

TOPCon

High Efficiency Module

22.62%

Maximum Efficiency

15 YEARS

Product Warranty

Hitouch 5N

HN18N-60H

470-490W



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.



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.

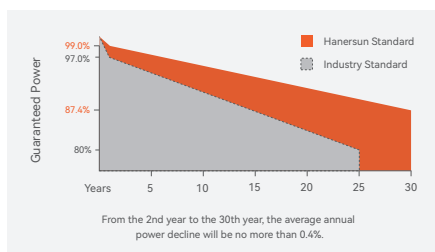


Lower Hot Spot and Crack Risk

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

Reduce crack risk by MBB solar cell design.

Power Warranty



Insurance

Munich RE

Certificates



15-year product warranty



30-year linear power output warranty

About Hanersun

Hanersun is a world-leading energy technology company, with a business scope from the R&D and intelligent manufacturing of solar modules, energy storage products, to comprehensive energy solutions.

Electrical Characteristics

Module Type	HN18N-60H470W		HN18N-60H475W		HN18N-60H480W		HN18N-60H485W		HN18N-60H490W	
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax)	470	357	475	363	480	365	485	369	490	373
Maximum Power Voltage (Vmp)	35.50	33.15	35.70	33.35	35.90	33.56	36.10	33.75	36.30	33.95
Maximum Power Current (Imp)	13.28	10.76	13.34	10.81	13.40	10.88	13.44	10.94	13.50	10.99
Open-circuit Voltage (Voc)	42.40	39.85	42.60	40.05	42.80	40.25	43.00	40.45	43.20	40.65
Short-circuit Current (Isc)	14.08	11.40	14.16	11.46	14.21	11.51	14.24	11.57	14.29	11.63
Module Efficiency(%)	21.70%		21.93%		22.16%		22.39%		22.62%	

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

*Measuring tolerance: 0 ~ +5W

NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.**Mechanical Parameters**

Solar Cells	Monocrystalline (182mm)
No. of Cells	120[2 x (10x 6)]
Module Dimensions	1910*1134*35mm
Weight	24.0kg
Glass	3.2mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA/POE
Backsheet	White
Frame	Anodized Aluminium Alloy
J-Box	IP68
Output Cable	4.0mm ²
(Including Connector)	Length Portrait:300/300mm (can be customized)
Connector	MC4 Compatible

Temperature Ratings

NMOT (Nominal operating cell temperature)	42°C(±2°C)
Temperature Coefficient of Pmax	-0.28%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.045%/°C

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

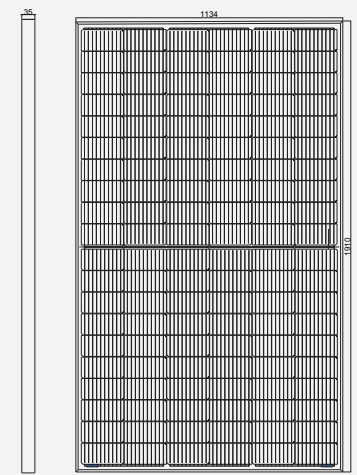
Packaging

Pcs per Pallet: 31

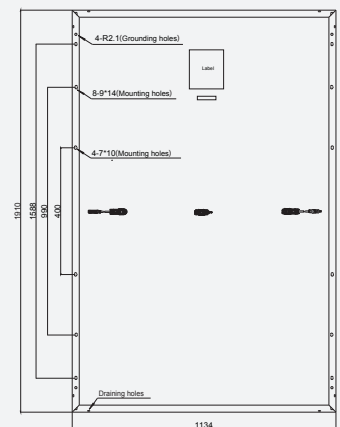
Pcs per 40' HC: 744

Operating Parameters

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Series Fuse Rating	30A
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Dimensions (Unit: mm)

Front View

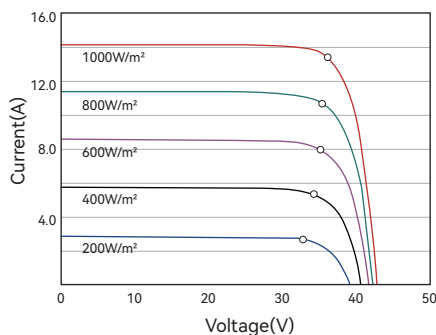


Long frame



Short frame

Back View

I-V Curves of PV Module (480W)**P-V Curves of PV Module (480W)**