



**HORAY**

# **HORAY SOLAR**

## **2024 INTRODUCTION**

EXCELLENT PV MODULE MANUFACTURER

[www.horaysolar.com](http://www.horaysolar.com)



- 1.3MW Project in Italy

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About Horay

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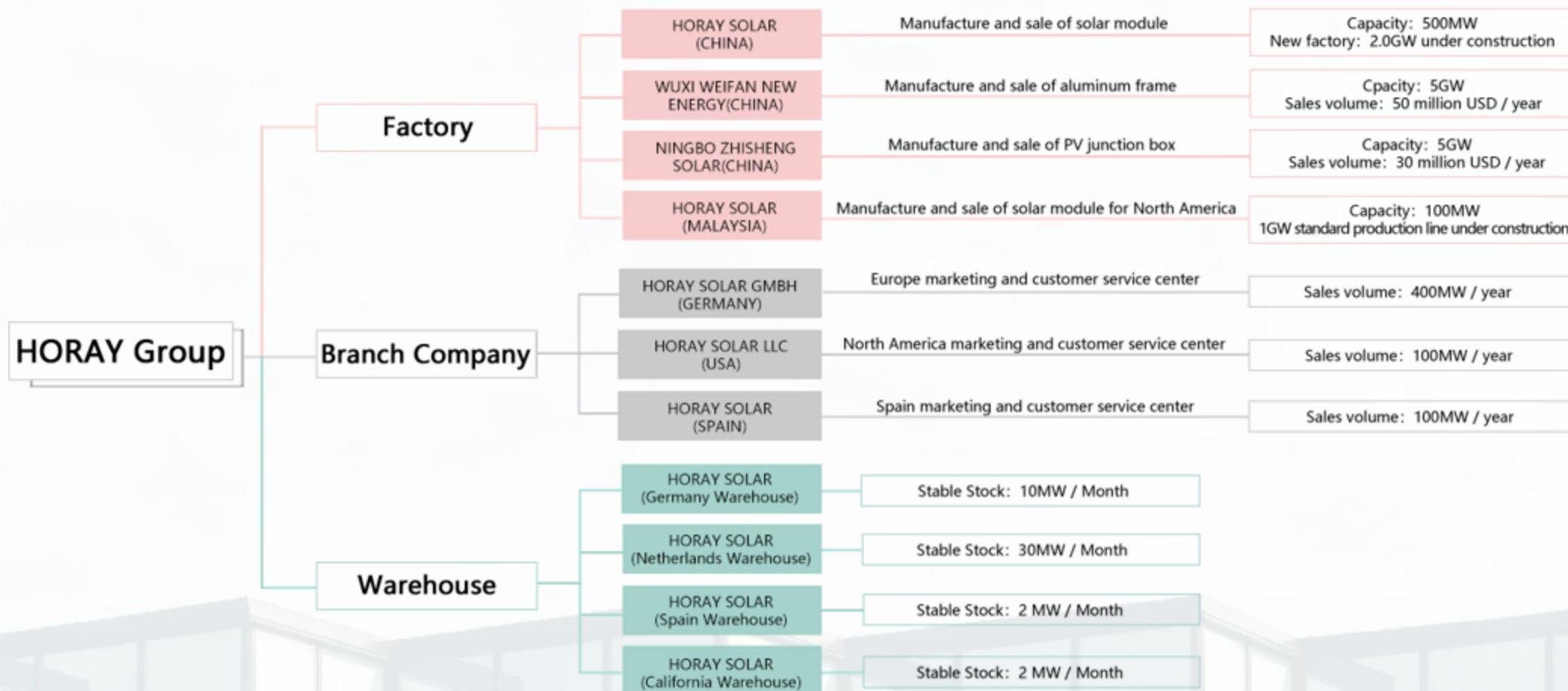
- 4.5MW Project in Czech Republic

