

# ZXM6-NHLDD144 Series

Znshinesolar 9BB **HALF-CELL** Bifacial Light-Weight Double Glass Mono PV Module



144

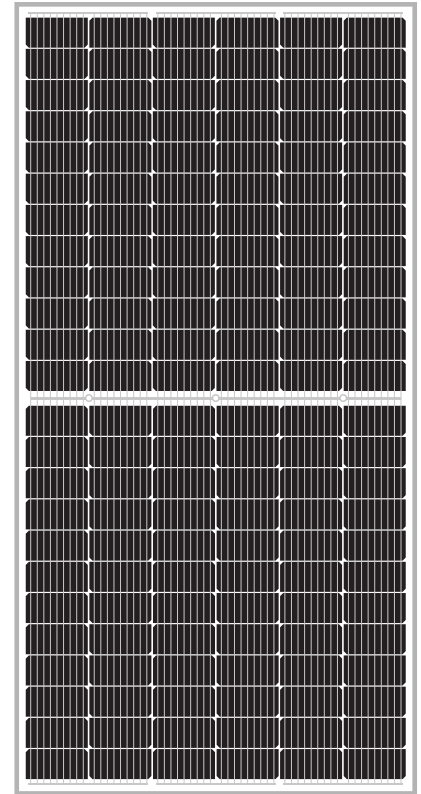
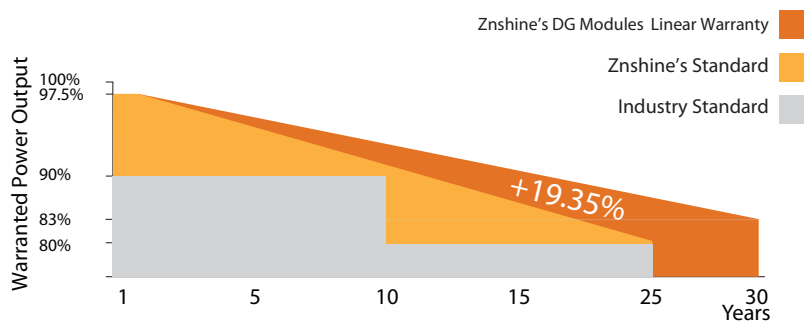
**Mono** Poly Solutions

425W | 430W | 435W | 440W | 445W | 450W

Made with selected materials and components to ensure quality, longevity, efficiency and stable outputs, the ZXM6-NHLDD144 monocrystalline modules by ZNSHINE SOLAR represents a highly flexible solution for diverse installation types, from small home PV systems to industrial rooftop plants to large utility arrays. ZNSHINE SOLAR'S ZXM6-NHLDD144 monocrystalline solar modules are tested and approved by internationally recognized laboratories so that we can offer our global customers a reliable and price-quality optimized product. The linear warranty on the product output further secures increased stability and financial returns on investments over time.

## 12 years product warranty/30 years output warranty

0.5% Annual Degradation over 30 years



### More power output

Module RS decreases, FF (fill factor) increases, power gain is stable above 1.5%, and can be increased by 5~10W



### High Efficiency

A high efficiency PERC solar cell with 9 busbars technology to ensure the efficiency of the solar module up to 20.70% and stable operation



### Anti PID

Limited power degradation of ZXM6-NHLDD144 module caused by PID effect is guaranteed under strict testing condition for mass production



### Better Weak Illumination Response

Lower temperature coefficient and wide spectral response, higher power output, even under low-light settings



### Bifacial technology

Enables additional energy harvesting from rear side (up to 25%)



### Graphene Coating (Optional\*)

Graphene coating modules can increase power generation and self-cleaning, also can save maintenance cost  
\* Can be customized



ZNShine PV-Tech Co., LTD, founded in 1988, is a world-leading high-performance PV module manufacturer, PV power station developer, EPC and power station operator. With its state-of-the-art production lines, the company boasts module output of 5GW. Bloomberg has listed ZNShine as a global Tier 1 PV manufacturer and Top 4 reliable PV supplier.

