

# CW



# U.S.A Energy®

USA Technical Datasheet CW Enerji®



30  
YEARS

PERFORMANCE  
WARRANTY

## BIFACIAL HIGH-EFFICIENCY SOLAR PANELS • 108TNB10

# Half Cut



### High Conversion Efficiency

High panel efficiency to guarantee high power output



### Self-Cleaning And Anti-Reflection Glass

Coating glass for self-cleaning reduces surface dust



### Outstanding Low Irradiation Glass

Outstanding panel performance even in weak light conditions



### Excellent Durability

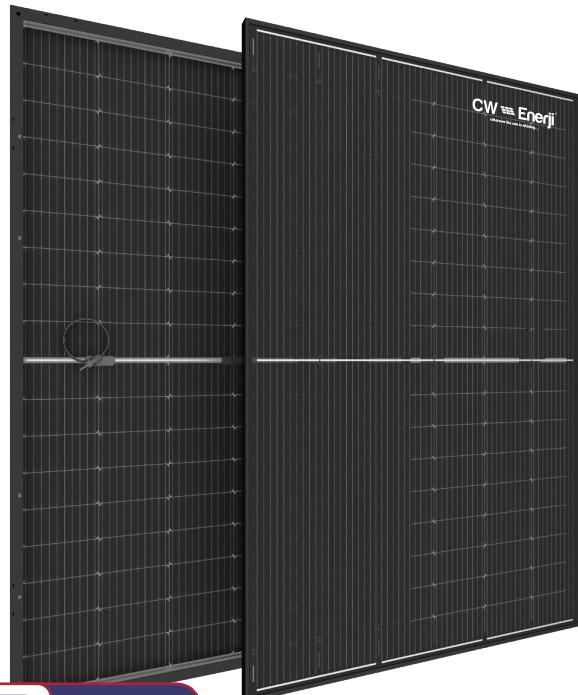
Wind load up to 2400 Pa, Snow load up to 5400 Pa



### 0~+5W Positive Power Tolerance

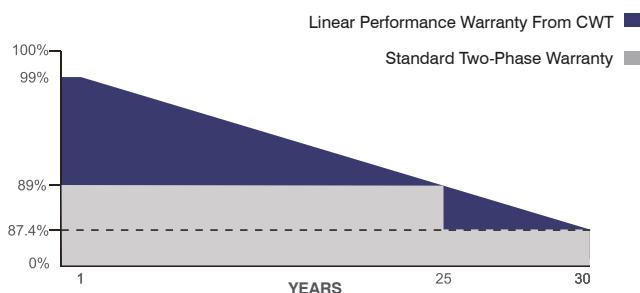


### Easy Installation



**BIFACIAL**

**16BB**



**CWT460-108TNB10 460 Wp**

**CWT455-108TNB10 455 Wp**

**CWT450-108TNB10 450 Wp**

30 Years Performance Warranty

25 Years Product Warranty

IEC 61215, IEC 61730-1, IEC 61730-2  
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018