**01**

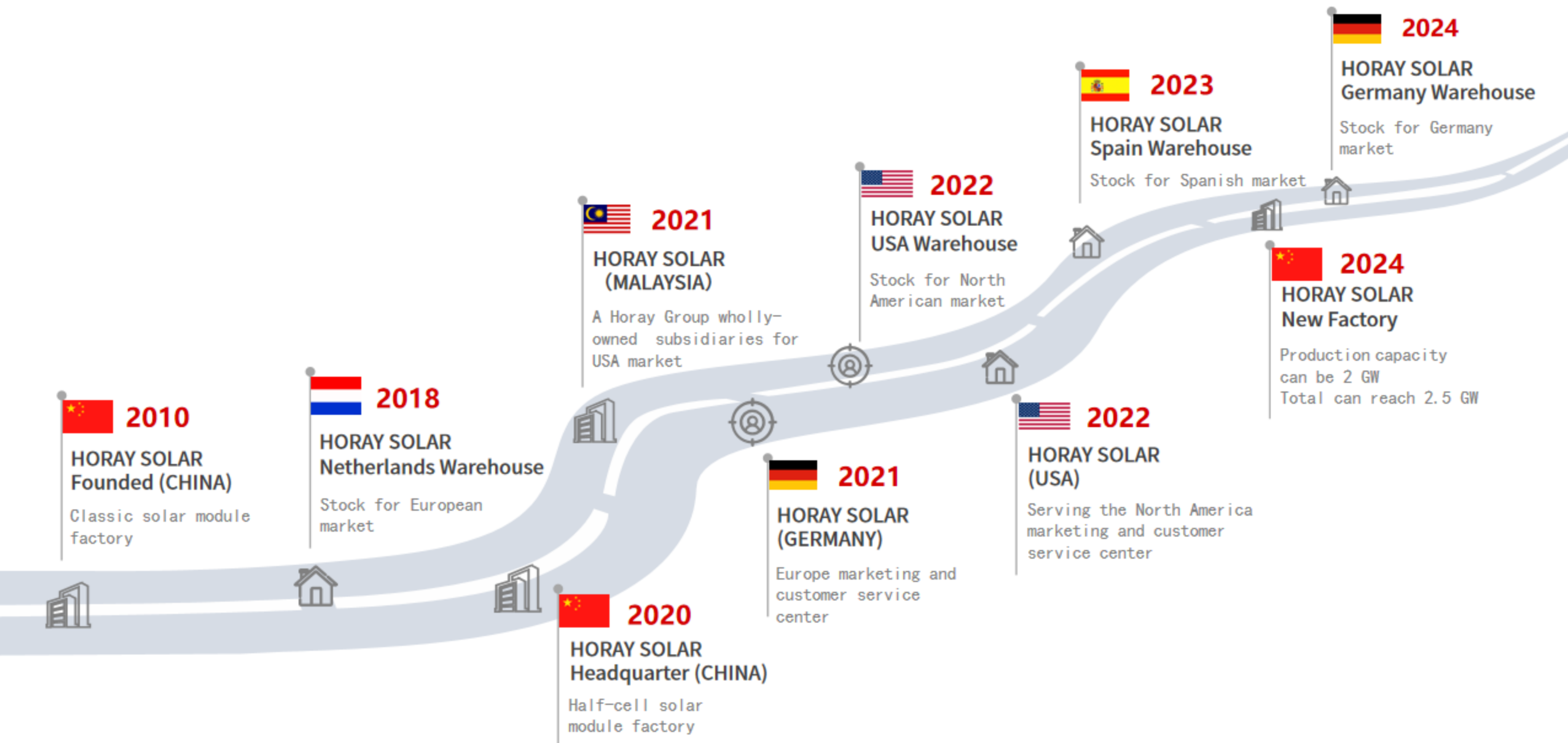
# About Horay

Group Structure | Milestone | Group Overview | Corporate Culture











Horay Solar is an integrated photovoltaic company focusing on the R&D, production and sales of solar modules and solar power system. Our products include standard solar module and customized solar module.

Horay Solar has always been committed to the development of globalization with an eye to the global industrial layout.

With strong technical support, scientific production management and strict quality control, all the products have reached the industry-leading level and have been approved by the international authorized certification.

## Horay Group

**15 Years**

In Solar Industry

**12 Bases**

Throughout The World

**3**

PV Module  
Production Lines

**2.5 GW**

Capacity

**2**

Raw Material Factories

**50+**

ODM Partners

Embrace the Sun Step into a Bright Future with Horay Solar





### · HORAY SOLAR (New Factory) ·

The new plant under Horay is already under construction and will be completed officially put into production by the year of 2024.

Newer equipment, greater production capacity, more complete staffing, and better factory environment.



### · HORAY SOLAR (CHINA) ·

Horay Solar is an integrated photovoltaic company focusing on the R&D, production and sales of solar modules and solar power system.

Horay Solar has always been committed to the development of globalization with an eye to the global industrial layout.



### · HORAY SOLAR (MALAYSIA) ·

A Horay Group wholly-owned subsidiary, especially for North American market.

A global leader in sustainable innovation, specializing in reliable low to medium-wattage modules, customized solutions, and OEM services.





### • HORAY SOLAR (GERMANY) •

The Europe marketing and customer service center in Germany.

Manages local warehouse and spot logistics in Rotterdam, offering global services like pre-sales consulting, after-sales support, and EPC installation services.



### • HORAY SOLAR LLC (USA) •

The North America marketing and customer service center in the USA.

To provide services for our customers all over the world, including pre-sales product consulting and after-sales service, EPC installation service and consulting, etc.



### • HORAY SOLAR (SPAIN) •

The Spain marketing and customer service center in Spain.

Offers comprehensive services throughout the Spanish market, encompassing pre-sales product consultation, after-sales support, EPC installation, and consulting.

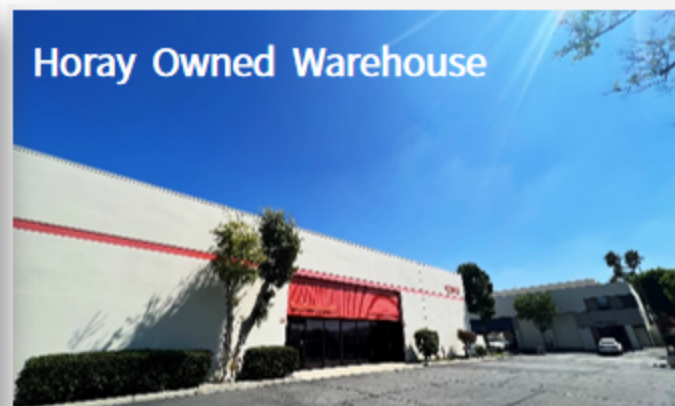


• **NETHERLANDS  
WAREHOUSE** •

Add: Vlakbodem 3  
Dirksland, Rotterdam,  
Netherlands



**Horay Owned Warehouse**



• **USA WAREHOUSE** •

Add: 12345 Mills Ave,  
Chino, CA, USA

• **SPAIN WAREHOUSE** •

Add: C/ Doctor Lluch No  
26, 2A Planta, Puerta 5,  
Valencia, Spain



**Horay Owned Warehouse**



• **GERMANY WAREHOUSE** •

Add: Horay Warehouse, Robert-  
Bosch-Str. 29, Langen, Germany





## Malaysia

HORAY SOLAR SDN. BHD (YADA NEW ENERGY SDN. BHD.)  
Add: 75 Jalan I-Park SAC 6, Taman Perindustrian I-Park SAC, Senai Johor, Malaysia  
Tel: +60 18 783 1738 E-mail: sales@horaysolar.com sales@yada.com.my



## Germany

HORAY SOLAR GMBH  
Add: Robert-Bosch-Str. 29, Langen, Frankfurt am Main, Germany



## USA

HORAY SOLAR LLC  
Add: 350 Pauma Place, Escondido CA, USA



## Netherlands

HORAY SOLAR (Netherlands Warehouse)  
Add: Vlakkbodem 3 Dirksland, Rotterdam, Netherlands



## Spain

HORAY SOLAR (Spain Warehouse)  
Add: C/ Doctor Lluch No 26, 2A Planta, Puerta 5, Valencia, Spain



