






African Energy

Africa's Reliable Source for Renewable Energy





AFR-575 NT10/72

144 HALF-CELL BIFACIAL MODULE 570-580W

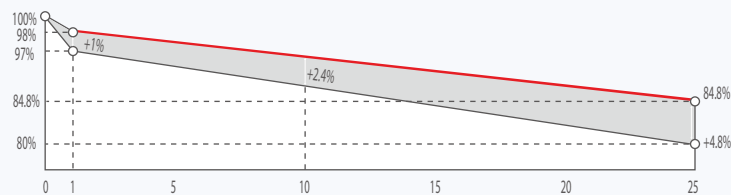
MORE POWER

-  • Up to 580W front power and 22.5% module efficiency with half-cut and MBB (Multi Busbar) technology bringing more BOS savings
- Lower resistance of half-cut and good reflection effect of MBB ensure high power
-  • Better light trapping and current collection to improve module power output and reliability.
-  • Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.

MORE RELIABLE

-  • Minimizes micro-crack impacts
-  • Ensured PID resistance through cell process and module material control
-  • Durability against extreme environmental conditions
- Resistant to salt, acid and ammonia
-  • Enhanced Mechanical Load ^{*}
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal)\

Industry-leading Warranty **



First year power degradation: 2%
Annual degradation: 0.55%

Product warranty: 15 years
linear warranty: 35 years

** Please refer to African Energy Solar Limited Warranty for details



Contact us



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St David, Arizona 85630 USA



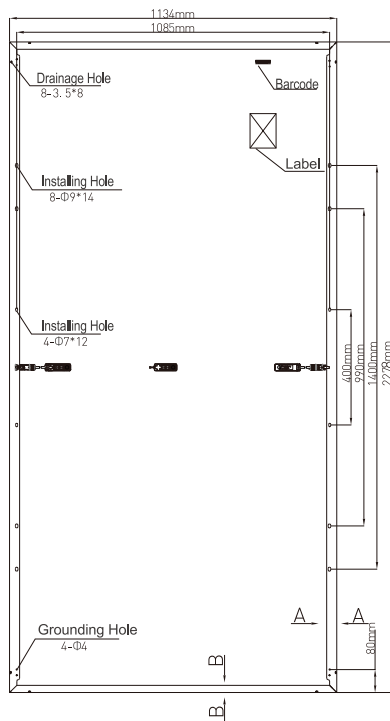
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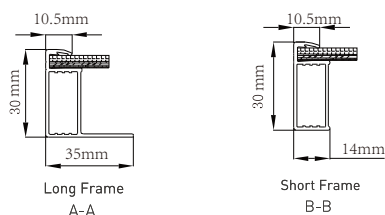
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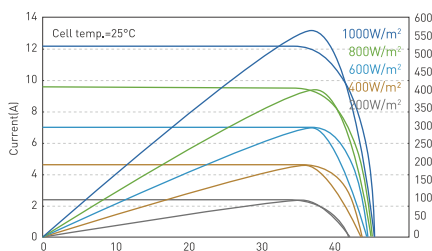
ENGINEERING DRAWING (mm)



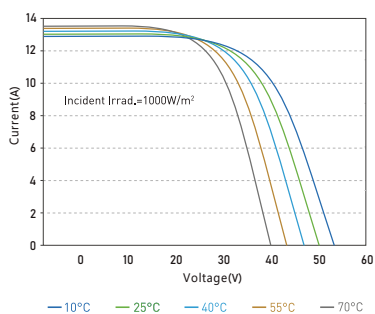
FRAME CROSS SECTION (mm)



I-V-P-V CURVE AT DIFFERENT IRRADIATION (555W)



I-V CURVE AT DIFFERENT TEMPERATURE (555W)



Electrical Characteristics(STC)

PV module model	AFR540-M10 -72H	AFR545-M10 -72H	AFR550-M10 -72H	AFR555-M10 -72H	AFR-580 -72H
Maximum Power - Pmax(W)	540	545	550	555	580
Open Circuit Voltage - Voc(V)	49.75	49.98	50.22	50.45	50.68
Short Circuit Current - Isc(A)	13.63	13.66	13.70	13.73	13.76
Voltage at Pmax-Vmp(V)	42.06	42.35	42.64	42.93	43.22
Current at Pmax-Imp(A)	12.84	12.87	12.90	12.93	12.96
Module Efficiency-ηm(%)	20.9	21.1	21.3	21.5	21.7
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)	408.6	412.4	416.2	420.0	423.8
Open Circuit Voltage - Voc(V)	46.96	47.18	47.40	47.62	47.85
Short Circuit Current - Isc(A)	10.92	10.94	10.97	10.99	11.02
Voltage at Pmax-Vmp(V)	39.01	39.28	39.55	39.82	40.09
Current at Pmax-Imp(A)	10.47	10.50	10.52	10.55	10.57

NMOT: 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~+85C
Nominal Module Operating Temperature (NMOT)	43±2C

Mechanical Specifications

External Dimensions	2278x1134x30mm
Weight	28.3kg
Solar Cells	182mm monocrystalline 144(6x24)pcs
Front Glass	High transparency solar glass 3.2mm
Frame	Black/Silver, Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	length can be customized, cable length:280mm(+)/280mm(-)
Connector	MC4 Compatible
Wind/Snow Load	2400Pa/5400Pa
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A

Packing Configuration

Modules per pallet	32 pieces
Modules per 40' container	640 pieces