

UNIS UNI S-46SCF 470-490W

Shingled Monofacial
Ultra Black PV Module

23.50%

Max. Module Efficiency

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.

Eco-friendly

Adhering to green philosophy, no fluorine and low lead.

Low Shading Loss

Full parallel arrangement brings high effective power generation hours.

Quality Management System and Product Certification

IEC61215/61730, IEC62804(PID), IEC61701(Salt).

IEC62716 (Ammonia), IEC60068-2-68(Sand).

ISO 9001:2015/quality management system.

ISO 14001:2015/environmental management system.

ISO 45001:2018/occupation health safety management system.

ISO 50001:2011/energy management system.

IEC TS 62941-2016/PV industry quality management system.

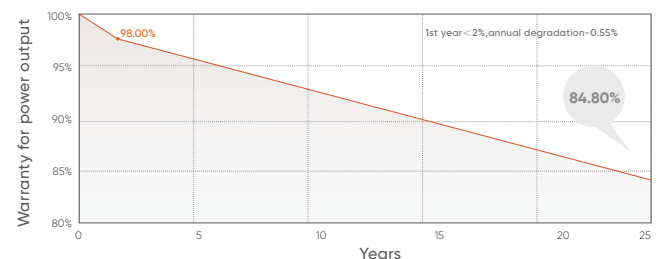
Quality Guarantee

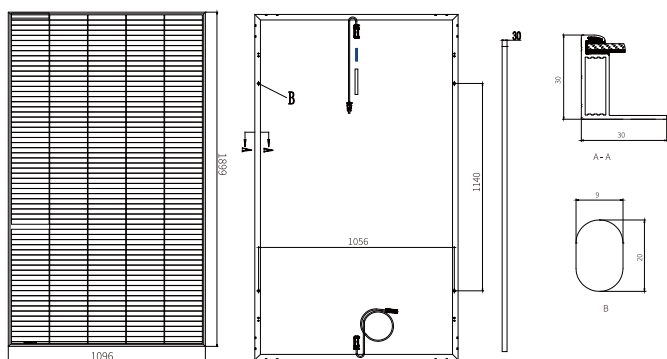
15 year

Materials Warranty

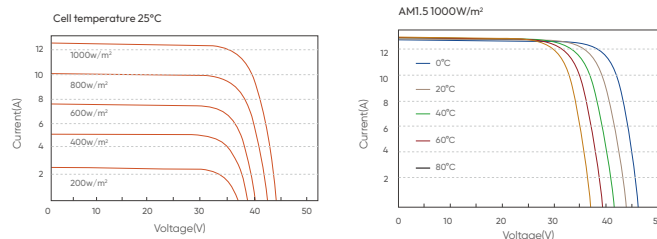
25 year

Power Warranty





I-V CURVE



Mechanical Parameters

Dimensions	1899 × 1096 × 30mm
Weight	21.8kg
Front glass	tempered glass, 3.2mm
Frame	Anodized aluminum profile
Cells	Mono-crystalline solar cell
Cell Orientation	320 (64 × 5)
Junction Box	IP68, two diodes
Cable	4mm ² +300mm/-1000mm(Vertical), +220mm/-180mm(Horizontal)
Packaging	36pcs/box; 864pcs/40'container; 1296pcs/flat car

Temperature Parameters

NMOT (Nominal Module Operating Temperature)	42.3°C(±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	+0.04%/°C
Temperature Coefficient of Pmax	-0.34%/°C

Maximum Ratings

Maximum System Voltage [V]	DC1500 (IEC)
Series Fuse Rating [A]	25
Maximum Surface Load Capacity [Pa]	Front 5400/ Back 2400
Temperature Range [°C]	-40 ~ +85
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s

Electrical Characteristics (STC*)

Module Type: UNI S-46SCF	470	475	480	485	490
Maximum Power: Pmax [W]	470	475	480	485	490
Open Circuit Voltage: Voc [V]	44.3	44.4	44.5	44.6	44.7
Short Circuit Current: Isc [A]	13.56	13.67	13.78	13.89	13.99
Voltage at Maximum Power: Vmp [V]	36.9	37.00	37.1	37.2	37.3
Current at Maximum Power: Imp [A]	12.74	12.84	12.95	13.05	13.15
Module Efficiency: η [%]	22.60	22.80	23.10	23.30	23.50

Electrical Characteristics (NMOT*)

Maximum Power: Pmax [W]	355	359	363	367	371
Open Circuit Voltage: Voc [V]	42.3	42.4	42.5	42.6	42.7
Short Circuit Current: Isc [A]	10.95	11.04	11.13	11.22	11.31
Voltage at Maximum Power: Vmp [V]	35.2	35.3	35.4	35.5	35.6
Current at Maximum Power: Imp [A]	10.09	10.17	10.26	10.34	10.43

- Standard Test Conditions [STC]: irradiance 1000W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
- Nominal Module Operating Temperature (NMOT): Irradiance 800W/m²; wind speed 1m/s, ambient temperature 20°C.
- Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.