## USA

HORAY SOLAR (America Warehouse)  
Add: 12345 Mills Ave, Chino, CA, USA



## Spain

HORAY SOLAR (Spain Marketing Center)  
Add: Calendula 93 Edificio J, Semsótano Soto de la Moraleja 28109 Madrid



## Solar Module Factory

HORAY SOLAR CO.LTD  
Add: No.30-5 East Yanxin Road, Huishan District  
Wuxi, Jiangsu, China  
Tel: +86 510-8358 0688  
E-mail: sales@horaysolar.com



## Solar Module Factory

HORAY SOLAR (China)  
Add: Jinchang Road, Yanqiao Streets, Huishan District,  
Wuxi, Jiangsu, China  
E-mail: sales@horaysolar.com



## Aluminum Alloy Frame Factory

Wuxi Weifan New Energy Technology Co., LTD  
Add: No.38 Liming Road, Changan Streets, Huishan District  
Wuxi, Jiangsu, China  
E-mail: sales@horaysolar.com



## PV Junction Box Factory

Ningbo Zhisheng Solar Technology Co., LTD  
Add: No.698 Yu'an Road, Zhouxiang Town, Cixi City,  
Ningbo, Zhejiang, China  
E-mail: sales@horaysolar.com





### Europe

- Spain
- Romania
- Italy
- Slovakia
- Netherland
- Macedonia
- Bulgaria
- Austria
- Germany
- Czech Republic
- Poland
- Greece
- Belgium
- Hungary
- Croatia
- Sweden

### Oceania

- Australia
- New Zealand

### Asia

- China
- Burma
- Japan
- Laos
- Indonesia
- The United Arab Emirates
- Saudi Arabia
- Lebanon

### Africa

- Mali
- Gabon
- Gambia

### America

- USA
- Paraguay
- Canada
- Brazil
- Mexico
- Dominica
- Honduras
- Chile



## Six Advantages

### • Production Advantage •

- Awards: "Provincial-level Intelligent Workshop"
- Expertise: Over 15 years production experience.
- Efficient: Smart workshop ensures productivity.

### • Product Advantage •

- Quality: Top5 global materials.
- Flexibility: Customizable to diverse needs.
- Cost-effective: Competitive price, valuable.

### • Global Presence •

- Locations: 5 factories, 5 marketing centers, 6 warehouses worldwide.
- Efficient Logistics: Prompt DDP delivery.

### • Talent Advantage •

- Professional Team: Highly skilled, enough industry-experience.
- Innovation: Industry-leading products.
- Service: Exclusive customized service.

### • Project Experience •

- Portfolio: Nearly 1,000 global projects.
- Support: Installation, commissioning, and maintenance services.

### • Value-added Services •

- Assurance: 12/15/30-year product warranty and 25/30-year power warranty.
- Support: Timely, after-sales services.
- Risk Management: MES and Lloyd's Assurance.





2023 Jiangsu Province Intelligent Manufacturing Demonstration Workshop



2023 High-Tech Enterprise Certification



Internationally Recognized Brands to be Cultivated and Developed in Jiangsu Province, 2023-2025



## 2023 Jiangsu Province Intelligent Manufacturing Demonstration Workshop





## 2023 High-Tech Enterprise Certification



## Internationally Recognized Brands to be Cultivated and Developed in Jiangsu Province, 2023-2025





H

**Hopeful**

Horay Solar has been devoted to the global expansion, has a promising future with strong technical support, scientific production management and strict quality control.

O

**Outstanding**

Our products have outstanding advantages, including higher output power and harsh environmental adaptability, etc.

R

**Responsible**

Undertaking great social responsibility, HoRay Solar determined to become a leading photovoltaic company in pursuit of good quality.

A

**Aspiring**

Our colleagues have the greater ambition to produce cleaner and much more efficient solar panel.

Y

**Youthful**

Everyone of our team is full of youth and vigour.





HORAY

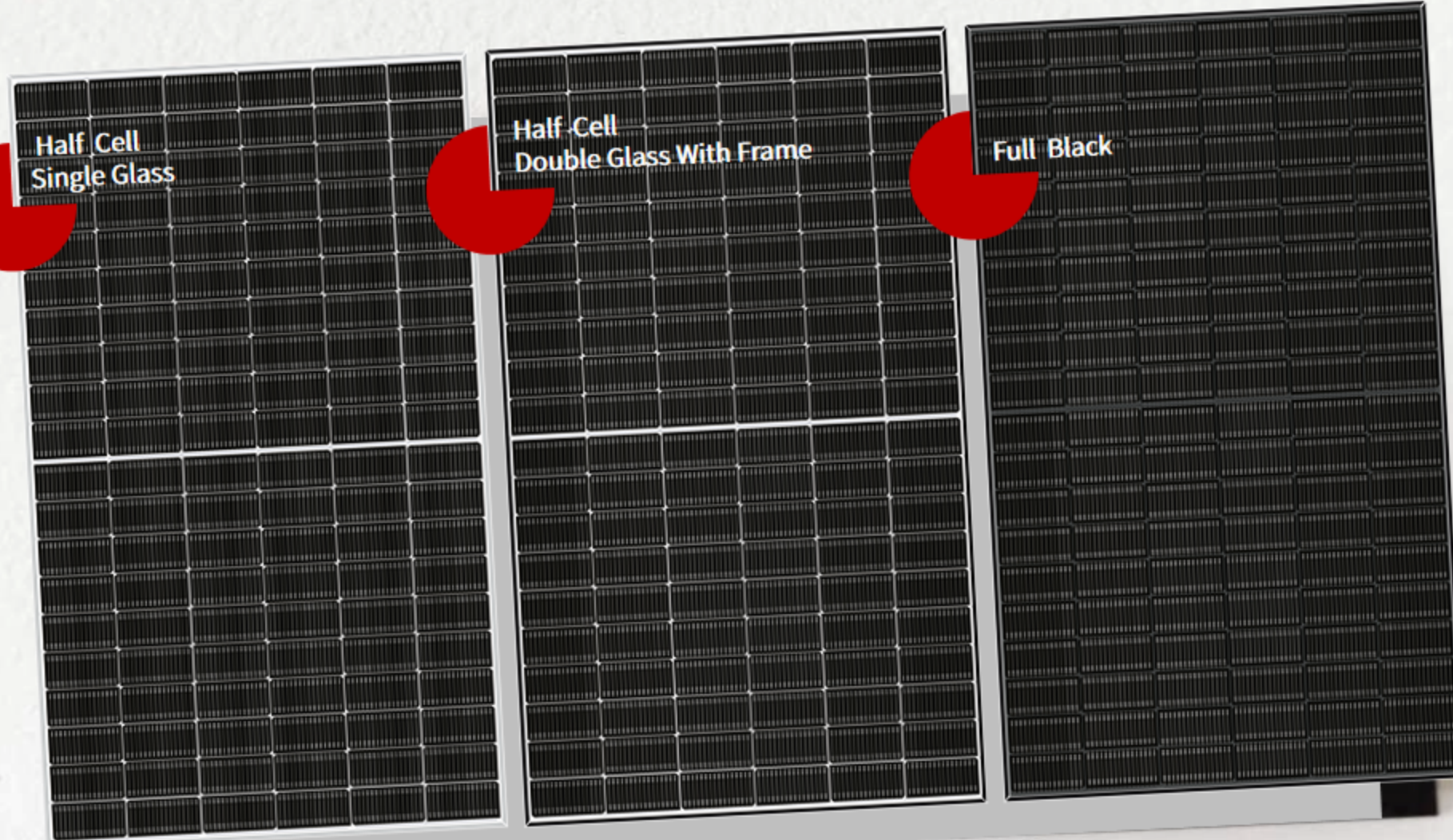
● 120.24KW Project in Tematínska, Slovakia

