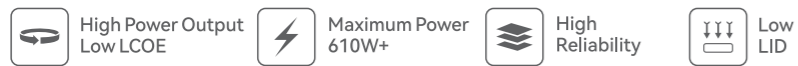




TWMPF-60HS590-610W

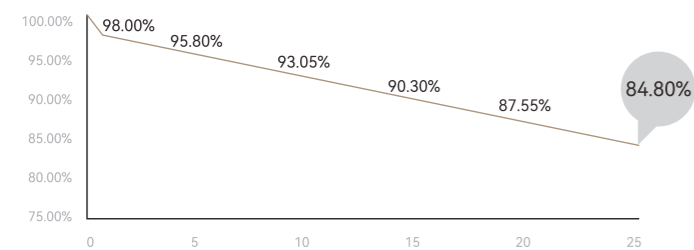
P-type Half-cell Monofacial Module (60)

PRODUCT FEATURES



POWER WARRANTY

1st year <2%, 0.55% power degradation per year from 2 to 25 years



12 12-year Warranty for Materials

25 25-year Warranty for Linear Power Output

MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

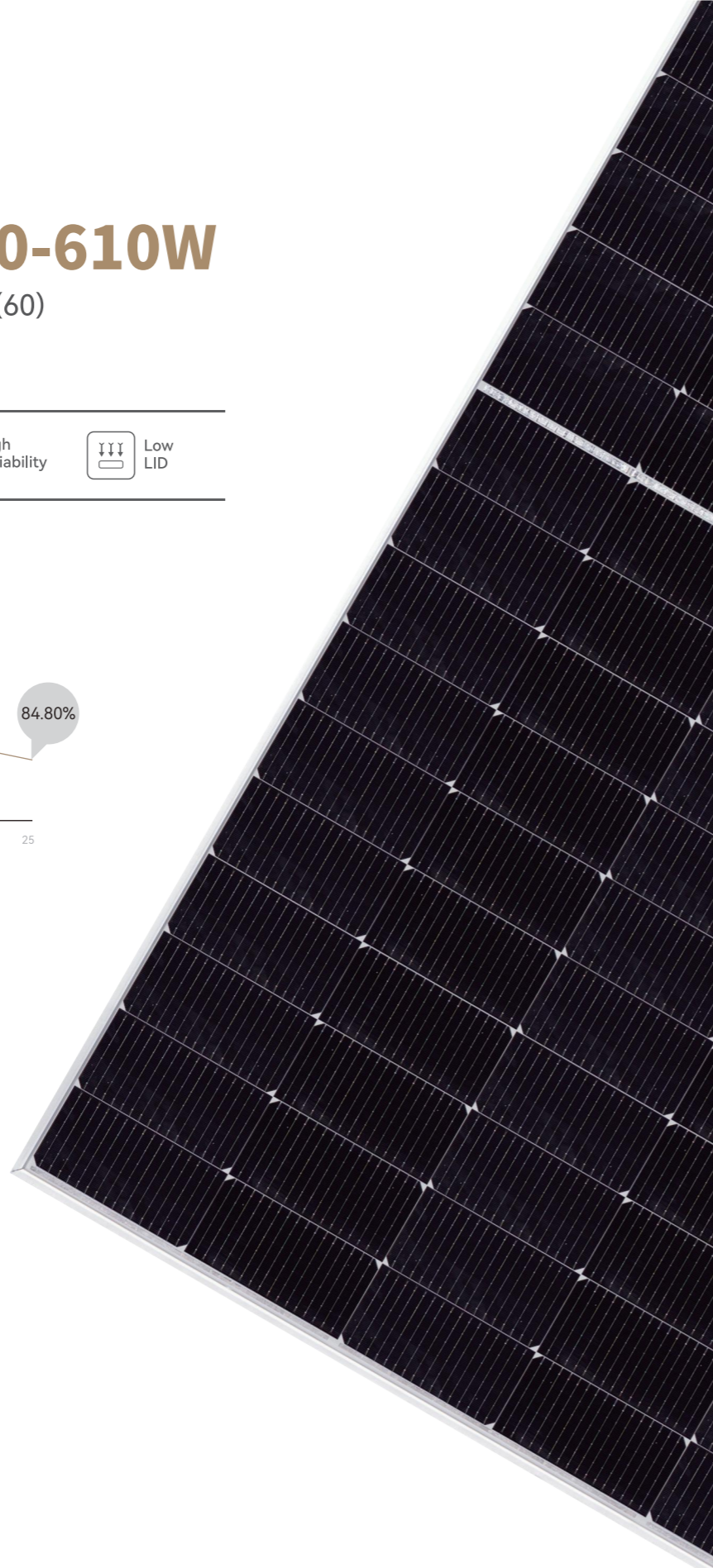
ISO9001: 2015/Quality Management System
 ISO14001: 2015/Environment Management System
 ISO45001: 2018/Occupational Health and Safety Management System



