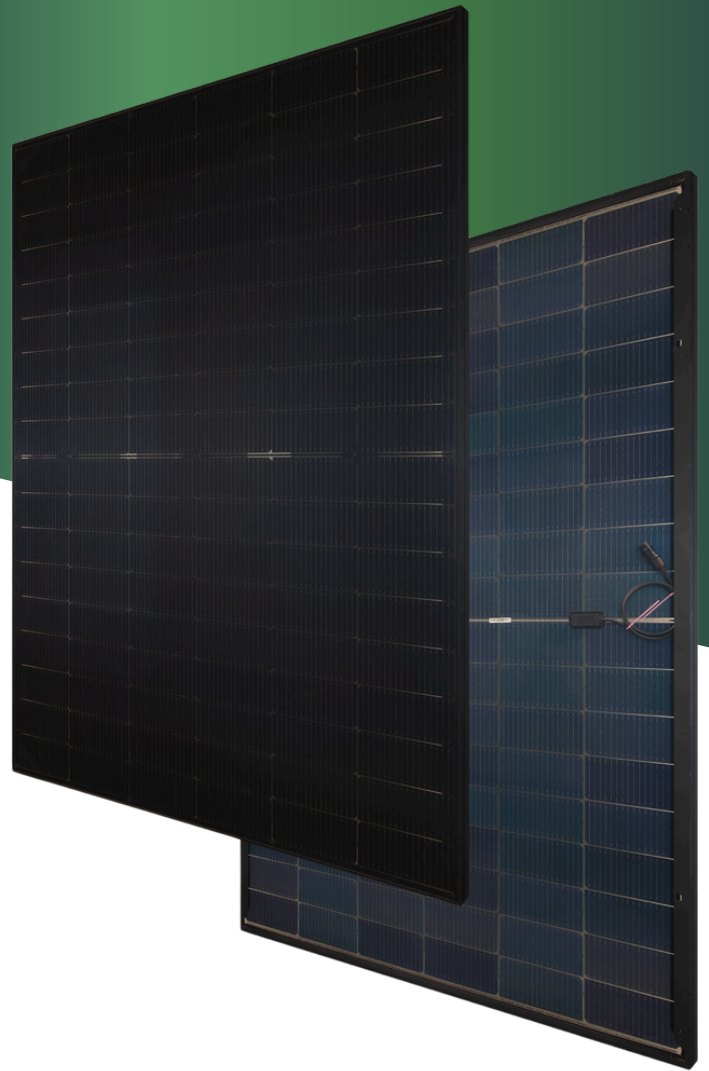


LIMITLESS ULTRA 450W

High Efficiency N-TOPCon Bifacial Module



Bifacial technology enables additional energy harvesting from rear side (up to 30%).



30 year lifespan brings 10-30% additional power generation compared to conventional P-type modules.



N-type solar cells naturally don't have LID, which increases power generation.



Excellent low irradiance performance.



100% triple EL test enabling remarkable reduction of hidden crack rate of modules.



Industry leading lowest thermal coefficient of power.

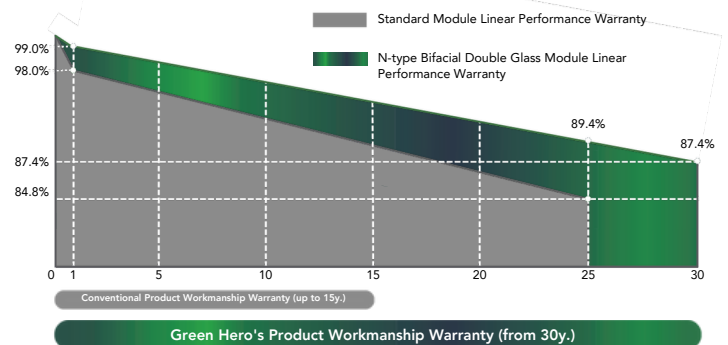


Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa).

IEC6215(2016), IEC61730(2016)
ISO9001:2016: Quality Management System
ISO45001:2018
Occupational health and safety management systems



LINEAR PERFORMANCE WARRANTY



30 years

Product Workmanship Warranty

30 years

Output Power Warranty

Max. Power (Pmax)	430	435	440	445	450
Max. Voltage Vmp (V)	33,08	33,26	33,44	33,61	33,79
Max. Current Imp (A)	13,00	13,08	13,16	13,24	13,32
Open-Circuit VOC (V)	39,43	39,63	39,83	40,03	40,23
Short-Circuit Current ISC (A)	13,84	13,91	13,98	14,05	14,12
Module Efficiency STC (%)	21,52	21,77	22,02	22,27	22,52
Power Tolerance	0 ~ +3%				
Temp. Coefficient (Pmax)	-0.29%/°C				
Temp. Coefficients (Voc)	-0.25 %/°C				
Temp. Coefficients (Isc)	0.045%/°C				

Cell Type	N-Type Mono-crystalline
No. of cells	108
Dimensions	1762x1134x30mm
Weight	24,5kg
Front Glass / Back Glass	2.0mm, Anti Reflection Coating 2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type / Connector Type	MC4 Compatible/MC4 - Class A
Output Cables	4.0 mm ² (+): 1100mm, (-): 1100mm or customized length

Pallet Dimensions	1792x1140x1249
Packing Detail (Two Pallets=one stack)	36pcs/pallets, 72pcs/stack, 936 pcs/40'HQ Container

Operating Temp.	-40°C~+70°C
Max. System Voltage	1500VDC (IEC)
Max. Series Fuse Rating	30A

