

Shingled
monofacial module

TH410-420PMB
744SCF



Features of Module



Shingling Technology

Innovative structure, low-temperature adhesive bonding, high-density layout.



Beautiful Appearance

Uniform layout, better aesthetic.



Superior Safety and Reliability

No hidden welding crack, low operating temperature, high pressure resistance.



Low System Cost

High module efficiency, reducing system cost.



Low Hot Spot Risk

Parallel circuit design reduces shading loss.



Low Shading Loss

Full parallel arrangement brings high effective power generation hours.



Eco-friendly

Adhering to green philosophy, no fluorine and low lead.

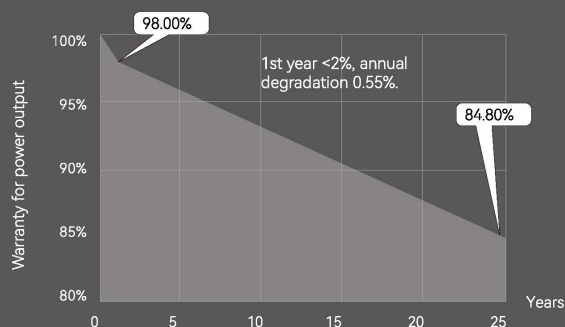
Linear Power Output Warranty

25

25-year warranty
for materials.

25

25-year warranty
for linear power
output.



Quality Management System and Product Certification

IEC61215/61730

ISO 9001:2015 / quality management system

ISO 14001:2015 / environmental management system

ISO 45001:2018 / occupation health safety management system

ISO 50001:2011 / energy management system



Electrical Characteristics (STC)

Module Type: TH***PMB7-44SCF	420	415	410
Maximum Power - Pm (W)	420	415	410
Open Circuit Voltage - Voc (V)	41.6	41.5	41.4
Short Circuit Current-Isc [A]	12.92	12.80	12.65
Maximum Power Voltage-Vm [V]	34.5	34.4	34.4
Maximum Power Current-Im [A]	12.19	12.08	11.93
Module Efficiency-η [%]	21.1	20.9	20.6

Electrical Characteristics at NMOT

Maximum Power-Pm [W]	316	312	309
Open Circuit Voltage-Voc [V]	39.7	39.6	39.5
Short Circuit Current-Isc [A]	10.41	10.31	10.19
Maximum Power Voltage-Vm [V]	32.9	32.8	32.8
Maximum Power Current-Im [A]	9.62	9.53	9.41

Note: 1. Standard Test Conditions (STC): irradiance 1000 W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
 2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/ m²; wind speed 1m/s , ambient temperature 20°C.
 3. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.

Mechanical Parameters

Dimensions	1812 × 1096 × 30 mm
Weight	20.8kg±0.3kg
Front glass	tempered glass, 3.2 mm
Frame	Anodized aluminum profile
Cells	Mono-crystalline solar cell
Cell Orientation	305 (61*5)
Junction Box	IP68, two diodes
Cable	4mm ² ;+300mm/-1000mm(Vertical), +220mm/-180mm(Horizontal)
Packaging	36pcs/box;924pcs/40'container;1296pcs/flat car
Fire class rating	Class C

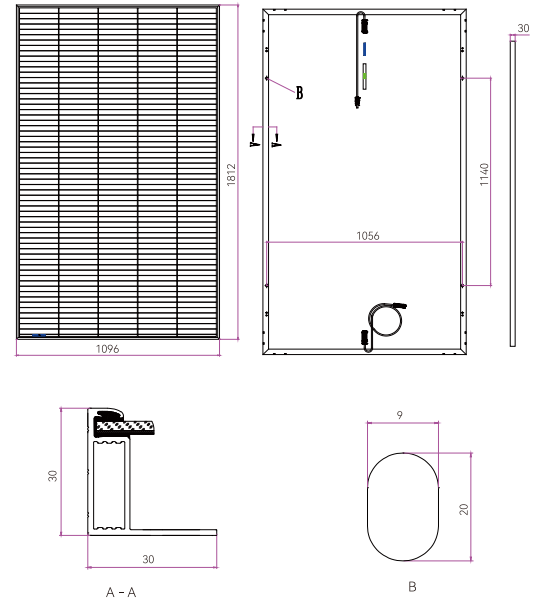
Temperature Parameters

NMOT	42.30 °C (±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	+0.04%/°C
Temperature Coefficient of Pm	-0.34%/°C