02

# Products Introduction

Solar Ocean( N-Type/ Perc) | Solar Galaxy ( N-Type/ Perc) Solar Creek series





Half Cell  
Single Glass

Half Cell  
Double Glass With Frame

Full Black



MBB/SMBB

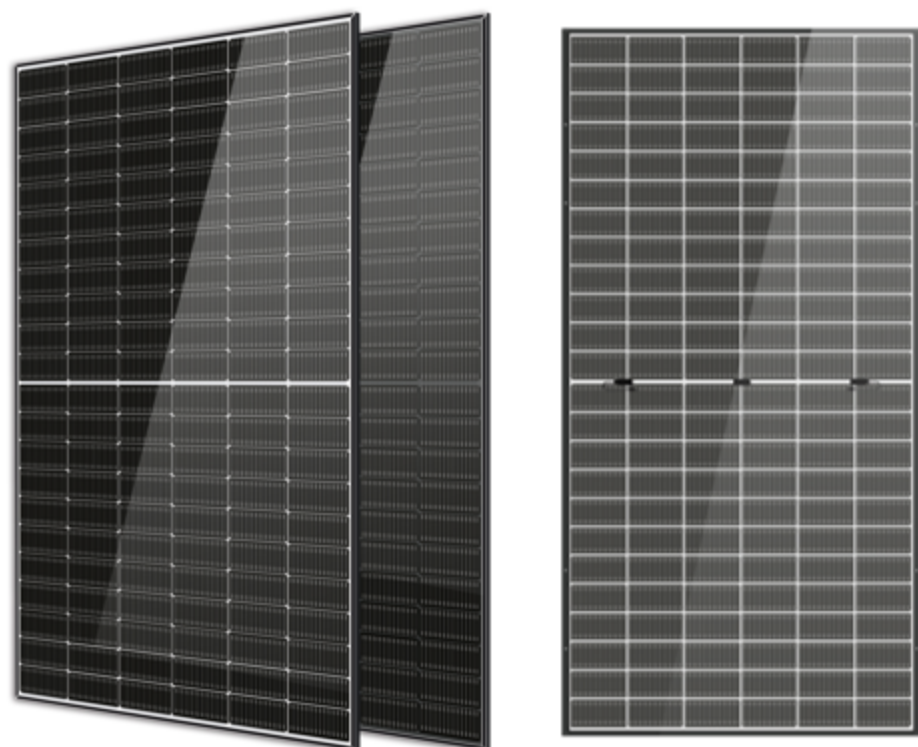


HIGHER  
OUTPUT POWR



HIGHER  
EFFICIENCY

Single Glass | Double Glass With Frame | Full Black



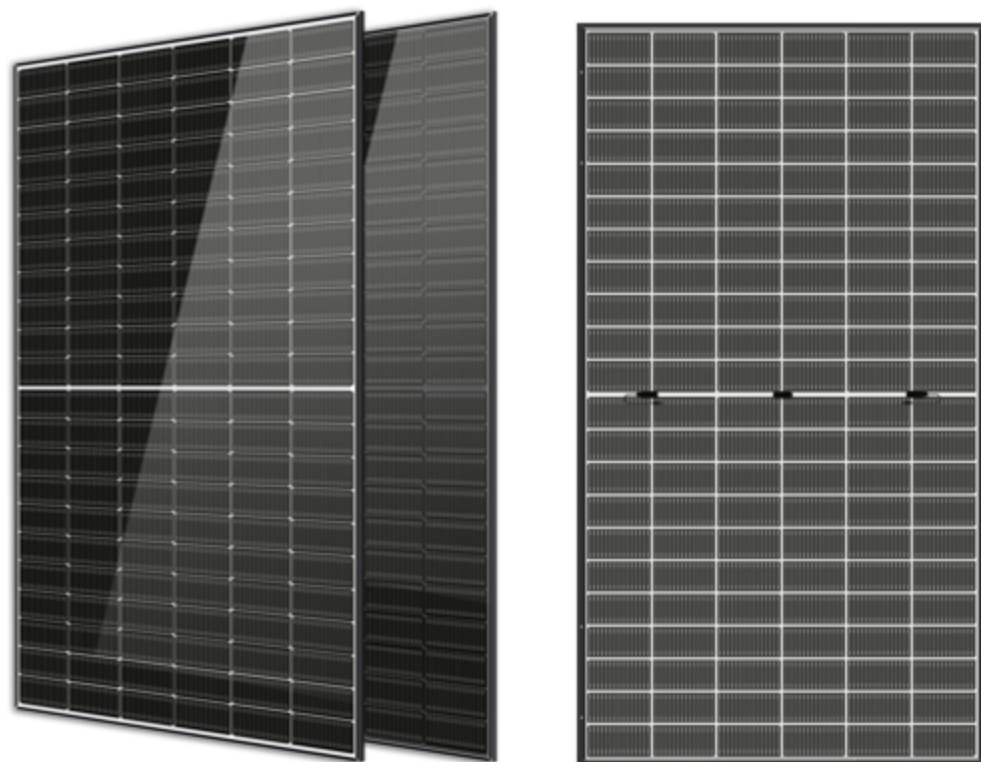
HALF CELLS - 182mm

## SOLAR OCEAN PERC **MBB** SOLAR MODULES

**MONO FACIAL MODULES | MONO BIFACIAL MODULES**

- ✓ POWER: 405W-420W  
Cell Amount: 108 half-cells
- ✓ POWER: 450W-470W  
Cell Amount: 120 half-cells
- ✓ POWER: 495W-515W  
Cell Amount: 132 half-cells
- ✓ POWER: 535W-560W  
Cell Amount: 144 half-cells





HALF CELLS - 182mm

## SOLAR OCEAN N-Type SMBB SOLAR MODULES

MONO-FACIAL MODULES | BIFACIAL MODULES



