

HIGH PERFORMANCE DUAL GLASS MARINE MODULE

888



RSM144-7-435BMDG-455BMDG

144 CELL

Mono PERC Module

435-455Wp

Power Output Range

1500VDC

Maximum System Voltage

20.4%

Maximum Efficiency

KEY SALIENT FEATURES



Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing



Salt mist test level 8, suitable for marine environment



Bifacial technology enables additional energy harvesting from rear side (up to 30%)



Industry leading 12 years product warranty



Excellent low irradiance performance



Excellent PID resistance



Positive tight power tolerance



Dual stage 100% EL Inspection warranting defect-free product



Module Imp binning radically reduces string mismatch losses



Excellent wind load 2400Pa & snow load 5400Pa under certain installation method



Comprehensive product and system certification

- ◆ IEC61215:2016; IEC61730-1/-2:2016;
- ◆ ISO 9001:2015 Quality Management System
- ◆ ISO 14001:2015 Environmental Management System
- ◆ ISO 45001:2018 Occupational Health and Safety Management System



★ As there are different certification requirements in different markets, please contact your local Risen Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

RISEN ENERGY CO., LTD.

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

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

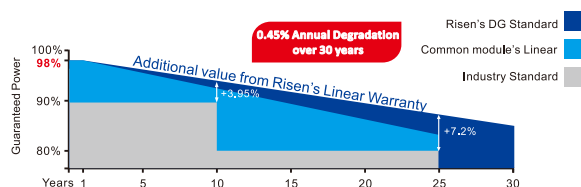
Tel: +86-574-59953239 Fax: +86-574-59953599

E-mail: marketing@risenenenergy.com Website: www.risenenergy.com



LINEAR PERFORMANCE WARRANTY

12 year Product Warranty / 30 year Linear Power Warranty

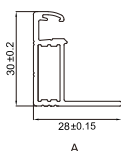
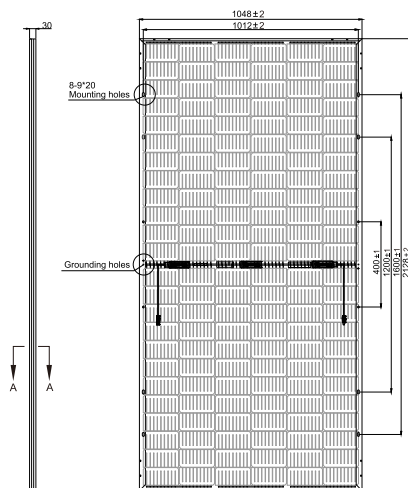


★ Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd

THE POWER OF RISING VALUE

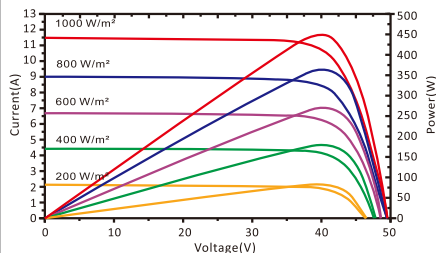
Dimensions of PV Module

Unit: mm



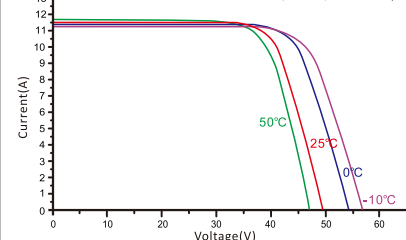
RSM144-7-450BMDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



Our Partners:

ELECTRICAL DATA (STC)

Model Number	RSM144-7-435BMDG	RSM144-7-440BMDG	RSM144-7-445BMDG	RSM144-7-450BMDG	RSM144-7-455BMDG
Rated Power in Watts-Pmax(Wp)	435	440	445	450	455
Open Circuit Voltage-Voc(V)	49.40	49.50	49.60	49.70	49.80
Short Circuit Current-Isc(A)	11.20	11.30	11.40	11.50	11.60
Maximum Power Voltage-Vmpp(V)	41.05	41.13	41.25	41.30	41.40
Maximum Power Current-Impp(A)	10.60	10.70	10.80	10.90	11.00
Module Efficiency (%) ★	19.5	19.7	20.0	20.2	20.4

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

Bifacial factor: 70%±5 ★ Module Efficiency (%): Round-off to the nearest number

Electrical characteristics with different rear side power gain (reference to 450Wp front)

Bifacial Gain ★	Pmax/W	Voc/V	Isc/A	Vmpp/V	Impp/A
5%	473	49.70	12.08	41.30	11.45
10%	495	49.70	12.65	41.30	11.99
15%	518	49.70	13.23	41.30	12.54
20%	540	49.70	13.80	41.30	13.08
25%	563	49.70	14.38	41.30	13.63
30%	585	49.70	14.95	41.30	14.17

★Bifacial 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	RSM144-7-435BMDG	RSM144-7-440BMDG	RSM144-7-445BMDG	RSM144-7-450BMDG	RSM144-7-455BMDG
Maximum Power-Pmax (Wp)	325.2	329.6	333.9	338.2	342.5
Open Circuit Voltage-Voc (V)	45.45	46.18	46.36	46.43	46.61
Short Circuit Current-Isc (A)	9.18	9.26	9.35	9.45	9.54
Maximum Power Voltage-Vmpp (V)	37.60	37.80	37.90	38.00	38.10
Maximum Power Current-Impp (A)	8.65	8.72	8.81	8.90	8.99

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

MECHANICAL DATA

Solar cells	Monocrystalline
Cell configuration	144 cells (6×12×6×12)
Module dimensions	2128×1048×30mm
Weight	29.0kg
Superstrate	High Transmission, Low Iron, Tempered Glass
Substrate	Tempered Glass
Frame	Aluminium Alloy
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm² (12AWG), Positive(+)350mm, Negative(-)350mm (Connector Included)
Connector	QC4.10-cd, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.28%/°C
Temperature Coefficient of Isc	0.05%/°C
Temperature Coefficient of Pmax	-0.36%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	25A
Limiting Reverse Current	25A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	700	175
Number of modules per pallet	35	35
Number of pallets per container	20	5
Packaging box dimensions (LxWxH) in mm	2195×1130×1185	2195×1130×1185
Box gross weight[kg]	1080	1080

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

©2021 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