

# CERTIFICATE

No. Z2 111832 0001 Rev. 00

**Holder of Certificate:** **Rosen Solar Energy Co., Ltd.**  
Room 3004, Building 9, Shushanli  
No. 1295, Jinggang Road, Shushan District  
230031 Hefei, Anhui  
PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:**



**Product:** **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 70125218231-00

**Valid until:** 2026-01-26

**Date,** 2022-01-20



( Zhulin Zhang )



Product Service

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## Model(s):

RSMxxxM-72, xxx=360 to 400 in step of 5,  
RSMxxxM-60, xxx=300 to 360 in step of 5,  
RSMxxxM-72H, xxx=370 to 400 in step of 5,  
RSMxxxM-60H, xxx=310 to 365 in step of 5,  
RSMxxxM-144H, xxx=410 to 470 in step of 5,  
RSMxxxM-120H, xxx=340 to 400 in step of 5,  
RSMxxxP-72, xxx=320 to 350 in step of 5,  
RSMxxxP-60, xxx=270 to 295 in step of 5,  
RSMxxxP-72H, xxx=330 to 355 in step of 5,  
RSMxxxP-60H, xxx=280 to 300 in step of 5,  
RSMxxxM-132HC, xxx=680 to 700 in step of 5,  
RSMxxxM-144HC, xxx=550 to 600 in step of 5,  
RSMxxxM-120HC, xxx=430 to 460 in step of 5,

xxx is standing for rated output power at STC

## Parameters:

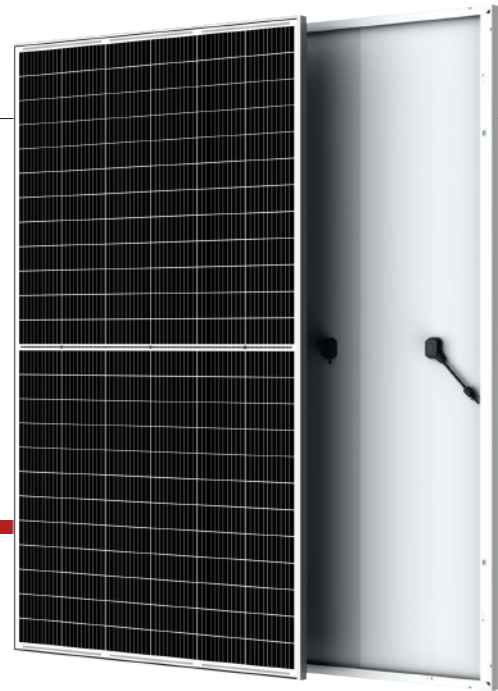
Construction:	Framed, with Junction box, Cable and Connectors.
Test Laboratory:	Yangzhou Opto-Electrical Products Testing Institute, No. 10 West Kaifa Road, Yangzhou 225009 Jiangsu, P. R. China.
Safety Class:	Class II
Maximum System Voltage:	1500 V DC
Fire Safety Class:	Class C according to UL790

## Tested according to:

IEC 61215-1:2016  
IEC 61215-1-1:2016  
IEC 61215-2:2016  
IEC 61730-1:2016  
IEC 61730-2:2016  
EN 61215-1:2016  
EN 61215-1-1:2016  
EN 61215-2:2017  
EN IEC 61730-1:2018  
EN IEC 61730-1:2018/AC:2018-06  
EN IEC 61730-2:2018  
EN IEC 61730-2:2018/AC:2018-06  
IEC TS 62804



**Mono Poly System**



# RS-144HC Series

**Framed 144 Layout Mono Module**  
**PERC Half-Cell: 540-560W**

**144 HALF CELL**  
**MONOCRYSTALLINE MODULE**

**540-560W**  
**POWER OUTPUT RANGE**

**21.9%**  
**MAXIMUM EFFICIENCY**

**0~+5W**  
**POSITIVE POWER TOLERANCE**

Rosen Solar, is one of the world's top ranking manufacturer and installer of solar modules for more than 10years. Facing the increasingly serious situation of world Global warming, we are undertaking more duty and responsibility to provide more reliable and sustainable energy to protect not only human beings but also the Mother Earth. And with modules and systems delivered to more than 150 countries, Rosen is committed to building long term strategy and mutual collaboration with all installers, distributors and partners in energy protection.

## Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO 14064: Greenhouse Gas Emissions Verification  
 OHSAS 18001: Occupation Health and Safety Management System



### PRODUCTS

RS-144HC(cells)

### POWER RANGE

540-560W



**Ideal choice for large scale ground installation**



**Selected encapsulating material and stringent production process control ensure the product is highly PID resistant and snail trails free**



