



AFR440~475M8-72H

144-CELL HALF CUT Monocrystalline Solar Module

166mm Mono PERC Solar Cell(9BB-Half)

African Energy modules are made by some of the world's most sophisticated module manufacturers and are designed for Africa's off-grid solar charging and water pumping needs. The modules include efficient crystalline cells set in a solid aluminium frame and feature TÜV and IEC certification. With a 25 year warranty, these modules can provide power for several generations - and the quality is assured by African Energy's two decades of experience in the solar industry.

475W

Maximum Power Output

21.9%

Maximum Efficiency

0~+5W

Positive Power Tolerance



Low hotspot risk

Special cutting and soldering technology leads to low hotspot risk.



Excellent weak light performance

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



Certified to withstand

Wind load (2400 Pascal) and snow load (5400 Pascal).



Withstanding harsh environment

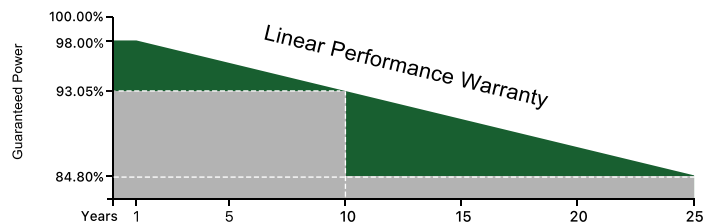
Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline.



High PID resistant

Advanced cell technology and qualified materials lead to high resistance to PID.

- IEC61215 / IEC61730 / IEC61701 / IEC62716
- ISO9001: Quality Management System
- ISO14001: Environment Management System
- OHSAS18001: Occupational Health and Safety System



• 12-year product warranty • 25-year linear power warranty



AFR440~475M8-72HS

Monocrystalline

Electrical Characteristics(STC)

PV module model	AFR440M8-72HS	AFR445M8-72HS	AFR450M8-72HS	AFR455M8-72HS	AFR460M8-72HS	AFR465M8-72HS	CST470M8-72HS	AFR475M8-72HS
Maximum Power - Pmax(W)	440	445	450	455	460	465	470	475
Open Circuit Voltage - Voc(V)	49.30	49.60	49.80	50.10	50.40	50.70	51.00	51.30
Short Circuit Current - Isc(A)	11.28	11.31	11.34	11.37	11.40	11.43	11.47	11.50
Voltage at Pmax-Vmp(V)	41.40	41.80	42.10	42.40	42.80	43.10	43.40	43.80
Current at Pmax-Imp(A)	10.63	10.66	10.69	10.73	10.76	10.79	10.82	10.85
Module Efficiency-ηm(%)	20.2	20.5	20.7	20.9	21.2	21.4	21.6	21.9
Power Output Tolerance(W)	0~+5							

STC: Irradiance 1000 W/m², Module Temperature 25°C, Air Mass AM1.5

Electrical Characteristics(NMOT)

Maximum Power - Pmax(W)	321.0	324.8	328.6	332.4	336.2	340.0	343.9	347.7
Open Circuit Voltage - Voc(V)	45.60	45.80	46.10	46.30	46.60	46.90	47.10	47.40
Short Circuit Current - Isc(A)	9.12	9.14	9.17	9.19	9.22	9.25	9.27	9.30
Voltage at Pmax-Vmp(V)	37.80	38.10	38.40	38.70	39.00	39.30	39.60	39.90
Current at Pmax-Imp(A)	8.48	8.52	8.55	8.59	8.62	8.65	8.69	8.72

NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1m/s

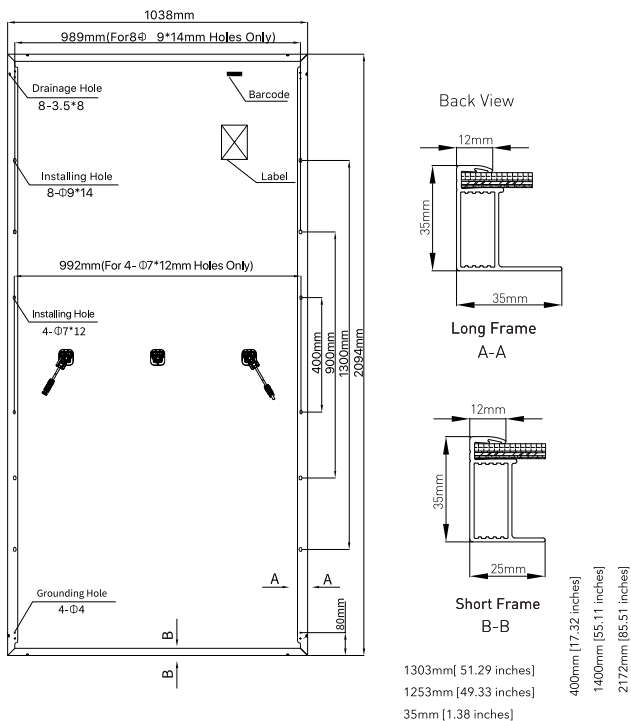
Temperature Characteristics

Pmax Temperature Coefficient	-0.36%/C
Voc Temperature Coefficient	-0.28%/C
Isc Temperature Coefficient	+0.05%/C
Operating Temperature	-40~+85 C
Nominal Module Operating Temperature (NMOT)	43±2 C

Mechanical Specifications

External Dimensions	2094x1038x35mm
Weight	24.2kg
Solar Cells	monocrystalline 144(6x24)pcs
Front Glass	High transparency solar glass 3.2mm
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4.0mm ² , Portrait: 300mm/300mm
Connector	MC4 Compatible
Wind/Snow Load	2400Pa/5400Pa
Maximum System Voltage	1500V DC
Max Series Fuse Rating	20A

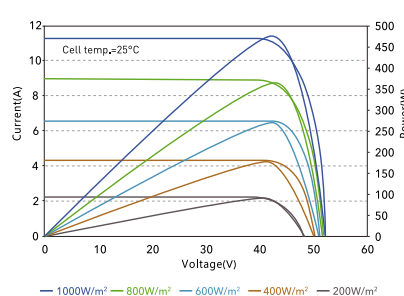
Module Dimension



Packing Configuration

Modules per pallet	31 pieces
Modules per 40' container	682 pieces

I-V/P-V Curve at Different Irradiation (465W)



I-V Curve at Different Temperature (465W)

