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RUNERGY

www.runergy-solar.com

Expert in High-Efficiency PV Module Manufacturing



RUNERGY

We are committed to providing our clients with the highest quality PV products.

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COMPANY PROFILE

Jiangsu Runergy New Energy Technology Co., Ltd. was founded in 2013. The company focuses on the R&D and production of high-efficiency solar cells. As a technology and innovation-oriented company that is deeply rooted in the field of photovoltaics, Runergy has established in-depth partnerships with Fraunhofer-ISE in Germany and UNSW in Australia. With continuous independent innovation, efficient execution and meticulous process management, Runergy's solar cells have gained high praise from clients. According to Infolink Consulting, Runergy has ranked the top three in the world in cell shipments for consecutive three years from 2020 to 2023Q1. As of the end of 2022, Runergy's global production capacity of large-size high-efficiency cells exceeded 25GW. In 2023, the total production capacity of solar cells is expected to be over 62GW, and the capacity of solar modules is expected to be over 21GW.

Based on advantages in the field of solar cells, Runergy further extends the industrial chain to upstream and downstream. Currently, the company's production bases include: Ningxia polysilicon base, Yancheng cell base, Jianhu ultra-high efficiency cell base, Yancheng Hyperion module base, Thailand cell & module production base, and Yunnan ultra-high efficiency cell base. Through the embedded integrated strategy, Runergy meets the needs of global clients.

By providing consistently high-quality products to clients, Runergy offers a more transparent and efficient supply chain, which enables us to resist the turbulent market environment and establish a reliable and trustworthy brand.

Runergy, serving the world, making the future full of possibilities.

Automation

Innovation

Smart Manufacturing



BRAND HISTORY

2013

- Runergy founded.

2018

- Phase I of the Yueda base put into operation.

2019

- Phase II of the Yueda base put into operation.

2020

- Phase I of the Thailand base put into operation.
- Phase I of the Jianhu base put into operation.

2021

- Phase I and II of the Century base put into operation.
- Hyperion brand was launched.

2022

- Phase III of the Thailand base put into operation.
- Ningxia polysilicon base put into operation.
- Yancheng Hyperion module base put into operation.

2023

- Yunnan cell base put into operation.



GLOBALIZATION



R&D STRENGTH



Runergy Research Institute

The research institute is located in Yancheng, Jiangsu, with a total investment of **400** million RMB, and the company aims to build up a world's leading research and development institute. The institute includes a high-efficiency cell laboratory, a physical characterization and simulation laboratory, a chemical testing and analysis laboratory, a product reliability laboratory, and a big data processing and analysis center, etc., equipped with various domestic and foreign advanced research and testing equipment and simulation software. There is also an ultra-high efficiency solar cell testing line for new product development, process trials and testing.

The Photovoltaic Research Institute currently has a research and development team led by Dr. Yang Yang, who serves as the director, and Professor Shen Hui as the honorary dean. The institute currently has nearly **200** staff members, including **50** with doctoral and master's degrees and more than **100** with bachelor's degrees.

>> Partial Achievements

In the trial production, the efficiency of the next generation **N-type** ultra-efficient cell exceeds **25%**

Take the lead in developing large-size and gallium-doped cell technology

Originated composite passivation film deposition technology, breaking foreign monopoly and achieving localization.

Originated alkaline etching technology, which improves the photoelectric conversion efficiency

