# **N-TOPCon**

# HANERSL





HN18N-60H



MONOFACIAL

22.9%

**High Efficiency Module** 

Maximum Efficiency



# Long-Term Reliability

Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal).

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.

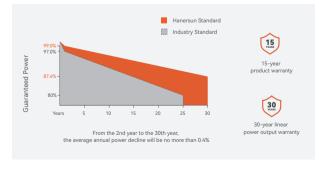
MBB technology enhances current collection with lower series resistance.



# **Excellent Temperature Coefficient**

Lower operating temperature and temperature coefficient increases the power output.







# **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                 | HN18N-60H470W | HN18N-60H475W | HN18N-60H480W | HN18N-60H485W | HN18N-60H490W | HN18N-60H495W |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Maximum Power (Pmax)        | 470           | 475           | 480           | 485           | 490           | 495           |
| Maximum Power Voltage (Vmp) | 35.50         | 35.70         | 35.90         | 36.10         | 36.30         | 36.50         |
| Maximum Power Current (Imp) | 13.28         | 13.34         | 13.40         | 13.44         | 13.50         | 13.57         |
| Open-circuit Voltage (Voc)  | 42.40         | 42.60         | 42.80         | 43.00         | 43.20         | 43.40         |
| Short-circuit Current (Isc) | 14.08         | 14.16         | 14.21         | 14.24         | 14.29         | 14.34         |
| Module Efficiency(%)        | 21.7%         | 21.9%         | 22.2%         | 22.4%         | 22.6%         | 22.9%         |

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

#### **Mechanical Parameters**

**Operating Parameters** 

**Operational Temperature** 

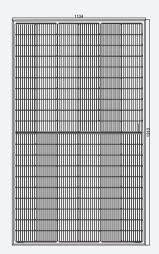
Maximum System Voltage

Maximum Series Fuse Rating

| Solar Cells       | N-TYPE Monocrystalline(182mm)   |  |  |
|-------------------|---|--|--|
| No. of Cells      | 120 [2 x (10 x 6) ]   |  |  |
| Module Dimensions | 1910*1134*30mm  |  |  |
| Weight            | 21.6kg  |  |  |
| Glass             | 3.2mm, Anti-reflection Coating, High Transmission, Low Iron, Tempered Glass |  |  |
| Backsheet         | White   |  |  |
| Frame             | Anodized Aluminium Alloy  |  |  |
| J-Box             | IP68  |  |  |
| Output Cable      | 4.0mm²  |  |  |
| Cable Length      | Length Portrait:300/300mm (can be customized)                               |  |  |
| Connector         | MC4-EVO 2A/Z4S-abcd/Others  |  |  |
|                   |   |  |  |

# Dimensions (Unit: mm)

Power Tolerance: 0~+3%



Front View



Bifacility

Pcs per Pallet: 37

Fire Class Rating

#### **Temperature Ratings**

Pcs per 40' HC: 888

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

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

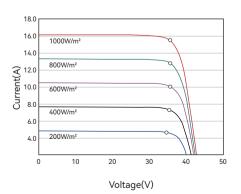
-40°C~+85°C 1500V DC (IEC)

25A

Class C

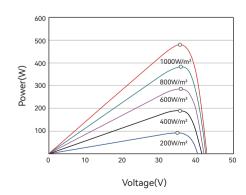
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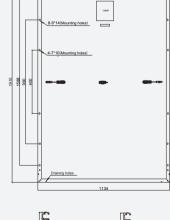
### I-V Curves of PV Module (480W)





### P-V Curves of PV Module (480W)





4-R2.1(0



33

Long frame

Back View

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