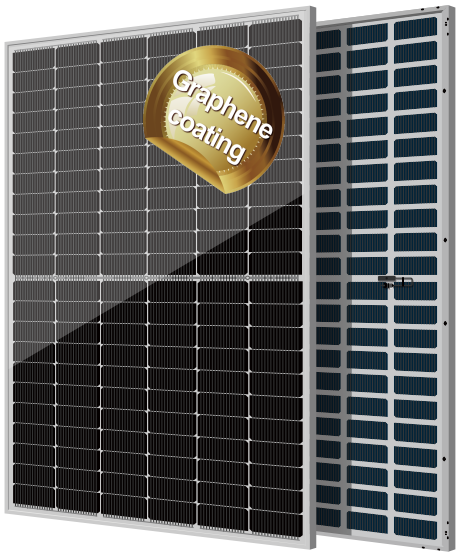
ZNSHINESOLAR



ZXMR-UHLDD132 Series

SMBB HALF-CELL N-Type Bifacial Double Glass Monocrystalline Steel Frame PV Module

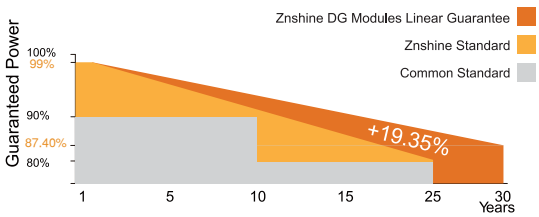
575-600W
POWER RANGE

23.22%
MAXIMUM EFFICIENCY

0.40%
YEARLY DEGRADATION

12 12 YEARS PRODUCT WARRANTY

30 30 YEARS OUTPUT GUARANTEE



*Please check Limited Warranty for Standard PV Modules which is officially released by ZNSHINE PV-TECH Co.,Ltd.

IEC 61215/IEC 61730

ISO 14001: Environmental Managerment System

ISO 9001: Quality Managerment System

ISO45001: Occupational Health and Safety Managerment System

*As there are different certification requirements in different markets.please contact your local znshine sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

KEY FEATURES

Excellent Cells Efficiency
SMBB technology reduce the distance between busbars and finger grid line which is benefit to power increase.

Better Weak Illumination Response
More power output in weak light condition, such as haze, cloudy, and early morning.

Anti PID
Ensured PID resistance through the quality control of cell manufacturing process and raw materials.

Adapt To Harsh Outdoor Environment
Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity environment.

TIER 1
Global,Tier 1 bankable brand,with independently certified advanced automated manufacturing.

Excellent Quality Managerment System
Warranted reliability and stringent quality assurances well beyond certified requirements.

Bifacial Technology
Up to 25% additional power gain from back side depending on albedo.

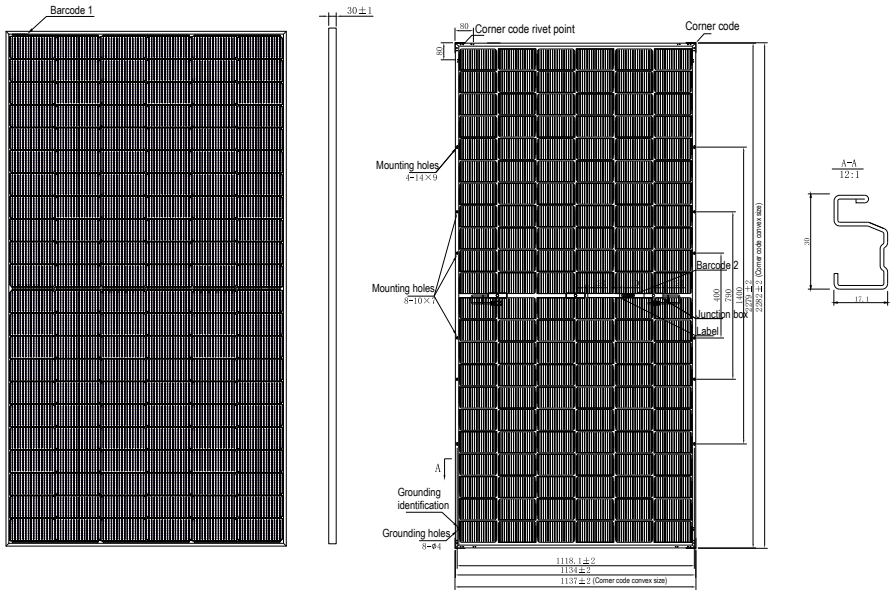
Founded in 2006, ZNShine solar is a world's leading high-tech PV module manufacturer.With the advanced production lines, the company boasts module capacity of 10GW. Bloomberg has listed ZNShine as a global Tier 1 PV module maker. Today Znshine has distributed its sales to more than 60 countries around the globe.