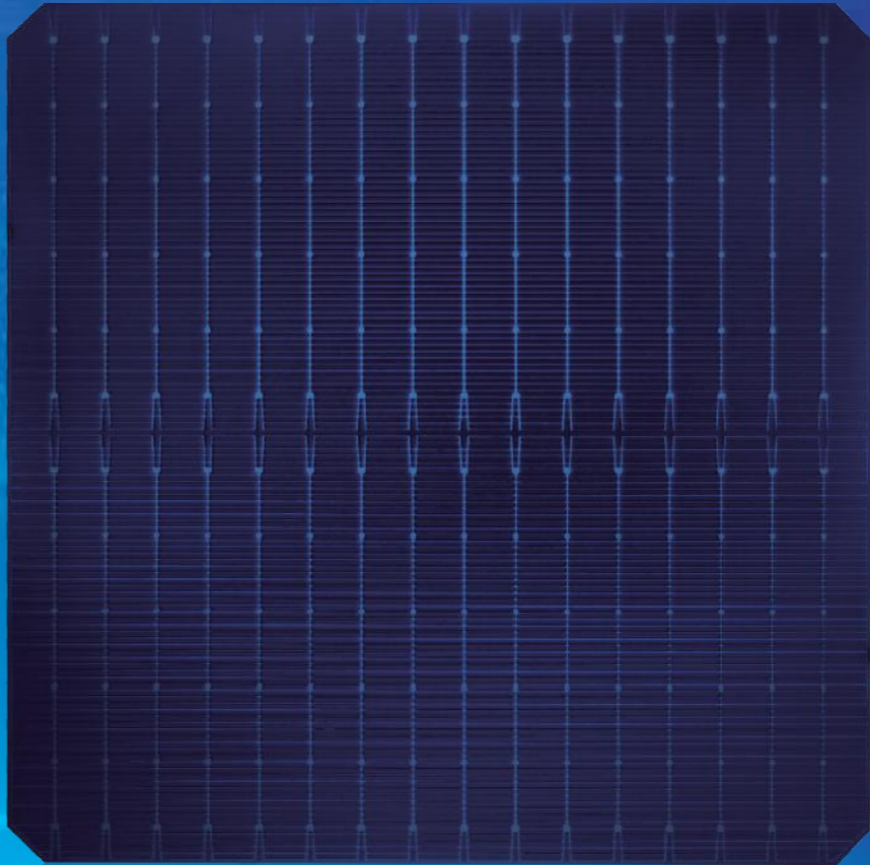
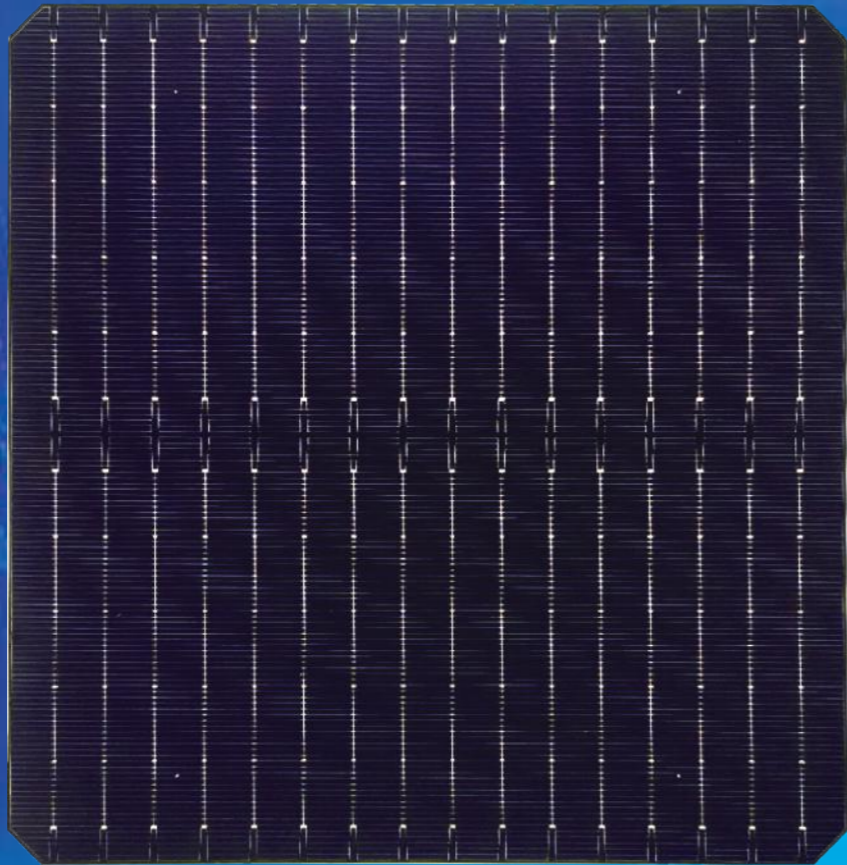
N-TYPE CELLS



