



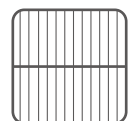
# PNGNH60-B8(182)

## 470-500 Watt

N-type Mono TOPCon



### Key Features



#### Multi Busbar Solar Cell

Stronger current collection ability, Special circuit design with much lower hot spot temperature;



#### PID Resistant

Excellent PID resistance at 96 hours (85°C/85%) test, and also can be improved to meet higher standards for the particularly harsh environment;



#### Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress;



#### Module efficiency up to 23.16%

Half cell structure brings low resistance characteristic, higher lifetime generating capacity, simultaneously lower annual power attenuation;



#### Low-Light Performance

Excellent power generation performance under Low-Light condition due to multi busbar; better shading response benefit from half cell module;

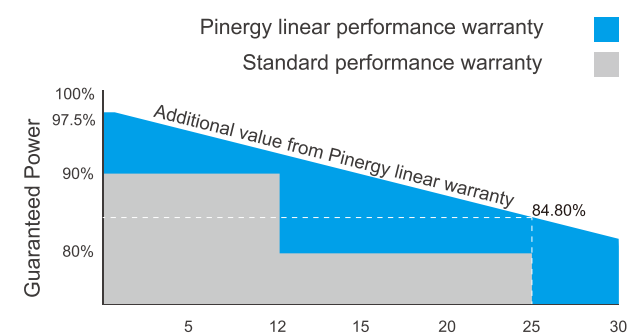


#### Strength and Durability

Certified for 5400Pa snow and 2400Pa Wind loads test;

### Linear Performance Warranty

12 Years Product Warranty · 30 Years Linear Power Warranty



### Certifications

- IEC 61215, IEC 61730, CE, CQC
- ISO9001: 2015: Quality management system
- ISO14001: 2015: Environmental management system
- ISO45001: 2018: Occupational health and safety management system



### Electrical Specifications

Module Type:PNGNH60-B8-xxx,(xxx=Pmax)

| Module Type                   | 470    |       | 475    |       | 480    |       | 485    |       | 490    |       | 495    |       | 500    |       |
|-------------------------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| Testing Condition             | STC    | NOCT  | STC    | NOCT  | STC    | NOCT  | STC    | NOCT  | STC    | NOCT  | STC    | NOCT  | STC    | NOCT  |
| Max. Power (Pmax/W)           | 470    | 303   | 475    | 357   | 480    | 361   | 485    | 364   | 490    | 368   | 495    | 372   | 500    | 376   |
| Voltage at Max. Power (Vmp/V) | 35.05  | 32.94 | 35.21  | 33.1  | 35.38  | 33.28 | 35.55  | 33.43 | 35.72  | 33.59 | 35.89  | 33.75 | 36.06  | 33.91 |
| Current at Max. Power (Imp/A) | 13.41  | 10.73 | 13.49  | 10.79 | 13.57  | 10.85 | 13.65  | 10.91 | 13.73  | 10.97 | 13.81  | 11.03 | 13.89  | 11.09 |
| Open circuit voltage (Voc/V)  | 42.38  | 40.25 | 42.54  | 40.41 | 42.71  | 40.57 | 42.88  | 40.73 | 43.05  | 40.89 | 43.22  | 41.05 | 43.39  | 41.21 |
| Short circuit current (Isc/A) | 14.15  | 11.42 | 14.23  | 11.49 | 14.31  | 11.55 | 14.39  | 11.61 | 14.47  | 11.67 | 14.55  | 11.73 | 14.63  | 11.79 |
| Module efficiency (%)         | 20.78% |       | 22.01% |       | 22.24% |       | 22.47% |       | 22.70% |       | 22.93% |       | 23.16% |       |
| Power Tolerance (W)           |        |       |        |       |        |       | 0~+5   |       |        |       |        |       |        |       |

Standard Test Condition (STC): Irradiance 1000W/m², Cell Temperature 25°C, AM1.5

Nominal Module Operating Temperature (NOCT): Irradiance 800W/m², Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s

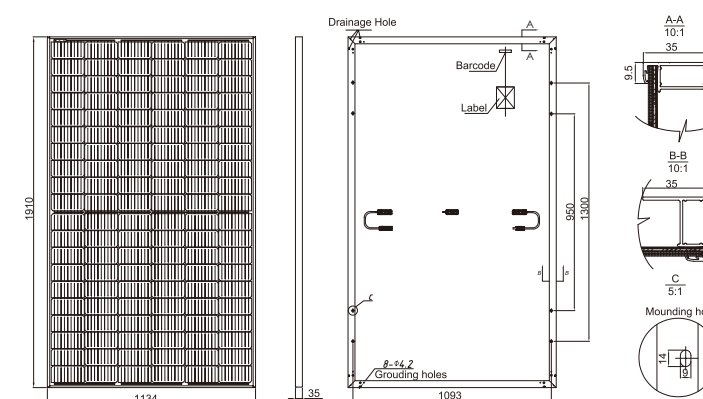
### Mechanical Specifications

|                |                                  |
|----------------|----------------------------------|
| Cell Type      | 10BB MONO 182×91mm               |
| No. of Cells   | 120 (6×20)                       |
| Dimension      | 1910x1134x35mm                   |
| Weight         | 24kg                             |
| Glass          | 3.2mm, Low Iron Tempered Glass   |
| Frame          | Anodized Aluminium Alloy         |
| Junction Box   | IP68, 3 diodes                   |
| Output Cables  | 4mm², Length 300mm or customized |
| Connector type | MC4 compatible                   |

### Packaging Configurations

|                      |         |
|----------------------|---------|
| Per Pallet           | 31 pcs  |
| Per 40' HQ Container | 744 pcs |

### Engineering Drawings



### Temperature Characteristics

|                                |           |
|--------------------------------|-----------|
| NOCT Temperature               | 44°C ±2°C |
| Temperature Coefficient (Pmax) | -0.36%/°C |
| Temperature Coefficient (Voc)  | -0.28%/°C |
| Temperature Coefficient (Isc)  | 0.05%/°C  |

### Maximum Ratings

|                              |                 |
|------------------------------|-----------------|
| Maximum system voltage (IEC) | 1500V DC        |
| Snow / Wind                  | 5400Pa / 2400Pa |
| Operating Temperature        | -40°C ~ +85°C   |
| Maximum series fuse rating   | 20A             |

### Curve & Temperature Dependence

