

TOPCON Technology

1/2 Cut

Double Glass 435-470W

MS(435-470)MTDG-48HR
TOPCON 210mm 96Cells

Advanced Solar Technology



Industry-leading Process Technology

Leading TOPCON cell/module design, taking into account both product performance and reliability.



Super Strong Power Generation Capacity

The most efficient mass-produced battery technology, with component efficiency reaching 23.52%.



G12R Cell / Module

Innovative rectangular silicon wafer, effectively reduced LCOE and improved ROI.



High Reliability

Adapt to harsh installation environments, with 5400 Pa on the front and 2400 Pa on the back.



Strong Adaptability to Complex Environments

Excellent weak light response and lower temperature coefficient bringing high power generation capacity around the clock.



Peace of Mind Warranty

Very low efficiency degradation (LID/PID) and longer service life.

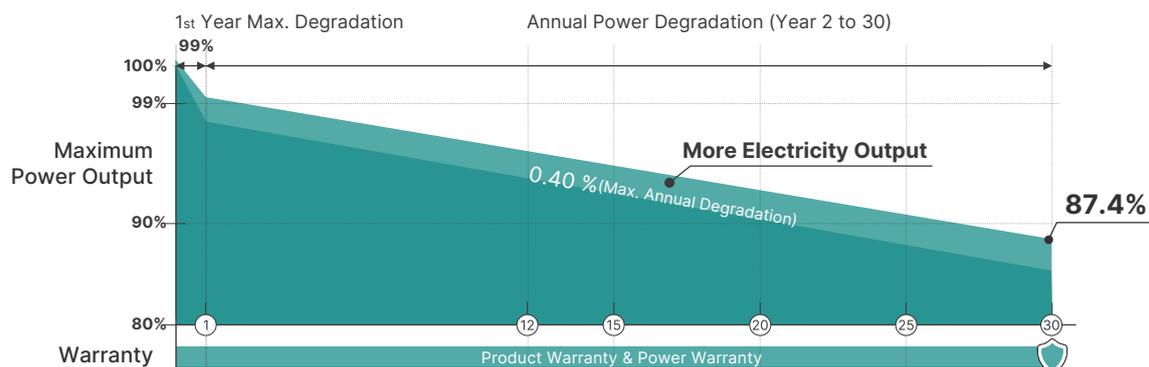


23.52%
Maximum Efficiency

0 ~ +5W
Positive Power Tolerance

30 Years
Product Warranty

30 Years
Power Warranty



Electrical Data(STC)

Test Conditions	STC	STC	STC	STC	STC	STC	STC	STC
Peak Power Watts- P_{MAX} (Wp)*	435	440	445	450	455	460	465	470
Power Tolerance- P_{MAX} (W)	0 ~ +5							
Maximum Power Voltage- V_{MPP} (V)	29.31	29.50	29.70	29.90	30.10	30.31	30.52	30.73
Maximum Power Current- I_{MPP} (A)	14.85	14.92	14.99	15.06	15.12	15.18	15.23	15.30
Open Circuit Voltage- V_{OC} (V)	34.77	34.98	35.19	35.40	35.61	35.82	36.03	36.24
Short Circuit Current- I_{SC} (A)	15.90	15.98	16.06	16.14	16.22	16.30	16.38	16.46
Module Efficiency η_m (%)	21.77	22.02	22.27	22.52	22.77	23.02	23.27	23.52

* STC: Air Mass AM1.5, Irradiance at 1000W/m², Cell Temperature 25°C / Measuring tolerance: ±3%.

Electrical Data(NOCT)

Test Conditions	NOCT	NOCT	NOCT	NOCT	NOCT	NOCT	NOCT	NOCT
Peak Power Watts- P_{MAX} (Wp)*	330	333	337	341	345	349	353	357
Power Tolerance- P_{MAX} (W)	0 ~ +5							
Maximum Power Voltage- V_{MPP} (V)	27.19	27.27	27.57	27.74	27.91	28.08	28.25	28.42
Maximum Power Current- I_{MPP} (A)	12.14	12.18	12.22	12.28	12.34	12.40	12.46	12.52
Open Circuit Voltage- V_{OC} (V)	32.33	32.52	32.74	32.91	33.08	33.25	33.42	33.59
Short Circuit Current- I_{SC} (A)	13.05	13.11	13.16	13.24	13.32	13.41	13.50	13.59

* NOCT: Irradiance at 800W/m², Cell Temperature 20°C, Wind Speed 1m/s / Measuring tolerance: ±3%.

Mechanical Data

Solar Cells	Monocrystalline, TOPCON
Cell Orientation	96cells
Module Dimensions	1762mm × 1134mm × 30mm
Weight	27.0±0.5kg
Front Glass	2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE
Back Glass	2.0mm, High Transmission, Heat Strengthened Glass
Frame	Galvanized Steel or Powder-coated Steel Frame
J-Box	IP 68 Rated(3 Bypass Diodes)
Cables	Photovoltaic Technology Cable 4.0mm ² Portrait: N 300mm / P 300mm Length Can be Customized
Connector	MC4 Compatible

* Please refer to regional datasheet for specific connector.

Temperature Ratings

NOCT(Nominal Operating Cell Temperature)	44°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.24% / °C
Temperature Coefficient of V_{OC}	-0.22% / °C
Temperature Coefficient of I_{SC}	0.04% / °C

* Do not connect fuse in combiner box with two or more strings in parallel connection.

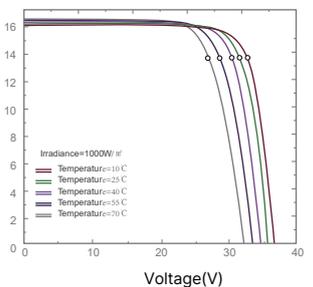
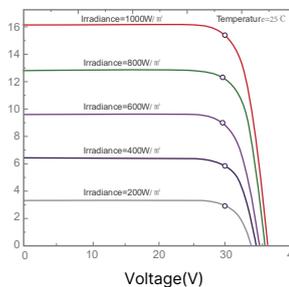
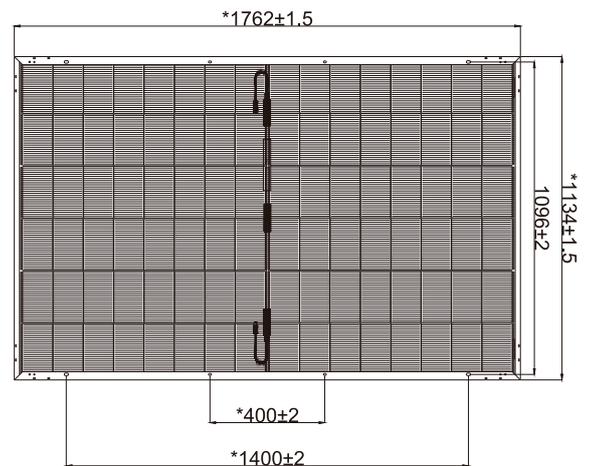
Application Environment

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	(IEC)30A
Mechanical Performance	P 5400Pa / N 2400Pa

Packaging Configuration

Modules Per Pallet:	36 Pieces
Modules Per 40' Container:	936 Pieces

Dimensions of PV Module (mm)



Warranty

30 Years Product Warranty

30 Years Power Warranty

1% First Year Degradation

0.40% Annual Power Degradation

* Please refer to product warranty for details.