

**HC MONO**

ORION nano-tech layer

**480 - 510 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 up to 15%

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

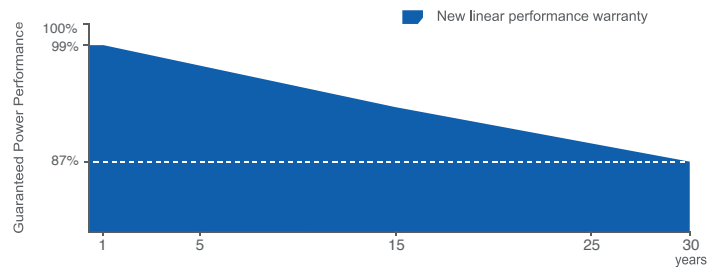
Passed IEC 5400 Pa mechanical loading test.  
PID Resistance Available.



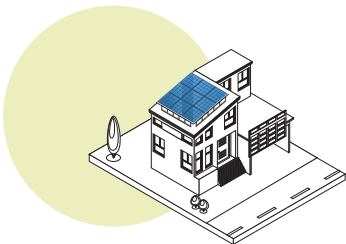
**QUALITY AND SAFETY**

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

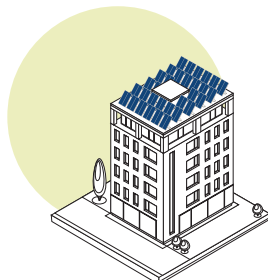
**PREMIUM PERFORMANCE WARRANTY**



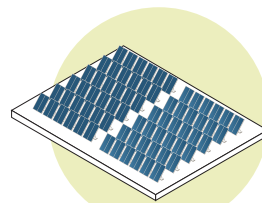
**APPLICATIONS**



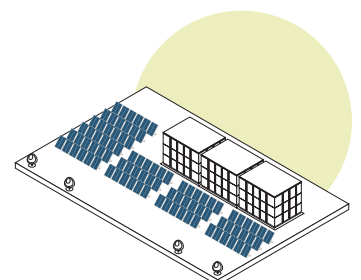
On-grid residential roof-tops



On-grid commercial - industrial roof-tops

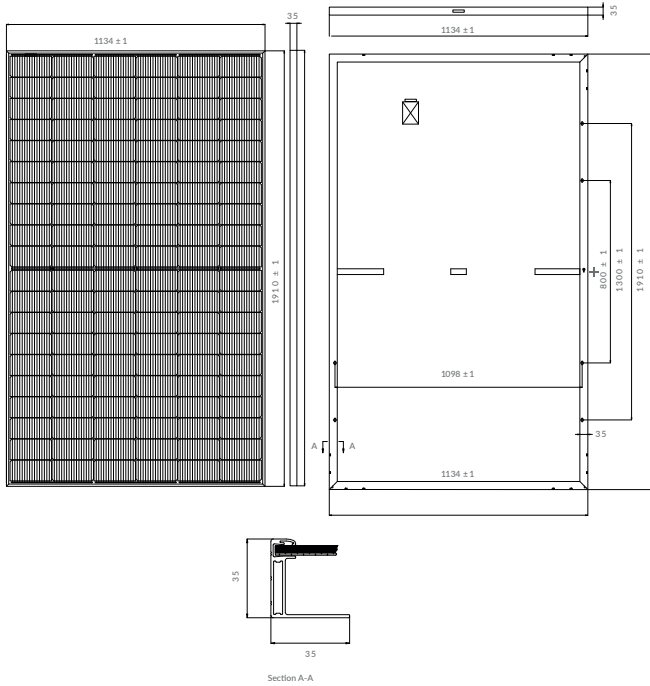


Solar power plants

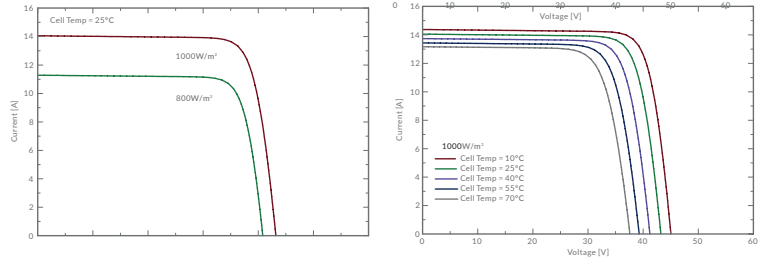


Off-grid systems

## ENGINEERING DRAWINGS



## ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE



## PACKAGING CONFIGURATION

Standard packaging	31 pcs / pallet
Module quantity per 40' container	744 pcs
Pallets per container	24

## MECHANICAL CHARACTERISTICS

Cell Type	Orion N-Type TOPCon Mono-crystalline (182mm×91mm) Orion Technology Layer Applied*
No. of cells	120 (6X20)
Dimensions	1910x1134x35
Weight	23.0kg
Front Glass	3.2mm, High Transmission, Low Iron, AR Coating Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TÜV 1×4.0mm² / UL 12AWG, Length:400mm/1100mm

## SPECIFICATIONS

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

Module Type <sup>(1)</sup>	ORION IIIs-480M		ORION IIIs-485M		ORION IIIs-490M		ORION IIIs-495M		ORION IIIs-500M	
	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>
Maximum Power at STC (Pmax)	480Wp	361Wp	485Wp	365Wp	490Wp	371Wp	495Wp	375Wp	500Wp	379Wp
Maximum Power Voltage (Vmp)	36.20V	33.36V	36.39V	33.55V	36.58V	33.92V	36.75V	34.10V	36.93V	34.27V
Maximum Power Current (Imp)	13.26A	10.82A	13.33A	10.88A	13.40A	10.94A	13.47A	11.00A	13.54A	11.06A
Open-circuit Voltage (Voc)	43.27V	41.17V	43.48V	41.35V	43.59V	41.53V	43.80V	41.71V	44.01V	41.89V
Short-circuit Current (Isc)	14.19A	11.44A	14.23A	11.50A	14.30A	11.56A	14.37A	11.62A	14.44A	11.68A
Module Efficiency (%)	22.16%		22.39%		22.62%		22.85%		23.08%	

Module Type <sup>(1)</sup>	ORION IIIs-505M		ORION IIIs-510M	
	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC <sup>(2)</sup>	NMOT <sup>(3)</sup>
Maximum Power at STC (Pmax)	505Wp	383Wp	510Wp	387Wp
Maximum Power Voltage (Vmp)	37.11V	34.45V	37.11V	34.62V
Maximum Power Current (Imp)	13.61A	11.12A	13.61A	11.18A
Open-circuit Voltage (Voc)	44.32V	42.07V	44.32V	42.25V
Short-circuit Current (Isc)	14.51A	11.74A	14.51A	11.80A
Module Efficiency (%)	23.32%		23.55%	

Operating Temperature(°C) -40°C~+85°C  
 Temperature coefficients of Pmax -0.29%/°C  
 Temperature coefficients of Isc 0.045%/°C

Maximum system voltage 1500V DC  
 Temperature coefficients of Voc -0.25%/°C  
 Nominal operating cell temperature (NOCT) 45±2 °C

Maximum series fuse rating 25A  
 Voc and Isc tolerance ±3%  
 Power tolerance +5W (optional)