Lower LCOE



Better Temperature Coefficient



Low Degradation



Better Weak Light Performance

24.5%-25%
Mass Production Efficiency

<1%
First Year Degradation

0.4%
Annual Degradation

≈80%
Bifaciality

ABOUT HYPERION

12GW

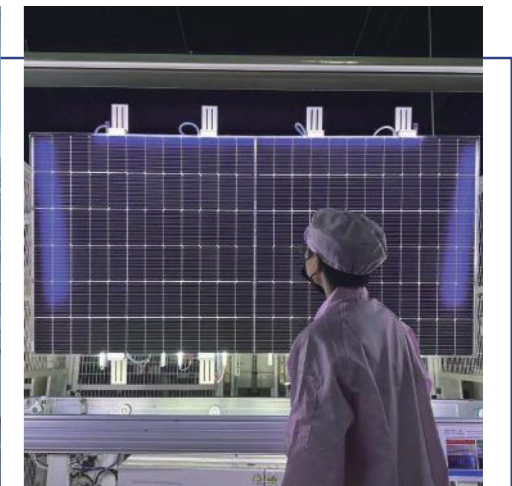
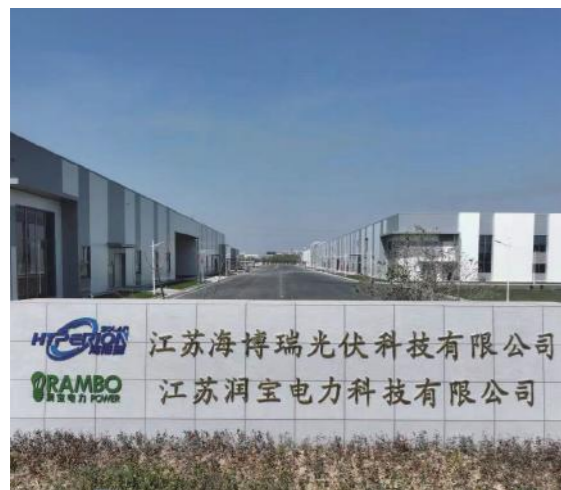
N-TYPE



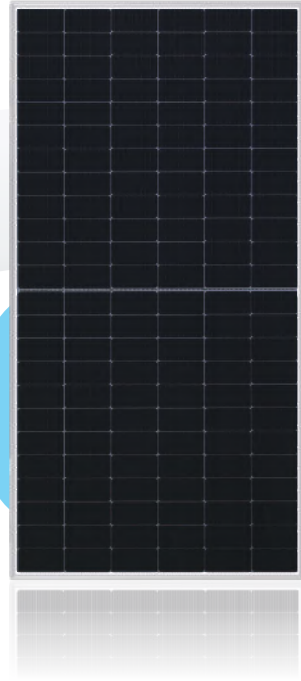
In 2021, Jiangsu Hyperion module production base was established in Yancheng. With Runergy Group's solid cell R&D and manufacturing strength, Hyperion focuses on the R&D, production and sales of high-end modules. Hyperion now has module production capacity of 12GW, which fully matches the next generation of ultra-high power N-type cells technology. Also, based on large-size silicon wafers, innovative non-destructive cutting technology and high-density packaging technology, the company provides flexible product solutions to customers with different application scenarios.

Our advantages

Hyperion is continuously committed to increasing product efficiency. With excellent technical strength and cutting-edge manufacturing capability, we are dedicated to providing clients with high-power and high-reliability photovoltaic products. The module production plants are all equipped with internationally advanced automatic assembly line, in combination with the original big data platform to track every process, including raw material suppliers, operation personnel for each process, every online detection result, and production date, etc. These can all be viewed and archived online through the ERP system. Through intelligent management and advanced manufacturing equipment, the overall mass production process is controlled at 18 steps, the single-line single-shift production capacity can reach 2300pcs, ranking top in the industry.



