



## Hitouch 6H

HN21RH-48HT

**440-465W**

**BIFACIAL**

High Efficiency Module

**23.3%**

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 benefits from bigger wafer and half-cell structure.

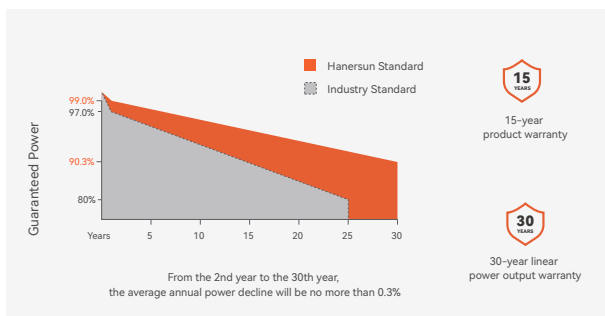
MBB technology enhances current collection with lower series resistance.



### 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, with a business scope from the R&D and intelligent manufacturing of solar modules, energy storage products, to comprehensive energy solutions.

## Electrical Characteristics (STC)

Module Type	HN21RHT-48H440W	HN21RHT-48H445W	HN21RHT-48H450W	HN21RHT-48H455W	HN21RH-48HT460W	HN21RH-48HT465W
Maximum Power (Pmax)	440	445	450	455	460	465
Maximum Power Voltage (Vmp)	30.61	30.72	30.83	30.94	31.05	31.16
Maximum Power Current (Imp)	14.38	14.49	14.60	14.71	14.82	14.93
Open-circuit Voltage (Voc)	36.52	36.62	36.72	36.82	36.92	37.02
Short-circuit Current (Isc)	15.31	15.42	15.53	15.64	15.75	15.86
Module Efficiency(%)	22.0%	22.3%	22.5%	22.8%	23.0%	23.3%

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

Power Tolerance: 0~+3%

## Electrical Characteristics (BNPI)

Module Type	440W	445W	450W	455W	460W	465W
Maximum Power (Pmax)	494	500	505	511	516	522
Maximum Power Voltage (Vmp)	30.61	30.72	30.83	30.94	31.05	31.16
Maximum Power Current (Imp)	16.14	16.28	16.39	16.52	16.62	16.76
Open-circuit Voltage (Voc)	36.52	36.62	36.72	36.82	36.92	37.02
Short-circuit Current (Isc)	17.17	17.29	17.42	17.54	17.66	17.79

BNPI: Irradiance: Front 1000W/m<sup>2</sup>, Rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Mechanical Parameters

Solar Cells	HJT Mono (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 <sup>2</sup>	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	90±5%
Fire Class Rating	Class C

## Temperature Ratings

Temperature Coefficient of Pmax	-0.24%/°C
Temperature Coefficient of Voc	-0.22%/°C
Temperature Coefficient of Isc	+0.04%/°C

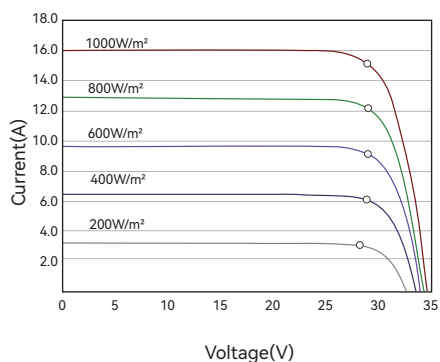
(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

## Packaging

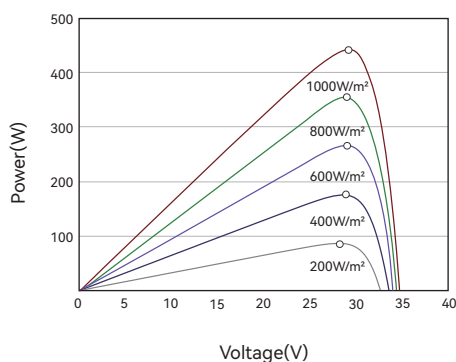
Pcs per Pallet: 37

Pcs per 40' HC: 962

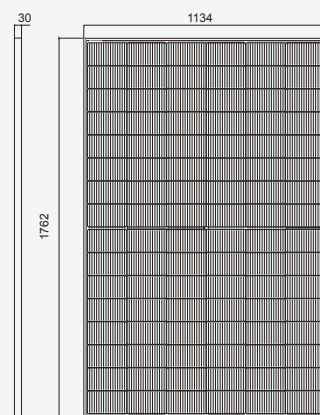
## I-V Curves of PV Module (440W)



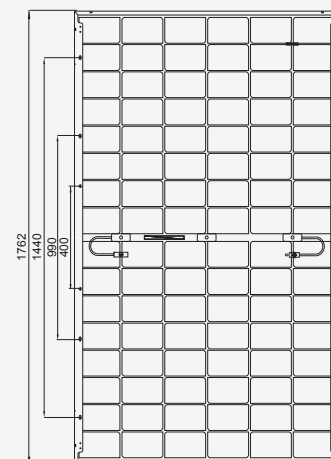
## P-V Curves of PV Module (440W)



## Dimensions (Unit: mm)



Front View



Back View