POWER: 420W-440W  
Cell Amount: 108 half-cells



POWER: 470W-490W  
Cell Amount: 120 half-cells



POWER: 520W-540W  
Cell Amount: 132 half-cells



POWER: 570W-590W  
Cell Amount: 144 half-cells

- SMBB Cell
- ✓ MBB Cell
- LID Free
- Optimized Temperature Coefficient
- Outstanding Low Light Performance
- Higher Bifacial Gain
- Higher Efficiency & Output Power
- Ultra-high Power Generation
- ✓ Lower Attenuation Rate
- ✓ Harsh Environmental Adaptability
- ✓ Excellent Load Capacity
- Longer Warranty
- ✓ PID Protection

**Perc**

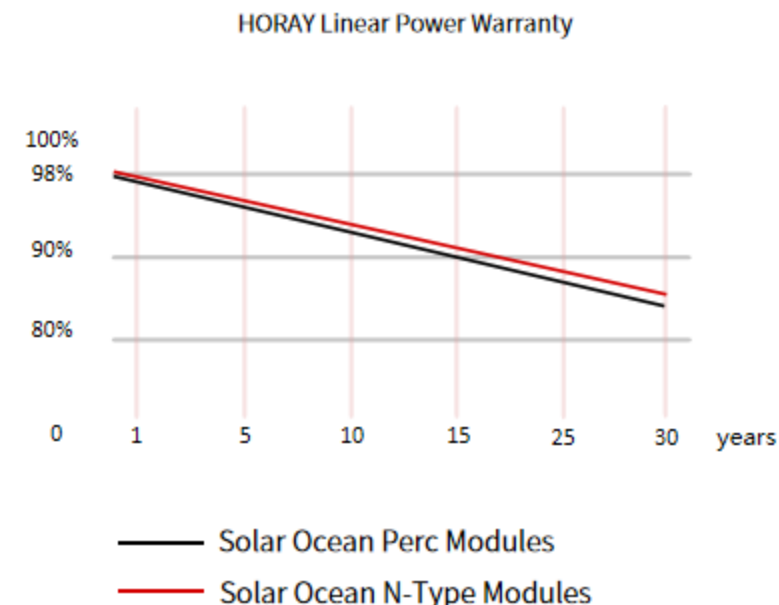
- ✓ SMBB Cell
- MBB Cell
- ✓ LID Free
- ✓ Optimized Temperature Coefficient
- ✓ Outstanding Low Light Performance
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- ✓ Longer Warranty
- ✓ PID Protection

