

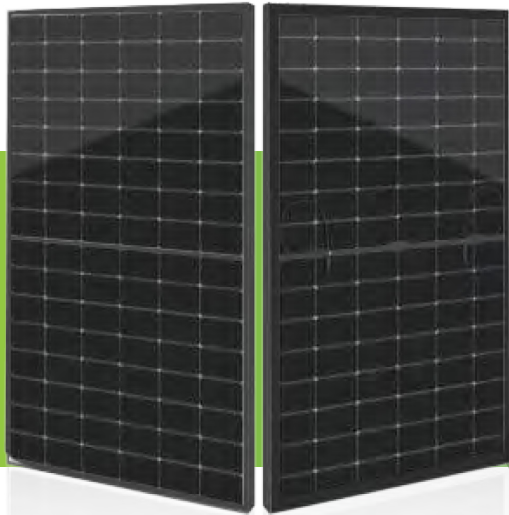


SIRIUS

powered by **ELiN**



ELNSM48M-HC-HV-N Series



TOPCON PV MODULE MBB HC BIFACIAL 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
• 2400pa wind load and 5400pa 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 26001:2021 / Social Responsibility Management System

PRODUCT CERTIFICATION



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

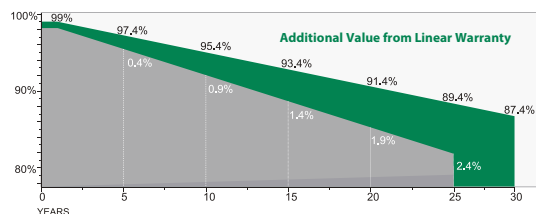
WARRANTY



25 UP TO
Guarantee On Product



30 YEARS
Linear Power Output Warranty



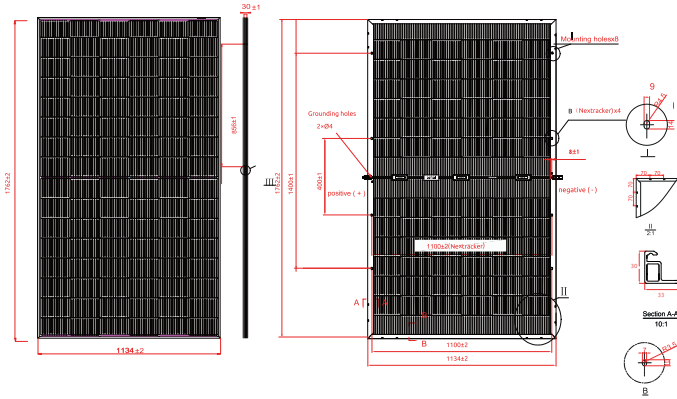


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MECHANICAL SPECIFICATIONS

External Dimension	1762 x 1134 x 35 mm
Weight	21.4 kg
Solar Cells	Topcon 182 x 105 mm (96 pcs)
Glass	3.2 mm AR coating semi tempered glass, low iron
Frame*	Composite (Black)
Junction Box	IP68,3 diodes
Output Cables**	4.0mm ² (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 _{mp} (W)	435	440	445	450	455	460
Maximum Power Voltage -V _{mp} (V)	29.54V	29.72V	29.90V	30.08V	30.26V	30.44V
Maximum Power Current -I _{mp} (A)	14.73A	14.81A	14.89A	14.97A	15.05A	15.13A
Open Circuit Voltage -V _{oc} (V)	34.49V	34.67V	34.85V	35.03V	35.21V	35.39V
Short Circuit Current -I _{sc} (A)	15.90A	15.95A	16.00A	16.05A	16.10A	16.15A
Module Efficiency STC-η _m (%)	21.80%	22.00%	22.30%	22.50%	22.80%	23.00%

ELECTRICAL SPECIFICATIONS (NOCT)

Module Type : ELNSM48M-HC-HV-N

Maximum Power -P _{mp} (W)	326	330	334	338	341	345
Maximum Power Voltage -V _{mp} (V)	27.50V	27.67V	27.84V	28.00V	28.17V	28.34V
Maximum Power Current -I _{mp} (A)	11.87A	11.94A	12.00A	12.07A	12.13A	12.19A
Open Circuit Voltage -V _{oc} (V)	33.52V	33.70V	33.87V	34.05V	34.22V	34.40V
Short Circuit Current -I _{sc} (A)	12.72A	12.76A	12.80A	12.84A	12.88A	12.92A

REAR SIDE POWER (ELNSM66M-HC-HV)

Module Type : ELNSM48M-HC-HV-N

Power Gain	10%	10%	10%	10%	10%	10%
Maximum Power -P _{mp} (W)	471	476	481	487	492	498
Open Circuit Voltage -V _{oc} (V)	34.49	34.67	34.85	35.03	35.21	35.39
Short Circuit Current -I _{sc} (A)	16.91	16.98	17.12	17.23	17.30	17.41
Maximum Power Voltage -V _{mp} (V)	29.54	29.72	29.90	30.08	30.26	30.44
Maximum Power Current -I _{mp} (A)	15.94	16.02	16.09	16.19	16.26	16.36

TEMPERATURE PARAMETERS

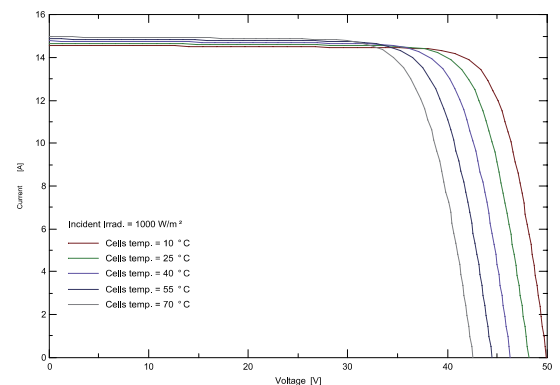
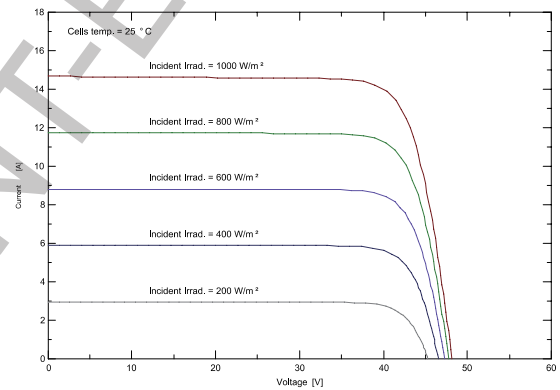
Power Tolerance(W)	(0, +4.99)
P _{max} Temperature Coefficient	-0.29 %/°C
V _{oc} Temperature Coefficient	-0.25 %/°C
I _{sc} Temperature Coefficient	+0.046 %/°C

* Measurement Tolerance +/- 3%
 STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5
 NOCT: Irradiance 800W / m², Ambient Temperature 20 °C, AM = 1.5, Wind Speed 1m/s

APPLICATION CONDITIONS

Maximum System Voltage	1500 VDC
Maximum Series Fuse Rating	30 A
Operating Temperature	45+2°C
Nominal Operating Cell Temperature	-40~+85°C
Bifaciality	80%±5%
Mechanical Load	Front side 5400 Pa / Back side 2400 Pa
Fire Performance	UL Type 29/ Class C

I - V CURVE



ELiN A.Ş. reserves the right to change the technical specifications and design data in the catalog without prior notice.
 Made in Türkiye.