

# OPTONICA



Hyper-ion™

## Heterojunction Hyper-ion Series Bifacial Module

**RSM132-8-690-715BHDG**

**SKU: 9415**

## Hyper-link Interconnection

Patented Technology

**690-715 Wp**

Power Output Range

**23.0%**

Higher Efficiency

**0~+3%**

Positive Power Tolerance



No B-O caused LID



Ultra-high bifacial factor



Ultra-high power generation, ultra-low carbon emission



Most stable power temperature coefficient



Lead technology of metallization process



Excellent anti-LID & anti-PID performance

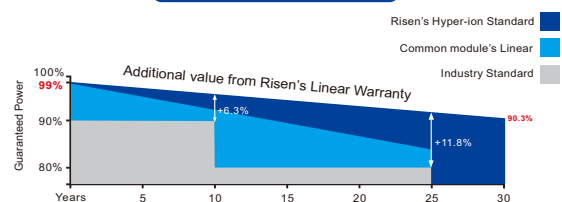


\* As there are different certification requirements in different markets, please contact your local Risen Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

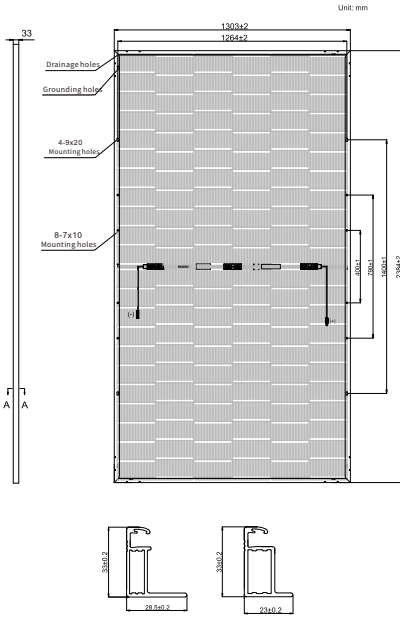
## LINEAR PERFORMANCE WARRANTY

15 years product warranty / 30 years linear power warranty

0.3% Annual Degradation over 30 years



## Dimensions of PV Module



## ELECTRICAL DATA (STC)

Model Type	RSM132-8-690-715BHDG					
Rated Power in Watts-Pmax(Wp)	690	695	700	705	710	715
Open Circuit Voltage-Voc(V)	49.65	49.74	49.83	49.92	50.01	50.09
Short Circuit Current-Isc(A)	17.66	17.74	17.82	17.91	18.00	18.10
Maximum Power Voltage-Vmpp(V)	41.63	41.71	41.78	41.86	41.93	42.00
Maximum Power Current-Impp(A)	16.60	16.68	16.77	16.86	16.95	17.05
Module Efficiency (%) *	22.2	22.4	22.5	22.7	22.9	23.0

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.  
Bifacial factor: 85±10(%) \* Module Efficiency (%): Rounding to the nearest number

## Electrical characteristics with 10% rear side power gain

Total Equivalent power -Pmax (Wp)	759	765	770	776	781	787
Open Circuit Voltage-Voc(V)	49.65	49.74	49.83	49.92	50.01	50.09
Short Circuit Current-Isc(A)	19.43	19.51	19.60	19.70	19.80	19.91
Maximum Power Voltage-Vmpp(V)	41.63	41.71	41.78	41.86	41.93	42.00
Maximum Power Current-Impp(A)	18.26	18.35	18.44	18.55	18.65	18.76

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	RSM132-8-690-715BHDG					
Maximum Power-Pmax (Wp)	527.2	530.9	534.5	538.5	542.3	546.2
Open Circuit Voltage-Voc (V)	46.52	46.61	46.69	46.78	46.86	46.93
Short Circuit Current-Isc (A)	14.48	14.55	14.61	14.68	14.76	14.84
Maximum Power Voltage-Vmpp (V)	38.93	39.00	39.07	39.14	39.21	39.27
Maximum Power Current-Impp (A)	13.54	13.61	13.68	13.76	13.83	13.91

NMOT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s.

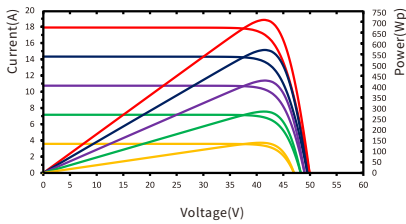
## MECHANICAL DATA

Solar cells	n-type HJT
Cell configuration	132 cells (6×11+6×11)
Module dimensions	2384×1303×33mm
Weight	37.5kg
Superstrate	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 <sup>2</sup> , Positive(+)350mm, Negative(-)230mm (Connector Included), or customized length
Connector	Risen Twinsel PV-SY02, IP68

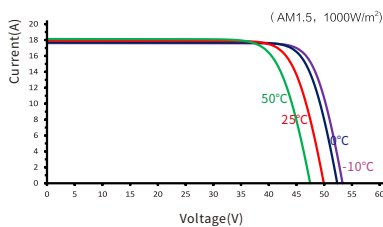
## TEMPERATURE & MAXIMUM RATINGS

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	35A
Limiting Reverse Current	35A

RSM132-8-705BHDG  
I-V characteristics at different irradianations



I-V characteristics at different temperatures



## PACKAGING CONFIGURATION

	40ft(HQ)
Number of modules per container	594
Number of modules per pallet	33
Number of pallets per container	18
Packaging box dimensions (LxWxH) in mm	1320×1125×2520
Box gross weight[kg]	1289