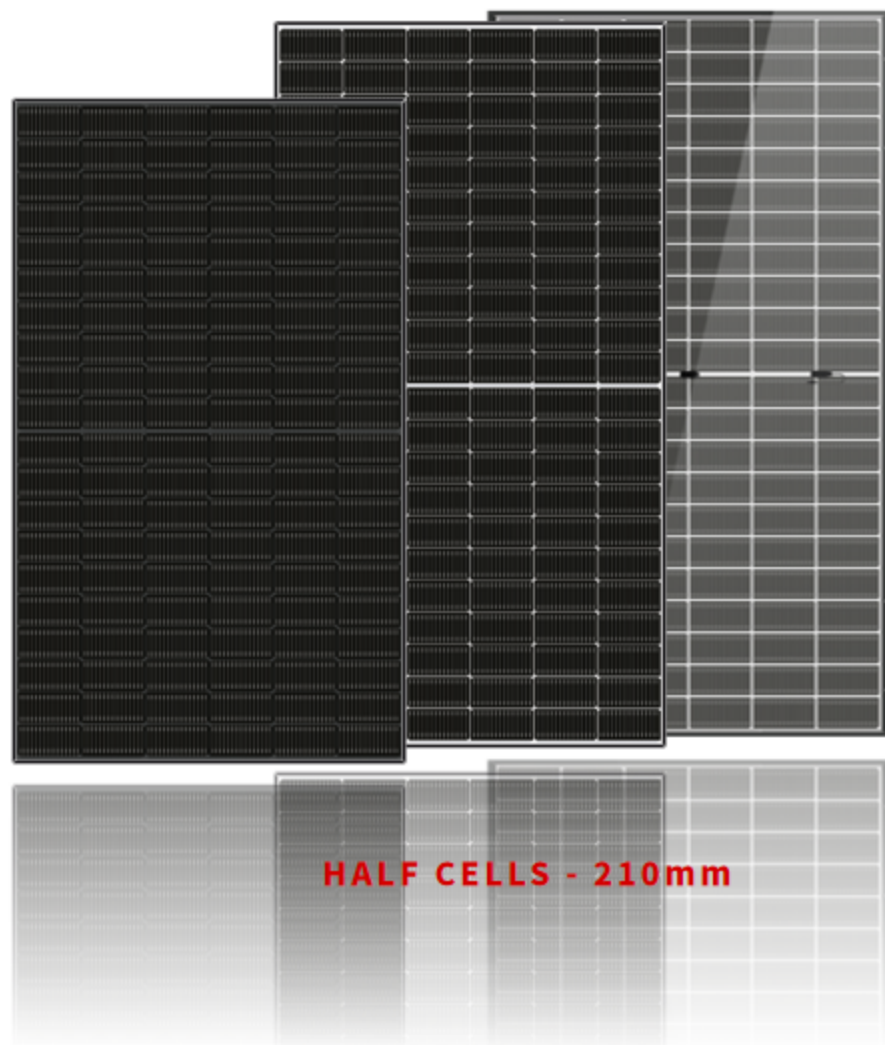
**N-Type**



- Compatible with existing packaging, container space, and logistics methods
- Ensures system safety and reliability while aligning with mainstream solar system designs.
- Higher performance under low light environment.
- Strict salt spray and ammonia corrosion test by the third party.
- Modules designed with arm span, easy installation, and reduced risk of damage.
- Offers high power per unit area, lower BOS cost, and compatibility with mainstream mounting systems (1p and 2p).
- Ensure the attenuation probability caused by PID phenomenon is minimized.
- Mechanical load tests including wind load 2400Pa and snow load 5400Pa done by TUV.

### Solar Ocean Series Modules



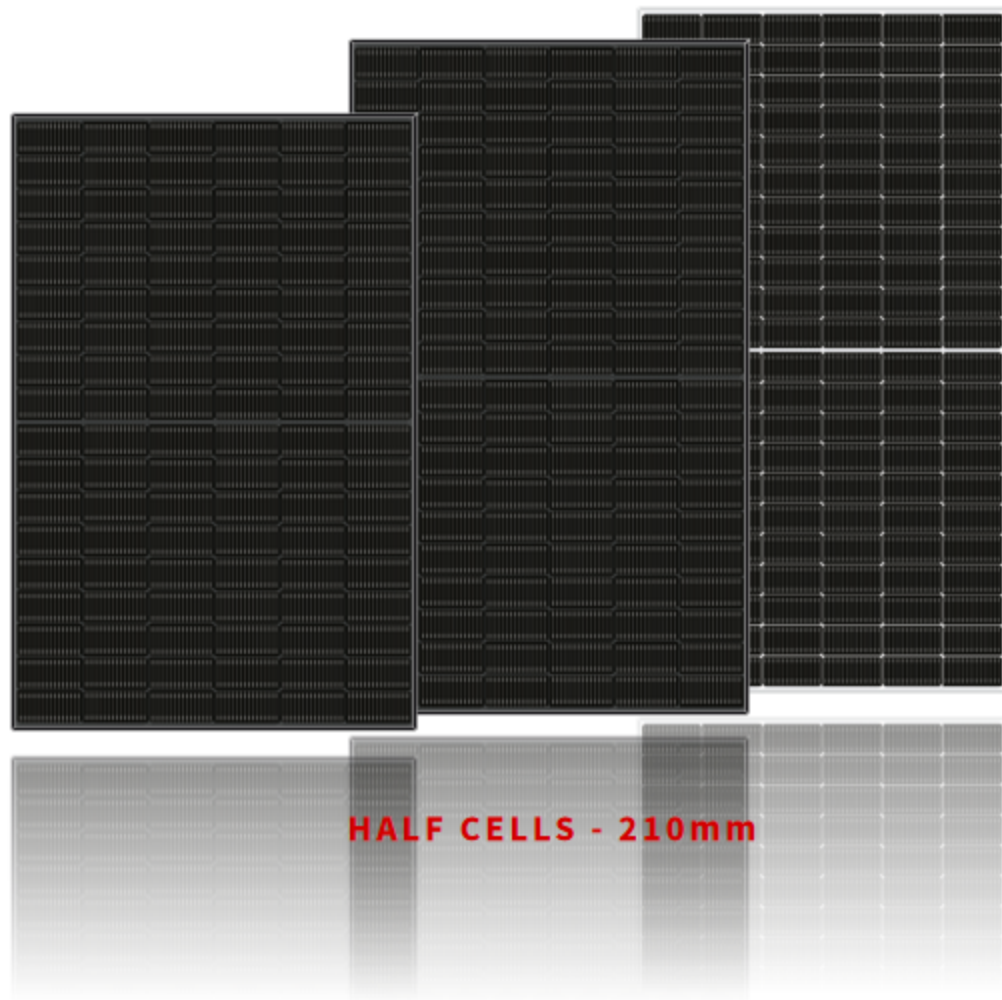


## SOLAR GALAXY PERC **MBB** SOLAR MODULES

**MONO FACIAL MODULES | MONO BIFACIAL MODULES**

- ✓ POWER:485W-500W  
Cell Amount: 100 half-cells
- ✓ POWER:535W-550W  
Cell Amount: 110 half-cells
- ✓ POWER:585W-600W  
Cell Amount: 120 half-cells
- ✓ POWER:640W-665W  
Cell Amount: 132 half-cells

