

Presentation


A premium photovoltaic solar panel, certified for its quality and with high efficiency.


This innovative technology, the 182 mm M10 N-Type solar cells.

TOPCon cells offer improved efficiency, better low light performance and increased durability compared to other types of solar cells.


The perfect solution for customers looking for a return on investment.


Product Advantages

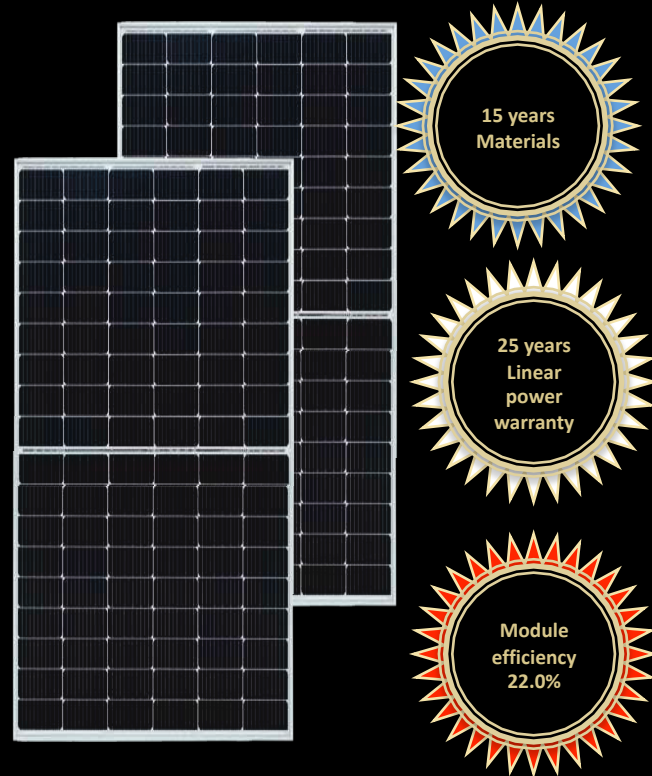
 **MBB half-cut cell technology**
New circuit design, lower internal current, lower Rs loss Ga doped wafer, attenuation <math>< 2\%</math> (1st year) / $\leq 0.55\%$ (Linear)

 **Significantly lower the risk of hot spot**
Special circuit design with much lower hot spot temperature

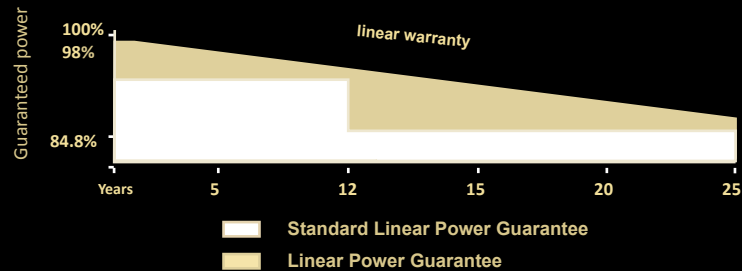
 **Lower LCOE**
2% more power generation, lower LCOE

 **Excellent Anti-PID performance**
2 Times of industry standard Anti-PID test by TÜV SÜD

 **IP68 junction box**
High waterproof level



Performance Warranty



- 2.00% Power degradation in the first year

- 0.55% Annual degradation

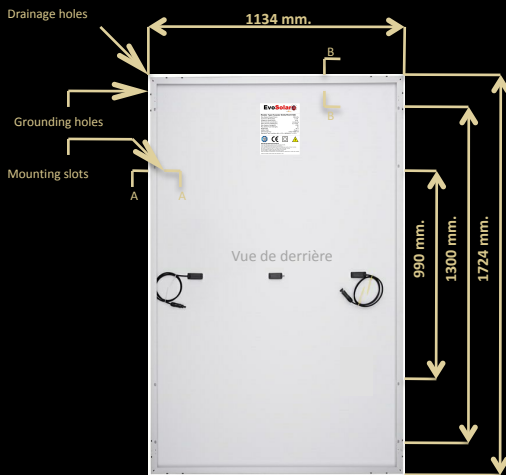
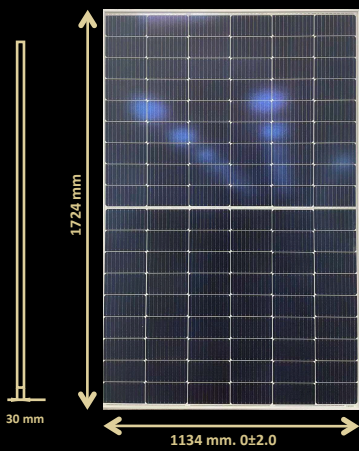
Certifications & Guarantees

