

## 210PERC-Half-cell Mono-facial Module(60)

### Product Feature



High Power Output  
Low LCOE



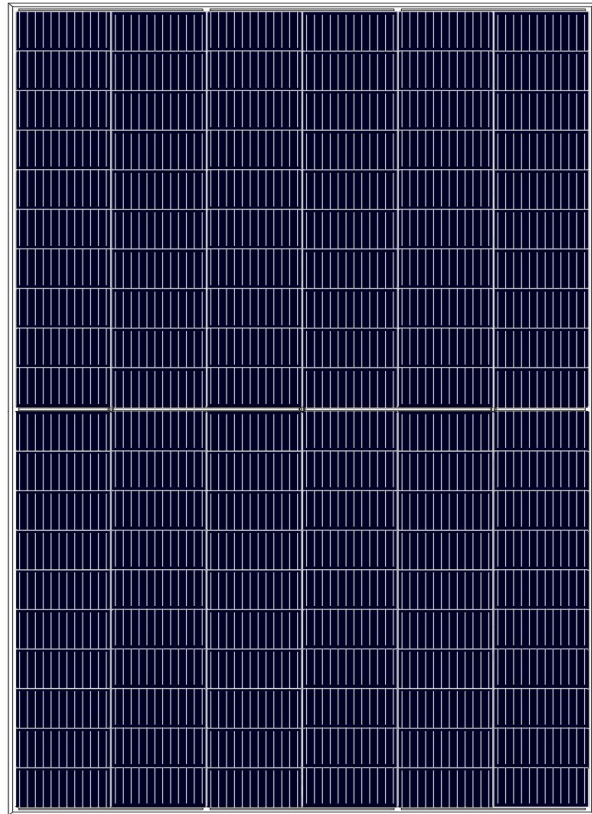
Maximum Power  
up to 610W+



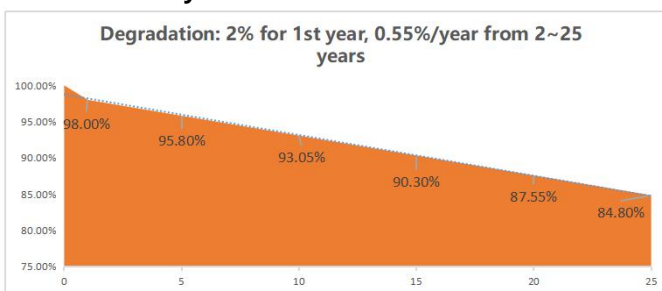
High Reliability



Low Degradation



### Linear Warranty



12 year

Warranty for Material  
and Processing

25 year

Warranty for Linear  
Power output

### Management System certification

ISO9001: 2015/Quality Management System  
ISO14001: 2015/Environmental Management System  
ISO45001: 2018/Occupational Health and Safety Management System

### Product certification



Tongwei Solar (Hefei) Co., Ltd  
Made in China

### Electrical Characteristics (STC)

Moduel type: TWMPF-60HS\*\*\*

Maximum Power: Pmax [W]	600	605	610
Open Circuit Voltage: Voc [V]	41.45	41.65	41.85
Short Circuit Current: Isc [A]	18.55	18.61	18.66
Voltage at Maximum Power: Vmp [V]	34.36	34.56	34.76
Current at Maximum Power: Imp [A]	17.46	17.50	17.55
Module Efficiency: $\eta$ [%]	21.2	21.4	21.6

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5, Test Uncertainty:  $\pm 3\%$

### Electrical Characteristics (NMOT)

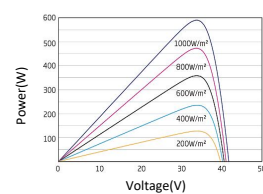
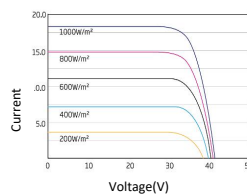
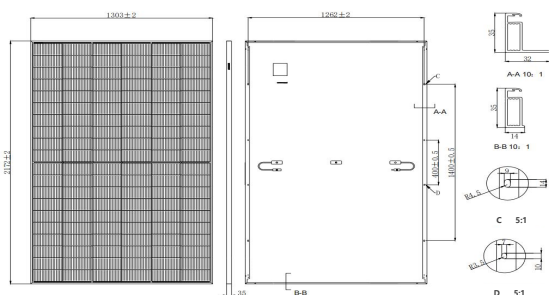
Maximum Power: Pmax [W]	454.0	457.7	461.5
Open Circuit Voltage: Voc [V]	39.05	39.24	39.43
Short Circuit Current: Isc [A]	14.96	15.00	15.04
Voltage at Maximum Power: Vmp [V]	32.06	32.25	32.43
Current at Maximum Power: Imp [A]	14.16	14.19	14.23

NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

### Mechanical Parameters

Cell Type	P-PERC
Cell Orientation	120[6×20]
Dimensions	2172 $\pm$ 2×1303 $\pm$ 2×35mm
Weight	31 kg
Front Glass	3.2 mm AR coated heat strengthened glass
Backsheet	White
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Cable	4.0 mm <sup>2</sup>
Cable length	Positive:400mm, Negative: 200mm,length can be customized
Wind/Snow load	2400Pa/5400Pa
Per pallet	31 pcs
Packaging	558 pcs per 40'HC
Fire class rating	Class C

### Drawing(Unit:mm)



Statement: With technological process and product update, there maybe deviation between the technical parameters of Tongwei's module products and the technical parameters contained in the 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.

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### Temperature rating

Temperature Coefficient of Pmax	-0.33%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	+0.050%/°C
NMOT	45 $\pm$ 2°C

### Operating Parameters

Operating Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+5W

## 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.  
 Changshu JHOSIN Communication Technology Co., Ltd.  
 Jiangsu Tongling Electric Co., Ltd.  
 Zhejiang Chuangyuan Photovoltaic Technology Co., Ltd.  
 Tongwei Solar (Hefei) 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.  
 RHC2xyzu, Zhejiang Renhe Photovoltaic Technology Co., Ltd.  
 PV-JM608, Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.  
 PV-JM601A, Zhejiang Jiaming Tianheyuan Photovoltaics Technology Co., Ltd.  
 H4CFC4DMS; H4CMC4DMS, Amphenol Technology (Shenzhen) 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  
 PV-JK03M-2, Jiangxi Jinko PV Material Co., Ltd.  
 TS4-xz, Trina Solar Co., Ltd.  
 TS4, Trina Solar Co., Ltd.  
 Z4S-abcd, Zerun Co., LTD.  
 H4Cabcdef, 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.  
 BIGabc4efgh, Trina Solar Co., Ltd.  
 PV-KST4-EVO 2A/xy\_UR; PV-KBT4-EVO 2A/xy\_UR, Stäubli Electrical Connectors AG

**Connector type**

PV-XT101.1, Suzhou Xietong Photovoltaic Technology Co., Ltd.

PV-JK03M2/xy, Jiangxi Jinko PV Material Co., Ltd.

TW-PVCON-01, Tongwei Solar (Hefei) Co., Ltd.

PV-CY03L, Zhejiang Chuangyuan Photovoltaic Technology Co., Ltd.

PV-CY20L, Zhejiang Chuangyuan Photovoltaic Technology Co., Ltd.