

# N-TOPCON HIGH-EFFICIENCY SMART PV MODULES

## RM-450-470W-182R/96TB

Smart Monitoring/Power Optimization/Safe Shutdown



**Power Increased by 5%-30%**

- **High-efficiency power generation:**

Automatically adjusts power to avoid significant drops in electricity generation caused by weather changes or shading, reduce current mismatch caused by different orientations, dust, or snow accumulation, and improve overall power generation efficiency.

- **Safe and reliable:**

Anti-shading protection: The new design control technology prevents hot spots when parts of the module are partially shaded; Rapid shutdown: In emergencies (such as fire), the module circuit can be quickly disconnected.

- **Intelligent operation and maintenance:**

It can collect real-time data on component temperature, current, voltage, etc., and use big data and artificial intelligence algorithms to achieve fault warning and diagnosis, reducing downtime and lowering maintenance costs.

- **Aesthetically pleasing and integrated:**

Featuring a minimalist and stylish exterior design, the colors and shapes can better blend with the architectural environment, with intelligent components integrated for unified delivery.

**15** 15-year product warranty

**30** 30-year linear power warranty

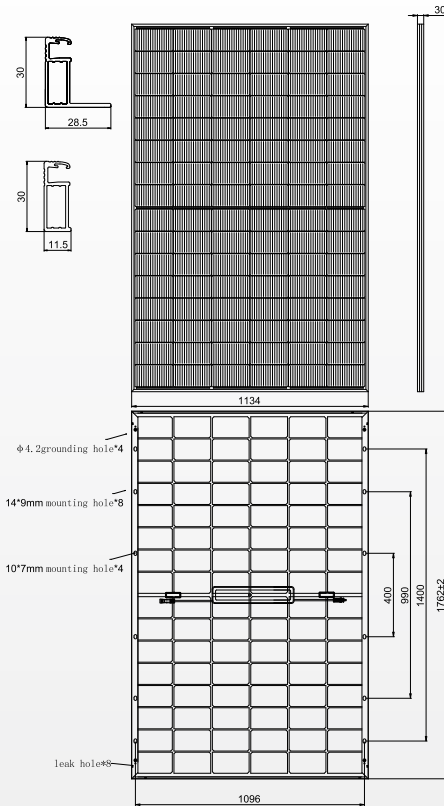
**450-470Wp**  
Power output

**23.52%**  
Max efficiency.

**96 CELL**  
Mono TOPCon

**0.40%**  
Annual decay rate

### Dimensions of PV Module



### ELECTRICAL CHARACTERISTICS (STC\*)

Rated Power in Watts-Pmax(Wp)	450	455	460	465	470
Open Circuit Voltage-Voc(V)	35.03	35.21	35.39	35.57	35.75
Short Circuit Current-Isc(A)	16.05	16.10	16.15	16.20	16.25
Max. Power Voltage-Vmpp(V)	30.08	30.26	30.44	30.62	30.80
Max. Power Current-Impp(A)	14.97	15.04	15.12	15.20	15.27
Module Efficiency(%)	22.52	22.77	23.02	23.27	23.52
Maximum system voltage	1500V DC				
Fuse Rating(A)	30				
Temperature coefficient Pmax	-0.30%/°C				
Temperature coefficient Isc	0.046%/°C				
Temperature coefficient Voc	-0.25%/°C				
Refer. Bifacial Factor	$\phi_{Isc}=80\% \pm 10\%, \phi_{Voc}=100\% \pm 3\%, \phi_{Pmax}=80\% \pm 10\%$				

\*STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5

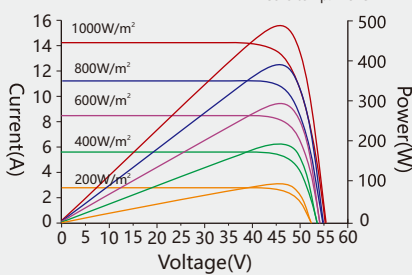
### SPECIFICATIONS(BNPI)

Rated Power in Watts-Pmax(Wp)	497	502	508	513	518
Open Circuit Voltage-Voc(V)	35.23	35.41	35.59	35.77	35.95
Short Circuit Current-Isc(A)	17.62	17.67	17.73	17.78	17.83
Max. Power Voltage-Vmpp(V)	30.28	30.46	30.64	30.82	31.00
Max. Power Current-Impp(A)	16.42	16.49	16.58	16.65	16.72
Power tolerance	0~+3%				
Operating Temperature	-40°C~85°C				

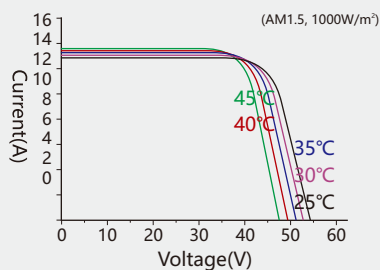
\*BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

### RM-470W-182R/96TB

#### I-V characteristics at different irradianations



#### I-V characteristics at different temperatures



### MECHANICAL CHARACTERISTICS

Number of cells	96pcs
Type of cell	N-TOPCon Mono
Thickness of glass(mm)	2.0
Junction box	IP68, 1500V DC, 3 Diodes
Type of frame	Anodized Aluminum Alloy
Size of module(mm)	1762×1134×30
Weight(kg)	25.5
Cables/connectors	4.0mm <sup>2</sup> , MC4 compatible
Length of Cable	+300mm/-200mm (connector included) Length can be customized

### PACKAGING CONFIGURATION

Height of Modules (mm)	30
Number of Modules Per Pallet	36
Packaging Box Dimensions (l×w×h) (mm)	1778×1134×1260
Box Gross Weight (kg)	931
Number of Modules Per 40ft (HQ) Container	936
Number of Pallets Per 40ft (HQ) Container	26



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