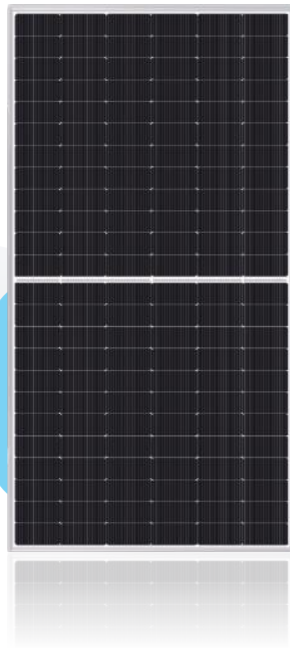
SOLAR MODULES



DH144P8 530-550Wp
144 cells, P-type double-glass module

- Maximum Power at STC (Pmax/W): 550Wp
- Maximum Module Efficiency: 21.3%
- Power Tolerance (W): 0~+5W
- Dimensions: 2278*1134*35mm

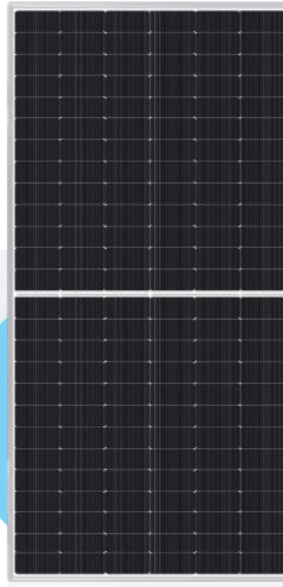
>> Applicable to ground-mounted projects



DH144N8 560-585Wp
144 cells, N-type double-glass module

- Maximum Power at STC (Pmax/W): 585Wp
- Maximum Module Efficiency: 22.6%
- Power Tolerance (W): 0~+5W
- Dimensions: 2278*1134*35mm

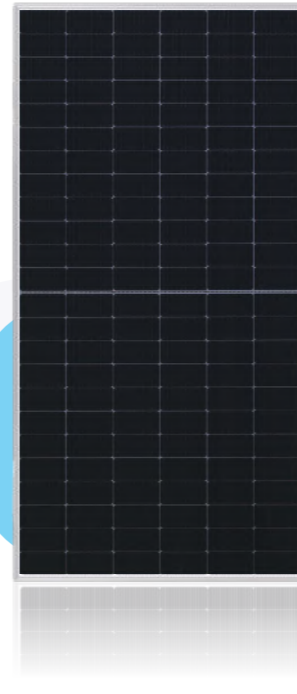
>> Applicable to ground-mounted projects



DH156N8 600-625Wp
156 cells, N-type double-glass module

- Maximum Power at STC (Pmax/W): 625Wp
- Maximum Module Efficiency: 22.4%
- Power Tolerance (W): 0~+5W
- Dimensions: 2465*1134*35mm

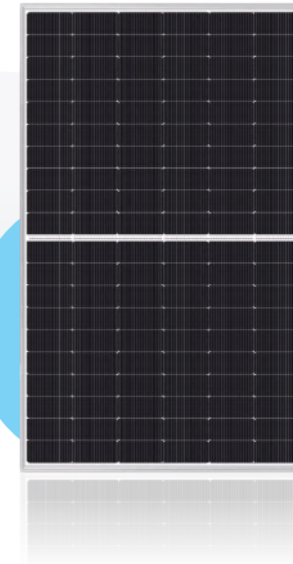
>> Applicable to ground-mounted projects



WH144P8 535-555Wp
144 cells, P-type single-glass module

- Maximum Power at STC (Pmax/W): 555Wp
- Maximum Module Efficiency: 21.5%
- Power Tolerance (W): 0~+5W
- Dimensions: 2278*1134*30mm

