



Hitouch 6N

HN21RN-48HT

425-450W

BIFACIAL

Full Black Module

22.5%

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.

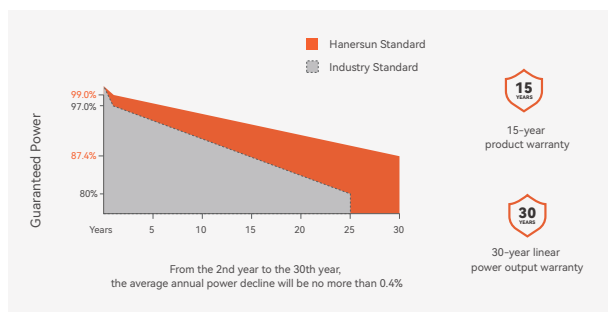
MBB technology enhances current collection with lower series resistance.



Excellent Temperature Coefficient

Lower operating temperature and temperature coefficient increases the power output.

Power Warranty



Certificates



Warranty partner

Munich RE 

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	HN21RN-48HT425W	HN21RN-48HT430W	HN21RN-48HT435W	HN21RN-48HT440W	HN21RN-48HT445W	HN21RN-48HT450W
Maximum Power (Pmax)	425	430	435	440	445	450
Maximum Power Voltage (Vmp)	29.10	29.26	29.42	29.58	29.74	29.90
Maximum Power Current (Imp)	14.61	14.70	14.79	14.88	14.97	15.06
Open-circuit Voltage (Voc)	34.90	35.10	35.30	35.50	35.70	35.90
Short-circuit Current (Isc)	15.63	15.69	15.75	15.81	15.87	15.93
Module Efficiency(%)	21.3%	21.5%	21.8%	22.0%	22.3%	22.5%

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

Power Tolerance: 0~+3%

Electrical Characteristics (BNPI)

Module Type	425W	430W	435W	440W	445W	450W
Maximum Power (Pmax)	471	476	482	488	493	499
Maximum Power Voltage (Vmp)	29.10	29.14	29.30	29.46	29.62	29.78
Maximum Power Current (Imp)	16.27	16.36	16.45	16.57	16.65	16.76
Open-circuit Voltage (Voc)	34.83	34.93	35.13	35.33	35.53	35.73
Short-circuit Current (Isc)	17.39	17.46	17.53	17.60	17.66	17.73

BNPI: Irradiance: Front 1000W/m², Rear 135W/m², Cell Temperature 25°C, AM=1.5

Mechanical Parameters

Solar Cells	N-TYPE Monocrystalline(210R)	No. of Cells	96 [2 x (8 x 6)]
Module Dimensions	1762*1134*30mm	Weight	24.1kg
Glass	2mm-2mm	J-Box	IP68
Frame	Anodized Aluminium Alloy	Connector	MC4-EVO 2A/Z4S-abcd/Others
Output Cable	4.0mm ²	Cable Length	300/300mm (can be customized)

Operating Parameters

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Series Fuse Rating	35A
Bifacility	80±5%
Fire Class Rating	Class C

Packaging

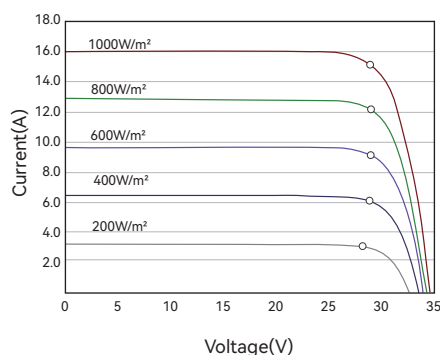
Pcs per Pallet: 37

Temperature Ratings

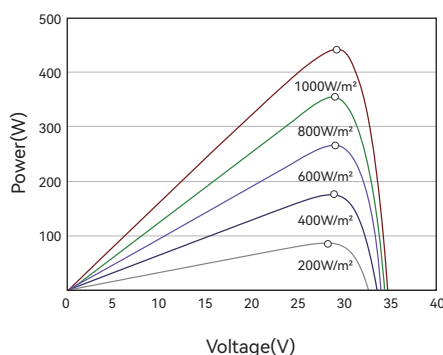
Temperature Coefficient of Pmax	-0.28%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.045%/°C

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

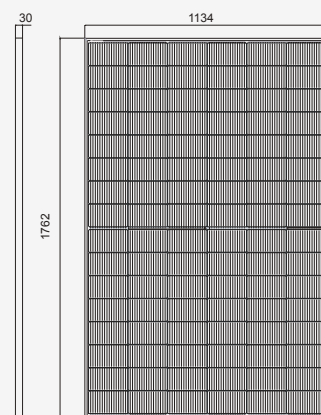
I-V Curves of PV Module (440W)



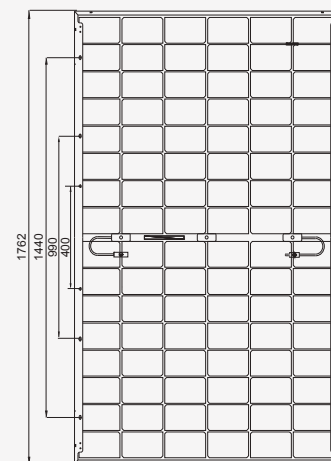
P-V Curves of PV Module (440W)



Dimensions (Unit: mm)



Front View



Back View