

## Presentation








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

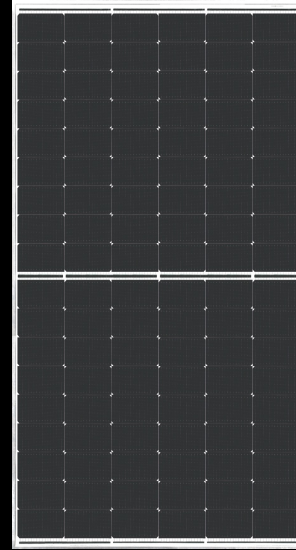
This innovative technology, Cell Dimensions 182mm TOPCon Bifacial Dual Glass

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

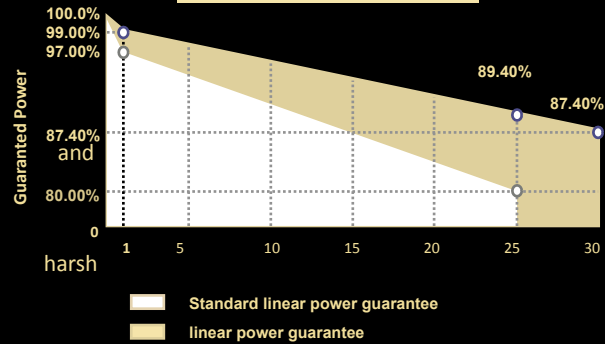
The perfect solution for customers looking for a return on investment.

## Product Advantages

- 
**High module conversion efficiency**  
 Module efficiency up to 22.0% achieved through advanced cell technology and manufacturing process
- 
**GPNE current sorting process**  
 Up to 2% power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output
- 
**Lower operating temperature**  
 Lower operating temperature and temperature coefficient increases the power output
- 
**Excellent weak light performance**  
 More power output in weak light condition, such as cloudy, morning and sunset
- 
**Extended wind and snow load tests**  
 Module certified to withstand extreme wind (2400 Pascal) snow loads (5400 Pascal)
- 
**Withstanding harsh environment**  
 Reliable quality leads to a better sustainability even in environment like desert, farm and coastline
- 
**IP68 junction box**  
 High waterproof & dustproof level



## Performance Warranty



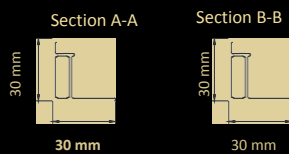
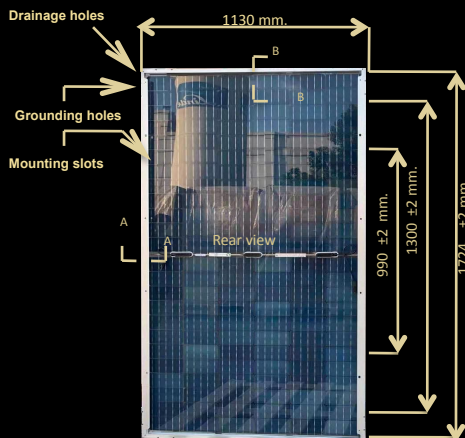
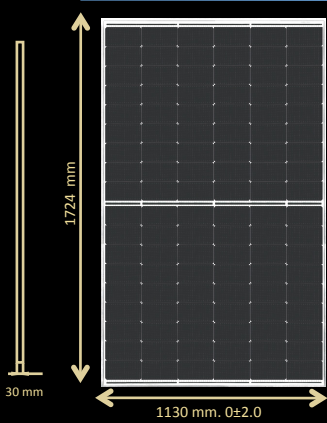
## Product Certification

Certification IEC	IEC 61215 & IEC 61730
Certification ISO	ISO 9001 & ISO 14001
Certification CE	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 30 years Linear power warranty
Certification TUV	No. Z2 118390 0001 Rev. 00



CERTIFICATE N° Z2 118390 0001 Rév. 01

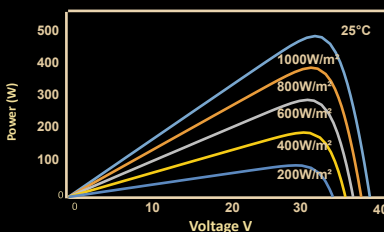
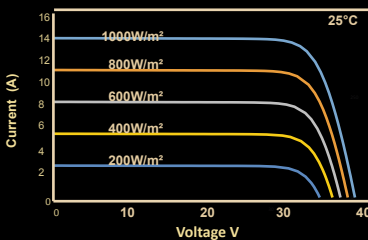
#### TECHNICAL DRAWINGS



Note mm (inch)

#### I-V CURVE

Current-Voltage & Power-Voltage Curve



#### ELECTRICAL PARAMETERS

	420W	425 W	430 W
Maximum Power (Pmax/W)*	420W	425 W	430 W
Operating Voltage (Vmp/V)	32.1	32.3	32.5
Operating Current (Imp/A)	13.09	13.16	13.24
Open-Circuit Voltage (Voc/V)	38.7	38.9	39.1
Short-Circuit Current (Isc/A)	13.81	13.91	14.01
Module Efficiency ηm(%)	21.5	21.7	22.0
Power Tolerance(W)	0~+5		

#### Performances NMOT

NMOT: Irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, AM=1.5, wind speed 1m/s

	321W	325W	321W
Maximum Power (Pmax/W)	321W	325W	321W
Operating Voltage (Vmp/V)	30.2	30.4	30.6
Operating Current (Imp/A)	10.63	10.70	10.76
Open-Circuit Voltage (Voc/V)	36.6	36.8	37.0
Short-Circuit Current (Isc/A)	11.18	11.25	11.33

NMOT: Irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, AM=1.5, wind speed 1m/s

#### Electrical characteristics with different Rearside power gain ref: to 420W front

	5%	15%	25%
Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	441	483	525
Optimum Operating Voltage (Vmp/V)	32.1	32.1	32.1
Optimum Operating Current (Imp/A)	13.74	15.05	16.36
Open Circuit Voltage (Voc)	38.7	38.7	38.7
Short Circuit Current (Isc)	14.50	15.88	17.26
Module Efficiency ηm(%)	22.6	24.7	26.9

#### MECHANICAL SPECIFICATION

Cell Type	N-Type TOPCon Monocrystalline
Cell Dimensions	182*91mm
Cell Arrangement	108 (6*18)
Weight	22kg
Module Dimensions	1724*1134*30mm
Cable Length	Cable length 350mm or customized length
Cable Cross Section Size	TÜV: 4mm <sup>2</sup>
Front Glass	2.0 tempered glass / 2.0 mm semi-tempered glass
No. of Bypass Diodes	3
Packing Configuration	36 pcs/ carton 936 pcs/40 HQ
Frame	Anodized Aluminium Alloy / Black Frame / full black
Junction Box	IP68

#### OPERATING CONDITIONS

Maximum System Voltage	1000V/1500V/DC (IEC)
Operating Temperature	-40°C to +85°C
Maximum Series Fuse	30A
Static Loading	Snow load: 5400 Pa / wind load: 2400 Pa
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	+0.045%/°C
NMOT	42±2°C

Voxery

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