

## 210PERC - Half-cell Bifacial Module(66)

### Product Feature



High Power Output  
Low LCOE



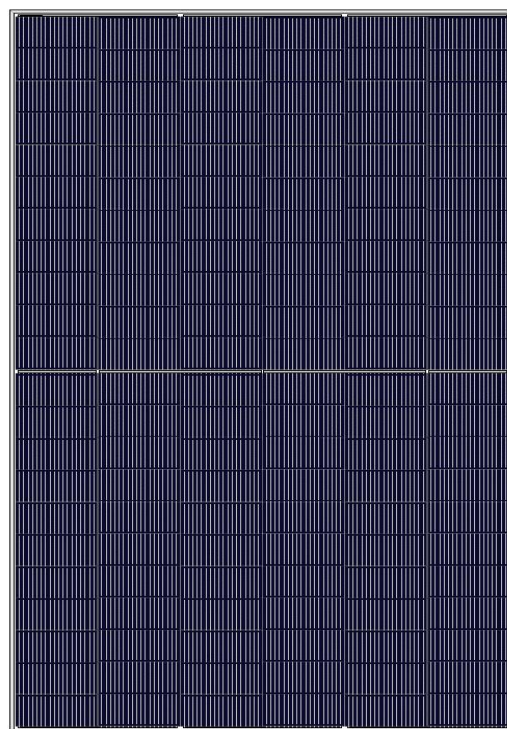
Maximum Power  
up to 675W+



High Reliability

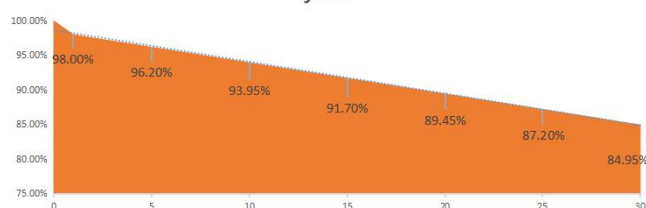


Low Degradation



### Linear Warranty

Degradation: 2% for 1st year, 0.45%/year from 2~30 years



Warranty for Material and  
Processing



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

IEC62941: 2019/Quality system for PV module manufacturing

### Product certification



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

### Electrical Characteristics (STC)

Model type: TWMPF-66HD\*\*\*

Maximum Power: Pmax [W]	655	660	665	670	675
Open Circuit Voltage: Voc [V]	45.60	45.80	46.00	46.20	46.40
Short Circuit Current: Isc [A]	18.26	18.31	18.36	18.41	18.46
Voltage at Maximum Power: Vmp [V]	37.80	38.00	38.20	38.40	38.60
Current at Maximum Power: Imp [A]	17.33	17.37	17.41	17.45	17.49
Module Efficiency: $\eta$ [%]	21.1	21.2	21.4	21.6	21.7

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]	495.6	499.4	503.1	506.9	510.7
Open Circuit Voltage: Voc [V]	42.96	43.14	43.33	43.52	43.71
Short Circuit Current: Isc [A]	14.72	14.76	14.80	14.84	14.88
Voltage at Maximum Power: Vmp [V]	35.26	35.45	35.64	35.82	36.01
Current at Maximum Power: Imp [A]	14.05	14.09	14.12	14.15	14.18

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

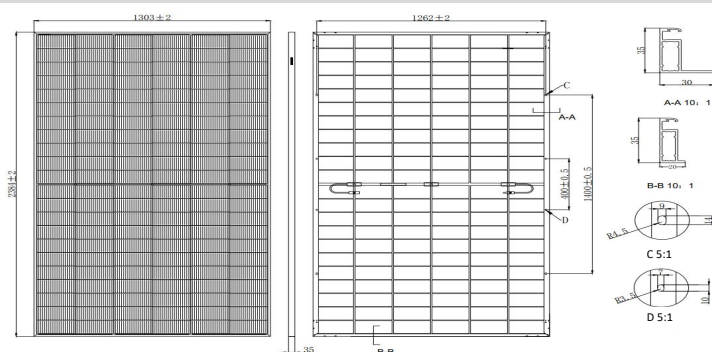
### Electrical characteristics with different rear side power gain

5%	Maximum Power: Pmax[W]	687.8	693.0	698.3	703.5	708.8
	Module Efficiency: $\eta$ [%]	22.1	22.3	22.5	22.6	22.8
15%	Maximum Power: Pmax[W]	753.3	759.0	764.8	770.5	776.3
	Module Efficiency: $\eta$ [%]	24.2	24.4	24.6	24.8	25.0
25%	Maximum Power: Pmax[W]	818.8	825.0	831.3	837.5	843.8
	Module Efficiency: $\eta$ [%]	26.4	26.6	26.8	27.0	27.2

### Mechanical Parameters

Cell Type	TPC
Cell Orientation	132[6×22]
Dimensions	2384±2×1303±2×35mm
Weight	38.7 kg
Front Glass	2.0 mm AR coated heat strengthened glass
Rear Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Cable	4.0 mm <sup>2</sup>
Cable length	+400mm,-200mm,length can be customized
Wind/Snow load	2400Pa/5400Pa
Packaging	31 pcs per pallet,558 pcs per 40'HC
Fire class rating	Class C

### Drawing(Unit:mm)

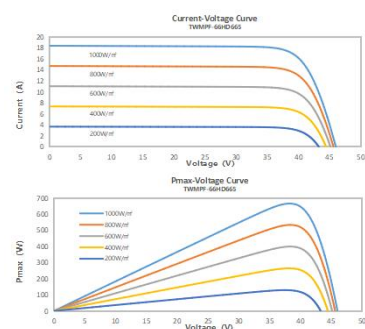


### Temperature rating

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

### Operating Parameters

Operating Temperature	-40°C ~ +85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	35A
Power Output Tolerance	0~+5W
Bifaciality	70±5%



**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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## 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.  
 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.  
 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.  
 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.  
 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.



### Connector type

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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.

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

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