



TS-M12/120G

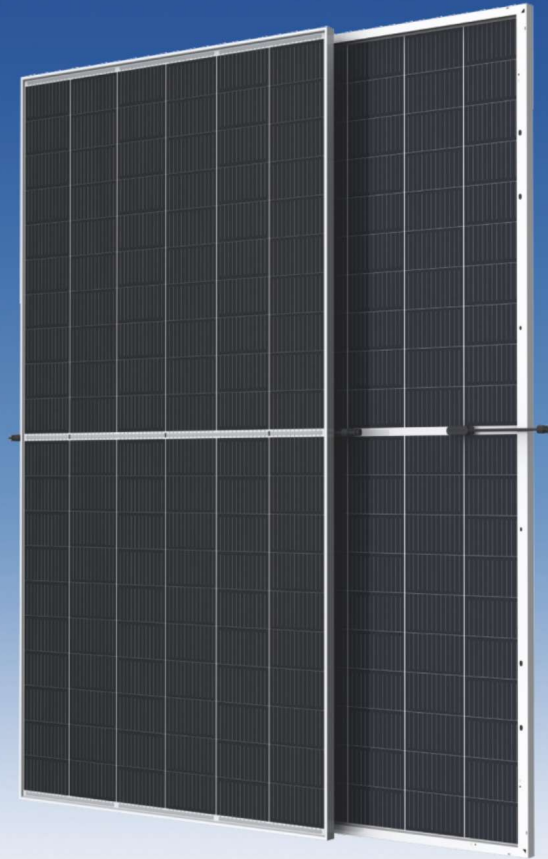
Monocrystalline Module

590-610W

Cell Type



12BB(210mm)



610W
Maximum Power Output

21.5%
Maximum Module Efficiency

0~+5W
Power Output Guarantee



Ideal choice for large scale ground installation



Special cutting and soldering technology leads to low hotspot risk



Optimized system performance due to module level current sorting

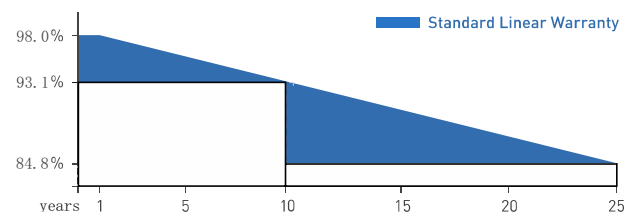


Highly transparent self-cleaning glass brings additional yield and easy maintenance

Deliver Reliable Performance Over Time

- manufacturer of crystalline silicon photovoltaic modules
- Fully automatic facility and world-class technology
- Rigorous quality control to meet the highest standard: ISO9001:2015, ISO14001: 2015 and OHSAS: 45001:2018
- 2x100% EL inspection ensuring defect-free modules

Linear Performance Warranty



12 Years Product Warranty 25 Years Linear Power Warranty

* Please refer to standard warranty for details

Product Certification



TS-M12/120G

Monocrystalline Module

590-610W

Electrical Specification (STC*)

Module		TS-M12/120G-590W	TS-M12/120G-595W	TS-M12/120G-600W	TS-M12/120G-605W	TS-M12/120G-610W
Maximum Power	P _{max} (W)	590	595	600	605	610
Maximum Power Voltage	V _{mp} (V)	34.00	34.20	34.40	34.60	34.80
Maximum Power Current	I _{mp} (A)	17.35	17.40	17.44	17.49	17.52
Open Circuit Voltage	V _{oc} (V)	41.10	41.30	41.50	41.70	41.90
Short Circuit Current	I _{sc} (A)	18.42	18.47	18.52	18.57	18.63
Module Efficiency	(%)	20.8	21.0	21.2	21.4	21.5
Power Output Tolerance	(W)	0~+5				
Measurement Tolerance	(%)	±3				

* Irradiance 1000W/m², Module Temperature 25°C, Air Mass 1.5

Electrical Specification (NOCT*)