Front



Rear



Electrical Characteristics (STC)

Module Type: TWMPF-60HSXXX

	590	595	600	605	610
Maximum Power: Pmax [W]	590	595	600	605	610
Open Circuit Voltage: Voc [V]	41.05	41.25	41.45	41.65	41.85
Short Circuit Current: Isc [A]	18.45	18.50	18.55	18.61	18.66
Voltage at Maximum Power: Vmp [V]	33.96	34.16	34.36	34.56	34.76
Current at Maximum Power: Imp [A]	17.37	17.41	17.46	17.50	17.55
Module Efficiency: η [%]	20.8	21.0	21.2	21.4	21.6

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%

Electrical Characteristics (NMOT)

Maximum Power: Pmax [W]	446.4	450.2	454.0	457.7	461.5
Open Circuit Voltage: Voc [V]	38.67	38.86	39.05	39.24	39.43
Short Circuit Current: Isc [A]	14.87	14.92	14.96	15.00	15.04
Voltage at Maximum Power: Vmp [V]	31.69	31.88	32.06	32.25	32.43
Current at Maximum Power: Imp [A]	14.09	14.12	14.16	14.19	14.23

NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

Mechanical Parameters

Cells	TPC
Cell Orientation	120[6X20]
Dimension	2172±2 X1303±2X35mm
Weight	31kg
Front Glass	3.2mm high transmittance, AR coated tempered glass
Backsheet	White
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm ²
Cable Length	+400mm, -200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	31pcs per pallet, 558pcs per 40'HC

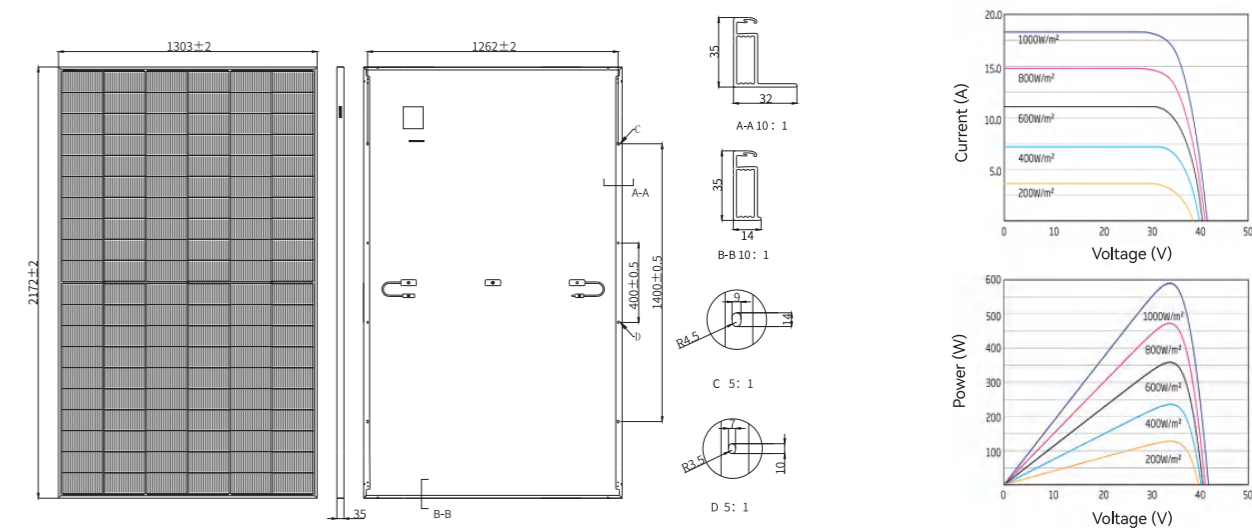
Operating Parameters

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

Temperature Ratings

Temperature Coefficient (Pmax)	-0.34%/°C
Temperature Coefficient (Voc)	-0.27%/°C
Temperature Coefficient (Isc)	+0.045%/°C
NMOT	45±2°C

Drawings (Unit: mm)



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.