

# HIGH PERFORMANCE BIFACIAL PERC MONOCRYSTALLINE MODULE

888

## RSM144-7-435BMDG-455BMDG

**144 CELL**

Mono PERC Module

**435-455Wp**

Power Output Range

**1500VDC**

Maximum System Voltage

**20.4%**

Maximum Efficiency

**G4.3**

## KEY SALIENT FEATURES



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



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



Industry leading lowest thermal co-efficient of power



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



Warranted reliability and stringent quality assurances well beyond certified requirements



Certified to withstand severe environmental conditions

- Anti-reflective & anti-soiling surface minimise power loss from dirt and dust
- Severe salt mist, ammonia & blown sand resistance, for seaside, farm and desert environments
- Excellent mechanical load 2400Pa & snow load 5400Pa resistance



ISO9001  
ISO14001  
OHSAS18001  
IEC TS 62941



## 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

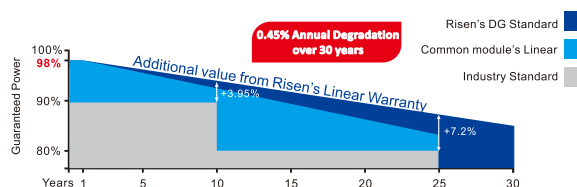
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## LINEAR PERFORMANCE WARRANTY

**12 year Product Warranty / 30 year Linear Power Warranty**

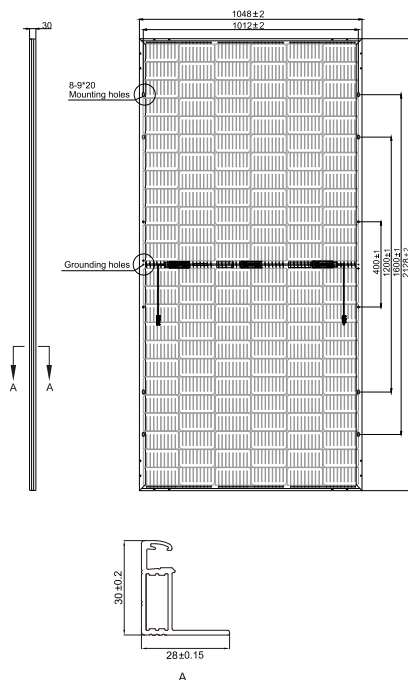


★ Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd

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## Dimensions of PV Module

Unit: mm



## 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/m<sup>2</sup>, 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/m<sup>2</sup>, 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 ARC Glass
Substrate	Tempered Glass
Frame	Anodized Aluminium Alloy type 6063T5, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm <sup>2</sup> (12AWG), Positive(+)350mm, Negative(-)350mm (Connector Included)
Connector	Risen Twinsel PV-SY02, 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

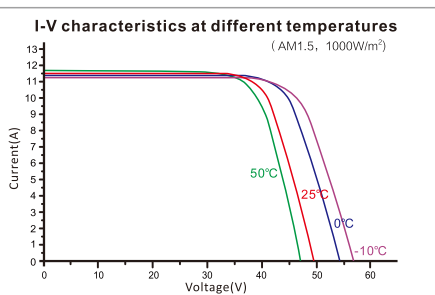
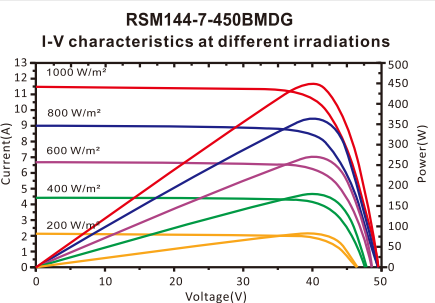
## PACKAGING CONFIGURATION

	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.

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