

N-TYPE BIFACIAL GLASS-GLASS SERIES

445/450/455/460 watt
WST-NCX48-B3



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 & LID Resistant

To reduce power degradation and ensure long-term sustained performance.

- 30 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	96 (6 strings x 16 cells)
Bifaciality	80%
Dimensions	1,762 x 1,134 x 35 mm
Weight	21.3 kg (46.95 lbs)
Front-side glass	1.6 mm, semi-tempered solar glass with anti-reflective coating
Back-side glass	1.6 mm, semi-tempered solar glass, partially black printed
Frame	Black anodised aluminium
Junction box	IP68, 3 bypass diodes
Connector type	Stäubli PV-KST4-EVO2A/xy (M), PV-KBT4-EVO2A/xy (F) IP68
Cable length (IEC/UL)	Cable x 2 1,200 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 V / 1,500 V
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	42 ± 2 °C
Temperature coefficient of P _{MAX}	-0.28%/°C
Temperature coefficient of V _{OC}	-0.25%/°C
Temperature coefficient of I _{SC}	0.045%/°C

ELECTRICAL DATA

Module type	WST-445NCX48-B3			WST-450NCX48-B3			WST-455NCX48-B3			WST-460NCX48-B3			Wp	
	STC ²	NMOT ³	BNPI ⁴	STC ²	NMOT ³	BNPI ⁴	STC ²	NMOT ³	BNPI ⁴	STC ²	NMOT ³	BNPI ⁴		
Electrical data														
Nominal performance	P _{MAX}	445	339	490	450	343	495	455	347	500	460	351	505	
Voltage at maximum performance	V _{MP}	29.83	28.19	29.83	30.02	28.37	30.02	30.22	28.56	30.22	30.41	28.74	30.41	V
Current at maximum performance	I _{MP}	14.92	12.03	16.51	14.99	12.08	16.59	15.06	12.14	16.66	15.13	12.20	16.74	A
Open circuit voltage	V _{OC}	35.11	33.62	35.11	35.30	33.80	35.30	35.50	33.99	35.50	35.68	34.17	35.68	V
Short circuit current	I _{SC}	16.01	12.91	17.71	16.08	12.96	17.78	16.16	13.03	17.87	16.22	13.09	17.94	A
BSI: 1000 W/m ² front / 300 W/m ² rear irradiance	I _{SC}	19.78			19.87			19.97			20.04			A
Module efficiency		22.3			22.5			22.8			23.0			%
Bifacial gain ⁵	10 % P _{mp}	490 (+45)			495 (+45)			501 (+51)			506 (+46)			W
	15 % P _{mp}	512 (+67)			518 (+68)			523 (+77)			529 (+69)			W
	20 % P _{mp}	534 (+89)			540 (+90)			546 (+91)			552 (+92)			W
Power tolerance		0~+5			0~+5			0~+5			0~+5			W

PRODUCT AND QUALITY CERTIFICATES

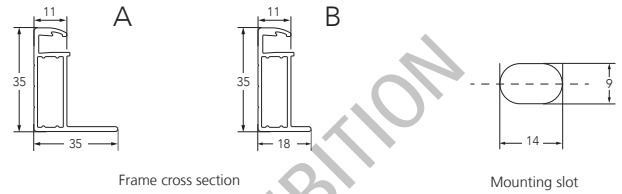
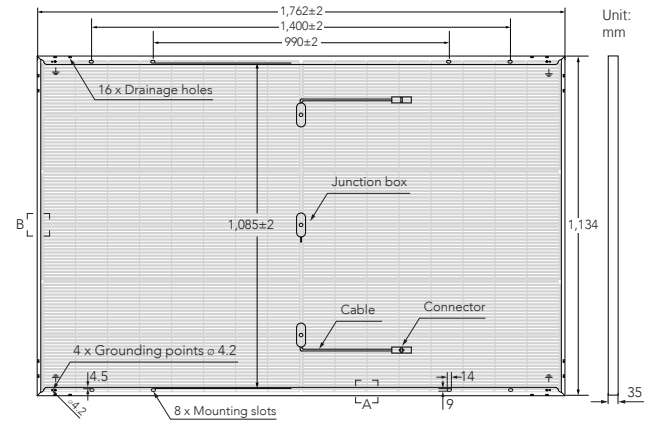
IEC 61215:2021, IEC 61730:2023

ISO 9001 Quality Management System
ISO 50001 Occupational Health and Safety Management System
ISO 14001 Environment Management System



- 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}: ±5% 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.
- The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.

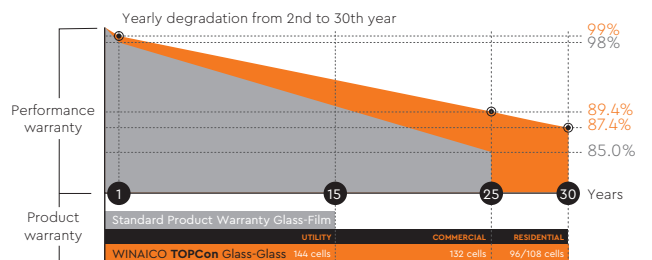
DIMENSIONS



PACKAGING



WINAICO PERFORMANCE GUARANTEE



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

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