



UNI S N-TYPE

UE480M-48H

Shingled Monofacial Ultra Black PV Module



Shingling Technology

Innovative Structure, low-temperature adhesive bonding, high-density layout.



Beautiful Appearance

Uniform layout, better aesthetic.



Superior Safety and Reliability

No hidden welding crack, low operating temperature, high pressure resistance.



Low System Cost

High module efficiency, reducing system cost.



Low Hot Spot Risk

Parallel circuit design reduces shading loss, module lifespan.



Eco-friendly

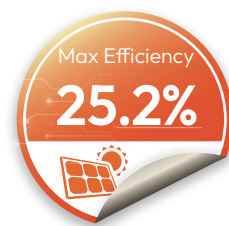
Adhering to green philosophy, no fluorine and low lead.



Low Shading Loss

Full parallel arrangement brings high effective power generation hours.

470-490W



Quality Management System and Product Certification

IEC 61215, IEC 61730, UL 61730

ISO9001: 2015: ISO Quality Management System.

ISO14001: 2015: ISO Environmental Management System.

ISO45001: 2018: Occupation Health and Safety.

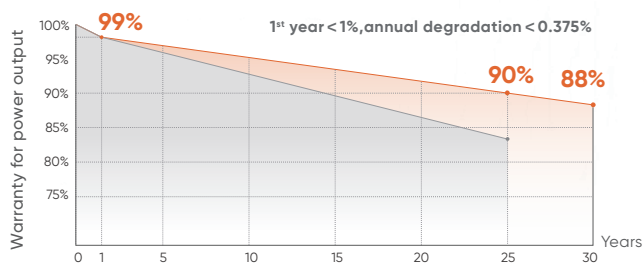
IEC62941: Guideline for module design qualification and type approval.



Quality Guarantee

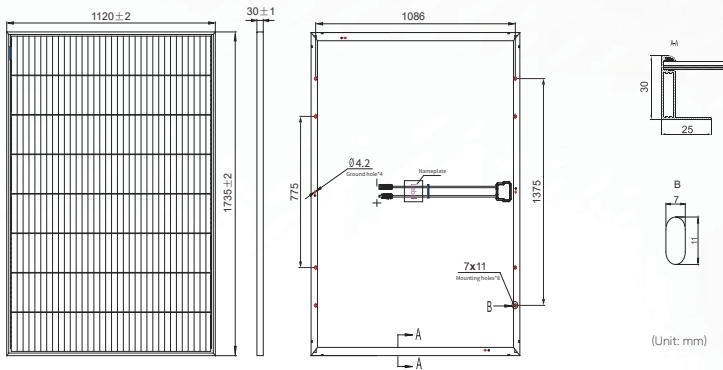
15 Year Materials Warranty

30 Year Power Warranty



Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.375%, and the power is no less than 88% until the 30th year.

Drawings



Product Image



Mechanical Characteristics

| | |
|-------------------|--|
| Solar Cells | Mono-crystalline silicon |
| No. of Cells | 256 (8×32) |
| Dimensions | 1735 × 1120 × 30mm |
| Weight | 21.4kg |
| Glass Thickness | 3.2mm high transmittance tempered glass |
| Frame | Anodized aluminium alloy |
| Junction Box | IP68 |
| Output Cables | 4mm ² , +1200/-1200mm, length can be customized |
| Connectors | MC4 original /MC4 compatible |
| Withstanding Hail | Maximum diameter of 25 mm with impact speed of 23 m/s |
| Packaging | 37pcs/box, 962pcs/40'container |

Operating Characteristics

| | |
|------------------------------------|-----------------------|
| Maximum Surface Load Capacity [Pa] | Front 5400/ Back 2400 |
| Maximum System Voltage | DC 1500V/1000V (IEC) |
| Maximum Series Fuse Rating | 20A |
| Power Tolerance | 0~+5W |

Temperature Characteristics

| | |
|---------------------------------|---------------|
| Operating Module Temperature | -40°C ~ +85°C |
| Temperature Coefficient of Voc | -0.24%/°C |
| Temperature Coefficient of Isc | +0.04%/°C |
| Temperature Coefficient of Pmax | -0.26%/°C |

Electrical Parameters (STC*)

| | | | | | |
|-----------------------------------|-------|-------|-------|-------|-------|
| Module Type: | 470 | 475 | 480 | 485 | 490 |
| Maximum Power (Pmax/W) | 470 | 475 | 480 | 485 | 490 |
| Module Efficiency (%) | 24.2 | 24.4 | 24.7 | 24.9 | 25.2 |
| Optimum Operating Voltage (Vmp/V) | 36.90 | 37.00 | 37.10 | 37.20 | 37.30 |
| Optimum Operating Current (Imp/A) | 12.74 | 12.84 | 12.95 | 13.05 | 13.15 |
| Open Circuit Voltage (Voc/V) | 44.30 | 44.40 | 44.50 | 44.60 | 44.70 |
| Short Circuit Current (Isc/A) | 13.56 | 13.67 | 13.78 | 13.89 | 13.99 |

Electrical Characteristics (NMOT*)

| | | | | | |
|-----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W) | 355 | 359 | 363 | 367 | 371 |
| Optimum Operating Voltage (Vmp/V) | 35.20 | 35.30 | 35.40 | 35.50 | 35.60 |
| Optimum Operating Current (Imp/A) | 10.09 | 10.17 | 10.26 | 10.34 | 10.43 |
| Open Circuit Voltage (Voc/V) | 42.30 | 42.40 | 42.50 | 42.60 | 42.70 |
| Short Circuit Current (Isc/A) | 10.95 | 11.04 | 11.13 | 11.22 | 11.31 |

1. Standard Test Conditions [STC]: Irradiance 1000W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;

2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/m²; wind speed 1m/s, ambient temperature 20°C.

3. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.