

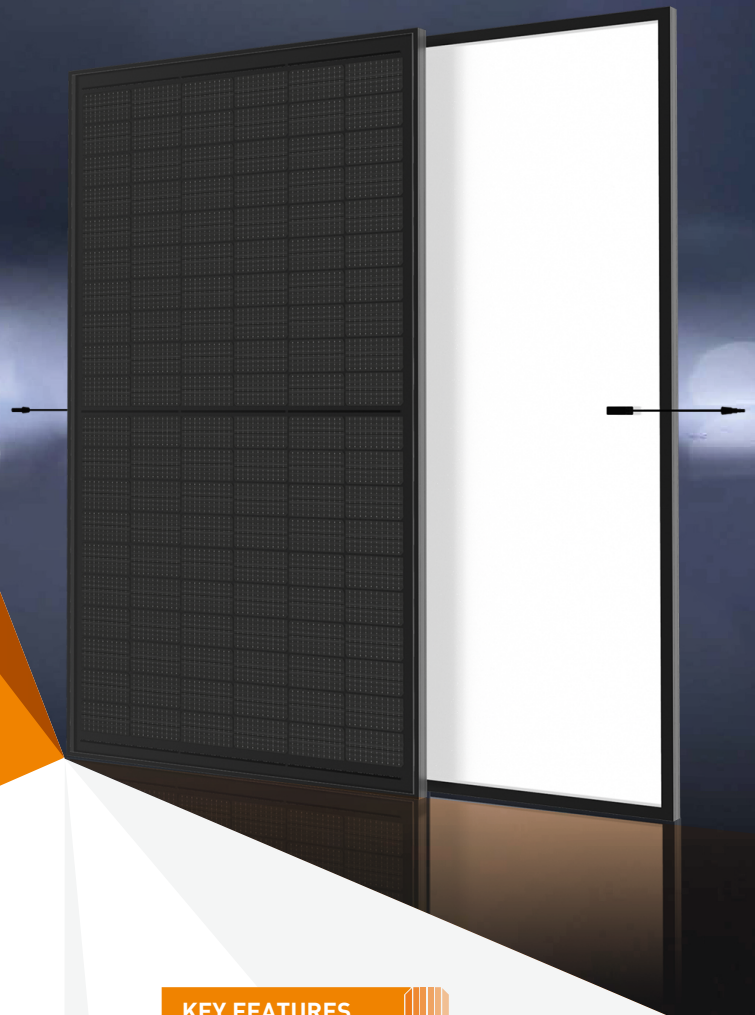


BISTAR

TP7F60M
TP7F60M(H) **120-cell**

440 - 460W

10BB Half-cut Mono Perc
Full Black



SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 61730
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems



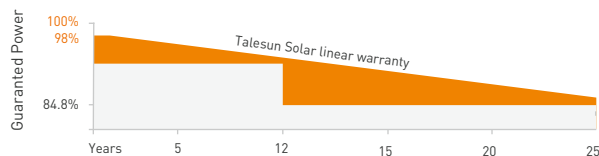
PERFORMANCE WARRANTY

12 Years
Quality Assurance

25 Years
Power Output Guarantee

Linear Performance Warranty

Standard Performance Warranty



KEY FEATURES



10BB Half-cut Cell Technology

New circuit design, lower internal current, lower Rs loss
Ga doped wafer, attenuation <2% (1st year) / ≤0.55% (Linear)



Significantly Lower the Risk of Hot Spot

Special circuit design with much lower hot spot temperature



Lower LCOE

2% more power generation, lower LCOE



Excellent Anti-PID Performance

2 times of industry standard Anti-PID test



IP68 Junction Box

High waterproof level

ELECTRICAL CHARACTERISTICS

Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	440	328	445	332	450	336	455	339	460	343
Operating Voltage (Vmpp/V)	34.35	32.1	34.53	32.2	34.70	32.4	34.87	32.6	35.04	32.7
Operating Current (Impp/A)	12.81	10.23	12.89	10.30	12.97	10.36	13.05	10.42	13.13	10.49
Open-Circuit Voltage (Voc/V)	40.99	38.6	41.16	38.7	41.33	38.9	41.50	39.1	41.67	39.2
Short-Circuit Current (Isc/A)	13.69	11.04	13.78	11.11	13.86	11.17	13.94	11.24	14.02	11.30
Module Efficiency (%)	20.30		20.60		20.80		21.10		21.30	