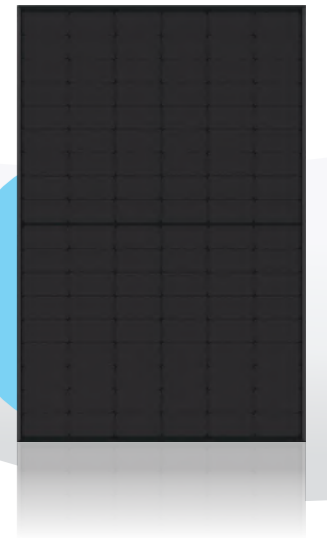
>> Applicable to C&I rooftop projects



DH120N8 460-480Wp
120 cells, N-type double-glass module

- Maximum Power at STC (Pmax/W): 480Wp
- Maximum Module Efficiency: 22.20%
- Power Tolerance (W): 0~+5W
- Dimensions: 1908*1134*30mm

>> Applicable to C&I rooftop projects



DH108N8B 410-430Wp
108 cells, all-black N-type double-glass module

- Maximum Power at STC (Pmax/W): 430Wp
- Maximum Module Efficiency: 22.0%
- Power Tolerance (W): 0~+5W
- Dimensions: 1722*1134*30mm

>> Applicable to residential rooftop projects



PV PROJECT



Pingluo Hongyazi PV Project **100MWp**



Runergy Century PV Project **7.8MWp**



Jingpeng New Distributed PV Project **3.0MWp**



Bufeng Town Distributed PV Project **0.8MWp**



Jianhu County Distributed PV Project **5.5MWp**



Fengguan Distributed PV Project **3.0MWp**



Runergy Yueda Distributed PV Project **7.4MWp**



Xinweifeng Distributed PV Project **1.7MWp**



Songjiang Distributed PV Project **0.3MWp**

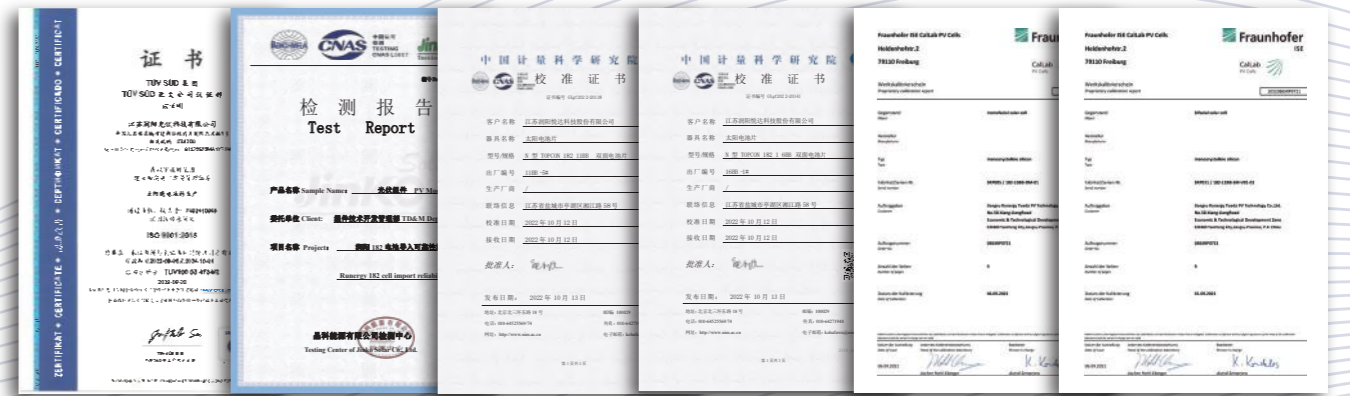


PATENTS AND CERTIFICATES



420+

As of July, 2023, Runergy was authorized to issue 420 patents.



SOCIAL RESPONSIBILITY



Runergy installed residential PV for farmers in Shanxi Province.



Runergy donated 6.5Kw solar PV projects to BAN TA LE NOI RAYONG.



Runergy launched school-enterprise cooperation with Suan Sunandha Rajabhat University.



Thai youth exchange group, "One Belt and One Road" , visited our Thailand base.



A research group of universities from Chiang Rai visited our Thailand base.



Runergy obtained the Green Industry Level 3 certificate in 2023.

Since establishment, Runergy has produced a total of **50GW** of photovoltaic products and generated clean electricity of **500** million kWh every year.