Module		TS-M12/120G-590W	TS-M12/120G-595W	TS-M12/120G-600W	TS-M12/120G-605W	TS-M12/120G-610W
Maximum Power	P _{max} (W)	447	451	454	458	462
Maximum Power Voltage	V _{mp} (V)	31.70	31.90	32.00	32.20	32.40
Maximum Power Current	I _{mp} (A)	14.09	14.13	14.18	14.22	14.26
Open Circuit Voltage	V _{oc} (V)	38.70	38.90	39.10	39.30	39.50
Short Circuit Current	I _{sc} (A)	14.85	14.88	14.92	14.96	15.00

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

Mechanical Data

Number of Cells	120 Cells (6×20)
Dimensions of Module L*W*H (mm)	2172×1303×35mm (85.51×51.29×1.38 inches)
Weight (kg)	35.3 kg
Front Side Glass	High transparency solar glass 2.0mm (0.08 inches)
Back Side Glass	High transparency solar glass 2.0mm (0.08 inches)
Frame	Silver, anodized aluminium alloy
J-Box	IP68 Rated
Cable	4.0mm ² (0.006 inches ²), 300mm (11.8 inches)
Number of diodes	3
Wind/ Snow Load	Maximum static load (front): 3600Pa, safety factor 1.5 Maximum static load (back): 1600 Pa, safety factor 1.5
Connector	PV-H4, manufactured by Ningbo huayu Photovoltaic Technology Co., Ltd. Z4S-abcd, manufactured by Zeran Co., Ltd.

* For more details please check the installation manual

Temperature Ratings

Nominal Operating Cell Temperature [NOCT]	43±2°C
Temperature Coefficient of I _{sc}	+0.040%/°C
Temperature Coefficient of V _{oc}	-0.250%/°C
Temperature Coefficient of P _{max}	-0.340%/°C

Packaging Configuration

Module per box	31 pieces
Module per 40' container	558 pieces

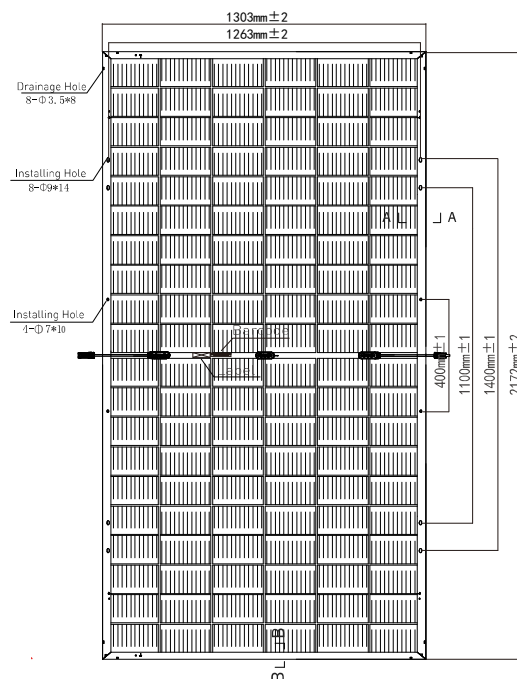
Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC -(H)
Max Series Fuse Rating	35A

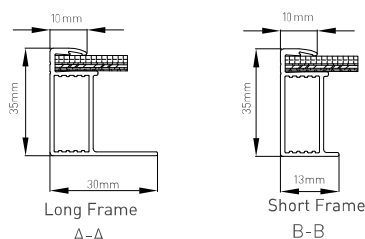
Other information

Country of Manufacture	Made in China
Fire Safety Class based on UL 790	Class C

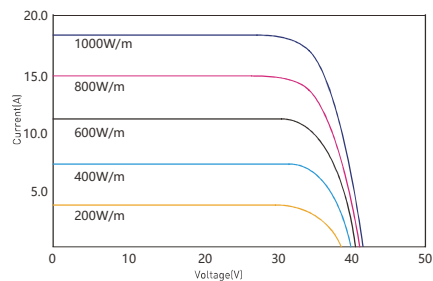
Module Dimension



Back View



I-V Curve at Different Temperature (595W)



P-V Curve at Different Irradiation (595W)