ZXMR-UHLDD132 Series

SMBB HALF-CELL N-Type Bifacial Double Glass Monocrystalline Steel Frame PV Module

ZNSHINESOLAR

DIMENSIONS OF PV MODULE(mm)

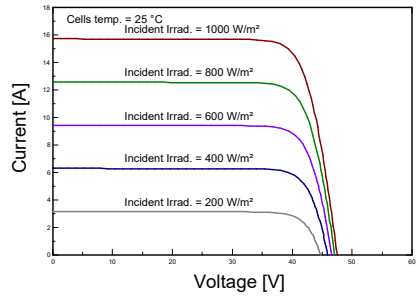


Front View

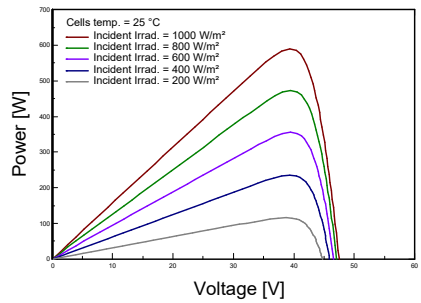
Back View

*Remark: customized frame color and cable length available upon request

I-V CURVES OF PV MODULE(590W)



P-V CURVES OF PV MODULE(590W)



ELECTRICAL CHARACTERISTICS | STC*

Nominal Power Watt Pmax(W)*	575	580	585	590	595	600
Maximum Power Voltage Vmp(V)	39.00	39.20	39.40	39.60	39.80	40.00
Maximum Power Current Imp(A)	14.75	14.80	14.85	14.90	14.95	15.00
Open Circuit Voltage Voc(V)	46.90	47.10	47.30	47.50	47.70	47.90
Short Circuit Current Isc(A)	15.58	15.63	15.68	15.73	15.78	15.83
Module Efficiency (%)	22.25	22.44	22.64	22.83	23.02	23.22

*The data above is for reference only and the actual data is in accordance with the pratical testing
*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2℃, AM 1.5
*Measuring uncertainty: ±3%, all the electrical characteristics such as Power, Im, Vm and FF are within ±3% tolerance.

MECHANICAL DATA

Solar cells	N-type Monocrystalline, Rectangular cells
Cells orientation	132 (6×22)
Module dimension	2279×1134×30 mm (With Frame)
Weight	33.0±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Junction box	IP 68, 3 diodes
Cables	4 mm² ,350 mm (With Connectors)
Connectors*	MC4-EVO2 compatible

*Please refer to regional datasheet for specified connector

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax(Wp)	437.50	441.20	444.80	448.50	452.20	455.80
Maximum Power Voltage Vmpp(V)	36.70	36.80	37.00	37.20	37.40	37.60
Maximum Power Current Impp(A)	11.93	11.97	12.01	12.05	12.09	12.13
Open Circuit Voltage Voc(V)	44.50	44.60	44.80	45.00	45.20	45.40
Short Circuit Current Isc(A)	12.57	12.61	12.65	12.69	12.73	12.77

*NMOT:Irradiance 800W/m²,Ambient Temperature 20℃,AM 1.5,Wind Speed 1m/s

TEMPERATURE RATINGS

NMOT	44℃ ±2℃
Temperature coefficient of Pmax	(-0.28±0.028)%/℃
Temperature coefficient of Voc	-0.23%/℃
Temperature coefficient of Isc	0.045%/℃
Refer.Bifacial Factor	(80±10)%

WORKING CONDITIONS

Maximum system voltage	1500 V DC
Operating temperature	-40℃~+85℃
Maximum series fuse	30 A
Front Side Maximum Static Loading	Up to 5400Pa
Rear Side Maximum Static Loading	Up to 2400Pa

*Remark:Do not connect Fuse in Combiner Box with two or more strings in parallel connection

ELECTRICAL CHARACTERISTICS (REAR POWER GAIN) *

5%	Maximum Power:Pmax(W)	604	609	614	620	625	630
	Module Efficiency(%)	23.36	23.56	23.77	23.97	24.17	24.38
15%	Maximum Power:Pmax(W)	661	667	673	679	684	690
	Module Efficiency(%)	25.59	25.81	26.03	26.25	26.48	26.70
25%	Maximum Power:Pmax(W)	719	725	731	738	744	750
	Module Efficiency(%)	27.81	28.05	28.29	28.54	28.78	29.02

*Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

PACKAGING CONFIGURATION *

Piece/Box	36
Piece/Container(40'HQ)	720

*Customized packaging is available upon request.
*Remark:Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.
*Caution:Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

Add :No. 229 Tongda Avenue Suqian Economic and Technological Development Zone 223800 Suqian City, Jiangsu P.R. China Tel: +86 519 6822 0233 E-mail: info@znshinesolar.com

Note: Specifications included in this datasheet are subject to change without notice.ZNSHINE reserves the right of final interpretation © ZNSHINE SOLAR 2025 | Version: ZXMR-UHLDD132 2501.E
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