

# N-TYPE HJT BIFACIAL GLASS-GLASS SERIES

510/515 watt

WST-NHX54-A4



### High Bifaciality

With a remarkable bifaciality factor of 90%, HJT cells present an excellent option for utility-scale installations.



### High efficiency

HJT has achieved impressive conversion efficiencies. It optimizes light trapping and minimizes energy losses, leading to improved overall efficiency.



### Outstanding Temperature Coefficient

Its resistance to temperature fluctuations, making it a dependable choice for extreme heat conditions.

25 years product warranty

30 years linear performance

-1% 1st-year degradation

-0.30% annual power degradation

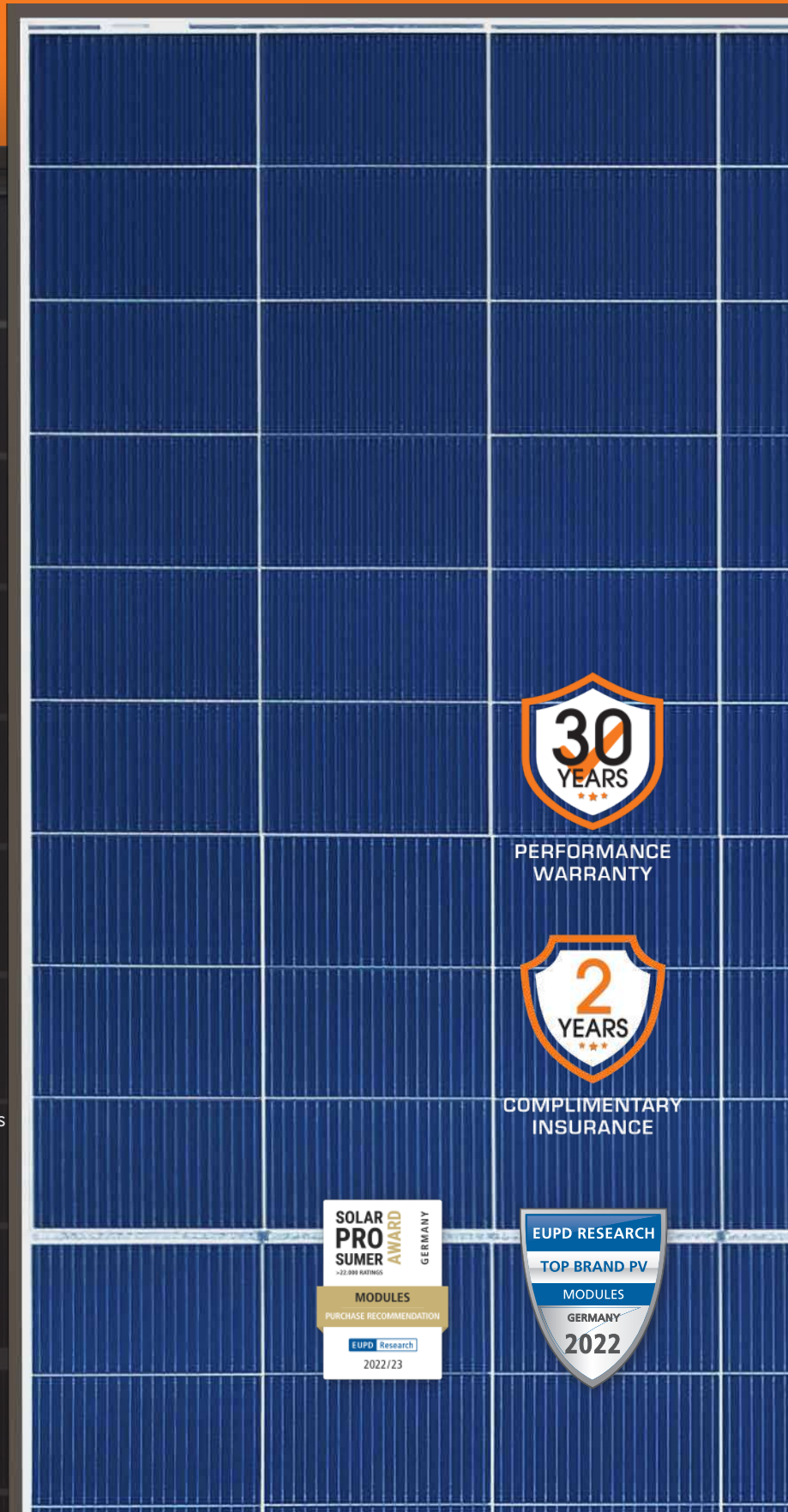
>90.3% of linear performance after 30 years



**WINAICO®**

*Power to Perform*

[www.winaico.com.au](http://www.winaico.com.au)



PERFORMANCE WARRANTY



COMPLIMENTARY INSURANCE



## MECHANICAL DATA

Cell	Monocrystalline, N-type, bifacial
Quantity and wiring of cells	108 (6 strings x 18 cells)
Bifaciality	90 ± 5 %
Dimensions	1,960 x 1,134 x 30 mm
Weight	27.4 kg (60.4 lbs)
Front-side glass	2.0 mm, semi-tempered solar glass with anti-reflective coating
Back-side glass	2.0 mm, semi-tempered solar glass, partially white printed
Frame	Black anodised aluminium
Junction box	IP68, 3 bypass diodes
Connector type	Stäubli Electrical Connectors AG PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy
Cable length (IEC/UL)	Cable x 2 1,250 mm / 4 mm <sup>2</sup>
Fire safety class <sup>1</sup> (IEC61730)	Class C
Protection class (IEC 61140)	II