**Special cutting and soldering technology leads to low hotspot risk**



**Sand blowing test, salt mist test and ammonia test passed to endure harsh environments**



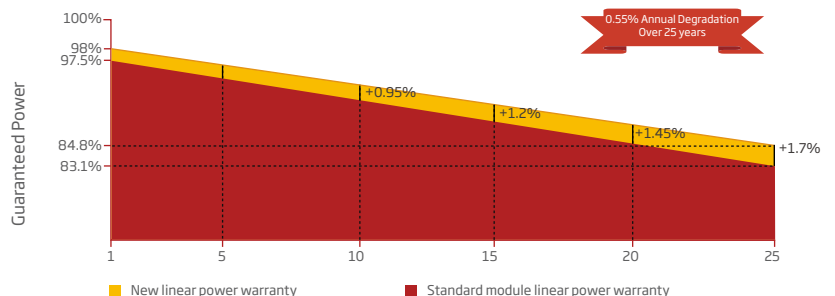
**Optimized system performance due to module level current sorting**



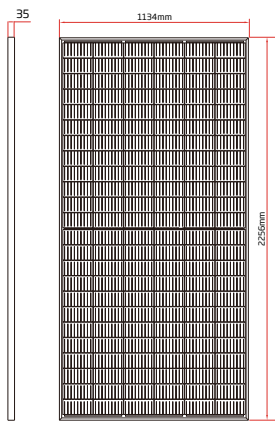
**Highly transparent self-cleaning glass brings additional yield and easy maintenance**

## PERFORMANCE WARRANTY

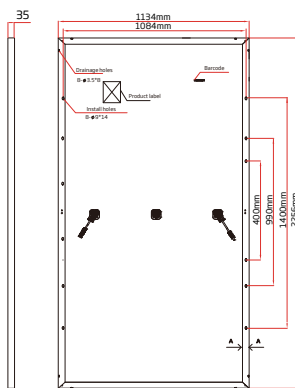
12 Year Product Warranty · 25 Year Power Warranty



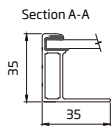
### DIMENSIONS OF PV MODULE(mm)



Front View

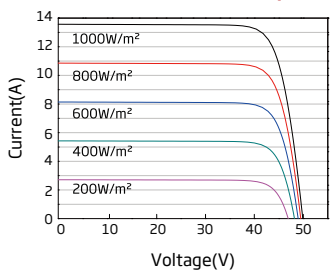


Back View (Portrait)

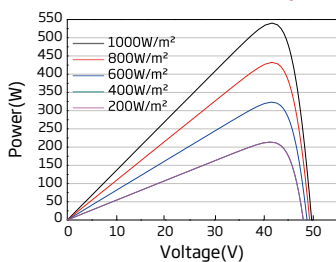


Section A-A

### I-V CURVES OF PV MODULE(540W)



### P-V CURVES OF PV MODULE(540W)



### ELECTRICAL DATA(STC)

Peak Power Watts- $P_{MAX}(W_p)^*$	540	545	550	555	560
Power Output Tolerance- $P_{MAX}(W)$	0~+5				
Maximum Power Voltage- $V_{MPP}(V)$	41.64	41.80	41.96	42.12	42.28
Maximum Power Current- $I_{MPP}(A)$	12.97	13.04	13.11	13.18	13.25
Open Circuit Voltage- $V_{OC}(V)$	49.60	49.75	49.90	50.05	50.20
Short Circuit Current- $I_{SC}(A)$	13.86	13.93	14.00	14.07	14.14
Module Efficiency (%)	21.1	21.3	21.5	21.7	21.9

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5  
\*Measuring tolerance: ±3%.

### ELECTRICAL PARAMETERS AT NMOT

Maximum Power- $P_{MAX}(W_p)$	408	412	416	420	424
Maximum Power Voltage- $V_{MPP}(V)$	38.99	39.21	39.44	39.67	39.90
Maximum Power Current- $I_{MPP}(A)$	10.47	10.51	10.55	10.59	10.63
Open Circuit Voltage- $V_{OC}(V)$	46.43	46.55	46.68	46.81	46.93
Short Circuit Current- $I_{SC}(A)$	11.09	11.13	11.17	11.21	11.25

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

### MECHANICAL DATA

Solar Cells	Monocrystalline, 182 mm
Cell Orientation	144 cells (6x24)
Module Dimensions	2256±2 mm*1134±2 mm*35±1 mm (88.81*44.64*1.38 inches)
Weight	27.5 kg
Glass	High Transparency solar glass 3.2 mm (0.13 inches)
Backsheet	White
Frame	Silver, Anodized Aluminium Alloy
J-Box	IP68 rated, 3 diodes
Cables	Photovoltaic Technology Cable 4.0 mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: 300/400 mm (11.81/15.75 inches), Landscape: 1300/1300 mm (51.18/51.18 inches)
Wind/Snow Load	2400Pa / 5400Pa*
Connector	MC4 Compatible

\*Please refer to regional datasheet for specified connector.

### TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	45±2 C
Temperature Coefficient of $P_{MAX}$	-0.350%/ C
Temperature Coefficient of $V_{OC}$	-0.275%/ C
Temperature Coefficient of $I_{SC}$	0.045%/ C

### MAXIMUM RATINGS

Operational Temperature	-40~+85 C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

### WARRANTY

12 year Product Warranty
25 year Linear Power Warranty

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

Modules per pallet: 31 pieces
Modules per 40HQ container: 620pieces