

DUAL GLASS BIFACIAL
ORION nano-tech layer

670 - 690 Watt



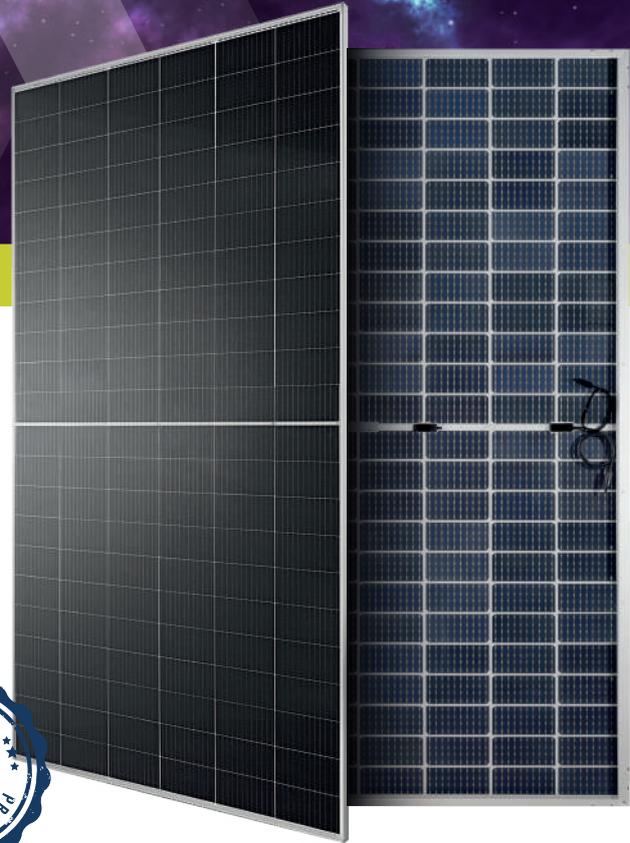
KEY FEATURES

Our solar cells offer high conversion efficiency to ensure the highest quality.

Our high performing modules enable cost savings in mounting, cabling and labour of up to 15%.

The modules can withstand high wind-pressure, snow loads and extreme temperatures.

Passed IEC 5400 Pa mechanical loading test.
PID Resistance Available.

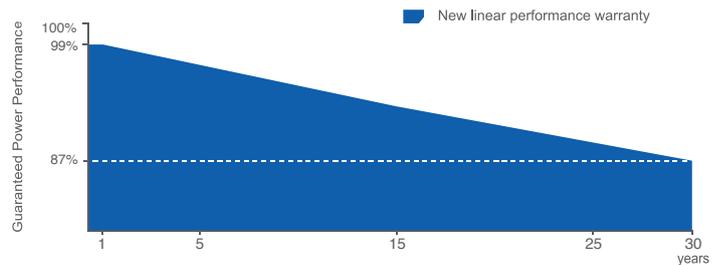


QUALITY AND SAFETY

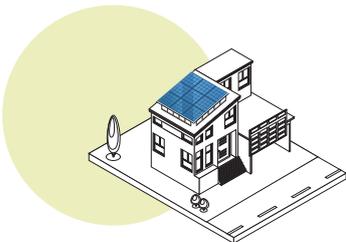
- Industry leading power output warranty
30 years/87,4%
- 30-year warranty on materials & workmanship
- Fire Rating: Class 1



