

USHERING A NEW ERA

> **410~430 Watt**

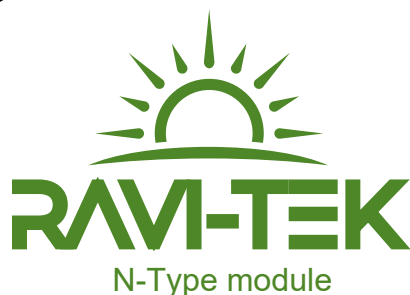
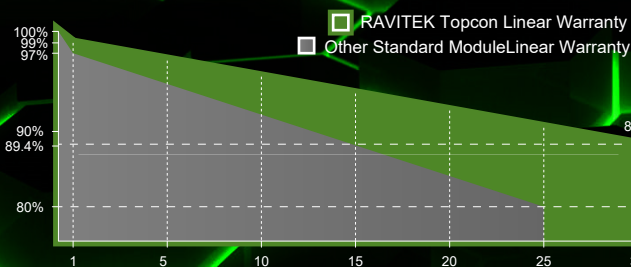
182mm 16BB mono 108Cells

Topcon Bifacial PV Module

All Black Glass/Glass Design

> **30** years product warranty

30 years performance warranty



PRODUCT FEATURE



Bifaciality
>85%



SMBB
Technology
Half Cut
Topcon Cell



Excellent
performance
in low-light
environments



High quality
junction box and
connector
systems



100% inspection,
to guarantee
the reliability of
solar systems



Anti LID



Anti PID



Lower
temperature
coefficient



Quality RFID
Tracking

> MANAGEMENT SYSTEM



ISO 9001:
Quality Management System



ISO 14001:
Standard for environmental management system

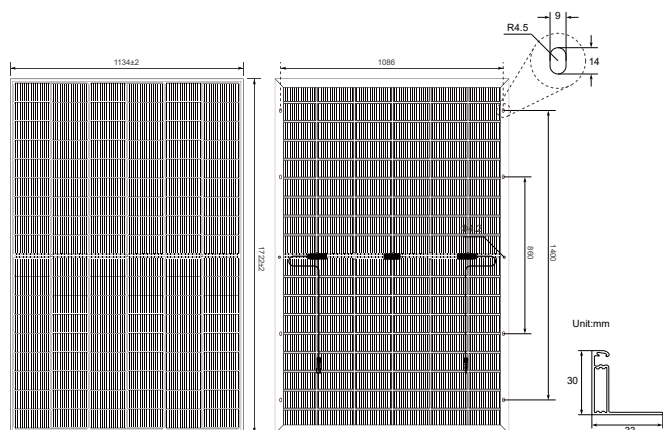


OHSAS 18001:
International standard for occupational health
and safety assessment system

PRODUCT CERTIFICATES



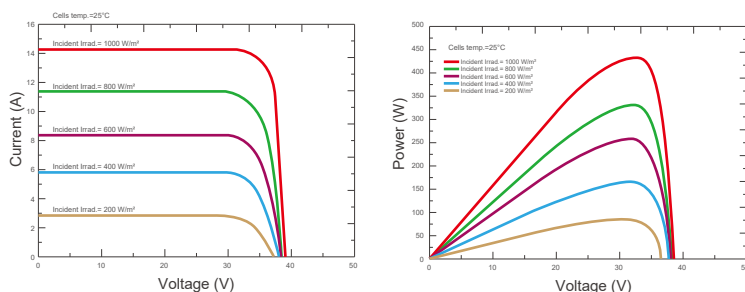
Dimension Drawing



All Dimensions in mm
The above drawing is a graphical representation of the product.
For engineering quality drawings please contact RAVITEK

I-V Graph

Current-Voltage & Power-Voltage Curves



Electrical Characteristics (STC/NOCT)

Module Type	Type 1		Type 2		Type 3		Type 4		Type 5	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power- Pmax(W)	410	308	415	312	420	316	425	320	430	323
Open Circuit Voltage - Voc(V)	37.73	35.84	37.92	36.02	38.11	36.20	38.30	36.38	38.49	36.56
Short- Circuit Current - Isc(A)	13.91	11.23	13.99	11.29	14.07	11.36	14.15	11.42	14.23	11.49
Voltage at Pmax -Vmp(V)	31.13	29.06	31.32	29.21	31.51	29.34	31.70	29.50	31.88	29.63
Current at Pmax - Imp(A)	13.17	10.61	13.25	10.68	13.33	10.76	13.41	10.83	13.49	10.91
Module Efficiency -ηm(%)	21.00	/	21.25	/	21.51	/	21.76	/	22.02	/
Power Tolerance(W)	(0, +4.99W)									
Maximum System Voltage(V)	1000/1500Vdc (IEC / UL)									
Maximum Series Fuse Rating (A)	25A									

STC : Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5

NOCT : Irradiance 800W/m², Ambient Temperature 20°C, Air Mass 1.5, Wind Speed 1m/s

Mechanical Specifications

External Dimensions	1722x1134x30mm
Weight	22kg
Solar Cells	Mono crystalline 182x91mm (2x54pcs)
Glass	Front ARC Solar Glass 1.6mm , Back Toughened Glass 1.6mm
Frame	Anodized aluminum alloy
Junction Box	IP68
Output Cables	4.0mm² , 50cm(+), 50cm(-), length can be customized
Connector	MC4 Compatible
Mechanical Load	Front Side Max. 5400Pa, Rear Side Max. 2400Pa

Rear Side Power Gain

Power Gain	10%	15%	20%	25%	30%
Maximum Power- Pmax(W)	473.0	494.5	516.0	537.5	554.0
Open Circuit Voltage - Voc(V)	38.60	38.70	38.80	38.80	38.90
Short- Circuit Current - Isc(A)	15.70	16.44	17.18	17.93	18.50
Voltage at Pmax -Vmp(V)	31.70	31.60	31.60	31.60	31.50
Current at Pmax - Imp(A)	14.94	15.64	16.33	17.04	17.58

Packing Configuration

	1722x1134x30mm
Container	40'HQ
Pieces per Pallet	36
Pallets per Container	26
Pieces per Container	936

Temperature Characteristics

Pmax Temperature Coefficient	-0.350%/°C
Voc Temperature Coefficient	-0.275%/°C
Isc Temperature Coefficient	+0.045%/°C
Operating Temperature	-40~ +85°C
Nominal Operating Cell Temperature(NOCT)	45±2°C