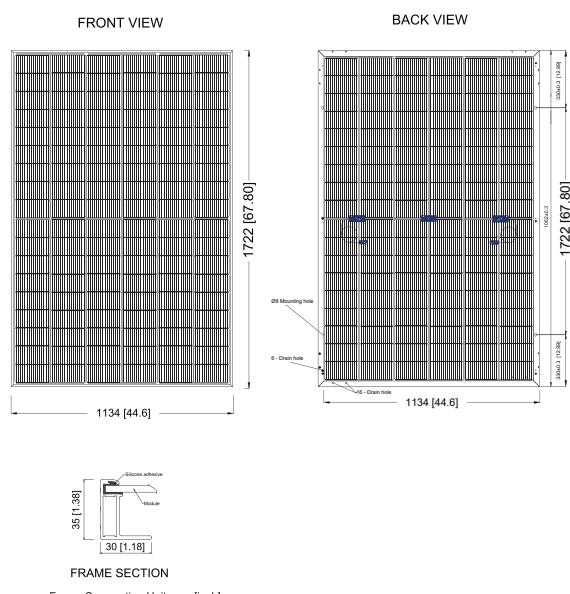
## ELECTRICAL CHARACTERISTICS

Model Type	CWT450 108TNB10	CWT455 108TNB10	CWT460 108TNB10
<b>Peak Power (P<sub>max</sub>)</b>	450 Wp	455 Wp	460 Wp
<b>Module Efficiency (%)</b>	23.04	23.30	23.56
<b>Maximum Power Voltage (V<sub>mp</sub>)</b>	33.14	33.34	33.54
<b>Maximum Power Current (I<sub>mp</sub>)</b>	13.58	13.65	13.72
<b>Open Circuit Voltage (V<sub>oc</sub>)</b>	39.31	39.51	39.71
<b>Short Circuit Current (I<sub>sc</sub>)</b>	14.38	14.45	14.53
<b>Power Tolerance</b>	0~+5W		
<b>Maximum System Voltage</b>		1500V DC	
<b>Operating Temperature</b>		-40 ~ +85°C	
<b>Protection Class</b>		Class II	
<b>Maximum Series Fuse Rating</b>		25A	

## MECHANICAL SPECIFICATIONS

<b>Cell Dimensions(mm/inch)</b>	182 x 91 / 7.16x 3.58
<b>Cells per Module(pcs)</b>	108 (6x18)
<b>Weight(kg/lbs)</b>	21.45 / 47.29
<b>Panel Dimensions(mm/inch)</b>	1722x1134x30 / 67.80x44.64x1.18
<b>Max. Wind/Snow Load(Pa)/(lb/ft<sup>2</sup>)</b>	(2400 / 5400) / (50 / 212)
<b>Junction Box</b>	IP68
<b>Junction Box Cable Length(mm/inch)</b>	350-1600 / 13.78-63.00
<b>Frame Color</b>	Silver / Black
<b>Rear Side Material</b>	Transparent Backsheet

## PHYSICAL CHARACTERISTICS



Frame Crosssection Unit: mm [inch]

## REARSIDE POWER GAIN

(450W Front Power Referenced)

Rear Side Power Gain	5%	10%	15%	20%	25%
<b>Peak Power (P<sub>max</sub>)</b>	472.50	495.00	517.50	540.00	562.50
<b>Short Circuit Current (I<sub>sc</sub>)</b>	15.10	15.82	16.54	17.26	17.98
<b>Open Circuit Voltage (V<sub>oc</sub>)</b>	41.07	43.02	44.98	46.93	48.89
<b>Maximum Power Current (I<sub>mp</sub>)</b>	14.26	14.94	15.62	16.30	16.98
<b>Maximum Power Voltage (V<sub>mp</sub>)</b>	34.80	36.45	38.11	39.77	41.43

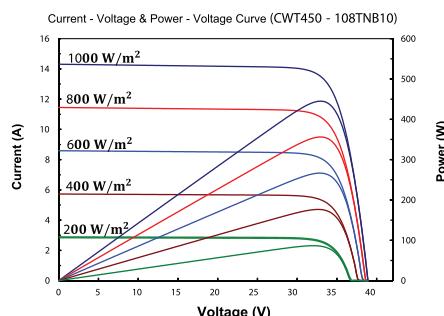
## TEMPERATURE CHARACTERISTICS

<b>Temp. Coeff. of (I<sub>sc</sub>)</b>	0.040%/°C
<b>Temp. Coeff. of (V<sub>oc</sub>)</b>	-0.260%/°C
<b>Temp. Coeff. of (P<sub>max</sub>)</b>	-0.300%/°C

## PACKING CONFIGURATION

<b>Container</b>	40' GP
<b>Pieces per Pallet</b>	35
<b>Pieces Per Container</b>	910
<b>Pallet Per Container</b>	26

## ELECTRICAL CHARACTERISTICS



\* The specifications are obtained under the standard test conditions: 1000W/m<sup>2</sup> solar irradiance, 1.5 Air Mass and cell temperature of 25°C. Measurement uncertainty for all panels is 3%. The actual transactions will be subject to the contracts. These parameters are for reference only and it is not a part of the contracts. The technical specifications in this document may vary. For more information, refer to the "Installation Manual".

\* For roof, facades and installations on similar surfaces, solar panels should be mounted over a fire-resistant covering suitable for this application, with adequate ventilation between the back of the solar panels and the mounting surface. Improper installations are hazardous and may spark a fire. Solar panels must not be mounted on structures and roofs which are made of not fire-resistant materials such as plastic layer, transparent plastic, PVC or similar materials without any fire-protection layer. Usage and installation not in accordance with the guidelines as outlined in the installation manual will terminate the warranty. Please refer to the installation manual and the warranty documents for further details.

\* CW Enerji reserves the right to change the specification of products without prior notice.