Certification IEC	IEC 61215 & IEC 61730
Certification ISO	ISO 9001 & ISO 14001
Certification	CE
Certification ETN	K2 System SingleRail / SolidRail Approval pending Renusol MS+ / VS+ Approval pending
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Power Tolerance(W)	+0/+5
Garanties	15 years Materials and workmanship warranty 25 years Linear power warranty
Certification TUV	No. Z2 118390 0001 Rev. 00



CERTIFICATE N° Z2 118390 0001 Rév. 01

TECHNICAL DRAWINGS



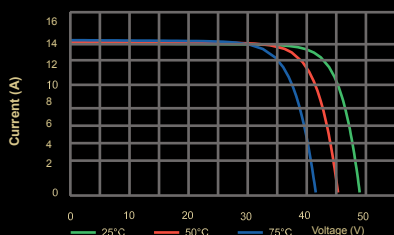
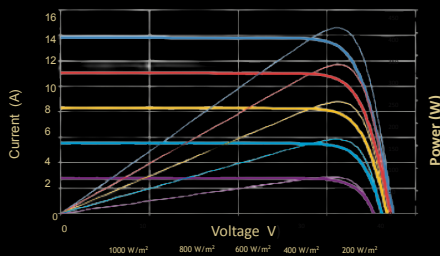
Section A-A Section B-B



Note mm (inch)

I-V CURVE

Current-Voltage & Power-Voltage Curve (410)



ELECTRICAL PARAMETERS

Maximum Power (Pmax/W)*	410 W	415 W	420 W	425 W	430 W
Operating Voltage (Vmp/V)	31.7	31.9	32.1	32.3	32.5
Operating Current (Imp/A)	12.94	13.01	13.09	13.16	13.24
Open-Circuit Voltage (Voc/V)	38.3	38.5	38.7	38.9	
Short-Circuit Current (Isc/A)	13.63	13.72	13.81	13.91	14.01
Module Efficiency ηm(%)	21.0	21.2	21.5	21.7	22.0
Power Tolerance(W)	0~+5				

STC: Irradiance 1000W/m², module temperature 25°C, AM=1.5; *Measuring tolerance: ±3%

Performance at NMOT

Maximum Power (Pmax/W)	313 W	317 W	321 W	325 W	329 W
Operating Voltage (Vmp/V)	29.8	30.0	30.2	30.4	30.6
Operating Current (Imp/A)	10.51	10.57	10.63	10.7	10.76
Open-Circuit Voltage (Voc/V)	36.2	36.4	36.6	36.8	37.0
Short-Circuit Current (Isc/A)	11.02	11.1	11.18	11.25	11.33

NMOT: Irradiance 800W/m², ambient temperature 20°C, AM=1.5, wind speed 1m/s

MECHANICAL SPECIFICATION

Cell Type	N-Type TOPCon Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	108 (6*18)
Weight	21kg
Module Dimensions	1724*1134*30mm
Cable Length	Cable length 350mm or customized length
Cable Cross Section Size	TÜV: 4mm ²
Front Glass	3.2mm AR Coating Tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration	36pcs/ Carton, 936pcs/40HQ
Frame	Anodized Aluminium Alloy/ Black Frame / Full Black
Junction Box	IP68

OPERATING CONDITIONS

Maximum System Voltage	1500V/DC(IEC)
Operating Temperature	-40°C to +85°C
Maximum Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC4 compatible

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.30%/°C
Temperature Coefficient Voc	-0.25%/°C
Coefficient de température Isc	+0.046%/°C
NMOT	42±2°C