

# NP-HE108N

N-type Bifacial Mono Module  
with SMBB Technology

## 415-435W

**435W**

 Maximum Power  
Output

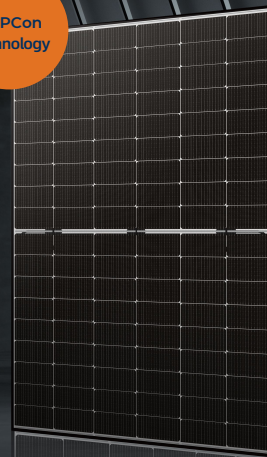
**22.27%**

 Maximum Module  
Efficiency

**0~+5W**

 Power Output  
Tolerance

IEC61215(2016), IEC61730(2016)  
ISO9001:2015: Quality Management System  
ISO14001:2015: Environment Management System  
ISO45001:2018: Occupational health and safety management systems  
IEC62941: 2019: Quality system for PV module manufacturing

 TOPCon  
Technology


## Northern POWER SYSTEMS



### 10-30% Additional Power Generation

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module



### ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally which can increase power generation



### Higher Reliability

Adpoted Northern Power Systems lastest TOPCon technology, No polysilicon wrap around, Full electrical isolation, Zero leakage current; Much Safer for roof



### Better Weak Illumination Response

Higher power output even under low-light environments like on cloudy or foggy days



### Better Temperature Coefficient

Higher power generation under working conditions, thanks to passivating contact cell technology



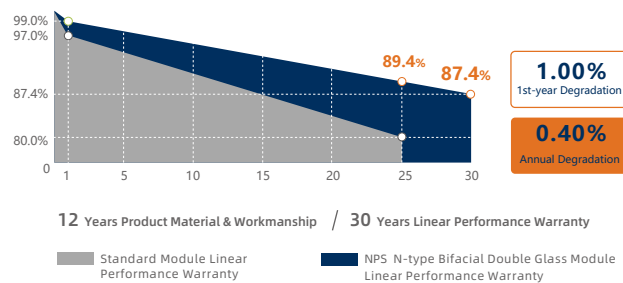
### Wider Applicability

More application scenes like BIPV, vertical installation, snowfield, high-humid, windy and dusty area

## NPS Reliable Performance Over Time

- Leader of N-type bifacial manufacturer
- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability
- BNEF Tier One

## Linear Performance Warranty



# NP-HE108N Series N-type Bifacial Mono Module

## Electrical Properties | STC\*

Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (P <sub>max</sub> ) (W)	415	420	425	430	435
MPP Voltage (V <sub>mp</sub> ) (V)	31.7	31.9	32.1	32.3	32.5
MPP Current (I <sub>mp</sub> ) (A)	13.10	13.17	13.24	13.32	13.39
Open Circuit Voltage (V <sub>oc</sub> ) (V)	37.7	37.9	38.1	38.3	38.4
Short Circuit Current (I <sub>sc</sub> ) (A)	13.91	13.98	14.05	14.12	14.18
Module Efficiency (%)	21.25	21.51	21.76	22.02	22.27

\*STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5  
The data above is for reference only and the actual data is in accordance with the practical testing Power Measurement Tolerance ±3%

## Electrical Properties | NOCT\*

Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (P <sub>max</sub> ) (W)	315	318	322	326	330
MPP Voltage (V <sub>mp</sub> ) (V)	29.8	30.0	30.2	30.3	30.5
MPP Current (I <sub>mp</sub> ) (A)	10.56	10.62	10.67	10.74	10.82
Open Circuit Voltage (V <sub>oc</sub> ) (V)	36.0	36.2	36.4	36.6	36.8
Short Circuit Current (I <sub>sc</sub> ) (A)	11.22	11.27	11.33	11.38	11.44

\*NOCT: Irradiance 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s

## Operating Properties

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage (V)	1500V DC (IEC)
Maximum Series Fuse Rating (A)	30
Power Tolerance	0~+5W
Bifaciality*	80%

\*Bifaciality=P<sub>maxrear</sub> (STC) /P<sub>maxfront</sub> (STC) , Bifaciality tolerance:±5%

