



Bifacial Mono Crystalline 60 Cells 310-330watt

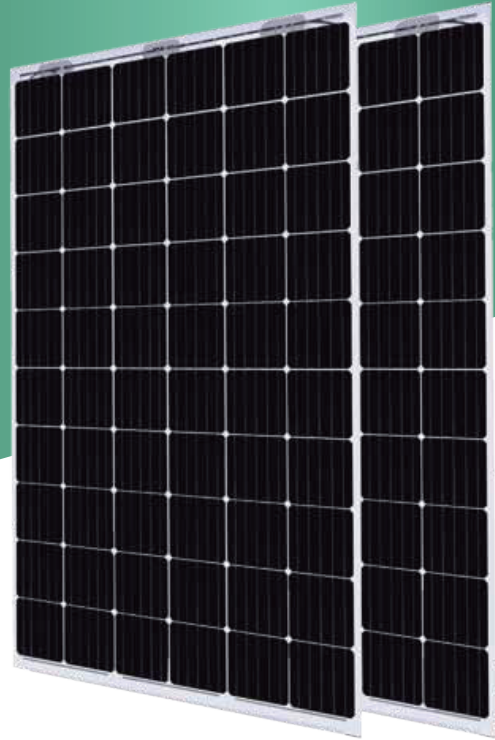
MONO PERC MODULE

Positive power tolerance of 0~+3%

ISO9001:2015

Certified factory

IEC61215/IEC61730



5 Busbar Solar Cell

5 busbar Bifacial solar cell adopts new technology to improve the efficiency of modules, offers a better aesthetic appearance making it perfect for rooftop installation.



High Efficiency

Higher module conversion efficiency (up to 19.78%) benefit from Passivated Emitter Rear Contact (PERC) technology.



PID Resistance

Excellent Anti-PID performance guarantee limited power degradation for mass production.



Low-light Performance

Advanced glass and cell surface textured design ensure excellent performance in low-light environment.



Severe Weather Resilience

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

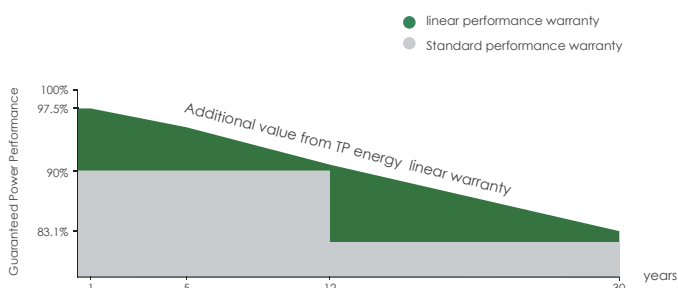


Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance certified by TUV NORD.

► Superior Warranty

TP ENERGY SOLAR PERFORMANCE WARRANTY



► Comprehensive Certificates

IEC61215/IEC61730/IEC61701/IEC62716

ISO 9001: Quality Management System

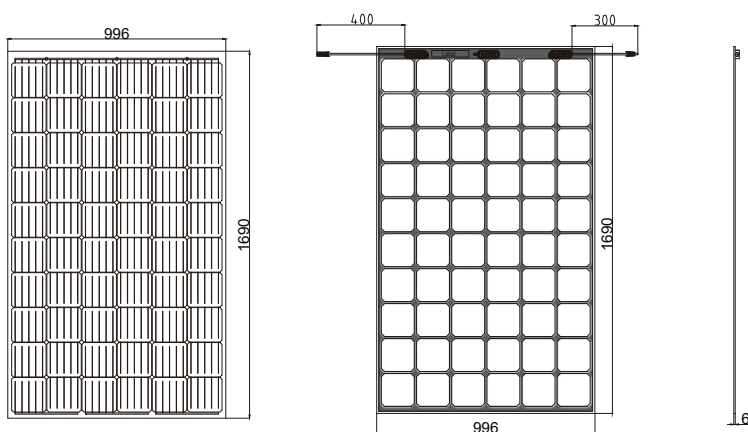
ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

OHSAS 18001: Occupation Health and Safety Management System



► DIMENSIONS OF PV MODULE(mm)



► MECHANICAL DIAGRAMS

Cell Type	Mono PERC 158.75x158.75mm
No.of cells	60 (6 x 10)
Dimensions	1690x 996x6 mm (±3mm)
Weight	23.2kg±3%
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Frameless
J-Box	IP 68
Output Cables	TÜV 1 x 4.0mm, ² Length 900mm or Customized Length

► Electrical Characteristics

Module Type	TP60-310M		TP60-315M		TP60-320M		TP60-325M		TP60-330M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	310Wp	231Wp	315Wp	235Wp	320Wp	239Wp	325Wp	242Wp	330Wp	246Wp
Maximum Power Voltage (Vmp)	33.0V	31.0V	33.2V	31.2V	33.4V	31.4V	33.6V	31.6V	33.8V	31.8V
Maximum Power Current (Imp)	9.39A	7.46A	9.49A	7.56A	9.59A	7.62A	9.68A	7.66A	9.77A	7.74A
Open-circuit Voltage (Voc)	40.5V	37.4V	40.7V	37.6V	40.9V	37.8V	41.1V	38.0V	41.3V	38.2V
Short-circuit Current (Isc)	9.95A	8.24A	10.04A	8.33A	10.13A	8.42A	10.22A	8.51A	10.31A	8.60A
Module Efficiency STC (%)	18.58%		18.88%		19.18%		19.48%		19.78%	

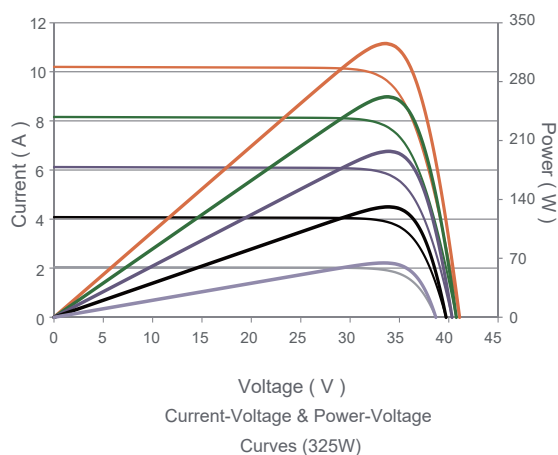
► Electrical Parameters With Different Rear Side Power Gain (Reference To 310W Front)

Backside Power Gain	5%	10%	15%	20%	25%
Rated Max Power(Pmax) [W]	326	341	357	372	388
Open Circuit Voltage(Voc) [M]	40.5	40.5	40.5	40.6	40.6
Max Power Voltage(Vmp) [M]	34.16	34.16	34.16	34.26	34.26
Short Circuit Currnt(sc) [A]	10.31	10.80	11.29	11.78	12.28
Max Power Current(Imp) [A]	9.53	9.99	10.44	10.90	11.35

► Temperature Ratings

NMOT (Nominal Module Operating Temperature)	45°C (±2°C)
Temperature Coefficient of PMAx	- 0.36%/°C
Temperature Coefficient of Voc	- 0.29%/°C
Temperature Coefficient of Isc	0.048%/°C

► I-V-Curve



► Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1000/1500VDC (IEC)
Max Series Fuse Rating	20A
Bifaciality	70%±5%

► Packaging Configuration

Modules per pallet:	35 pcs
Modules per 40HQ container	910 pcs

► Warranty

12 Years Product Workmanship Warranty

30 Years Power Warranty

