	14.68	14.73	14.78	14.83	14.87	14.92
Maximum Power Voltage-Vmpp (V)	32.93	33.10	33.28	33.45	33.63	33.81
Maximum Power Current-Imp (A)	13.93	13.97	14.01	14.05	14.09	14.13

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	N-type
Cell configuration	120 cells (6×10×6×10)
Module dimensions	2172×1303×30/35/40mm
Weight	35kg
Substrate	Tempered Glass
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Frame	Anodized Aluminium Alloy type 6005-2T6, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm ² (12AWG), Positive(+)/350mm, Negative(-)/350mm (Connector Included)
Connector	Risen Twinsel PV-SY02, IP68

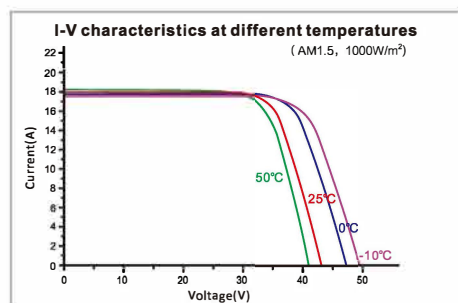
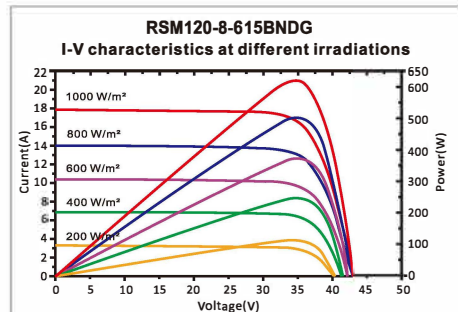
TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	42°C±2°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.046%/°C
Temperature Coefficient of Pmax	-0.326%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Module Fire Performance	CLASS A(IEC)
Max Series Fuse Rating	35A
Limiting Reverse Current	35A

PACKAGING CONFIGURATION

	40ft(HQ)
Number of modules per container	527
Number of modules per pallet	31
Number of pallets per container	17
Packaging box dimensions (LxWxH) in mm	1350×1145×2310
Box gross weight[kg]	1130

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
 ©2022 Risen Energy. All rights reserved. Contents included in this datasheet are subject to change without notice.
 No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.



RISEN ENERGY CO., LTD

Tashan Industry Zone, Meilin,
 Ninghai 315609, Ningbo | PRC
 Tel: +86-574-59953239
 Fax: +86-574-59953599
 E-mail: marketing@risenenergy.com
 Website: www.risenenergy.com
 REM120-BNDG-12BB-EN-H1-1-2022-CEC