

# SF-M16/144

## 450-465W

### 166×83mm cells 72



### 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



#### Reduced Hot Spot Loss

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



#### PID Resistance

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



#### Enhanced Mechanical Load

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



#### Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.

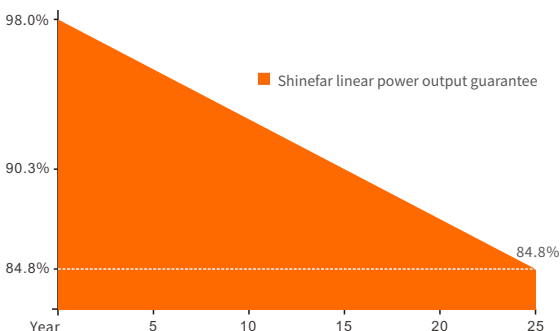


#### High energy generation, low LCOE

Low Pmax temp coefficient increases energy production

### Superior Warranty

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

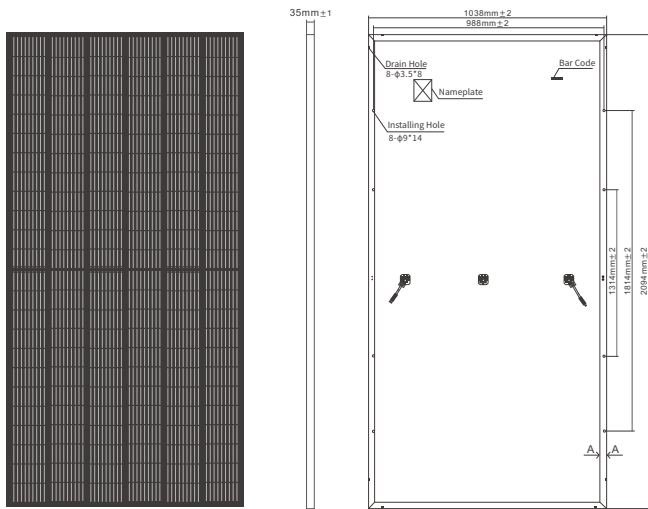


### Comprehensive Products and System Certificates

- 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
- IECEE CertificateBody (CB)
- UKCA:EN61730-2018
- ISO9001 & ISO14001 & ISO45001



## Engineering Drawings



Front

Side

Back

## Structural Parameter

Dimensions of Module	2094×1038×35mm
Weight	22kg
Packing	31/pallet, 748/40hq
Glass	High transparency solar glass 3.2mm
Backsheet	air-side white , cell-side High reflection black
Frame	Black, anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm <sup>2</sup> , 300mm
Bypass Diodes	3pcs
Wind/ Snow Load	2400Pa/5400Pa
Connector	MC4 Compatible

## Electrical Specification

(STC: irradianc 1000W/m<sup>2</sup>, cell temperature 25°C, AM1.5G — NOCT: Irradianc 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind speed 1m/s)

Module Type	SF-M16/144450		SF-M16/144455		SF-M16/144460		SF-M16/144465	
	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 166×83, 144cells							
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