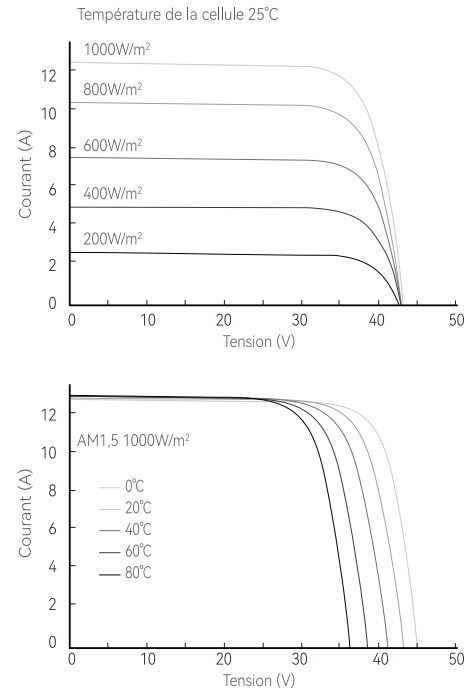
Maximum Ratings

Maximum System Voltage [V]	DC1500 (IEC)
Series Fuse Rating [A]	25
Maximum Surface Load Capacity [Pa]	Front 5400 / Back 2400
Temperature Range [°C]	-40 ~ + 85
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s

Drawings



I-V Curve



Statement:

With technological progress and product updates, there may be deviations between the technical parameters of Tongwei's module products and the technical parameters contained in this specification, and Tongwei Solar has the right to adjust the technical parameters at any time without notifying the customer, the final interpretation of the technical specification is vested in Tongwei Solar.

Cable type

Zhejiang Renhe Photovoltaic Technology Co., Ltd.
 Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.
 Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd
 Ningbo Kibor Wire&Cable Co., Ltd.
 Wuxi Xinhongye Wire&Cable Co., Ltd.
 Trina Solar Co., Ltd.
 Changshu JHOSIN Communication Technology Co., Ltd.
 SUZHOU YONGHAO CABLE CO LTD
 QC Solar (Suzhou) Corporation
 Suzhou Baohing Electric Wire & Cable Manufacturer Co., Ltd.
 Jiangxi Jinko PV Material Co., Ltd.
 Jiangxi Hejia Technology Co., Ltd.
 YushanXinzhan Industrial Co., Ltd.
 DONGGUAN XINBEISEN WIRE AND CABLE CO LTD
 Jiangxi Han Guang Cable Co., Ltd.
 RUIXU INDUSTRY CO., LTD.
 Suzhou Xietong Photovoltaic Technology Co., Ltd.
 Jiangsu Tongling Electric Co., Ltd.

Connector type

05-8, Zhejiang Renhe Photovoltaic Technology Co., Ltd.
 PV-KST4-EVO2/xy_UR, PV-KBT4-EVO2/xy_UR, Stäubli Electrical Connectors AG
 PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy, Stäubli Electrical Connectors AG
 UTXCFabcd, UTXCMabcd, Amphenol Technology (Shenzhen) Co., Ltd.
 RHC2xyz, Zhejiang Renhe Photovoltaic Technology Co., Ltd.
 PV-JM608, Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.
 PV-JM601A, Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.
 PV4-S1yx, Tyco Electronics (Shanghai) Co., Ltd.
 HQC4, Hanwha Q CELLS (Qidong) Co., Ltd
 PV-CO02-xy, SUZHOU UKT NEW ENERGY TECHNOLOGY CO., LTD
 TS4-xz, Trina Solar Co., Ltd.
 TS4, Trina Solar Co., Ltd.
 H4Cabdef, Amphenol Technology (Shenzhen) Co., Ltd.
 PV-CF-C-2, 5-4-SETxxxx, PV-CM-C-2, 5-4-SETxxxx, Phoenix Contact GmbH & Co.KG
 PV-ZH202B, Zhejiang Zhonghuan Sunter PV Technology Co., Ltd.
 QC4.10-cds, QC Solar (Suzhou) Corporation
 PV-MH5, Ningbo Minghe New Energy Technology Co., Ltd.
 TL-CABLE01S-F, TL-CABLE01S, Jiangsu Tongling Electric Co., Ltd.
 PV-KST4-EVO 2A/xy_UR; PV-KBT4-EVO 2A/xy_UR, Stäubli Electrical Connectors AG
 PV-XT101.1, Suzhou Xietong Photovoltaic Technology Co., Ltd.
 PV-JK03M-2, PV-JK03M/xy, PV-JK03M1/xy, PV-JK03M2/xy, Jiangxi Jinko PV Material Co., Ltd.
 UTXCFabcde, UTXCMabcde, Amphenol Technology (Shenzhen) Co., Ltd.
 TW-PVCON-01, Tongwei Solar (Hefei) Co., Ltd.