

**ELNSM48M-HC-HV-N Series**



**MBB HC RECTANGULAR  
TOPCON CELL PV MODULE  
435 - 460W**

**Bifacial N Type Glass Backsheet Series**

Sirius redefined the high-efficiency module series by integrating 182\*210 mm silicon wafers with multi-busbar and half-cutcell technologies. Sirius combined creative technology with 182\*210 mm N Type module. This caused effectively and extremely improved the module efficiency and power output.

**KEY FEATURES**



With the composite frame, lower carbon footprint, severe weather endurance, enhanced PID protection and exceptional corrosion shielding.  
*(These features are only valid when the composite frame is used.)*



Less mismatch to get more power.



Less power loss by minimizing the shading impact.



Competitive low light performance.



**SMBB Technology**  
Better light trapping and current collection to improve module power output and reliability.



In stringent environment condition:  
• Sand, acid, salt and hailstones  
• 2400 Pa wind load and 5400 Pa snow load.  
• PID free



3 times EL test to ensure best quality

**QUALITY SYSTEM**

- ISO 9001:2015 / Quality Management System
- ISO 14001:2015 / Environmental Management System
- ISO 45001: 2018 / Occupation Health Safety Management System
- ISO 50001:2018 / Energy Management System
- ISO 27001:2013 / Information Security Management System
- ISO 10002:2018 / Customer Satisfaction Management System
- ISO 37001:2016 / Anti-bribery Management Systems
- ISO 26000:2021 / Social Responsibility Management System

**PRODUCT CERTIFICATION**



IEC 61215 / 61730 , IEC 62804 (PID)  
TS EN 61215 , TS EN 61730  
UL 61730-1 , UL 61730-2

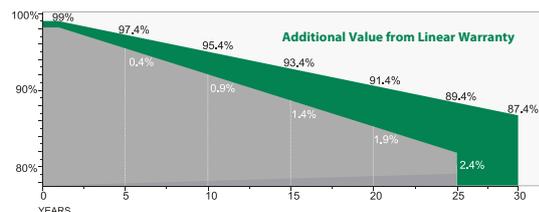
**WARRANTY**



**12 YEARS** Guarantee on Product



**30 YEARS** Linear Power Output Warranty





# SIRIUS

powered by **ELiN**



## ELNSM48M-HC-HV-N Series

### MECHANICAL SPECIFICATIONS

External Dimension	1762 x 1134 x 30 mm
Weight	22.6 kg
Solar Cells	Topcon 182 x 105 mm (96 pcs)
Glass	3.2 mm AR coating tempered glass, low iron
Frame*	Composite (Black)
Junction Box	IP68,3 diodes
Output Cables	4.0mm <sup>2</sup> (IEC), 12 AWG (UL)
Cable Length**	350 mm (+) / 350 mm (-) or Customized Length
Packing Configuration	36pcs / Pallet, 864pcs / 24Pallet / 40' Container

\*The frame is constructed from composite materials. If an aluminum frame is selected, it can be customized as silver/black.

\*\*Output cable lengths should be specified at the time of order.

### ELECTRICAL SPECIFICATIONS (STC)

Module Type: ELNSM48M-HC-HV-N

Maximum Power-P <sub>mp</sub> (W)	435	440	445	450	455	460
Open Circuit Voltage-V <sub>oc</sub> (V)	35.18V	35.38V	35.58V	35.78V	35.98V	36.18V
Short Circuit Current-I <sub>sc</sub> (A)	15.75A	15.80A	15.85A	15.90A	15.95A	16.00A
Maximum Power Voltage-V <sub>mp</sub> (V)	29.21V	29.41V	29.61V	29.81V	30.01V	30.21V
Maximum Power Current-I <sub>mp</sub> (A)	14.90A	14.97A	15.03A	15.10A	15.17A	15.23A
STC Module Efficiency-η <sub>m</sub> (%)	21.77%	22.02%	22.27%	22.52%	22.77%	23.02%

