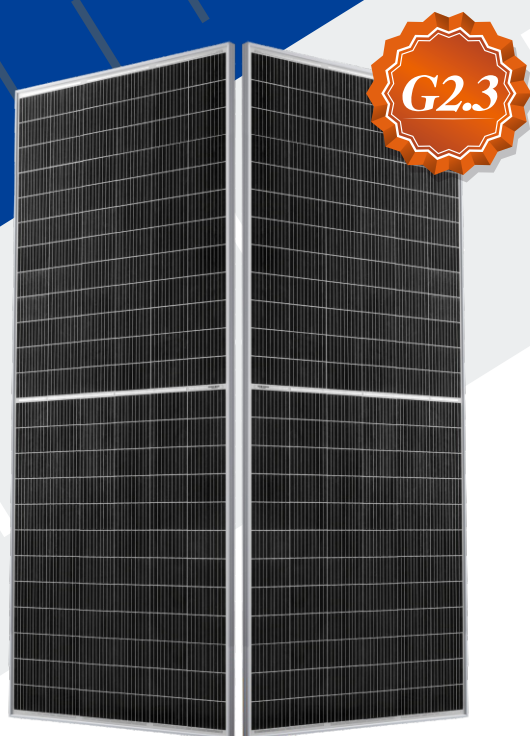




HETEROJUNCTION INTRINSIC THIN-LAYER HJT BIFACIAL MODULE



ISO9001
ISO14001
OHSAS18001
IEC TS 62941



(Some of the above certifications are still in progress)

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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risen
solar technology

Preliminary
For Global Market

RSM144-6-415BHGDG-435BHGDG

144 CELL

HJT Bifacial Module

415-435Wp

Power Output Range

1500VDC

Maximum System Voltage

21.4%

Maximum Efficiency

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

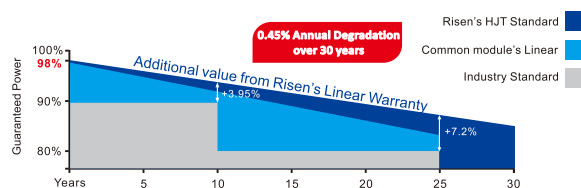


Certified to withstand severe environmental conditions

- 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

LINEAR PERFORMANCE WARRANTY

12 year Product Warranty / 30 year Linear Power Warranty

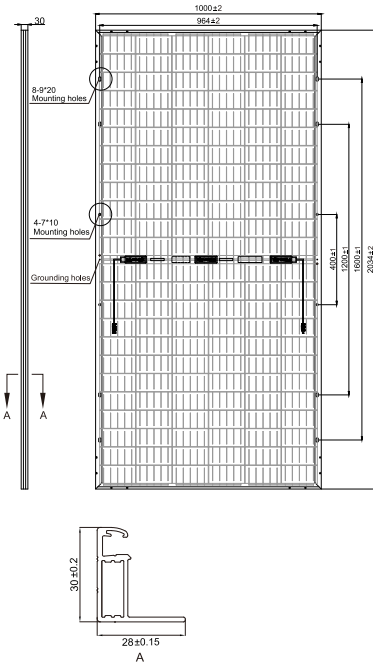


★ Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd

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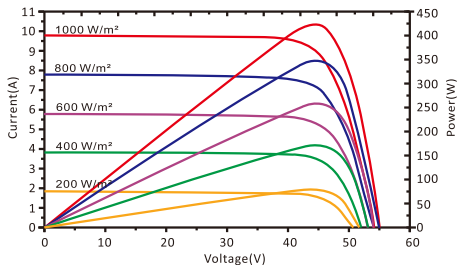
Dimensions of PV Module

Unit: mm



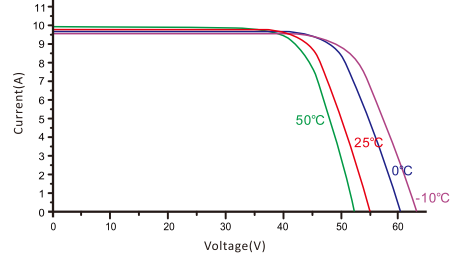
RSM144-6-425BHDG

I-V characteristics at different irradiances



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



Our Partners:

ELECTRICAL DATA (STC)

Model Number	RSM144-6-415BHDG	RSM144-6-420BHDG	RSM144-6-425BHDG	RSM144-6-430BHDG	RSM144-6-435BHDG
Rated Power in Watts-Pmax(Wp)	415	420	425	430	435
Open Circuit Voltage-Voc(V)	54.40	54.70	55.00	55.30	55.60
Short Circuit Current-Isc(A)	9.70	9.75	9.80	9.85	9.90
Maximum Power Voltage-Vmpp(V)	45.65	45.95	46.25	46.55	46.85
Maximum Power Current-Impp(A)	9.10	9.15	9.20	9.25	9.30
Module Efficiency (%) ★	20.4	20.6	20.9	21.1	21.4

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
Bifacial factor: ≥80% ★ Module Efficiency (%): Round-off to the nearest number

Electrical characteristics with different rear side power gain (reference to **425Wp** front)

Bifacial Gain ★	Pmax/W	Voc/V	Isc/A	Vmpp/V	Impp/A
5%	447	55.00	10.29	46.25	9.66
10%	468	55.00	10.78	46.25	10.12
15%	489	55.00	11.27	46.25	10.58
20%	511	55.00	11.76	46.25	11.04
25%	532	55.00	12.25	46.25	11.50
30%	553	55.00	12.74	46.25	11.96

★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	RSM144-6-415BHDG	RSM144-6-420BHDG	RSM144-6-425BHDG	RSM144-6-430BHDG	RSM144-6-435BHDG
Maximum Power-Pmax (Wp)	310.5	314.3	318.0	321.9	325.7
Open Circuit Voltage-Voc (V)	50.05	50.32	50.60	50.88	51.15
Short Circuit Current-Isc (A)	7.95	8.00	8.04	8.08	8.12
Maximum Power Voltage-Vmpp (V)	41.82	42.09	42.37	42.64	42.91
Maximum Power Current-Impp (A)	7.43	7.47	7.51	7.55	7.59

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

MECHANICAL DATA

Solar cells	HJT cell, 9BB
Cell configuration	144 cells (6×12+6×12)
Module dimensions	2034×1000×30mm
Weight	27kg
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	4.0mm² (12AWG), Positive(+) 270mm, Negative(-) 270mm
Connector	Risen Twinsel PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	43°C±2°C
Temperature Coefficient of Voc	-0.22%/°C
Temperature Coefficient of Isc	0.047%/°C
Temperature Coefficient of Pmax	-0.24%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	20A
Limiting Reverse Current	20A

PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	770	350
Number of modules per pallet	35	35
Number of pallets per container	22	10
Packaging box dimensions (LxWxH) in mm	2100×1130×1135	2100×1130×1135
Box gross weight[kg]	1000	1000

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

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