## Temperature Coefficient

Temperature Coefficient of P <sub>max</sub> *	-0.300%/°C
Temperature Coefficient of V <sub>oc</sub>	-0.250%/°C
Temperature Coefficient of I <sub>sc</sub>	+0.045%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

\*Temperature Coefficient of P<sub>max</sub>±0.03%/°C

## Mechanical Properties

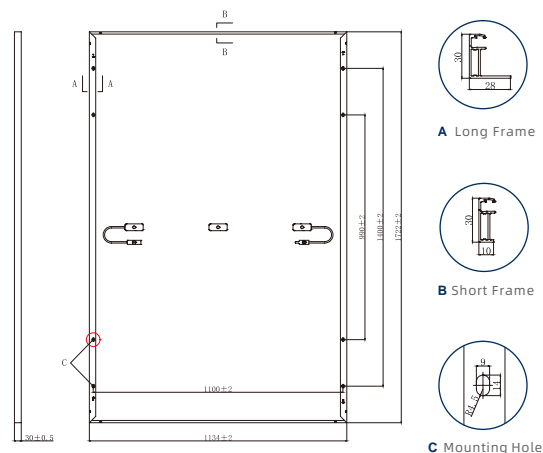
Cell Size	182.00mm*91.00mm
Number of Cells	108pcs(12*9)
Module Dimension	1722mm*1134mm*30mm
Weight	24.5kg
Front / Rear Glass*	2.0mm/2.0mm
Frame	Anodized Aluminium Alloy
Junction Box	IP68 (3 diodes)
Length of Cable	4.0mm <sup>2</sup> , +300mm/-180mm (Cable length can be customized)

\*Heat strengthened glass

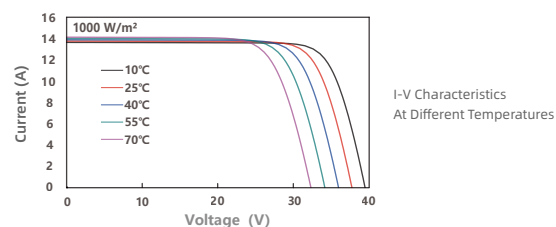
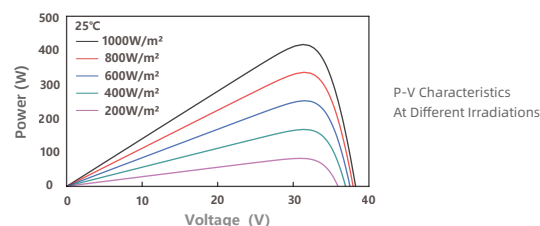
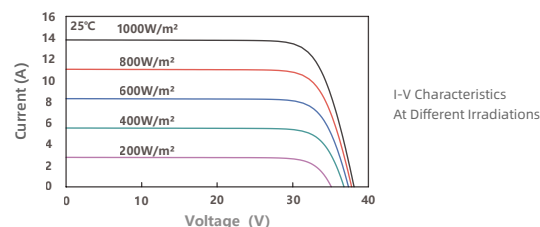
## With Different Power Generation Gain (regarding 415W as an example)

Power Gain (%)	Peak Power (P <sub>max</sub> ) (W)	MPP Voltage (V <sub>mp</sub> ) (V)	MPP Current (I <sub>mp</sub> ) (A)	Open Circuit Voltage (V <sub>oc</sub> ) (V)	Short Circuit Current (I <sub>sc</sub> ) (A)
10	448	31.7	14.13	37.7	14.99
15	465	31.7	14.65	37.7	15.54
20	481	31.7	15.17	37.7	16.08
25	498	31.7	15.69	37.7	16.62
30	515	31.8	16.20	37.8	17.16

## Engineering Drawing (unit: mm)



## Characteristic Curves | NP-HE108N-415



## Packaging Configuration

Packing Type	20'GP	40'GP	40'HQ
Piece/Pallet		36	
Pallet/Container	6	13	26
Piece/Container	216	468	936

\*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Northern Power Systems reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.



**Northern**  
POWER SYSTEMS

Northern Power Systems Srl  
www.nps100.com

HQ: Via Calzavacchio 23, IT - 40033 Casalecchio di Reno (BO)  
Services & Manufacturing: Z.I. PIP, IT - 83044 Bisaccia (AV)  
TEL: +39 051 021 8987 Email: info@nps100.com