



# HALF-CELL Dual Glass Bifacial Module

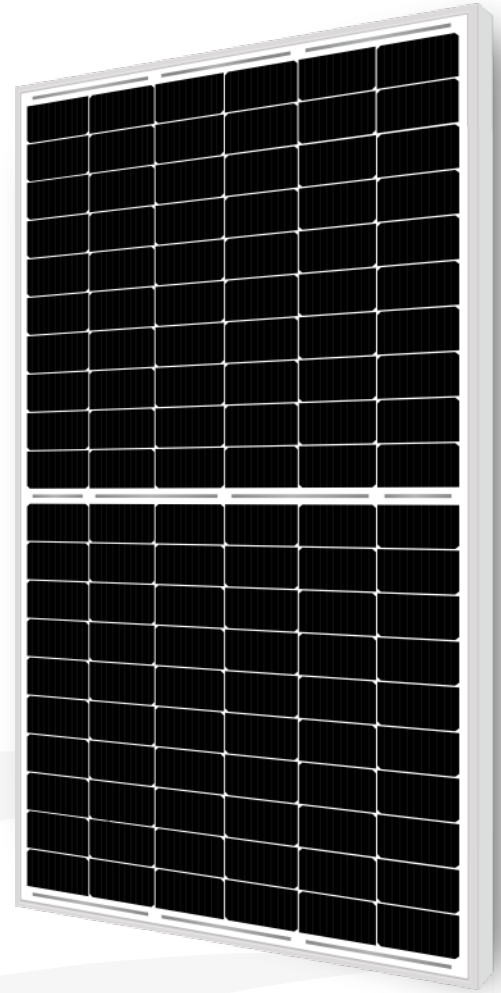
## 440-460w

Pex Series: SNX-D60HPD

**21.2%**  
Maximum Efficiency

**0~+5w**  
Positive Power Tolerance

**20years**  
Product Warranty



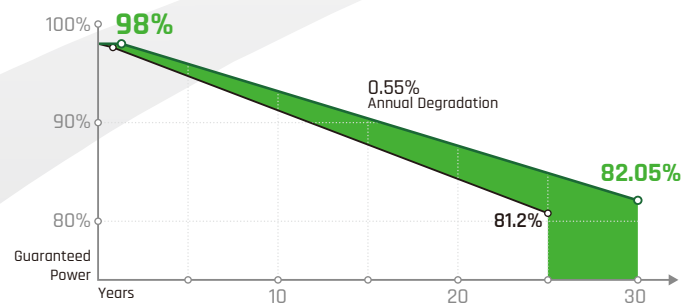
### HIGHER VALUE

- Longer Warranty terms and lower power degradation
- Lower LCOE for shorter payback period



### HIGHER PERFORMANCE

- Module Power reaches up to 460W by multi-busbar cell design
- Lower resistance performance by half-cell structure
- Lower LID by lower string current



Sonnex Half-Cell Module Performance Warranty

### MORE RELIABLE

- Excellent anti-PID performance
- Lower hot spot risks
- Lower Pmax temperature coefficient
- Mechanical loading 5400Pa snow load and 2400Pa wind load

**Sonnex Energie GmbH**

Add: Gebäude 571, Cargo City Süd, 60549 Frankfurt am Main, Germany  
www.sonnexenergie.com info@sonnexenergie.de

### Warranty

20 years product workmanship warranty. 30 years linear power output warranty. The power degradation for the first year will be less than 2%. From the 2nd year and onwards, the annual degradation will be less than 0.55%. Guaranteed performance ratio of 82.05% after 30 years.

# 440-460W HALF-CELL DUAL GLASS MODULE 60 Series

## SNX-D60HPD

### Electrical Characteristics at Standard Test Conditions(STC)

Module Type: SNX-D60HPD-***M	440	445	450	455	460
Maximum Power-Pm [W]	440	445	450	455	460
Open Circuit Voltage-Voc [V]	41.21	41.43	41.65	41.87	42.10
Short Circuit Current-Isc [A]	13.28	13.34	13.40	13.46	13.52
Maximum Power Voltage-Vm [V]	34.50	34.72	34.95	35.18	35.41
Maximum Power Current-Im [A]	12.75	12.81	12.87	12.93	12.99
Module Efficiency-η [%]	20.32	20.55	20.78	21.01	21.24

