

COMMERCIAL

N-TYPE BIFACIAL GLASS-GLASS SERIES

Up to 520 watt
WST-NCX54-AW



Better low-light performance

Enhanced electricity production in low-irradiance environments



Excellent durability in extreme environments

WINAICO modules are tested above and beyond international standards



PID Resistant

To reduce power degradation and ensure long-term sustained performance

25 years product warranty

30 years linear performance

1% 1st-year degradation

0.40% annual power degradation

>87.4% 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	Up to 80%
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
Module [T98] _{MAX}	70°C
Maximum system voltage IEC	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 NMOT	42 ± 2°C
Temperature coefficient of P _{MAX}	-0.28%/°C
Temperature coefficient of V _{OC}	-0.23%/°C
Temperature coefficient of I _{SC}	0.043%/°C

ELECTRICAL DATA

Module type		WST-510NCX54-AW			WST-515NCX54-AW			WST-520NCX54-AW			
Electrical data		STC ²	NMOT ³	BNPI ⁴	STC ²	NMOT ³	BNPI ⁴	STC ²	NMOT ³	BNPI ⁴	
Nominal performance	P _{MAX}	510	389	560	515	392	565	520	396	570	Wp
Voltage at maximum performance	V _{MP}	33.60	31.75	33.60	33.78	31.92	33.78	33.96	32.09	33.96	V
Current at maximum performance	I _{MP}	15.18	12.24	16.67	15.25	12.29	16.73	15.32	12.35	16.80	A
Open circuit voltage	V _{OC}	40.01	38.29	40.01	40.10	38.38	40.10	40.19	38.46	40.19	V
Short circuit current	I _{SC}	16.15	13.02	17.88	16.23	13.08	17.95	16.31	13.15	18.02	A
BSI: 1000 W/m ² front / 300 W/m ² rear irradiance	I _{SC}	20.22			20.31			20.40			A
Maximum power bifaciality coefficient	φP _{MAX}	80±10			80±10			80±10			%
Open circuit current bifaciality coefficient	φV _{OC}	95±5			95±5			95±5			%
Short circuit current bifaciality coefficient	φI _{SC}	80±10			80±10			80±10			%
Module efficiency		22.9			23.2			23.4			%
Pmax at 200W/m ²		99			100.1			101.1			W
Bifacial gain ⁵	10 % Pmpp	561 (+51)			567 (+52)			572 (+52)			W
*Depending on irradiation conditions	15 % Pmpp	587 (+77)			592 (+77)			598 (+78)			W
	20 % Pmpp	612 (+102)			618 (+103)			624 (+104)			W
Power binning tolerance		0~+5			0~+5			0~+5			W

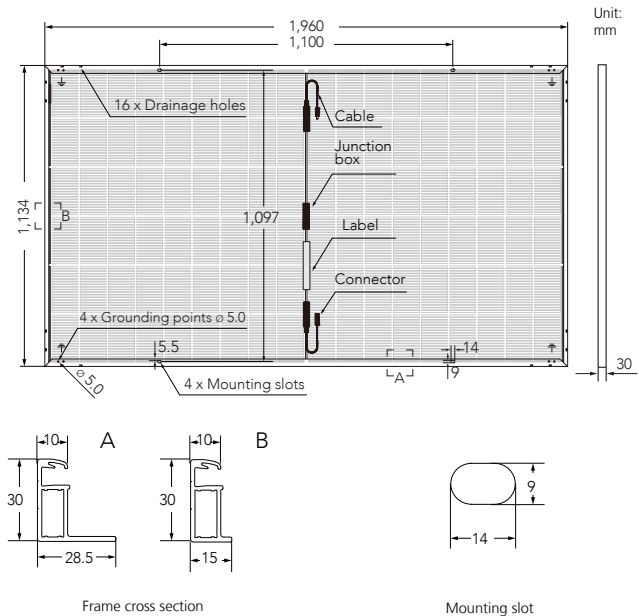
PRODUCT AND QUALITY CERTIFICATES

IEC 61215:2021, IEC 61730:2023
IEC 61701 Salt Mist Resistance
IEC 62716 Ammonia Resistance
IEC TS 62804-1 Anti-PID

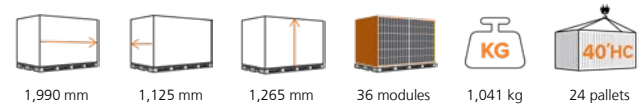
ISO 9001 Quality Management System
ISO 45001 Occupational Health and Safety Management System
ISO 14001 Environment Management System
SA 8000 Social Accountability



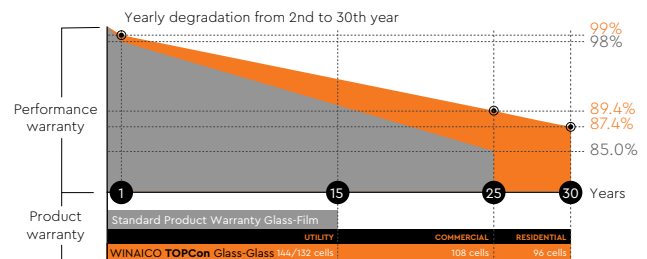
DIMENSIONS



PACKAGING



WINAICO PERFORMANCE GUARANTEE



25 year product guarantee.
Linear performance guarantee for 30 years.
No more than 0.4% degradation per year from 2nd year to 30th year.

- 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}: ±3%; V_{oc}: ±3%; I_{sc}: ±3% at STC.
- Electrical data applies under Nominal Module Operating Temperature (NMOT), 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. Measurement tolerance of P_{max}: ±3%; V_{oc}: ±3%; I_{sc}: ±3% at BNPI.
- The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.
- BSI: 1000 W/m² front / 300 W/m² rear irradiance. Measurement tolerance of I_{sc}: ±3% at BSI.



WINAICO Australia Pty Ltd
Tel + 61 2 8091 2771
australia@winaico.com
www.winaico.com.au
3/393 George Street, Sydney NSW 2000, Australia

Win Win Precision Technology Co., Ltd
Tel + 886 3 568 8699 · info@w-win.com.tw
www.wvpt.com.tw | www.winaico.com
4F, No. 180, Sec. 2, Gongdao 5th Rd., East Dist.,
Hsinchu City 300, Taiwan R.O.C.
Made in China

WINAICO
WINAICO is a trademark of
Win Win Precision Technology Co., Ltd.