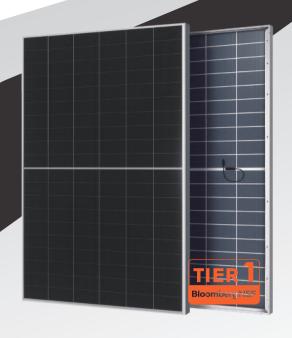
# **N-TOPCon**







HN21N-60HT

630-655W

**BIFACIAL** 

23.1%

High Efficiency Module

Maximum Efficiency



### Long-Term Reliability

Module certified to withstand 5400 Pa positive static load and 2400 Pa negative static load.

Excellent anti-PID performance to guarantee a better sustainability in harsh environment.



### **Lower Hot Spot and Crack Risk**

Reduce hot-spot risk with optimized electrical design and lower operating current.

Reduce crack risk by MBB solar cell design.



### **Higher Power Output**

Higher module conversion efficiency benefit from bigger wafer and half-cell structure.

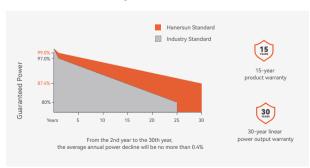
MBB technology enhances current collection with lower series resistance.



### **Excellent Temperature Coefficient**

Lower operating temperature and temperature coefficient increases the power output.

## **Power Warranty**



### **Certificates**





















Warranty partner



### **About Hanersun**

Hanersun is a world-leading clean energy company, focusing on R&D, manufacturing and distribution of solar module and energy storage system, as well as comprehensive clean energy solutions. Committed to high-efficiency technologies, the company is one of the first to launch PV modules of 600W+ and 700W+ in the industry.

### **Electrical Characteristics (STC)**

| Module Type                 | HN21N-60HT630W | HN21N-60HT635W | HN21N-60HT640W | HN21N-60HT645W | HN21N-60HT650W | HN21N-60HT655W |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Maximum Power (Pmax)        | 630            | 635            | 640            | 645            | 650            | 655            |
| Maximum Power Voltage (Vmp) | 36.48          | 36.68          | 36.88          | 37.08          | 37.28          | 37.48          |
| Maximum Power Current (Imp) | 17.27          | 17.32          | 17.36          | 17.40          | 17.44          | 17.48          |
| Open-circuit Voltage (Voc)  | 43.20          | 43.40          | 43.60          | 43.80          | 44.00          | 44.20          |
| Short-circuit Current (Isc) | 18.27          | 18.31          | 18.35          | 18.39          | 18.43          | 18.47          |
| Module Efficiency(%)        | 22.3%          | 22.4%          | 22.6%          | 22.8%          | 23.0%          | 23.1%          |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

Power Tolerance: 0~+3%

### **Electrical Characteristics (BNPI)**

| Module Type                 | 630W  | 635W  | 640W  | 645W  | 650W  | 655W  |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax)        | 698   | 704   | 709   | 715   | 721   | 726   |
| Maximum Power Voltage (Vmp) | 36.48 | 36.68 | 36.88 | 37.08 | 37.28 | 37.48 |
| Maximum Power Current (Imp) | 19.14 | 19.20 | 19.23 | 19.29 | 19.34 | 19.38 |
| Open-circuit Voltage (Voc)  | 43.20 | 43.40 | 43.60 | 43.80 | 44.00 | 44.20 |
| Short-circuit Current (Isc) | 20.24 | 20.29 | 20.33 | 20.38 | 20.43 | 20.47 |

BNPI: Irradiance: Front 1000W/m², Rear 135W/m², Cell Temperature 25°C, Air Mass AM1.5.

### **Mechanical Parameters**

| Solar Cells       | N-TYPE Monocrystalline(210mm) |
|-------------------|-------------------------------|
| Module Dimensions | 2172*1303*30mm                |
| Glass             | 2mm-2mm                       |
| Frame             | Anodized Aluminium Alloy      |
| Output Cable      | 4.0mm²                        |

| No. of Cells | 120 [2 x (10 x 6)]            |
|--------------|-------------------------------|
| Weight       | 32.7kg                        |
| J-Box        | IP68                          |
| Connector    | Z4S-abcd/MC4-EVO 2A/Others    |
| Cable Length | 300/300mm (can be customized) |

### **Operating Parameters**

| Operational Temperature    | -40°C~+70°C    |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 35A            |
| Bifacility                 | 80±5%          |
| Fire Class Rating          | Class C        |

### **Temperature Ratings**

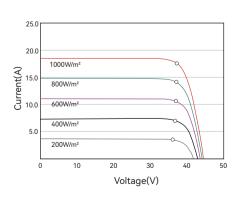
| Temperature Coefficient of Pmax | -0.28%/°C  |
|---------------------------------|------------|
| Temperature Coefficient of Voc  | -0.23%/°C  |
| Temperature Coefficient of Isc  | +0.045%/°C |



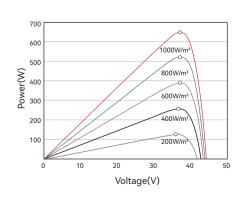
# Packaging

Pcs per Pallet: 37

# P-V Curves of PV Module (650W)



I-V Curves of PV Module (650W)



# Dimensions (Unit: mm) 1303 2172 Front View



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Back View