STC: Irradiance 1000W/m², Spectra at AM1.5, Module Temperature 25 °C. Power output tolerance: 0~+5W, Test uncertainty for Pmax: ±3%
 NMOT: Irradiance 800W/m², Spectra at AM1.5, Ambient Temperature 20 °C, Wind speed 1m/s

MECHANICAL CHARACTERISTICS

Cell Type	Monocrystalline Silicon (10Busbar)
No. of Cells	120pcs in series (6*20)
Module Dimensions	1908*1134*35mm (75.12*44.65*1.38inches)
Weight	24.3kg (53.6lbs.)
Front Glass	3.2mm AR Coating Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm ² (IEC), 12AWG (UL) 300mm in Length or Customized Length
Connectors	T01/LJQ-3-CSY/MC4/MC4-EV02

APPLICATION CONDITIONS

Maximum System Voltage	1000V/1500V/DC
Operating Temperature	-40° C~+85° C
Maximum Series Fuse	25A
Safety Protection Class	Class II
Mechanical Load (Front side)	5400Pa
Mechanical Load (Back side)	2400Pa

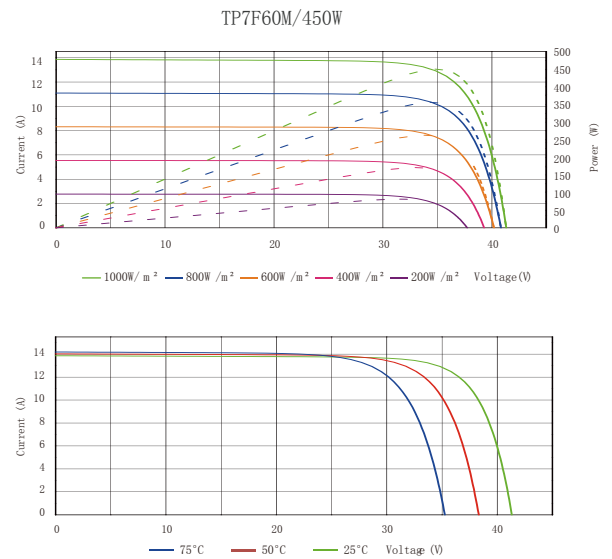
TEMPERATURE CHARACTERISTICS

Temperature Coefficient of Pmax	-0.35%/° C
Temperature Coefficient of Voc	-0.26%/° C
Temperature Coefficient of Isc	+0.048%/° C
Nominal Module Operating Temperature(NMOT)	43±2° C

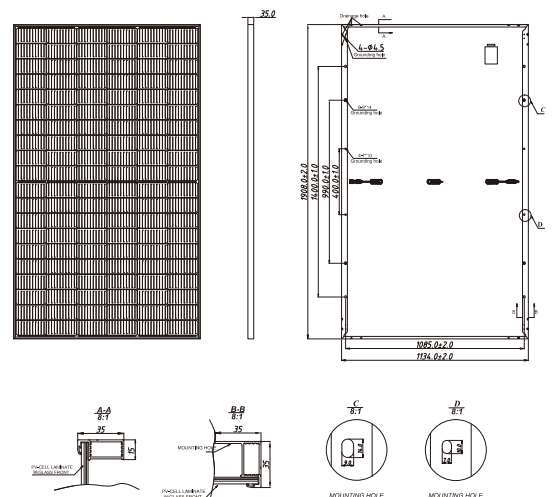
PACKING CONFIGURATION

Pieces Per Pallet	31	31 (USA)
Pieces Per Container(40'HQ)	744	744

I-V CURVE



TECHNICAL DRAWINGS



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