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

WINAICO®
*Power to Perform*
www.winaico.com.au



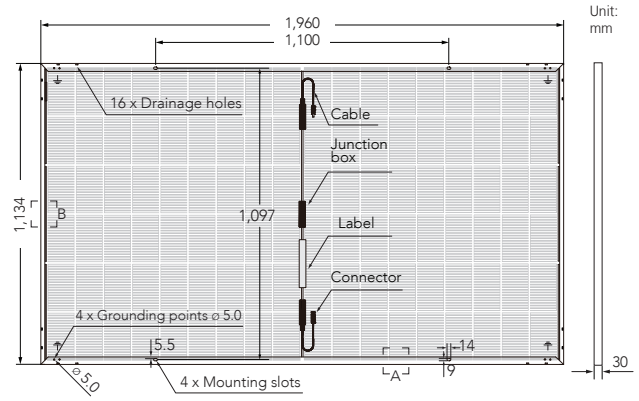
## MECHANICAL DATA

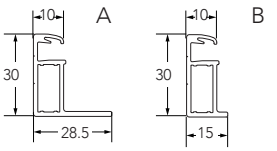
| | |
|---|---|
| Cell | Monocrystalline, N-type, bifacial |
| Quantity and wiring of cells | 108 (6 strings x 18 cells) |
| Bifaciality | Up to 80% |
| Dimensions | 1,960 x 1,134 x 30 mm |
| Weight | 27.4 kg (60.4 lbs) |
| Front-side glass | 2.0 mm, semi-tempered solar glass with anti-reflective coating |
| 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 mm² |
| Fire safety class[1] (IEC61730) | Class C |
| Protection class (IEC 61140) | II |

## OPERATING CONDITION

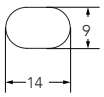
| | |
|---|---|
| Operating temperature | –40 °C to +85 °C / –40 °F to +185 °F |
| Module [T98] $_{MAX}$ | 70°C |
| Maximum system voltage IEC | 1,500 VDC |
| Maximum series fuse | 30 A |
| Maximum design load (push/pull) | +3,600 Pa / -1,600 Pa |
| Maximum test load (push/pull) | +5,400 Pa / -2,400 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 |

## DIMENSIONS




Frame cross section




Mounting slot

## PACKAGING




1,990 mm | 1,125 mm | 1,265 mm | 36 modules | 1,041 kg | 24 pallets

## ELECTRICAL DATA

Module type

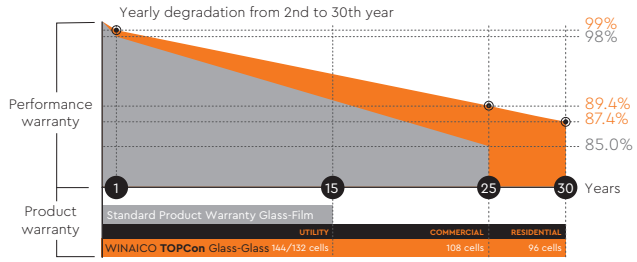
| Electrical data | | WST-510NCX54-AW | | | WST-515NCX54-AW | | | WST-520NCX54-AW | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | STC[2] | NMOT[3] | BNPI[4] | STC[2] | NMOT[3] | BNPI[4] | STC[2] | NMOT[3] | BNPI[4] | |
| Nominal performance | $P_{MAX}$ | 510 | 389 | 560 | 515 | 392 | 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/m² front / 300 W/m² rear irradiance | $I_{SC}$ | | 20.22 | | | 20.31 | | | 20.40 | | A |
| Maximum power bifaciality coefficient | $\varphi P_{MAX}$ | | 80±10 | | | 80±10 | | | 80±10 | | % |
| Open circuit current bifaciality coefficient | $\varphi V_{OC}$ | | 95±5 | | | 95±5 | | | 95±5 | | % |
| Short circuit current bifaciality coefficient | $\varphi I_{SC}$ | | 80±10 | | | 80±10 | | | 80±10 | | % |
| Module efficiency | | | 22.9 | | | 23.2 | | | 23.4 | | % |
| Pmax at 200W/m² | | | 99 | | | 100.1 | | | 101.1 | | W |
| Bifacial gain[5] *Depending on irradiation conditions | 10 % Pmpp | | 561 (+51) | | | 567 (+52) | | | 572 (+52) | | W |
| | 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

## 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.

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 Module Operating Temperature (NMOT), 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. Measurement tolerance of Pmax:±3%; Voc:±3%; Isc:±3% at BNPI.
5. The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.
6. BSI: 1000 W/m² front / 300 W/m² rear irradiance. Measurement tolerance of Isc:±3% at BSI.


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Made in China



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Specifications included in this datasheet are subject to change without notice. WST-520NCX54-AW_AUS_CEC.0825