

# WST-NCX48 Glass-Glass-Series

465 Watt Full Black

470 Watt

## More warranty.

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

## More power.

Two-sided power generation (bifacial).  
233 or 235 watts/m<sup>2</sup> power.  
At least 87.4% residual power after 30 years.

## More safety.

35 mm frame thickness.  
Protection against hailstones of up to 45 mm  
at 110 km/h.

## More protection.

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



**WINAICO**  
Solar for Experts.

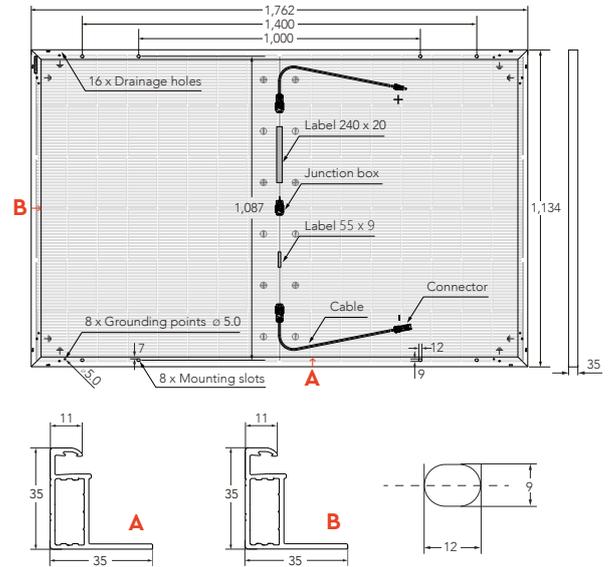
## Mechanical Data WINAICO WST-NCX48 GLASS-GLASS-SERIES

Cell	Monocrystalline N-type, bifacial
Bifacity	Up to 80 %
Quantity of cells	96 (6 × 16 half cells)
Dimensions	1,762 × 1,134 × 35 mm
Weight	25 kg
Front glass	2.0 mm, tempered, highly transparent glass with anti-reflective coating
Encapsulation	EPE / EVA
Back glass	2.0 mm, tempered, highly transparent glass, partially white/black printed
Frame	Black anodised aluminium
Junction box	IP68, 3 bypass diodes
Connector type	Cable 2 × 1.2 m / 4 mm <sup>2</sup> Stäubli MC4 Evo2A
Safety class	II (IEC 61140)
Fire safety class	A (IEC 61730)

## Warranty

Product warranty	30 years
Performance warranty	30 years
Annual power degradation	0.40 %
Performance after 30 years	> 87.4 % of rated power
The warranty conditions apply.	

## Dimensions in mm



## Operating conditions

### WST-NCX48

Operating temperature	°C	-40 to +85
Maximum system voltage	V	1,500
Maximum series fuse I <sub>R</sub>	A	30
Maximum test load (push/pull)	Pa	8,100 / 3,600
Maximum design load (push/pull)	Pa	5,400 / 2,400
Temperature coefficient of P <sub>MAX</sub>	%/°C	-0.28
Temperature coefficient of V <sub>OC</sub>	%/°C	-0.23
Temperature coefficient of I <sub>SC</sub>	%/°C	0,043
Nominal module operating temperature NMOT	°C	42 ± 2

## Electrical data

### WST-465NCX48-BW Full Black

### WST-470NCX48-AW

		WST-465NCX48-BW Full Black		WST-470NCX48-AW	
		STC <sup>1</sup>	NMOT <sup>2</sup>	STC <sup>1</sup>	NMOT <sup>2</sup>
Nominal performance P <sub>MPP</sub>	Wp	465	354	470	358
Voltage at maximum performance V <sub>MPP</sub>	V	30,60	28,92	30,79	29,10
Current at maximum performance I <sub>MPP</sub>	A	15,20	12,25	15,27	12,31
Open circuit voltage V <sub>OC</sub>	V	35,79	34,25	35,90	34,36
Short circuit current I <sub>SC</sub>	A	15,98	13,12	15,93	13,17
Module efficiency (STC)	%	23,3 (233 W/m <sup>2</sup> )		23,5 (235 W/m <sup>2</sup> )	
Increased performance through	10 % P <sub>MPP</sub> W	512 (+47)		517 (+47)	
Power Bifacity*	15 % P <sub>MPP</sub> W	535 (+70)		541 (+71)	
*Depending on irradiation conditions	20 % P <sub>MPP</sub> W	558 (+93)		564 (+94)	
Power tolerance	W	-0/+5			

<sup>1</sup> 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>: ±3 %.

<sup>2</sup> 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 1m/s.

## Warranty service



## Certifications

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  
 (45 mm at 110 km/h)

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

WEEE Registration number:  
 DE85493209



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