[www.znshinesolar.com](http://www.znshinesolar.com)

## ELECTRICAL PROPERTIES | STC\*

Module Type	ZXM6-NHLDD144 -425/M	ZXM6-NHLDD144 -430/M	ZXM6-NHLDD144 -435/M	ZXM6-NHLDD144 -440/M	ZXM6-NHLDD144 -445/M	ZXM6-NHLDD144 -450/M
Nominal Power Watt Pmax(W)	425	430	435	440	445	450
Power Output Tolerance Pmax(%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
Maximum Power Voltage Vmp(V)	41.1	41.3	41.5	41.7	41.9	42.1
Maximum Power Current Imp(A)	10.35	10.42	10.49	10.56	10.63	10.70
Open Circuit Voltage Voc(V)	49.5	49.7	49.9	50.1	50.3	50.5
Short Circuit Current Isc(A)	11.00	11.07	11.14	11.21	11.28	11.35
Module Efficiency (%)	19.55	19.78	20.01	20.24	20.47	20.70

\*STC (Standard Test Condition): Irradiance 1000W/m<sup>2</sup>, Module Temperature 25°C, AM 1.5  
 \*The data above is for reference only and the actual data is in accordance with the practical testing

## ELECTRICAL PROPERTIES | NOCT/NMOT\*

Maximum Power Pmax(Wp)	316.7	320.3	323.9	327.6	330.6	334.3
Maximum Power Voltage Vmpp(V)	38.0	38.2	38.4	38.5	38.7	38.9
Maximum Power Current Imp(A)	8.34	8.39	8.44	8.50	8.53	8.58
Open Circuit Voltage Voc(V)	46.1	46.3	46.5	46.6	46.8	47.0
Short Circuit Current Isc(A)	8.88	8.94	8.99	9.05	9.11	9.17

\*NMOT(Nominal module operating temperature):Irradiance 800W/m<sup>2</sup>,Ambient Temperature 20°C,AM 1.5,Wind Speed 1m/s  
 \*The data above is for reference only and the actual data is in accordance with the practical testing

## Electrical characteristics with 25% rear side power gain

Front power Pmax/W	425	430	435	440	445	450
Total power Pmax/W	531	538	544	550	556	562
Vmp/V(Total)	41.2	41.4	41.6	41.8	42.0	42.2
Imp/A(Total)	12.89	13.00	13.08	13.16	13.24	13.32
Voc/V(Total)	49.6	49.8	50.0	50.2	50.4	50.6
Isc/A(Total)	13.54	13.65	13.73	13.81	13.89	13.97

## TEMPERATURE RATINGS

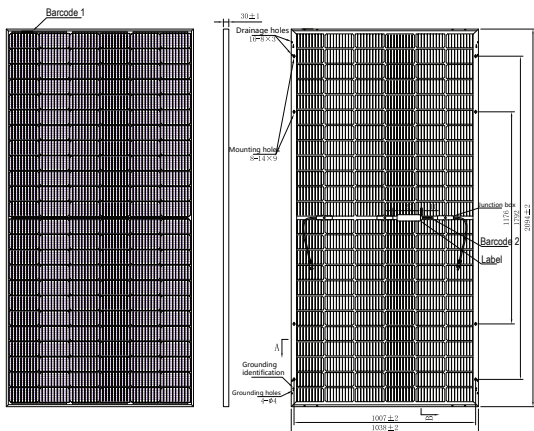
NMOT	44°C ±2°C
Temperature coefficient of Pmax	-0.36%/°C
Temperature coefficient of Voc	-0.29%/°C
Temperature coefficient of Isc	0.05%/°C
Refer.Bifacial Factor	70±5%

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

## WORKING CONDITIONS

Maximum system voltage	1500 V DC
Operating temperature	-40°C~+85°C
Maximum series fuse	20 A
Maximum load(snow/wind)	5400 Pa / 2400 Pa

## DIMENSION OF THE PV MODULE (mm)



## MECHANICAL DATA

Solar cells	Mono 166*83mm
No. of Cells	144 (6×24)
Module dimension	2094×1038×30 mm(With Frame)
Weight	28 kg
Glass	2.0mm+2.0mm heat strengthened glass
Junction box	IP 68, 3 diodes
Cables	4 mm <sup>2</sup> , 350 mm or Customized Length
Connectors	MC4-compatible or Customized Connectors

## PACKAGING INFORMATION

Packing Type	40' HQ
Piece/Box	36
Piece/Container	792

## I-V CURVES OF THE PV MODULE

