

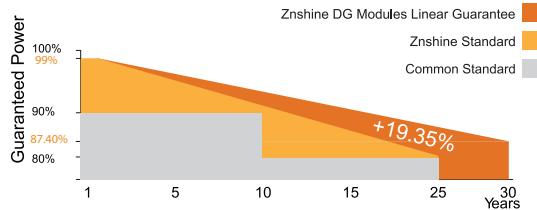


ZXNR-BD132 Series

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

620-650W **24.06%** **0.40%**
POWER RANGE **MAXIMUM EFFICIENCY** **YEARLY DEGRADATION**

12 **12 YEARS PRODUCT WARRANTY** **30** **30 YEARS OUTPUT GUARANTEE**



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



IEC 61215/IEC 61730/IEC 61701/IEC 62716

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.



Anti PID

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



TIER 1

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



Bifacial Technology

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



Better Weak Illumination Response

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



Adapt To Harsh Outdoor Environment

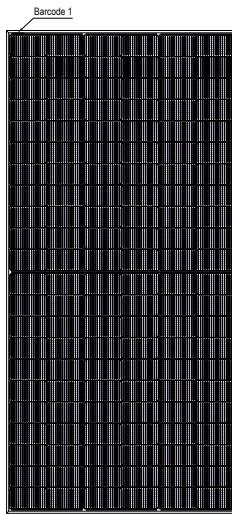
Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity environment.



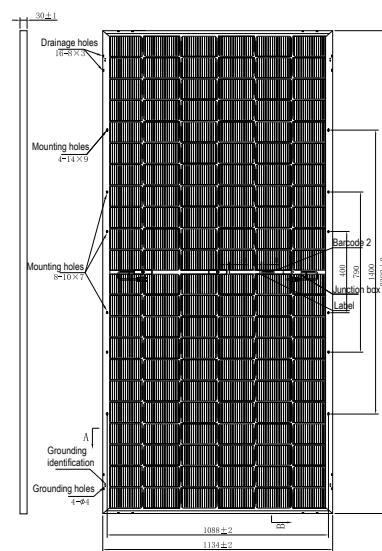
Excellent Quality Management System

Warranted reliability and stringent quality assurances well beyond certified requirements.

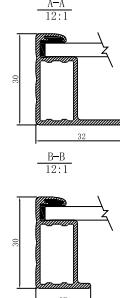
DIMENSIONS OF PV MODULE(mm)



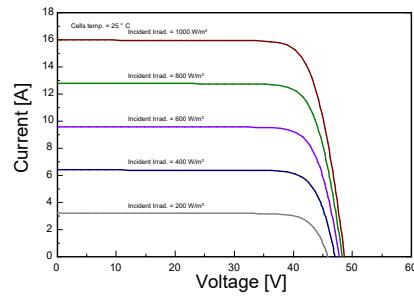
Front View



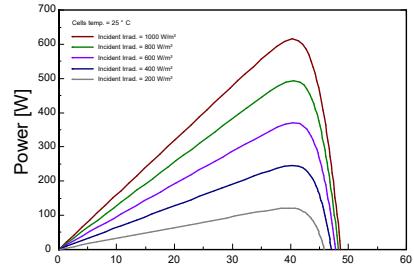
Back View



I-V CURVES OF PV MODULE(615W)



P-V CURVES OF PV MODULE(615W)



*Remark: customized frame color and cable length available upon request
only the classic 16BB assembly diagram is displayed here, other busbar can be customized according to requirements

ELECTRICAL CHARACTERISTICS | STC*

MECHANICAL DATA

Nominal Power Watt Pmax(W)*	620	625	630	635	640	645	650	Solar cells	N-type Monocrystalline, Rectangular cells
Maximum Power Voltage Vmp(V)	41.00	41.20	41.40	41.60	41.80	42.00	42.20	Cells orientation	132 (6x22)
Maximum Power Current Imp(A)	15.13	15.17	15.22	15.27	15.32	15.36	15.41	Module dimension	2382x1134x30 mm (With Frame)
Open Circuit Voltage Voc(V)	48.90	49.10	49.30	49.50	49.70	49.90	50.10	Weight	33.0±1.0 kg
Short Circuit Current Isc(A)	16.05	16.09	16.14	16.19	16.24	16.29	16.34	Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Module Efficiency (%)	22.95	23.14	23.32	23.51	23.69	23.88	24.06	Junction box	IP 68, 3 diodes
								Cables	4 mm², 1200 mm (With Connectors)
								Connectors*	MC4-EVO2 compatible

*The data above is for reference only and the actual data is in accordance with the practical testing

*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2°C, AM 1.5

*Measuring uncertainty: ±3%, Power tolerance: ±3%

*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.

*All the electrical characteristics such as Im, Vm, Isc, Voc and FF are within ±5% tolerance.

*Please refer to regional datasheet for specified connector

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax(Wp)	471.30	475.20	478.90	482.70	486.50	490.20	494.00	NMOT	44°C ±2°C	Maximum system voltage	1500 V DC
Maximum Power Voltage Vmpp(V)	38.04	38.50	38.70	38.90	39.10	39.30	39.50	Temperature coefficient of Pmax	(-0.28±0.028)%/°C	Operating temperature	-40°C~+85°C
Maximum Power Current Imp(A)	12.29	12.33	12.37	12.41	12.44	12.48	12.52	Temperature coefficient of Voc	-0.23%/°C	Maximum series fuse	30 A
Open Circuit Voltage Voc(V)	46.30	46.50	46.70	46.90	47.10	47.30	47.40	Temperature coefficient of Isc	0.045%/°C	Front Side Maximum Static Loading	Up to 5400Pa
Short Circuit Current Isc(A)	12.95	12.98	13.02	13.06	13.10	13.14	13.18	Refer.Bifacial Factor	(80±10)%	Rear Side Maximum Static Loading	Up to 2400Pa

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

TEMPERATURE RATINGS

WORKING CONDITIONS

ELECTRICAL CHARACTERISTICS (REAR POWER GAIN)

PACKAGING CONFIGURATION *

5%	Maximum Power:Pmax(W)	651	656	662	667	672	677	683	Piece/Box	36
	Module Efficiency(%)	24.10	24.29	24.49	24.68	24.88	25.07	25.26	Piece/Container(40'HQ)	720
15%	Maximum Power:Pmax(W)	713	719	725	730	736	742	748	*Customized packaging is available upon request.	
	Module Efficiency(%)	26.40	26.61	26.82	27.03	27.22	27.46	27.67	*Remark:Electrical data in this catalog do not refer to a single module and they are not part of the offer.	
25%	Maximum Power:Pmax(W)	775	781	788	794	800	806	813	They only serve for comparison among different module types.	
	Module Efficiency(%)	28.69	28.92	29.15	29.39	29.62	29.85	30.08	*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.	

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