## OPERATING CONDITION

Operating temperature	-40 °C to +85 °C / -40 °F to +185 °F
Maximum system voltage IEC/UL	1,500 VDC / 1,500 VDC
Maximum series fuse	30 A
Maximum design load (push/pull)	+3,600 Pa / -1,600 Pa
Maximum test load (push/pull)	+5,400 Pa / -2,400 Pa
Nominal module operating temperature NOCT	44 ± 2 °C
Temperature coefficient of P <sub>MAX</sub>	-0.24%/°C
Temperature coefficient of V <sub>OC</sub>	-0.22%/°C
Temperature coefficient of I <sub>SC</sub>	0.04%/°C

## ELECTRICAL DATA

Module type

Electrical data	WST-510NHX54-A4			WST-515NHX54-A4			Wp
	STC <sup>2</sup>	NOCT <sup>3</sup>	BNPI <sup>4</sup>	STC <sup>2</sup>	NOCT <sup>3</sup>	BNPI <sup>4</sup>	
Nominal performance	P <sub>MAX</sub>	510	389	571	515	393	577
Voltage at maximum performance	V <sub>MP</sub>	34.38	32.83	34.50	34.49	32.93	34.61
Current at maximum performance	I <sub>MP</sub>	14.84	11.86	16.58	14.94	11.94	16.69
Open circuit voltage	V <sub>OC</sub>	40.98	39.11	41.12	41.09	39.22	41.23
Short circuit current	I <sub>SC</sub>	15.70	12.55	17.61	15.81	12.64	17.73
BSI: 1000 W/m <sup>2</sup> front / 300 W/m <sup>2</sup> rear irradiance	I <sub>SC</sub>	19.94		20.08		A	
Maximum power bifaciality coefficient	φP <sub>MAX</sub>	90 ± 5		90 ± 5		%	
Open circuit current bifaciality coefficient	φV <sub>OC</sub>	95~100		95~100		%	
Short circuit current bifaciality coefficient	φI <sub>SC</sub>	90 ± 5		90 ± 5		%	
Module efficiency		22.9		23.2		%	
Bifacial gain <sup>5</sup>	10 % P <sub>mpp</sub>	561(+51)		567(+52)		W	
*Depending on irradiation conditions	15 % P <sub>mpp</sub>	587(+77)		592(+77)		W	
	20 % P <sub>mpp</sub>	612(+102)		618(+103)		W	
Power tolerance		0~+5		0~+5		W	

## PRODUCT AND QUALITY CERTIFICATES

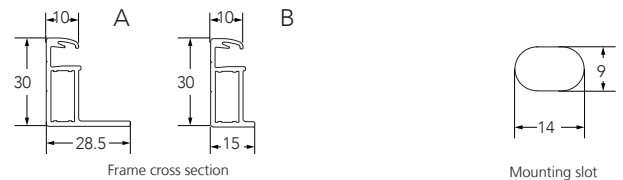
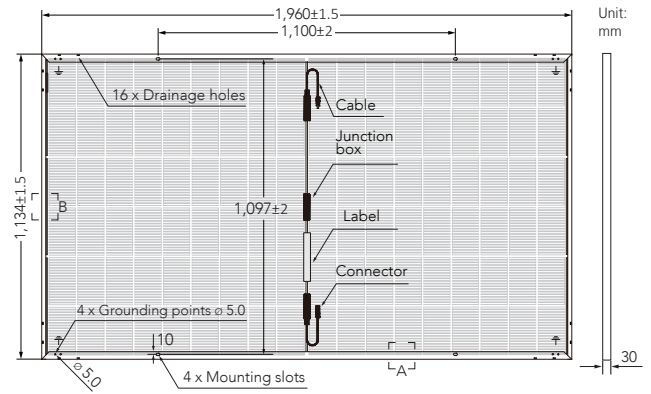
IEC 61215:2021, IEC 61730:2023

ISO 9001 Quality Management System  
 ISO 45001 Occupational Health and Safety Management System  
 ISO 14001 Environment Management System  
 SA 8000 Social Accountability



- The fire safety test methods according to IEC 61730-2, Fire Tests of Roof Coverings.
- Electrical data applies under standard test conditions (STC): solar radiation 1,000 W/m<sup>2</sup> with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of P<sub>max</sub> 0~+3%; V<sub>oc</sub> ±3%; I<sub>sc</sub> ±5% at STC.
- Electrical data applies under Nominal Operation Cell Temperature (NOCT), irradiance of 800 W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20 °C, wind speed 1 m/s.
- BNPI: The front side 1,000 W/m<sup>2</sup> solar irradiance and rear 135 W/m<sup>2</sup>.
- The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.

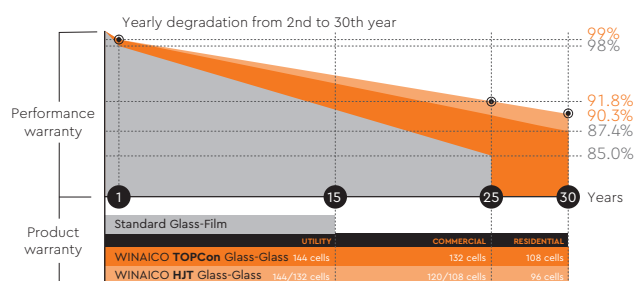
## DIMENSIONS



## PACKAGING



## WINAICO PERFORMANCE GUARANTEE



25 year product guarantee.  
 Linear performance guarantee for 30 years.  
 No more than 0.3% degradation per year from 2nd year to 30th year.

Specifications included in this datasheet are subject to change without notice. WST-515NHX54-A4\_AUS\_CEC.1224



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