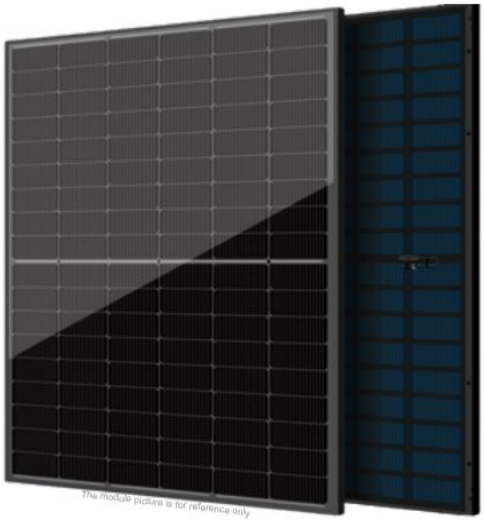
ZNSHINESOLAR



ZXM7-UHLDD108 Series

SMBBHALF-CELL BlackN-TypeBifacial DoubleGlass Monocrystalline PV Module

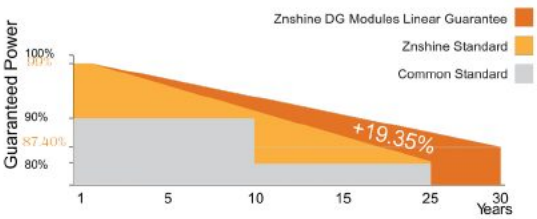
410-440W
POWER RANGE

22.53%
MAXIMUM EFFICIENCY

0.40%
YEARLY DEGRADATION

12 YEARS PRODUCT WARRANTY

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/IEC 61701/IEC 62716 /UL 61730

ISO 14001: Environmental Management System

ISO 9001: Quality Management System

ISO45001: Occupational Health and Safety Management 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.

Improved Aesthetics
Compared to conventional modules,this full black modules have a more uniform appearance and superior aesthetics.

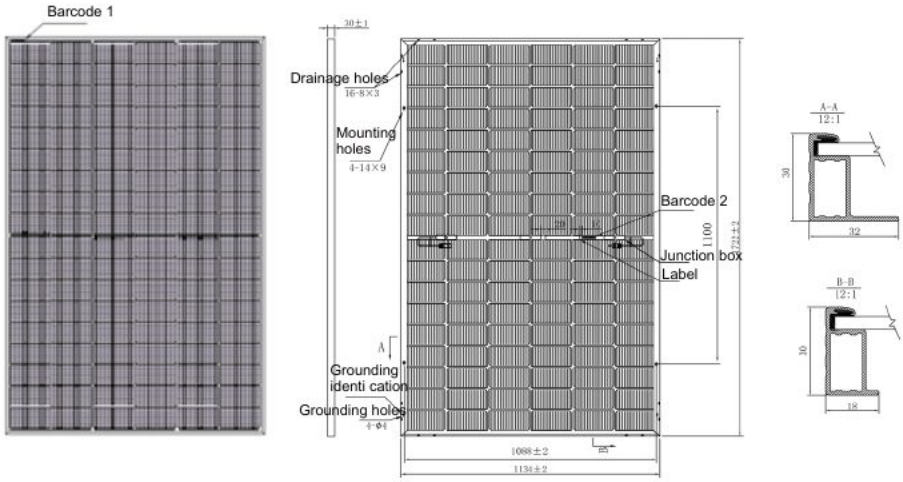
Founded in2006, ZNShine solar is a world's leading high-tech PV module manufacturer.With the advanced production lines, the company boasts module capacity of 10 GW. Bloomberg has listed ZNShine as a global Tier 1 PV module maker. Today Znshine has distributed its sales to more than 60 countries around the globe.

www.znshinesolar.com

ZXM7-UHLDD108 Series | SMBB HALF-CELL N-Type Black Bifacial Double Glass Monocrystalline PV Module