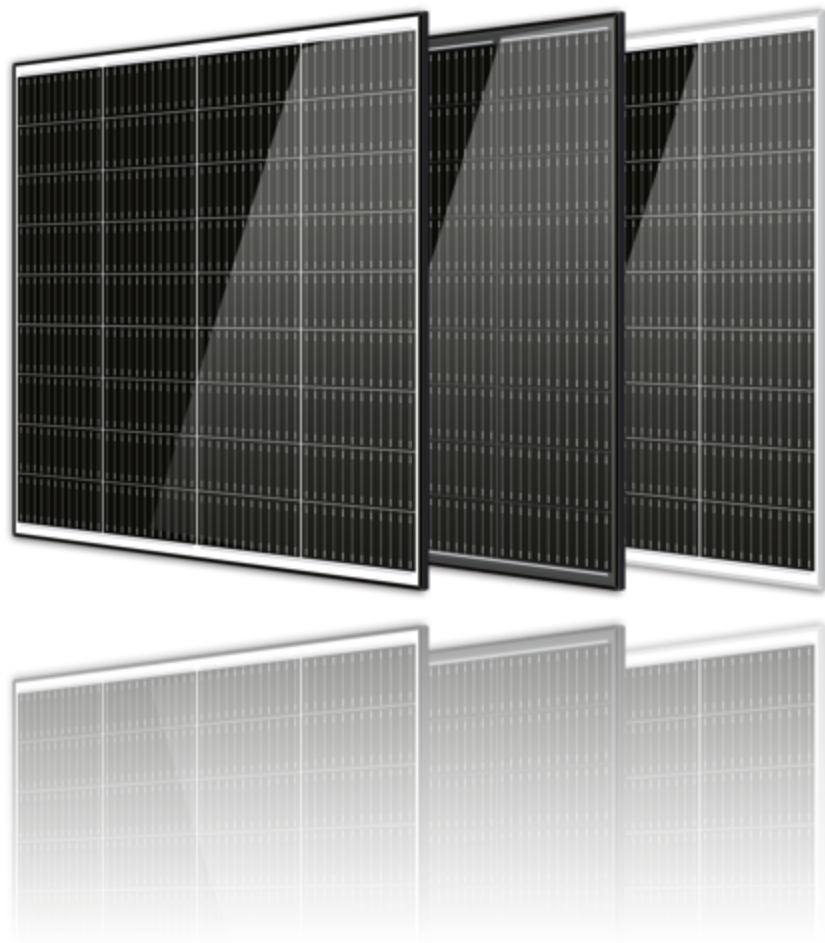




## SOLAR GALAXY N-Type SMBB SOLAR MODULES

MONO FACIAL MODULES | MONO BIFACIAL MODULES

- ✓ POWER:510W-535W  
Cell Amount: 100 half-cells
- ✓ POWER:560W-585W  
Cell Amount: 110 half-cells
- ✓ POWER:610W-635W  
Cell Amount: 120 half-cells
- ✓ POWER:685W-710W  
Cell Amount: 132 half-cells



## Solar Creek Customized Solar Modules

- ✓ POWER:10W-380W
- ✓ CUSTOMIZED SIZE





### · Outdoor Solar ·

Portable, lightweight, high efficiency.

- Max. STC Power **180W**
- System Voltage **1500V**
- Size **1020mm\*875mm\*35mm**



### · Solar Street Light ·

Tailored for diverse street light systems.

- Max. STC Power **110W**
- System Voltage **1500V**
- Size **820mm\*700mm\*30mm**



### · Photovoltaic RV Car ·

Lightweight solar panel perfect for RVs.

- Max STC Power **130WP**
- Max System Voltage **1500V**
- Size **890mm\*765mm\*30mm**

03

# Technology

Specification | Certificate | PERC | N-Type





### Maximum Rating

Power selection 0~+5W

Measuring uncertainty of Pm 0~±3%

Operating Temperature -40°C~+85°C



### Low Light

High Performance in Low-light environment



### Warranty

25/30 Years Power Output Warranty

10 Years 90%, 25 Years 80%

15 Years Product Warranty on Materials



### Qualified Materials

MBB/SMBB Cell

Higher Output Power

Harsh Environmental Adaptability

PID Protection



### Enhanced External Load

Wind Load 2400Pa

Snow Load 5400Pa



### Certification

IEC61215: 2021 IEC61730: 2016

TUV Rheinland Standard, IEC, CE,

ETL, UL, MCS, CB, JP-AC, INMETRO

ISO9001, ISO14001, CQC, CSI, etc

# Certificates

## For Products

Tested by the Third-party, Horay Solar 's modules obtained international certifications. Incl. TUV , IEC, CE, MCS, CSI, INMETRO, CB,ETL, BSCI, JP-AC, CQC etc.

For full details, please contact us.



TUV



IEC



CE



INMETRO



CQC



MCS



CSI



CB



ETL



JPAC



# Certificates

## For Factory

Tested by the Third-party, Horay Solar factory obtained international certifications. Incl. BSCI, ISO9001, ISO14001, ISO45001 etc.

For full details, please contact us.



BSCI



ISO 9001



ISO 14001



ISO 45001

# Certificates

## Additional Services

Horay offers solar performance insurance lasting up to 30 years, along with module recovery and recycling services.

For full details, please contact us.





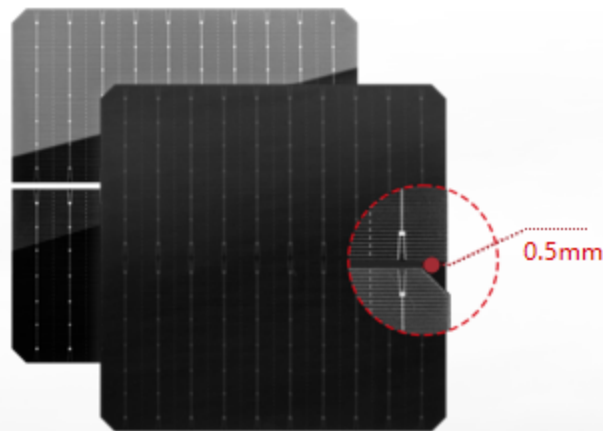
## PERC Technology 182mm & 210mm High Efficiency Cell

