RESIDENTIAL

WST-BKX54-B2

WBC Back Contact Series Ultra Black

495-505W

30 years product warranty
30 years linear performance
-1 % 1st-year degradation
-0.35 % annual power degradation
>88.85 % of linear performance after 30 years
(Applicable to front-side power at STC only)

WINAICO
Solar for Experts.

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WINAICO 30 YEARS PRODUCT WARRANTY

30 YEARS
PERFORMANCE WARRANTY

2 YEARS
COMPLIMENTARY INSURANCE

MECHANICAL DATA

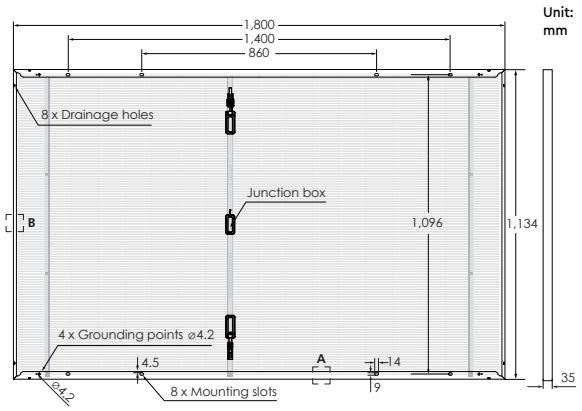
Cell	Monocrystalline, N-type, bifacial
Quantity and wiring of cells	108 (6 strings x 18 cells)
Bifaciality	40 ± 5%
Dimensions	1,800 x 1,134 x 35 mm
Weight	25 kg (55.1 lbs)
Front-side glass	2.0 mm, highly transparent solar glass with anti-reflective coating
Back-side glass	2.0 mm, highly transparent solar glass, partially black 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 1,200 mm / 4 mm²
Fire safety class[1] (IEC61730)	Class A
Protection class (IEC 61140)	II

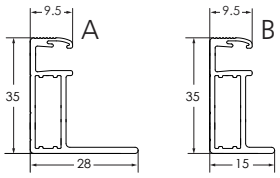
OPERATING CONDITION

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	25 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	45 ± 2°C
Temperature coefficient of P_{MAX}	-0.26%/°C
Temperature coefficient of V_{OC}	-0.22%/°C
Temperature coefficient of I_{SC}	0.05%/°C

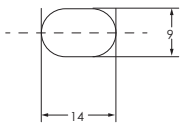
*The installation of additional blocking diodes or fuses is necessary with the parallel connection of module strings.

DIMENSIONS





Frame cross section



Mounting slot

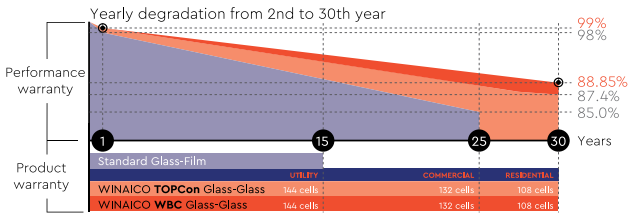
PACKAGING

1,820 mm	1,130 mm	1,259 mm	31 modules	815 kg	24 pallets

ELECTRICAL DATA

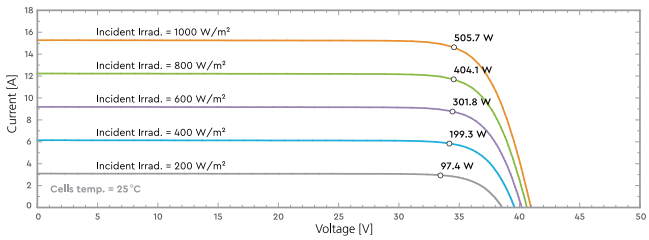
Module type		WST-495BKX54-B2			WST-500BKX54-B2			WST-505BKX54-B2			
Test Conditions		STC[2]	NOCT[3]	BNPI[4]	STC[2]	NOCT[3]	BNPI[4]	STC[2]	NOCT[3]	BNPI[4]	
Nominal performance	P_{MAX}	495	377	520	500	381	525	505	385	530	Wp
Voltage at maximum performance	V_{MP}	35.44	32.28	35.44	35.54	32.38	35.54	35.64	32.48	35.64	V
Current at maximum performance	I_{MP}	13.98	11.69	14.68	14.08	11.78	14.78	14.18	11.87	14.88	A
Open circuit voltage	V_{OC}	40.74	38.28	40.74	40.84	38.38	40.84	40.94	38.48	40.94	V
Short circuit current	I_{SC}	15.08	12.30	15.86	15.18	12.36	15.96	15.28	12.42	16.06	A
BSI: 1000 W/m² front / 300 W/m² rear irradiance	I_{SC}	16.91			16.96			17.01			A
Maximum power bifaciality coefficient	ϕP_{MAX}	40±5			40±5			40±5			%
Open circuit current bifaciality coefficient	ϕV_{OC}	100±5			100±5			100±5			%
Short circuit current bifaciality coefficient	ϕI_{SC}	40±5			40±5			40±5			%
Module efficiency		24.3			24.5			24.7			%
Bifacial gain[5] *Depending on irradiation conditions	10 % Pmpp	545 (+50)			550 (+50)			556 (+51)			W
	15 % Pmpp	569 (+74)			575 (+75)			581 (+76)			W
	20 % Pmpp	594 (+99)			600 (+100)			606 (+101)			W
Power tolerance		0~+5			0~+5			0~+5			W

WINAICO PERFORMANCE GUARANTEE



Based on front-side power at STC

CHARACTERISTIC CURVES



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

1. The fire safety test methods according to IEC 61730-2, Fire Tests of Roof Coverings.
2. 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 Pmax: ±3%; Voc: ±3%; Isc: ±3% at STC.
3. 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.
4. BNPI: The front side 1,000 W/m2 solar irradiance and rear 135 W/m2 . NMOT/BNPI: Measurement tolerance of Pmax: ±3%; Voc: ±3%; Isc: ±3%.
5. The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.

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Specifications included in this datasheet are subject to change without notice. WST-505BKX54-B2_AUS_CEC.0926