PREMIUM PERFORMANCE WARRANTY



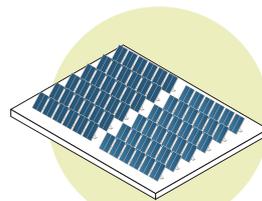
APPLICATIONS



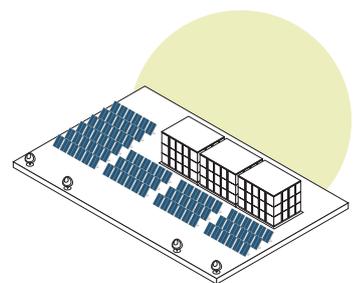
On-grid residential roof-tops



On-grid commercial - industrial roof-tops

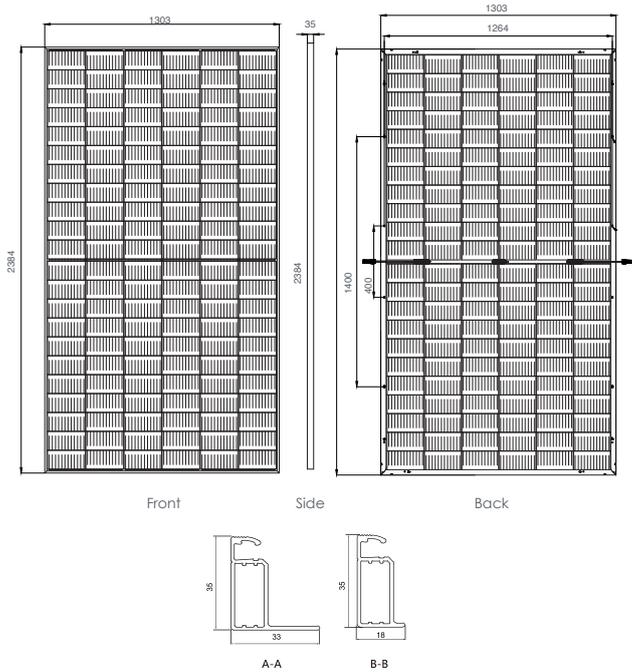


Solar power plants

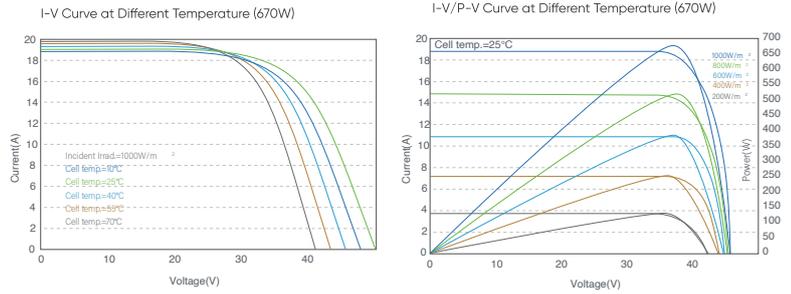


Off-grid systems

ENGINEERING DRAWINGS



ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE



MECHANICAL CHARACTERISTICS

Cell Type	Orion N-Type TOPCon Mono-crystalline (210x105mm) Orion Technology Layer Applied*
No. of cells	132 (6x22)
Dimensions	2384x1303x35mm (±2mm)
Weight	38.5 kg
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat-strengthened glass
Frame	Anodized Aluminium Alloy (Silver/Black optional)
Junction Box	IP68 Rated
Output Cables	TÜV 1x4.0mm ² / UL 12AWG, Length:1400mm

PACKAGING CONFIGURATION

Standard packaging	31pcs / pallet
Module quantity per 40' container	558 pcs
Pallets per container	18

SPECIFICATIONS

Module Type ⁽¹⁾	ORION IX-670M		ORION IX-675M		ORION IX-680M		ORION IX-685M		ORION IX-690M	
	STC ⁽²⁾	NMOT ⁽³⁾								
Maximum Power (Pmax)	670Wp	510Wp	675Wp	514Wp	680Wp	518Wp	685Wp	522Wp	690Wp	526Wp
Maximum Power Voltage (Vmp)	38.20V	34.79V	38.40V	34.97V	38.60V	35.15V	38.80V	35.32V	39.00V	35.5V
Maximum Power Current (Imp)	17.55A	14.66A	17.59A	14.7A	17.63A	14.74A	17.67A	14.78A	17.71A	14.82A
Open-circuit Voltage (Voc)	46.10V	41.92V	46.30V	42.1V	46.50V	42.28V	46.70V	42.46V	46.90V	42.64V
Short-circuit Current (Isc)	18.62A	15.66A	18.66A	15.7A	18.71A	15.74A	18.75A	15.78A	18.80A	15.82A
Module Efficiency (%)	21.57%		21.73%		21.89%		22.05%		22.21%	
Operating Temperature (°C)	-40°C~+85°C									
Maximum system voltage	1500V DC									
Maximum series fuse rating	35A									
Voc and Isc tolerance	±3%									
Temperature coefficients of Pmax	-0.29%/°C									
Temperature coefficients of Voc	-0.25%/°C									
Temperature coefficients of Isc	0.048%/°C									
Nominal operating cell temperature (NOCT)	45±2 °C									
Refer. Bifacial Factor	70±5%									

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

STC ☀ Irradiance 1000W/m² 🌡 Module Temperature 25°C ☁ AM=1.5

5%	704Wp	709Wp	714Wp	719Wp	725Wp
15%	771Wp	776Wp	782Wp	788Wp	794Wp
25%	838Wp	844Wp	850Wp	856Wp	863Wp