

## HRAP-108H-N430-N450M10

### N-TOPCon Technology

**23.00%**  
Maximum Module Efficiency

**450W**  
Maximum Power Output

Power Shorting Tolerance:0-3W

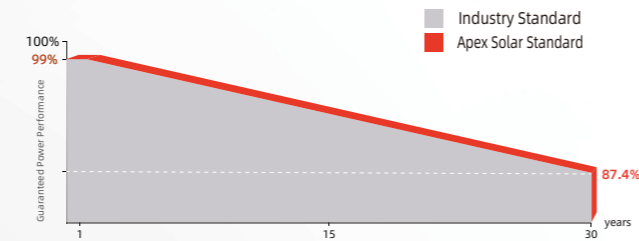
**1724×1134×30mm**  
Module Dimensions

IEC 61215 / IEC 61730  
Fire safety class:Class C according to UL790  
ISO 9001 :Quality Management System  
ISO 14001 :Environment Management

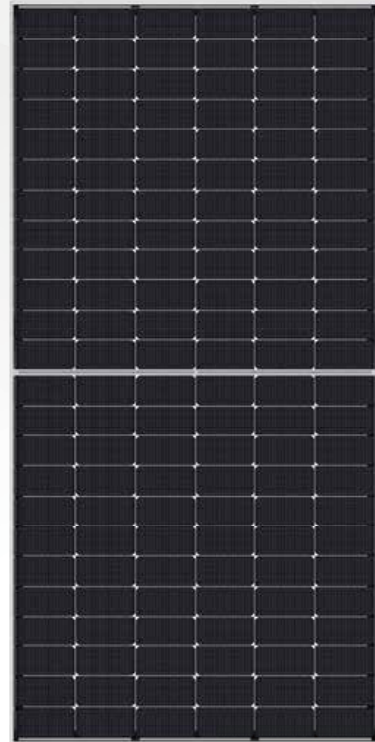


#### Industry Leading Linear Power Warranty

12-year Warranty for Materials and Processing .30-year Warranty for Extra Linear Power Output



**12 YEARS** Process Warranty      **30 YEARS** Power Warranty



- 0-3W**  
Guaranteed 0-3W positive tolerance ensures the power output reliability
- High customer value**  
Lower cost per kilowatt hour.High quality silicon wafer guarantee, high power module output, excellent cost performance advantage, is an ideal choice for solar power stations
- Highly reliable due to stringent quality control**  
Three times strict EL testing beyond certification requirements
- Fusion of MBB and half-cut cells technology**  
The new circuit design, minimizes the impact of shadow on the power generation of solar module.Excellent light utilization and current collection capacity, effectively improve product power output and reliability
- Excellent Anti-PID performance**  
Ensure that the scale production passes the PID test, and greatly reduce the attenuation caused by PID by optimizing the wafer process
- Outstanding low light performance**  
The coated glass with high transmittance and the surface technology of the wafer are used to achieve excellent performance in low light environment

## HRAP-108H-N430-N450M10

### ELECTRICAL PARAMETERS AT STC

Rated Maximum Power(Pmax) [W]	430	435	440	445	450
Maximum Power Voltage(Vmp) [V]	32.38	32.59	32.81	33.02	33.21
Maximum Power Current(Imp) [A]	13.28	13.35	13.41	13.48	13.55
Open Circuit Voltage(Voc) [V]	38.95	39.16	39.38	39.59	39.78
Short Circuit Current(Isc) [A]	13.73	13.80	13.86	13.93	14.00
Module Efficiency [%]	21.99	22.25	22.50	22.76	23.00

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

### ELECTRICAL PARAMETERS AT NMOT

Rated Maximum Power(Pmax)[W]	323	327	331	335	338
Maximum Power Voltage(Vmp) [V]	30.10	30.33	30.56	30.76	30.90
Maximum Power Current(Imp) [A]	10.73	10.78	10.83	10.89	10.94
Open Circuit Voltage(Voc) [V]	37.00	37.20	37.41	37.61	37.79
Short Circuit Current(Isc) [A]	11.09	11.14	11.19	11.25	11.30

NMOT: Irradiance 800 W/m<sup>2</sup> ambient temperature 20°C wind speed: 1 m/s

### MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	182×182mm
Cell Arrangement	108(6×18)
Weight	21kg(±3%)
Module Dimensions	1724×1134×30mm
Cable	4.0 mm <sup>2</sup> positive/negative:300mm(11.8inches ),length Can be customized
Front Glass	3.2 mm high transmittance,AR coating tempered glass
Frame	Anodized aluminium alloy
Junction Box	Protection class IP68
Type of Connector	PV-XT101.1 ( Suzhou Xtong Photovoltage Technology Co., Ltd)
Mechanical Load	Front side 5400Pa/Rear side 2400Pa

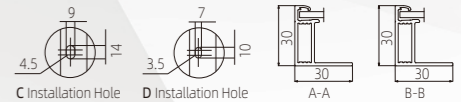
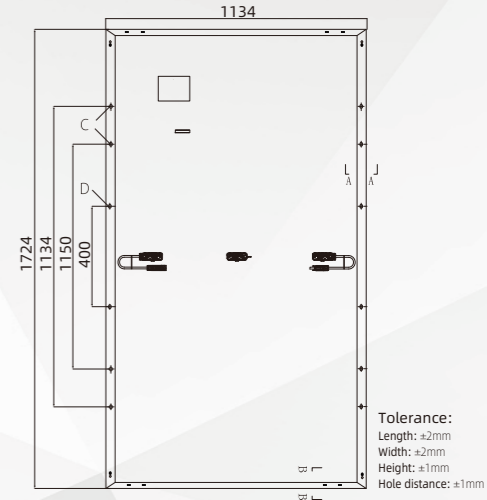
### OPERATING CONDITIONS

Maximum System Voltage (V)	1000/1500VDC (IEC)
Pmax Temperature Coefficient	-0.30%/°C
Voc Temperature Coefficient	-0.25%/°C
ISC Temperature Coefficient	0.046%/°C
Nominal Operating Cell Temperature	45±2°C
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	25A

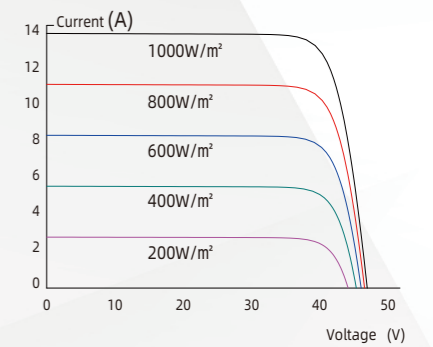
### PPACKING CONFIGURATION

Quantity/Pallet	36pcs/pallet
Quantity/Container	962pcs/40HQ

### Module Dimension(mm)



### Current-Voltage Curve (450W)



### Power-Voltage Curve (450W)

