

# HYUNDAI SOLAR MODULE

## UF SERIES

**M3+  
Shingled  
Technology**

HiE-S400UF HiE-S395UF HiE-S390UF  
HiE-S385UF



Shingled  
Technology



For Utility-Scale  
Applications



More Power  
Generation  
In Low Light



**M3+ PERC Shingled**

M3+ PERC Shingled Technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.



**Anti-LID / PID**

Both LID(Light Induced Degradation) and PID(Potential Induced Degradation) are strictly eliminated to ensure higher actual yield during lifetime.



**Mechanical Strength**

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow and strong wind.



**Reliable Warranty**

Global brand with powerful financial strength provide reliable 25-year warranty. (Australia and Europe Only)



**Corrosion Resistant**

Various tests under harsh environmental conditions such as ammonia and salt-mist passed.



**UL / VDE Test Labs**

Hyundai's R&D center is an accredited test laboratory of both UL and VDE.

### Hyundai's Warranty Provisions



- 25-Year Product Warranty
- On materials and workmanship
- Australia and Europe Only**



- 25-Year Performance Warranty
- Initial year: 98.0%
- Linear warranty after second year: with 0.55%p annual degradation, 84.8% is guaranteed up to 25 years

### About Hyundai Energy Solutions

Established in 1972, Hyundai Heavy Industries Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, Hyundai Heavy Industries is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HHI, Hyundai Energy Solutions has strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

### Certification



## Electrical Characteristics

|                                 |      | Mono-Crystalline Module (HIE-S___UF) |       |       |          |
|---------------------------------|------|--------------------------------------|-------|-------|----------|
|                                 |      | 400                                  | 395   | 390   | 385      |
| Maximum Rating Power(Pm)        | W    | 400                                  | 395   | 390   | 385      |
| Open Circuit Voltage(Voc)       | V    | 49.5                                 | 49.4  | 49.3  | 49.3     |
| Short Circuit Current(Isc)      | A    | 10.12                                | 10.07 | 10.03 | 9.98     |
| Maximum Power Voltage(Vmp)      | V    | 41                                   | 40.9  | 40.8  | 40.8     |
| Maximum Power Current(Imp)      | A    | 9.76                                 | 9.66  | 9.56  | 9.44     |
| Module Efficiency               | %    | 21.3                                 | 21.1  | 20.8  | 20.5     |
| Maximum System Voltage          | V    |                                      |       |       | DC 1,500 |
| Temperature Coefficient of Pmax | %/°C |                                      |       |       | -0.340   |
| Temperature Coefficient of Voc  | %/°C |                                      |       |       | -0.270   |
| Temperature Coefficient of Isc  | %/°C |                                      |       |       | +0.040   |

\*All data at STC (Standard Test Conditions). Above data may be changed without prior notice.

## Mechanical Characteristics

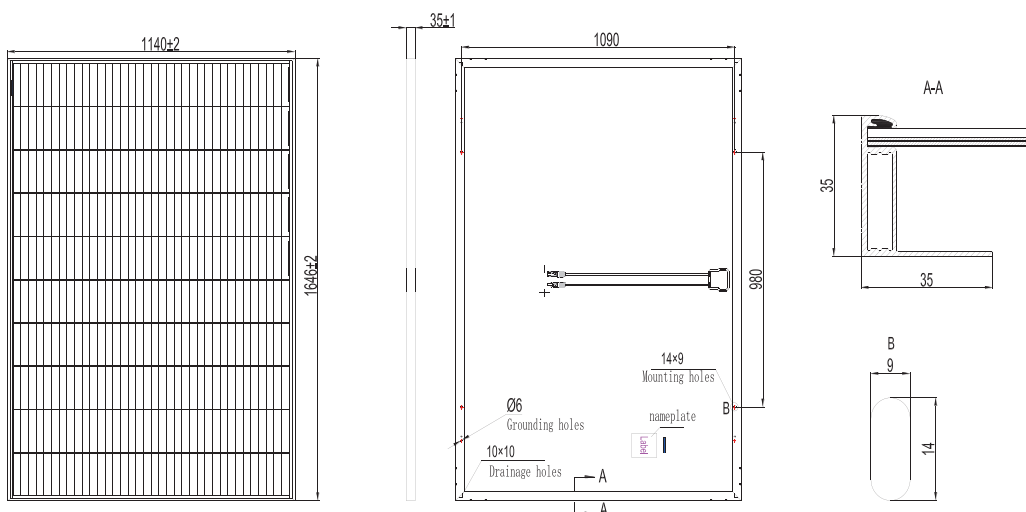
|              |   |               |        |
|--------------|---|---------------|--------|
| Dimensions   | 1646×1140×35 mm (L×W×H)   | Weight        | 20.5kg |
| Back Sheet   | High weatherability backsheet   | Encapsulation | EVA    |
| Cells        | 158.75x158.75 PERC solar cells  |               |        |
| Cable        | Length 1500mm, 1×4mm <sup>2</sup>   |               |        |
| Junction Box | Rated current:15A, IP67, TUV&UL   |               |        |
| Frame        | Anodized aluminum profile   |               |        |
| Front Glass  | White toughened safety glass, 3.2mm   |               |        |
| Connector    | Zhejiang Renhe Photovoltaic Technology Co., Ltd./05-8<br>Staubli Electrical Connectors AG/ PV-KST4-EVO 2/xy_UR(male);<br>PV-KBT4-EVO 2xy_UR(female) |               |        |

## Installation Safety Guide

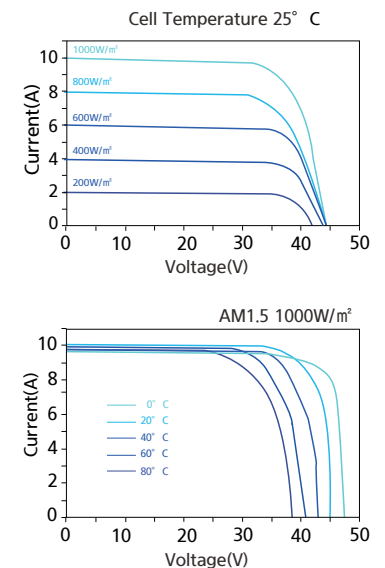
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

|   |                  |
|---|------------------|
| Nominal Module Operating Temperature (NMOT) | 42.3°C ( ±2°C )  |
| Temperature Range                           | -40° C to +85° C |
| Maximum System Voltage                      | 1500V DC(IEC)    |
| Series Fuse Rating                          | 20A              |
| Maximum Surface Load Capacity               | 5400Pa           |

## Module Diagram (unit : mm)



## I-V Curves



Manufactured in China

**HYUNDAI**  
ENERGY SOLUTIONS



Sales & Marketing  
sales@hyundai-es.co.kr

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