

# N-TYPE BIFACIAL GLASS-GLASS SERIES

530/540 watt

WST-NGX-D3



#### Better low-light performance

Enhanced electricity production  
in low-irradiance environments



#### PID & LID Resistant

To reduce power degradation  
and ensure long-term sustained  
performance



#### Excellent durability in extreme environments

WINAICO modules are tested  
above and beyond international  
standards.

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](http://www.winaico.com)



## MECHANICAL DATA

|                                           |                                                                |
|-------------------------------------------|----------------------------------------------------------------|
| Cell                                      | Monocrystalline, N-type, bifacial                              |
| Quantity and wiring of cells              | 132 (6 strings x 22 cells)                                     |
| Bifaciality                               | Up to 80 %                                                     |
| Dimensions                                | 2,093 x 1,134 x 35 mm                                          |
| Weight                                    | 29.7 kg (65.48 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 MC4-EVO2A IP68                                         |
| Cable length (IEC/UL)                     | Cable 2 x 1,200 mm / 4 mm <sup>2</sup>                         |
| Fire safety class <sup>1</sup> (IEC61730) | 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 NMOT   | 42 ± 2 °C                            |
| Temperature coefficient of P <sub>MAX</sub> | -0.30 %/°C                           |
| Temperature coefficient of V <sub>OC</sub>  | -0.25 %/°C                           |
| Temperature coefficient of I <sub>SC</sub>  | 0.045 %/°C                           |

## ELECTRICAL DATA

| Module type                                                             |                      | WST-530NGX-D3    |                   |                   | WST-540NGX-D3    |                   |                   |    |
|-------------------------------------------------------------------------|----------------------|------------------|-------------------|-------------------|------------------|-------------------|-------------------|----|
| Electrical data                                                         |                      | STC <sup>2</sup> | NMOT <sup>3</sup> | BNPI <sup>4</sup> | STC <sup>2</sup> | NMOT <sup>3</sup> | BNPI <sup>4</sup> |    |
| Nominal performance                                                     | P <sub>MAX</sub>     | 530              | 396               | 580               | 540              | 404               | 590               | Wp |
| Voltage at maximum performance                                          | V <sub>MP</sub>      | 40.16            | 37.97             | 39.46             | 40.79            | 38.63             | 39.86             | V  |
| Current at maximum performance                                          | I <sub>MP</sub>      | 13.20            | 10.44             | 14.88             | 13.24            | 10.48             | 15.02             | A  |
| Open circuit voltage                                                    | V <sub>OC</sub>      | 47.27            | 44.70             | 47.78             | 47.63            | 44.87             | 47.94             | V  |
| Short circuit current                                                   | I <sub>SC</sub>      | 13.89            | 11.14             | 15.30             | 14.01            | 11.16             | 15.32             | A  |
| BSI: 1000 W/m <sup>2</sup> front / 300 W/m <sup>2</sup> rear irradiance | I <sub>SC</sub>      | 17.22            |                   |                   | 17.39            |                   |                   | A  |
| Module efficiency                                                       |                      | 22.3             |                   |                   | 22.8             |                   |                   | %  |
| Bifacial gain <sup>5</sup>                                              | 10 % P <sub>mp</sub> | 583 (+53)        |                   |                   | 594 (+54)        |                   |                   | W  |
| *Depending on irradiation conditions                                    | 15 % P <sub>mp</sub> | 610 (+80)        |                   |                   | 621 (+81)        |                   |                   | W  |
|                                                                         | 20 % P <sub>mp</sub> | 636 (+106)       |                   |                   | 648 (+108)       |                   |                   | W  |
| Power tolerance                                                         |                      | 0~+5             |                   |                   | 0~+5             |                   |                   | W  |

## PRODUCT AND QUALITY CERTIFICATES

IEC 61215: 2021, IEC 61730: 2023  
 IEC 61701 Salt Mist Resistance (in progress)  
 IEC 62716 Ammonia Resistance (in progress)  
 IEC 61215-2 Hail Storm Resistance (in progress)  
 IEC TS 62804-1 Anti-PID (in progress)  
 IEC 61730-2 & UNI 9177:1987 Fire Resistance

ISO 9001 Quality Management System  
 ISO 50001 Occupational Health and Safety Management System  
 ISO 14001 Environment Management System  
 SA 8000 Social Accountability

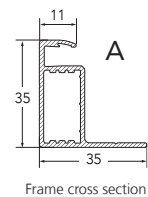
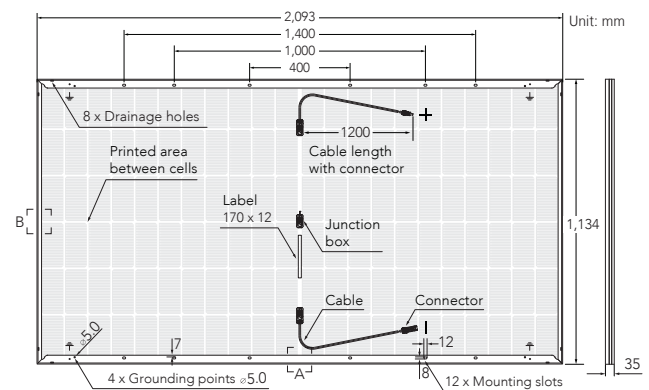


Certificate Number BABT 8529  
Solar Photovoltaic Products

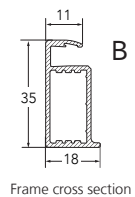
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- The fire safety test methods according to IEC 61730-2, Fire Tests of Roof Coverings.
- Electrical data applies under standard test conditions (STC): solar radiation 1,000 W/m<sup>2</sup> with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of P<sub>max</sub>: ±3%; V<sub>oc</sub>: ±3%; I<sub>sc</sub>: ±5% at STC.
- Electrical data applies under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20 °C, wind speed 1 m/s.

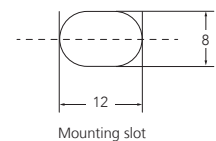
## DIMENSIONS



Frame cross section A



Frame cross section B

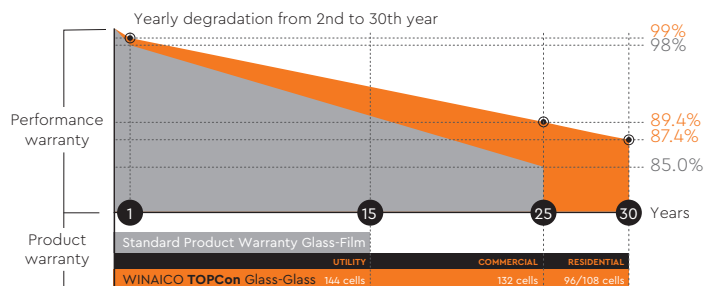


Mounting slot

## 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.

- BNPI: The front side 1,000 W/m<sup>2</sup> solar irradiance and rear 135 W/m<sup>2</sup>.
- The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.



WINAICO Deutschland GmbH  
 Tel. + 49 7933 700 300  
 Fax + 49 7933 700 3010  
 germany@winaico.com · www.winaico.com  
 Industriestrasse 68, 97993 Creglingen, GERMANY

