

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



Power to Perform

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 ²
Fire safety class ¹ (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 _{MAX}	-0.24%/°C
Temperature coefficient of V _{OC}	-0.22%/°C
Temperature coefficient of I _{SC}	0.04%/°C

ELECTRICAL DATA

Module type

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

PRODUCT AND QUALITY CERTIFICATES

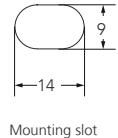
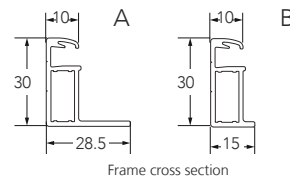
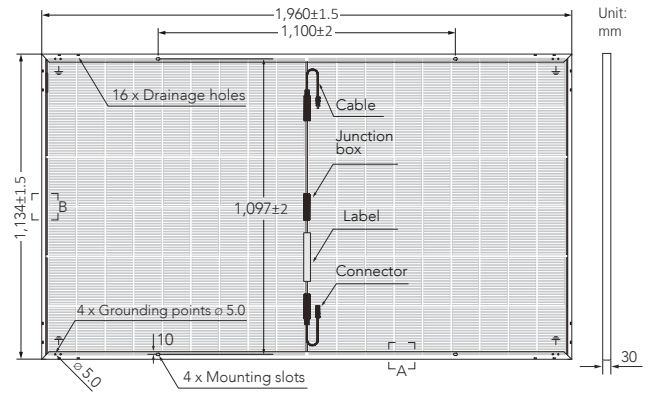
IEC 61215:2021, IEC 61730:2023

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/m² with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of P_{max} 0~+3%; V_{oc} ±3%; I_{sc} ±5% at STC.
- Electrical data applies under Nominal Operation Cell Temperature (NOCT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20 °C, wind speed 1 m/s.
- BNPI: The front side 1,000 W/m² solar irradiance and rear 135 W/m².
- The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.

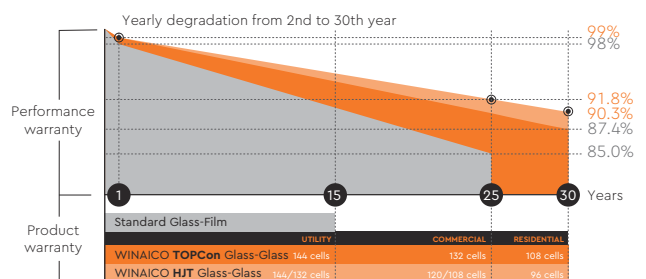
DIMENSIONS



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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