

54
Series **TOPCon Smart Module**

420-440w
Smart Series: SNX-D54HN(S)



22.5% Maximum Efficiency **0~+5w** Positive Power Tolerance **20 years** Product Warranty



IEC61215; IEC61730;
ISO9001:2015; ISO14001:2015

HIGHER VALUE

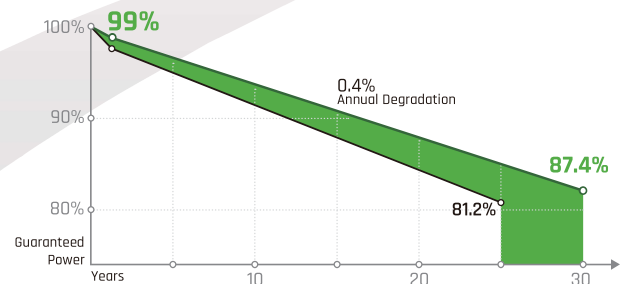
- ✦ Longer Warranty terms and lower power degradation
- ✦ Lower LCOE for shorter payback period
- ✦ Up to 20% more energy production
- ✦ Higher optimizing efficiency with integrated cell-string optimizer
- ✦ Embedded Taylor® electronics in the panel saves installation cost

HIGHER PERFORMANCE

- ✦ Ultimate appearance of black modules
- ✦ Up to 440W by multi-busbar TOPCon cell design
- ✦ Lower resistance performance by half-cell structure
- ✦ ZERO LID

MORE RELIABLE

- ✦ Cell-string monitoring offers real-time diagnosis
- ✦ Fire emergency rapid shut down (RSD) is available
- ✦ Excellent anti-PID performance
- ✦ Hot spot risks prevention
- ✦ Better temperature coefficient
- ✦ Mechanical loading 5400Pa snow load and 2400Pa wind load



Sonnex TOPCon Module Performance Warranty

Warranty

20 years product workmanship warranty, 30 years linear power output warranty. The power degradation for the first year will be less than 1%. From the 2nd year and onwards, the annual degradation will be less than 0.4%. Guaranteed performance ratio of 87.4% after 30 years.

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420-440W SMART MODULE SNX-D54HN(S)

Electrical Characteristics at Standard Test Conditions(STC)

Module Type: SNX-D54HN-***MS	420	425	430	435	440
Maximum Power-Pm [W]	420	425	430	435	440
Open Circuit Voltage-Voc [V]	38.1	38.2	38.3	38.4	38.5
Short Circuit Current-Isc [A]	14.07	14.15	14.23	14.31	14.39
Maximum Power Voltage-Vm [V]	31.6	31.7	31.9	32.0	32.2
Maximum Power Current-Im [A]	13.30	13.42	13.50	13.60	13.68
Module Efficiency-η [%]	21.5	21.8	22.0	22.3	22.5

