



MBB Half-cell Monofacial Full-black Module (54)

TW400~420MAP M10-108-H-F

PRODUCT FEATURES



High Power Output
Low LCOE



Maximum Power
420W*



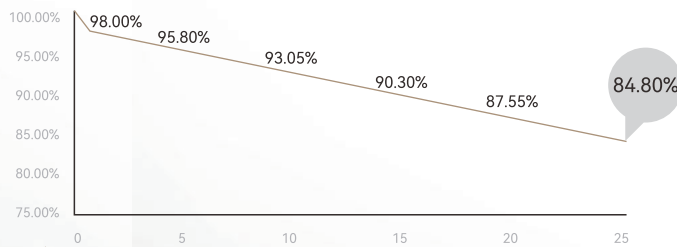
High Reliability



Low LID

POWER WARRANTY

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



12-year warranty for materials



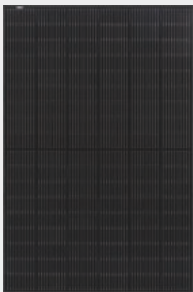
25-year warranty for linear power output

MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

ISO45001: 2018/Occupational Health and Safety Management System

ISO14001: 2015/Environment Management System

ISO9001: 2015/Quality Management System



Front



Rear



Electrical Characteristics (STC)

Module type: TW***MAP-108-H-F

Maximum power: Pmax (W)	400	405	410	415	420
Open circuit voltage: Voc (V)	37.08	37.23	37.38	37.53	37.68
Short circuit current: Isc (A)	13.77	13.87	13.92	13.95	13.98
Voltage at maximum power point: Vmp (V)	30.58	30.73	30.88	31.03	31.18
Current at maximum power point: Imp (A)	13.08	13.18	13.28	13.38	13.47
Module efficiency: η (%)	20.5	20.7	21.0	21.3	21.5

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

Electrical Characteristics (NMOT)

Maximum power: Pmax (W)	302.8	306.6	310.3	314.1	317.9
Open circuit voltage: Voc (V)	34.72	34.86	35	35.15	35.29
Short circuit current: Isc (A)	10.82	10.9	10.97	11.05	11.12
Voltage at maximum power point: Vmp (V)	28.76	28.9	29.04	29.18	29.32
Current at maximum power point: Imp (A)	10.52	10.6	10.68	10.76	10.84

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

Mechanical Parameters

Cells	P-TPC
Orientation	108 (6×18)
Size	1722±2×1134±2×30mm
Weight	20.5kg
Glass	3.2mm AR coated heat strengthened glass
Backsheet	Black inside and white outside/Full black
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Cable	4.0mm ² , Positive: 280mm, Negative: 280mm, length can be customized
Connector	MC4 Compatible or MC4 original
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet , 936pcs per 40'HC

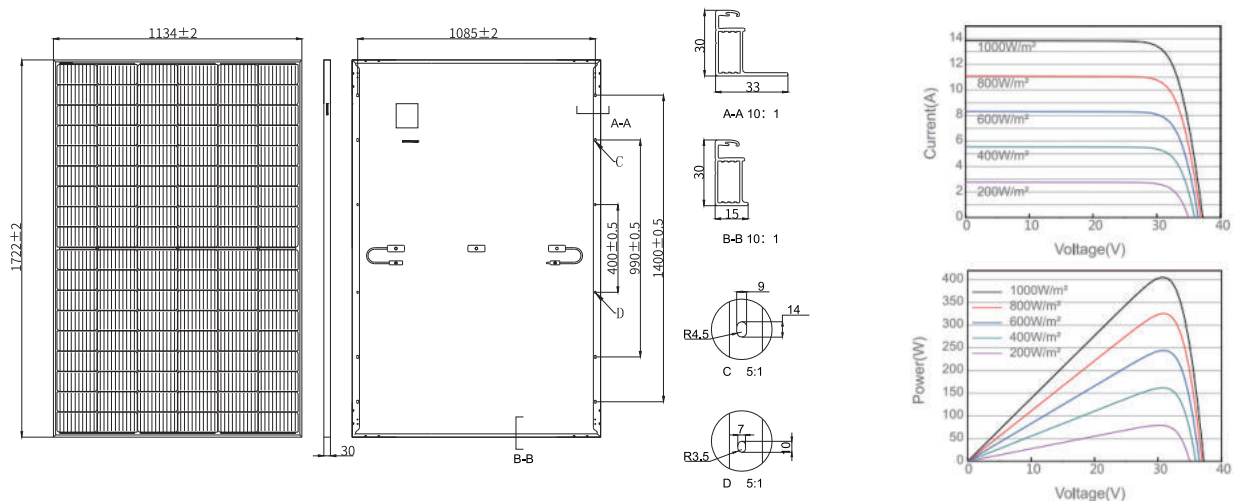
Operating Parameters

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
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)



Email: sales@tongwei.com Web: www.tongwei.com.cn Add: 888 Changning Avenue, High-tech Zone, Hefei City, Anhui Province

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.