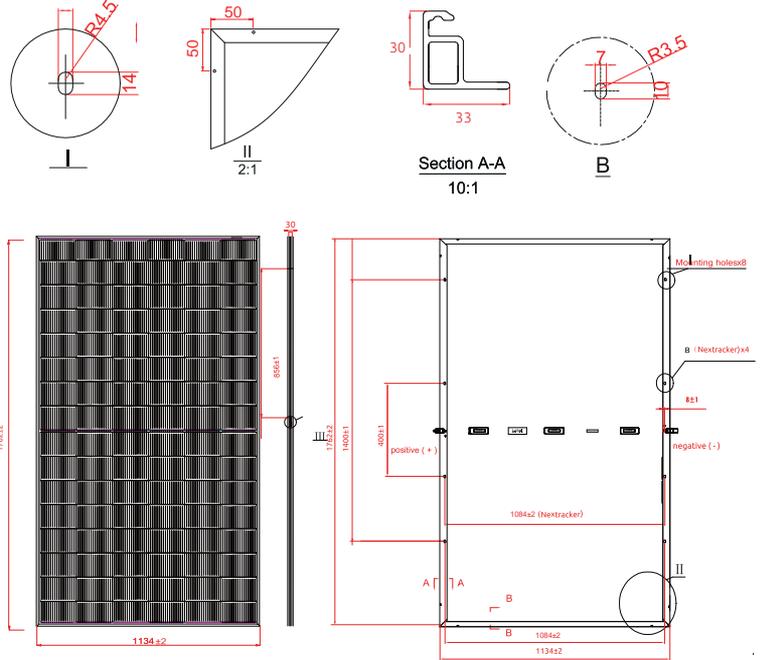
\*Measurement Tolerance +/- 3%  
STC Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5  
BNP: front 1000 W/m<sup>2</sup> rear 135 W/m<sup>2</sup>

### TEMPERATURE PARAMETERS

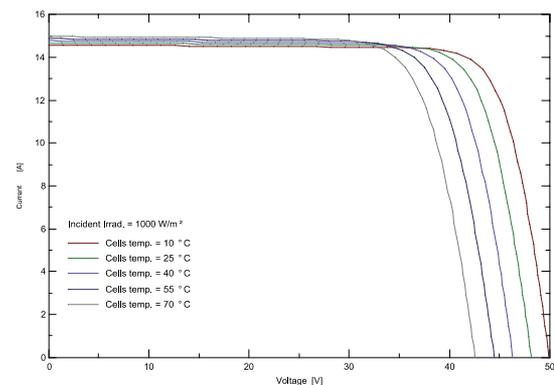
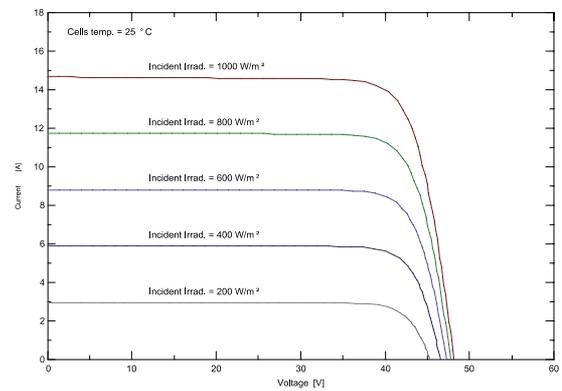
Power Tolerance (W)	(0, +4.99)
P <sub>max</sub> Temperature Coefficient	-0.29 %/°C
V <sub>oc</sub> Temperature Coefficient	-0.25 %/°C
I <sub>sc</sub> Temperature Coefficient	+0.046 %/°C

### APPLICATION CONDITIONS

Maximum System Voltage	1500 V DC
Maximum Series Fuse Rating	30 A
Operating Temperature	-40~+85°C
Nominal Operating Cell Temperature	45+2°C
Mechanical Load	Ön Taraf 5400 Pa / Arka Taraf 2400 Pa
I <sub>sc</sub> Temperature Coefficient	UL Type 4 / C.Sınıfı



### I - V CURVE



Specifications included in this datasheet are subject to change without prior notice.  
Made in Türkiye.