Electrical Characteristics at NMOT

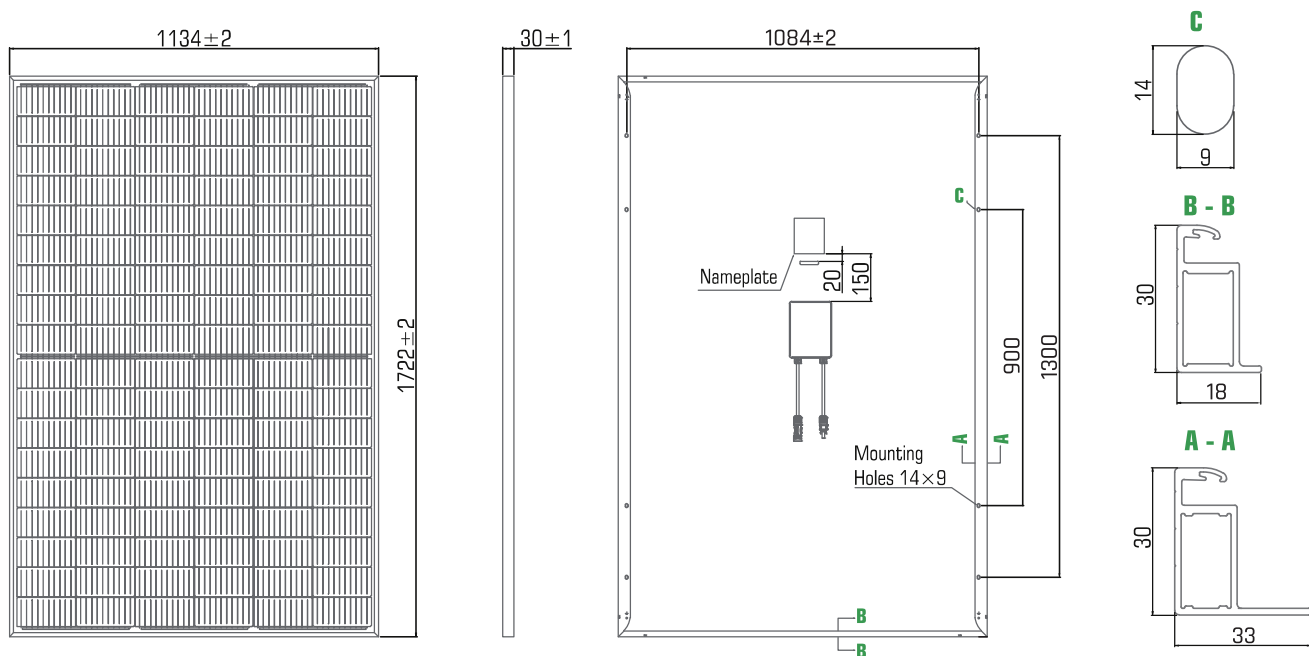
Maximum Power-Pm [W]	319	323	327	331	335
Open Circuit Voltage-Voc [V]	36.6	36.7	36.8	36.9	37.1
Short Circuit Current-Isc [A]	11.33	11.40	11.47	11.53	11.60
Maximum Power Voltage-Vm [V]	30.3	30.4	30.6	30.7	30.9
Maximum Power Current-Im [A]	10.57	10.63	10.69	10.78	10.84

Note: 1. Standard Test Conditions [STC]: Irradiance 1000 W/m² AM 1.5; Ambient temperature 25°C ;
 2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/m², 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	1722×1134×30 mm
Weight	21Kg
Front Glass	AR coating tempered glass, 3.2mm
Frame	Anodized aluminum alloy
Cells	TOPCon cell 182mm*91mm
Cell Orientation	108 (6×18)
Junction Box	IP67; Taylor optimizer
Cable/Connectors	4mm ² /Stäubli MC4 or EV02 Connectors

Drawing



Temperature Characteristics

NMOT	43 °C (±2°C)
Temperature Coefficient of Voc	-0.250% /°C
Temperature Coefficient of Isc	0.046% /°C
Temperature Coefficient of Pm	-0.310% /°C

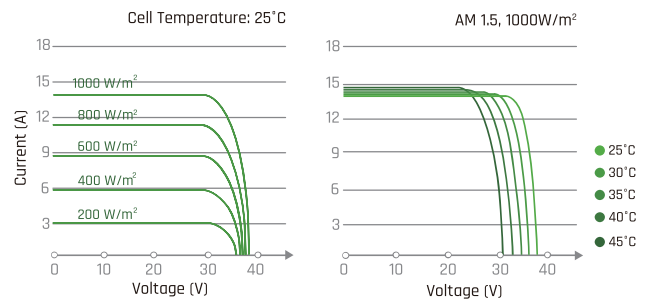
Maximum Ratings

Maximum System Voltage [V]	DC 1500/1000(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 23m/s

Other Characteristics

Packaging 36 pcs/pallet; 936 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.