### High Efficiency

- ✓ Enlarged cell area

### MULTI-BUSBAR

- ✓ Reduced micro-cracking risk
- ✓ Increased active working area



### HALF-CUT TECHNOLOGY

- ✓ High-precision laser cutting
- ✓ Lower internal power loss

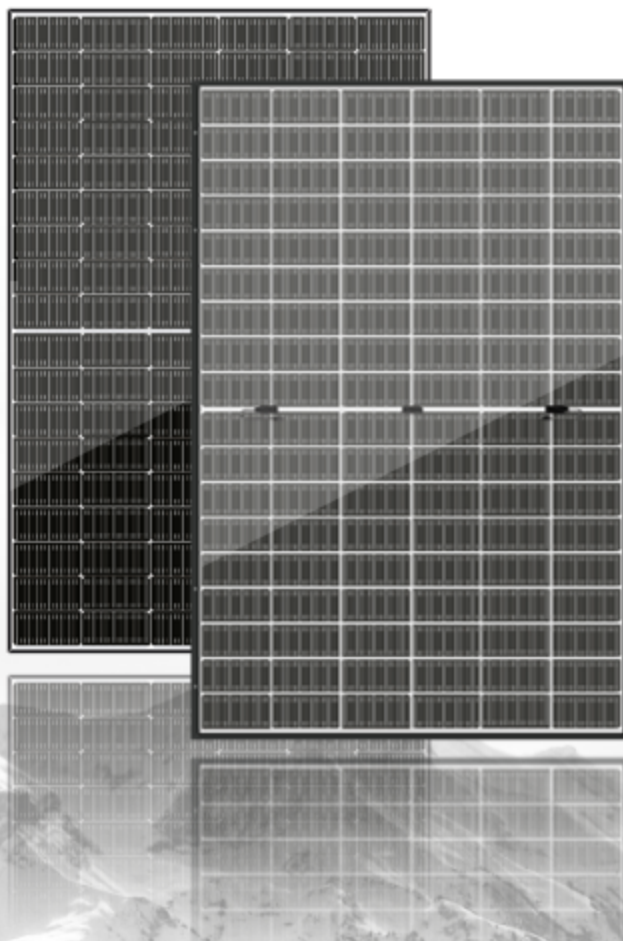
### MINIMIZED CELL GAP

- ✓ High-density encapsulation

## Innovative N-Type Technology

### Innovative Cell Technology

- ✓ Selective passivation contact
- ✓ Slim multi-busbar
  
- ✓ Larger active working area
- ✓ Higher power output
- ✓ Lower attenuation rate



### Extra Power Gain From Bifacial Applications

- ✓ A significant power increase from the backside
  
- ✓ High intensity encapsulation
- ✓ Superior load capacity

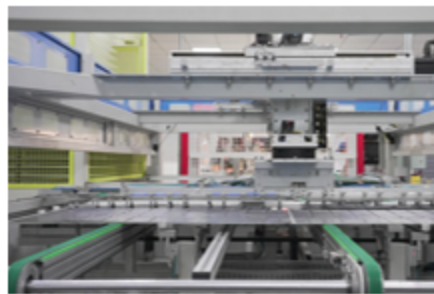




- Manufacturing Statistics
- Product Line Management
- Quality Control
- Fault Management
- Material Management
- Planning and Scheduling
- BOM Management



CELL SOLDERING



TYPE SETTING



MARERIAL FEEDING



AUTO BUSSING



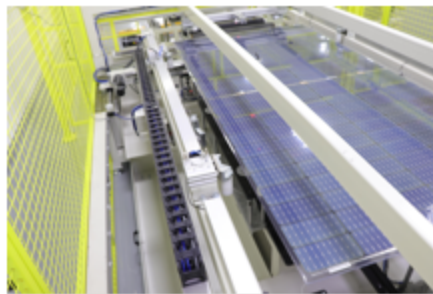
TAPING



EL TEST



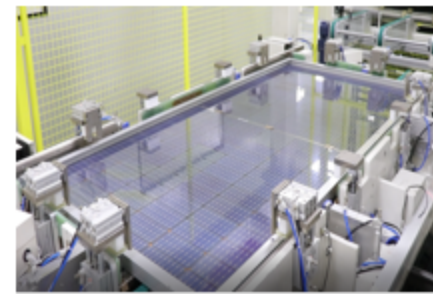
LAMINATION



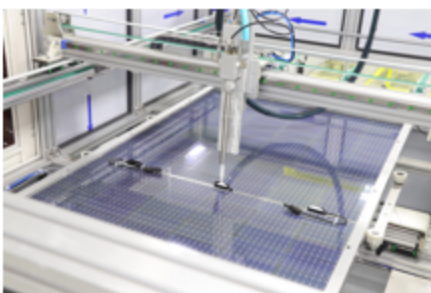
PARING OFF



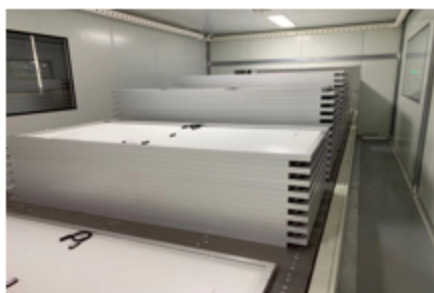
VISUAL INSPECTION



FRAME UP



POTTING



SOLIDIFICATION



IV TEST



EL TEST



FINAL INSPECTION



6.6MW Project in Czech Republic

# 04 | Global PV Station

PV Power Plants | Commercial & Industrial | Residential



**HORAY**

**Czech Republic | 6.6MW**



Czech Republic



Horay brand Solar Ocean 550W  
Mono Facial Modules





**HORAY**

## Czech Republic | 5.5MW



Bruntal, Czech Republic



Horay brand Solar Ocean 460W  
Mono Facial Modules



**HORAY**

**Czech Republic | 4.5MW**



Most, Czech Republic



Horay brand N-Type 570W  
Bifacial Modules



**HORAY**

HORAY

**Germany | 3MW**



Warlin, Germany



Horay brand Solar Ocean  
415W Mono Facial Modules



**HORAY**

**HORAY**

**Italy | 2MW**



Italy




Horay brand Solar Galaxy 660W Mono Bifacial Modules




**HORAY**



**Malaysia | 1.3MW**

 Senai City, Johor State Capital

 Horay brand Solar Ocean 540W Mono Facial modules





# HORAY

**Germany | 1MW**



Gross Gievitz, Germany



Horay brand Solar Ocean 415W Mono Facial Modules



# HORAY

联系我们 @ 禾润电力HoraySolar



Embrace the Sun Step into a Bright Future with Horay Solar

禾润电力科技(无锡)有限公司



**HORAY**

# THANKS

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