

# 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



#### 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).

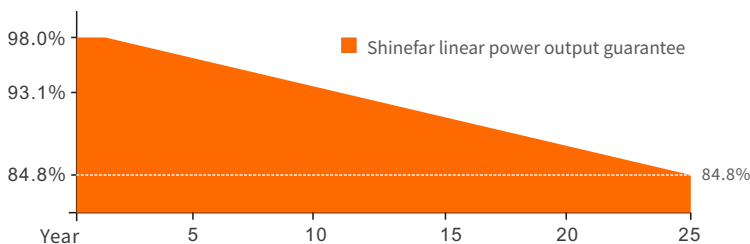


#### High energy generation, low LCOE

Low Pmax temp coefficient (-0.36%) increases energy production

### Superior Warranty

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

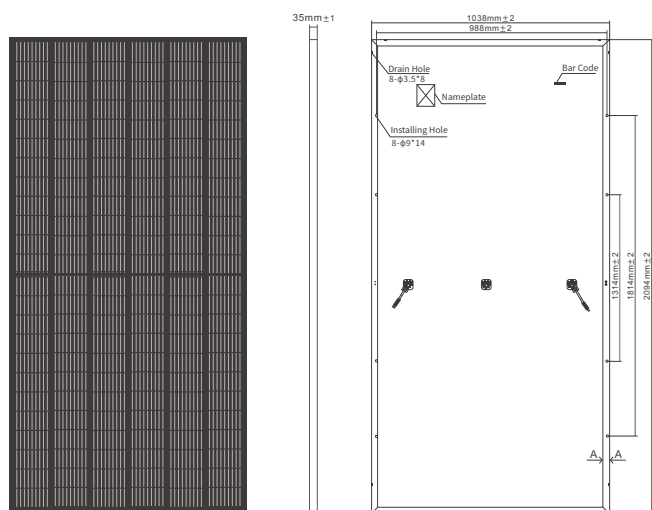


### Comprehensive Products and System Certificates

- IEC 61215,IEC 61730,IEC 61701,IEC 62716
- ISO 9001:2015 Quality management systems
- ISO 14001:2015 Environmental management systems
- ISO 45001 : 2018 Occupational health and safety management systems



## Engineering Drawings



Front

Side

Back

## Structural parameter

Dimensions of Module	2094x1038x35mm
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: Irradiance 1000W/m<sup>2</sup>, cell temperature 25°C, AM1.5G — NOCT: Irradiance 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 166x83,144cells							
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

