

ZXM6-NHDB156 Series

Znshinesolar 9BB HALF-CELL Bifacial
Monocrystalline PERC PV Module

460W | 465W | 470W | 475W | 480W | 485W



Half Cell Technology

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



High Efficiency

Graphene coating can increase the module efficiency by rising the light transmission



Anti PID

Limited power degradation of ZXM6-NHDB156 module caused by PID effect is guaranteed under strict testing condition for mass production



Bifacial technology

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



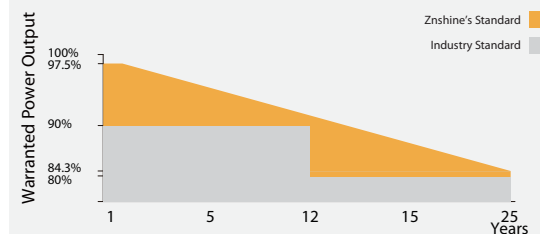
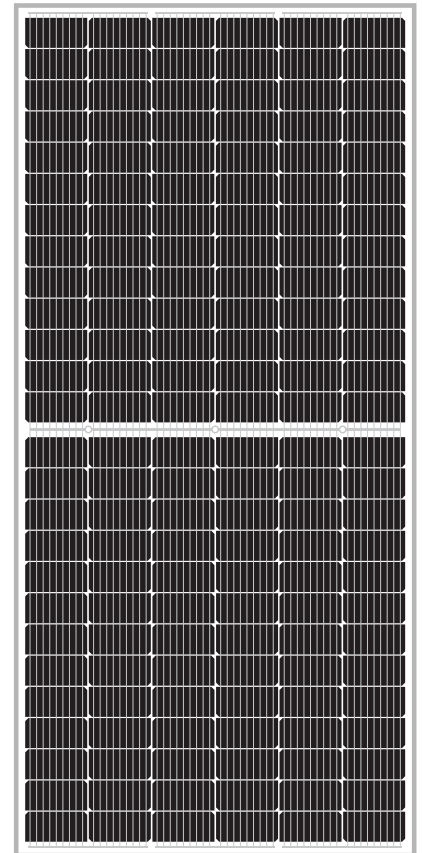
Better Weak Illumination Response

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



Graphene Coating

Graphene coating modules can increase power generation and self-cleaning, also can save maintenance cost



12 years product warranty
25 years output warranty



0.55% Annual Degradation
over 25 years



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.

ELECTRICAL PROPERTIES | STC*

Module Type	ZXM6-NHDB156 -460/M	ZXM6-NHDB156 -465/M	ZXM6-NHDB156 -470/M	ZXM6-NHDB156 -475/M	ZXM6-NHDB156 -480/M	ZXM6-NHDB156 -485/M
Nominal Power Watt Pmax(W)	460	465	470	475	480	485
Power Output Tolerance Pmax(%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
Maximum Power Voltage Vmp(V)	44.5	44.7	44.9	45.1	45.3	45.5
Maximum Power Current Imp(A)	10.34	10.41	10.47	10.54	10.60	10.66
Open Circuit Voltage Voc(V)	52.7	52.9	53.1	53.3	53.5	53.7
Short Circuit Current Isc(A)	11.00	11.06	11.12	11.18	11.24	11.30
Module Efficiency (%)	19.35	19.56	19.77	19.98	20.19	20.40

*STC (Standard Test Condition): Irradiance 1000W/m², 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 | NMOT*

Maximum Power Pmax(Wp)	342.4	346.1	349.6	353.3	356.8	360.3
Maximum Power Voltage Vmpp(V)	41.0	41.2	41.4	41.6	41.8	42.0
Maximum Power Current Impp(A)	8.35	8.39	8.44	8.49	8.54	8.58
Open Circuit Voltage Voc(V)	49.1	49.3	49.5	49.7	49.8	50.0
Short Circuit Current Isc(A)	8.88	8.93	8.98	9.03	9.08	9.13

*NMOT(Nominal module operating temperature);Irradiance 800W/m², 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	460	465	470	475	480	485
Total power Pmax/W	575	581	588	594	600	606
Vmp/V(Total)	44.6	44.8	45.0	45.2	45.4	45.6
Imp/A(Total)	12.89	12.97	13.06	13.14	13.22	13.29
Voc/V(Total)	52.8	53.0	53.2	53.4	53.6	53.8
Isc/A(Total)	13.55	13.62	13.71	13.78	13.86	13.93

Temperature ratings

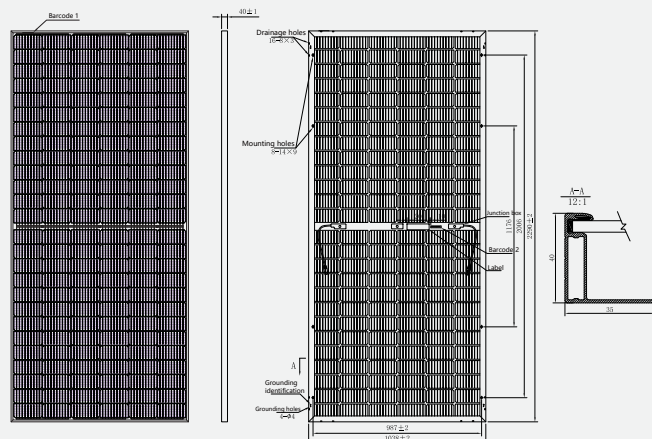
NMOT	44°C ±3°C
Temperature coefficient of Pmax	-0.36%/°C
Temperature coefficient of Voc	-0.29%/°C
Temperature coefficient of Isc	0.05%/°C
Refer.Bifacial Factor	70±5%

*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 PERC 166*83mm
Cells orientation	156 (6×26)
Module dimension	2290×1038×40 mm(With Frame)
Weight	26.5 kg
Glass	High transparency, low iron, tempered Glass 3.2 mm (AR-coating)
Junction box	IP 68, 3 diodes
Cables	4 mm ² , 350 mm
Connectors	MC4-compatible

Packaging information

Packing Type	40'HQ
Piece/Box	27
Piece/Container	540

I-V Curves of the PV module