ZNSHINESOLAR

DIMENSIONS OF PV MODULE(mm)

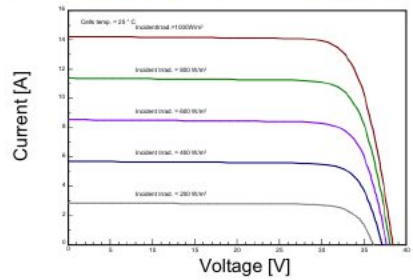


Front View

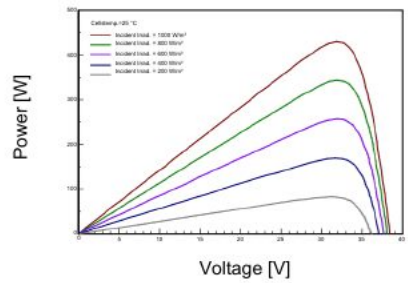
Back View

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

I-V CURVES OF PV MODULE(430W)



P-V CURVES OF PV MODULE(430W)



ELECTRICAL CHARACTERISTICS | STC*

Nominal Power Watt Pmax(W)*	410	415	420	425	430	435	440
Maximum Power Voltage Vmp(V)	31.10	31.30	31.50	31.70	31.90	32.10	32.30
Maximum Power Current Imp(A)	13.19	13.26	13.34	13.41	13.48	13.56	13.63
Open Circuit Voltage Voc(V)	37.60	37.80	38.00	38.20	38.40	38.60	38.80
Short Circuit Current Isc(A)	13.97	14.04	14.11	14.18	14.25	14.32	14.39
Module Efficiency (%)	21.51	21.76	21.51	21.76	22.02	22.28	22.53

*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 uncertainity: ±3%, all the electrical characteristics such as Power, Im, Vm and FF are within ±3% tolerance.

MECHANICAL DATA

Solar cells	N-type Monocrystalline
Cells orientation	108 (6×18)
Module dimension	1722×1134×30 mm (With Frame)
Weight	24.5±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 ,350mm (With Connectors)
Connectors*	MC4-EVO2 compatible

*Please refer to regional datasheet for specified connector

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax(Wp)	311.40	315.0	318.70	322.30	326.00	329.80	333.50
Maximum Power Voltage Vmp(V)	29.10	29.30	29.50	29.70	29.90	30.00	30.20
Maximum Power Current Imp(A)	10.69	10.75	10.81	10.86	10.92	10.97	11.03
Open Circuit Voltage Voc(V)	35.50	35.70	35.90	36.10	36.30	36.40	36.60
Short Circuit Current Isc(A)	11.27	11.33	11.39	11.44	11.50	11.56	11.61

*NMOT:Irradiance800W/m²,AmbientTemperature20℃,AM1.5,WindSpeed1m/s

TEMPERATURE RATINGS

NMOT	44℃ ±2℃
Temperature coefficient of Pmax	(-0.30±0.03)%/℃
Temperature coefficient of Voc	-0.25%/℃
Temperature coefficient of Isc	0.046%/℃
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:DonotconnectFuseinCombinerBoxwithtwoormore strings in parallel connection

ELECTRICAL CHARACTERISTICS (REAR POWER GAIN)*

5%	Maximum Power:Pmax(W)	431	436	441	446	452	457	462
	Module Efficiency(%)	22.05	22.31	22.58	22.85	23.12	23.39	23.66
15%	Maximum Power:Pmax(W)	472	477	483	489	495	500	506
	Module Efficiency(%)	24.15	24.44	24.73	25.03	25.32	25.62	25.91
25%	Maximum Power:Pmax(W)	513	519	525	531	538	544	550
	Module Efficiency(%)	26.25	26.57	26.89	27.21	27.53	27.85	28.17

*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)	936

*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 skil
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 2024 | Version: ZXM7-UHLDD108 2506.E
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