

VDL-M16/144

450-465W

166±1.5×83±1.5mm
Cells 144

Monocrystalline

PERC Half-Cell Module

Max Power Out: 465W
Max Efficiency: 21.39%
Power Tolerance: 0~+5W



SMBB Technology

Better light trapping and current collection to improve module power output and reliability



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

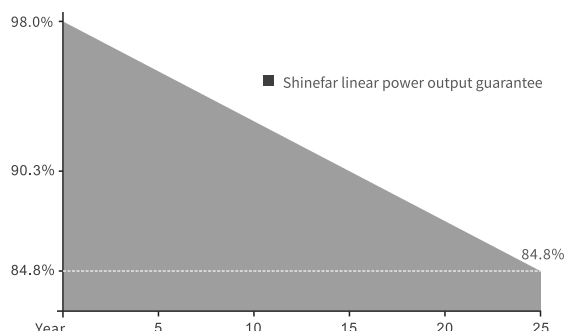


High Energy Generation, Low LCOE

Low Pmax temp coefficient increases energy production

Superior Warranty

- 15-year material & technology warranty
- 25-year linear power output warranty

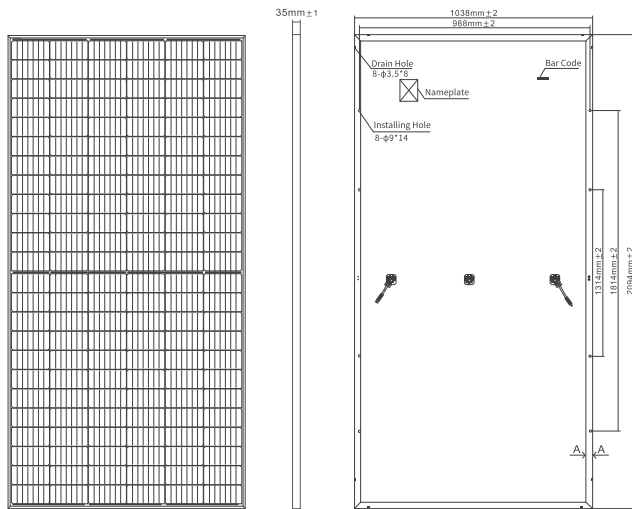


Comprehensive Products and System Certificates

- IEC/EN61215-1:2021 & IEC/EN61215-2:2021
- IEC/EN61730-1:2016 & IEC/EN61730-2:2016
- UL61730-1:2017 & UL61730-2:2017
- UL61215-1:2017 & UL61215-2:2017
- IEC 61701:2020-Saltmist
- IEC 62716:2013-Ammonia
- IEC 62804:2020-PID
- IECCE Certificate Body (CB)
- UKCA:EN61730-2018
- ISO9001 & ISO14001 & ISO45001



Engineering Drawings



Front

Side

Back

Structural Parameter

Dimensions of Module	2094 × 1038 × 35mm
Weight	22.5kg
Packing	31PCS/Pallet, 748PCS/40HQ
Glass	High Transparency Solar Glass 3.2mm
Backsheet	White
Frame	Anodized Aluminum Alloy & Custom Color Accepted
J-Box	IP68 Rated
Cable	4.0mm ² , 300mm
Bypass Diodes	3PCS
Wind/ Snow Load	2400Pa/5400Pa
Connector	MC4 Compatible

Electrical Specification

(STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5G — NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s)

Module Type	SF-M16/144450		SF-M16/144455		SF-M16/144460		SF-M16/144465	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax) [W]	450	333.90	455	337.61	460	341.32	465	345.03
Maximum Power Voltage (Vmp) [V]	41.40	38.88	41.60	39.07	41.80	39.26	42.00	39.45
Maximum Power Current (Imp) [A]	10.87	8.59	10.94	8.64	11.00	8.69	11.07	8.75
Open Circuit Voltage (Voc) [V]	49.98	46.82	50.18	47.02	50.38	47.22	50.58	47.42
Short Circuit Current (Isc) [A]	11.33	8.97	11.39	9.02	11.44	9.06	11.49	9.10
Module Efficiency [%]	20.70		20.93		21.16		21.39	
Cell Type [mm]	Mono 166±1.5×83±1.5, 144 Cells							
Operational Temperature [°C]	-40~+85°C							
Maximum System Voltage	1500V DC							
Max Series Fuse Rating	20A							

Temperature Ratings

Nominal Operating Cell Temperature	45 ± 2°C
Temperature Coefficient of Isc	+0.06%/°C
Temperature Coefficient of Voc	-0.30%/°C
Temperature Coefficient of Pmax	-0.39%/°C

Curve Diagram