### Electrical Characteristics at NMOT

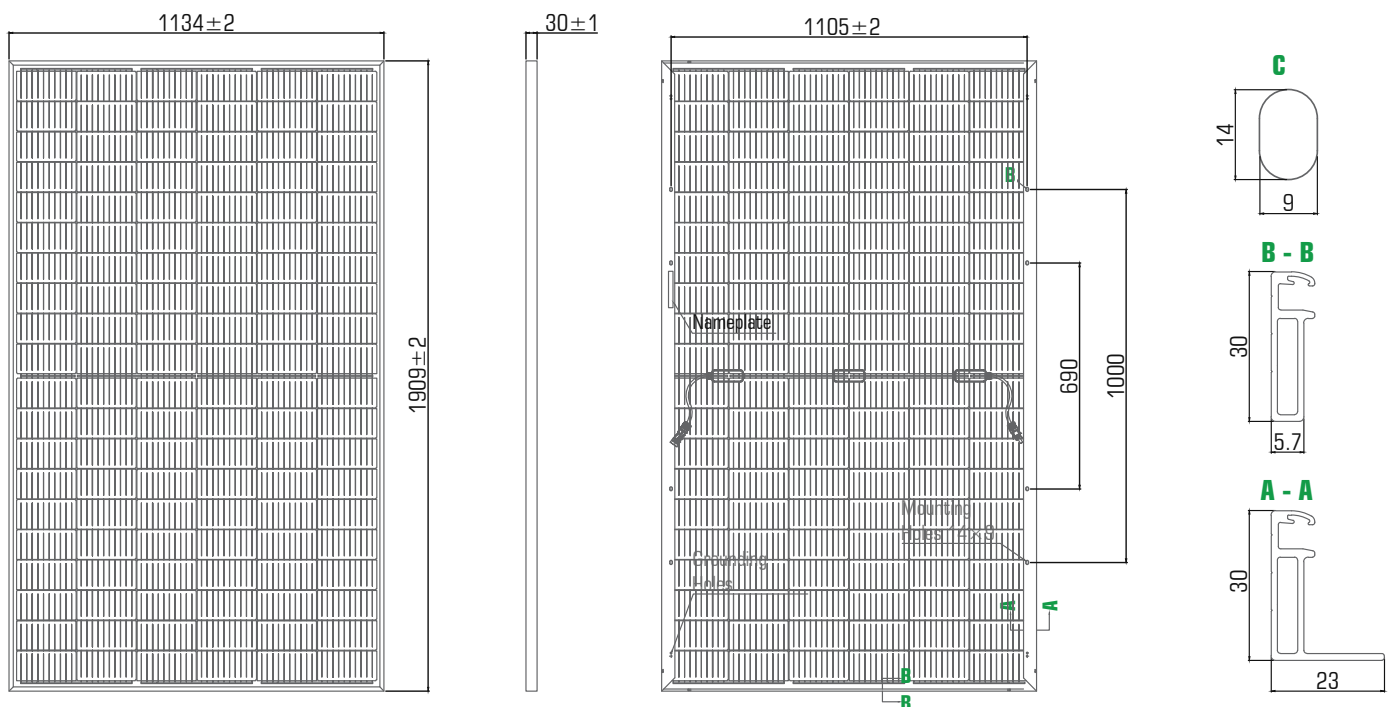
Maximum Power-Pm [W]	330	334	338	342	346
Open Circuit Voltage-Voc [V]	38.75	38.95	39.15	39.35	39.55
Short Circuit Current-Isc [A]	10.88	10.93	10.98	11.03	11.08
Maximum Power Voltage-Vm [V]	32.40	32.60	32.80	33.00	33.20
Maximum Power Current-Im [A]	10.27	10.31	10.35	10.39	10.43

**Note:** 1. Standard Test Conditions (STC): Irradiance 1000 W/m<sup>2</sup>; AM 1.5; Ambient temperature 25°C ;  
 2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/m<sup>2</sup>; wind speed 1m/s; ambient temperature 20°C.  
 3. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.

### Mechanical Characteristics

Dimensions	1909×1134×30 mm
Weight	26.5kg
Front Glass	AR coating tempered glass, 2.0mm
Frame	Anodized aluminum alloy
Cells	Mono-crystalline solar cell 182mm*91mm
Cell Orientation	120 (6×20)
Junction Box	IP68
Cable/Connectors	4mm <sup>2</sup> / MC4 or EVO2/MC4 Compatible

### Drawing



### Temperature Characteristics

NMOT	43°C (±2°C)
Temperature Coefficient of Voc	-0.275% /°C
Temperature Coefficient of Isc	+0.05% /°C
Temperature Coefficient of Pm	-0.350% /°C

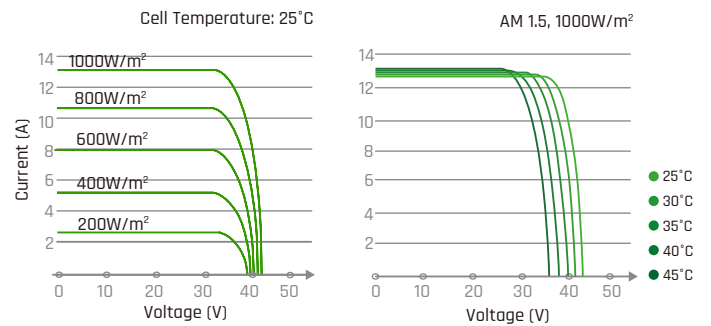
### Maximum Ratings

Maximum System Voltage [V]	DC 1000V1500(IEC)
Series Fuse Rating [A]	25
Maximum Surface Load Capacity [Pa]	5,400
Temperature Range [°C]	- 40 to + 85
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m·s <sup>-1</sup>

### Other Characteristics

Packaging 36 pcs/box; 864 pcs/40' HQ container

### I-V curve



**Declaration:** Along with the technical improvement and product update, deviation between the technical parameter and Sonnex future products might occur. Specifications included in this datasheet are subject to change without prior notice. Sonnex reserves the right of final interpretation.