

WST-BDX54 Back Contact Series

480 Watt / 485 Watt Ultra Black

More warranty.

30 years product warranty.
30 years performance warranty.
German guarantor.

More power.

Minimal power loss at rising temperatures.
Highest area output of 238 watts/m².
At least 88,85 % residual power after 30 years.

More safety.

Reduced risk of microcracks.
Protection against glass breakage thanks to
35 mm frame thickness.

More protection.

Insurance cover for the entire solar system
included for the first year.

MECHANICAL DATA

Cell	Monocrystalline, N-type, bifacial
Quantity and wiring of cells	108 (6 strings x 18 cells)
Bifaciality	70 ± 5%
Dimensions	1,800 × 1,134 × 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	MC4-EVO2A
Cable length (IEC/UL)	Cable x 2 1,200 mm / 4 mm ²
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
Maximum system voltage IEC	1,500 V
Maximum series fuse	30 A ¹
Maximum design load (push/pull)	5,400 Pa / 2,400 Pa
Maximum test load (push/pull)	8,100 Pa / 3,600 Pa
Nominal operation cell 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

¹The installation of additional blocking diodes or fuses is necessary with the parallel connection of module strings.

ELECTRICAL DATA

Module type	WST-480BDX54-B2			WST-485BDX54-B2			Wp
	STC ²	NOCT ³	BNPI ⁴	STC ²	NOCT ³	BNPI ⁴	
Nominal performance	P _{MAX}	480	364	520	485	368	525
Voltage at maximum performance	V _{MP}	33.84	32.11	33.85	33.94	32.20	33.95
Current at maximum performance	I _{MP}	14.19	11.35	15.37	14.30	11.44	15.47
Open circuit voltage	V _{OC}	40.76	38.67	40.73	40.89	38.80	40.83
Short circuit current	I _{SC}	14.96	12.09	16.16	15.03	12.15	16.26
BSI: 1000 W/m ² front / 300 W/m ² rear irradiance	I _{SC}	17.80		17.88		A	
Module efficiency		23.5		23.8		%	
Bifacial gain ⁵	10 % P _{mpp}	528 (+48)		534 (+49)		W	
	15 % P _{mpp}	552 (+72)		558 (+73)		W	
	20 % P _{mpp}	576 (+96)		582 (+97)		W	
Power tolerance		0~+5		0~+5		W	

PRODUCT AND QUALITY CERTIFICATES

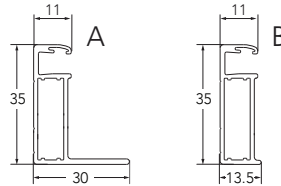
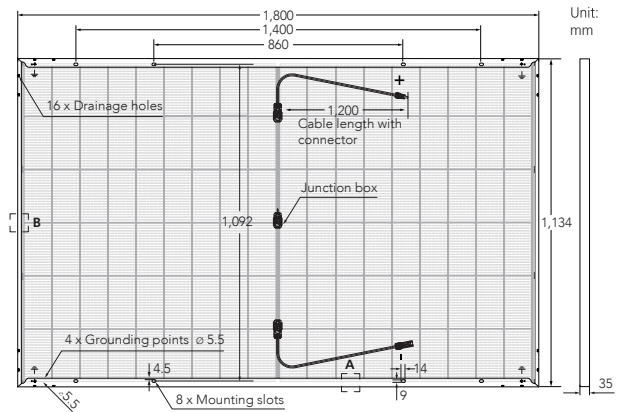
IEC 61215:2021, IEC 61730:2023
 IEC 61701 Salt Mist Resistance
 IEC 62716 Ammonia Resistance
 IEC TS 62804-1 Anti-PID
 IEC 61215-2 Hail Storm Resistance (35mm at ~27.2m/s)

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

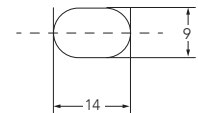


- The fire safety test methods according to IEC 61730-2, Fire Tests of Roof Coverings.
- Electrical data applies under standard test conditions (STC): solar radiation 1,000 W/m² with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of P_{max}:±3%; V_{oc}:±3%; I_{sc}:±3% at STC.
- 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



Frame cross section

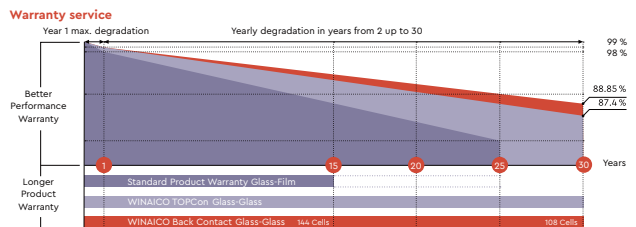


Mounting slot

PACKAGING



WINAICO PERFORMANCE GUARANTEE



30 year product guarantee.
 Linear performance guarantee for 30 years.
 ≤1% degradation in 1st year.
 No more than 0.35% degradation per year from 2nd year to 30th year.



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