CW Energy U.S.A

USA Technical Datasheet CW Enerji

30 YEARS PERFORMANCE WARRANTY

HIGH-EFFICIENCY SOLAR PANELS • 96TNB12R

Half Cut

Multi-BB

BLACK ON BLACK

DNV BANKABILITY

CW Enerji Module Bankability Technical Assessment

High Conversion Efficiency
High panel efficiency to guarantee high power output

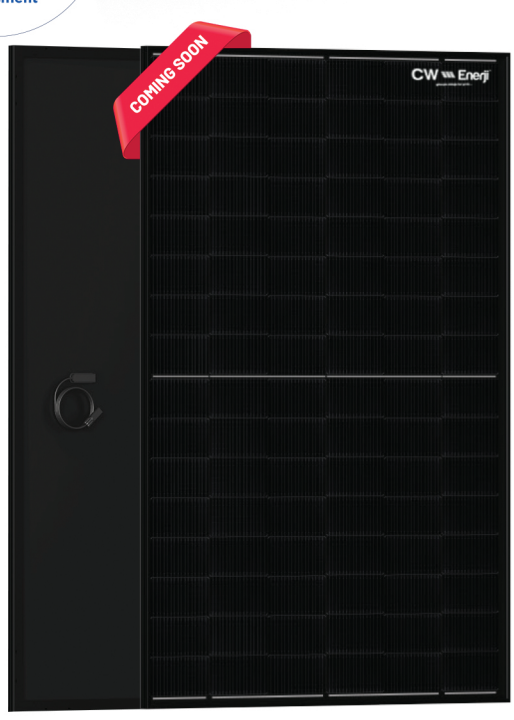
Self-Cleaning And Anti-Reflection Glass
Coating glass for self-cleaning reduces surface dust

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

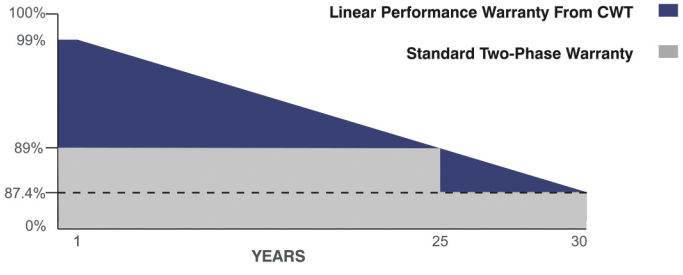
0~+5W Positive Power Tolerance

Easy Installation





BLACK ON BLACK 16BB



30 Years Performance Warranty

25 Years Product Warranty

CWT460-96TNB12R 460 Wp

CWT455-96TNB12R 455 Wp

CWT450-96TNB12R 450 Wp

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

HIGH-EFFICIENCY SOLAR PANELS • 96TNB12R

Half Cut

ELECTRICAL CHARACTERISTICS

Model Type	CWT450 96TNB12R	CWT455 96TNB12R	CWT460 96TNB12R
Peak Power (P_{max})	450 Wp	455 Wp	460 Wp
Module Efficiency (%)	22.52	22.77	23.02
Maximum Power Voltage (V_{mp})	29.82	30.02	30,22
Maximum Power Current (I_{mp})	15.10	15.16	15,23
Open Circuit Voltage (V_{oc})	35.33	35.53	35,73
Short Circuit Current (I_{sc})	16.05	16.12	16,19
Power Tolerance	0~+5W		
Maximum System Voltage	1500V DC		
Operating Temperature	-40 ~ +85°C		
Protection Class	Class II		
Maximum Series Fuse Rating	25A		

MECHANICAL SPECIFICATIONS

Cell Dimensions(mm/inch)	182.3 x105 / 7.17x4.14
Cells per Module(pcs)	96 (6x16)
Weight(kg/lbs)	21.72/ 47.88
Panel Dimensions(mm/inch)	1762x1134x30/69.37x44.65x1.18
Max. Wind/Snow Load(Pa)/(lb/ft²)	(2400 / 5400) / (50 / 112.8)
Junction Box	IP68
Connector	Original Staubli MC4 EVO2
Junction Box Cable Length(mm/inch)	1300 / 51.18
Frame Color	Black

TEMPERATURE CHARACTERISTICS

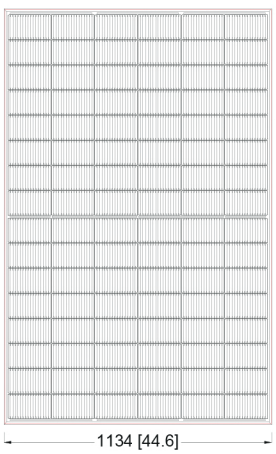
Temp. Coeff. of (I_{sc})	0.041%/°C
Temp. Coeff. of (V_{oc})	-0.250%/°C
Temp. Coeff. of (P_{max})	-0.290%/°C

PACKING CONFIGURATION

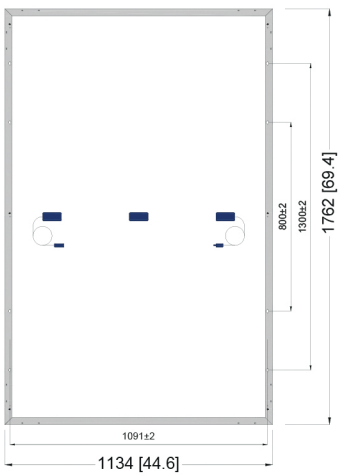
Container	40' GP
Pieces per Pallet	36
Pieces Per Container	864
Pallet Per Container	24

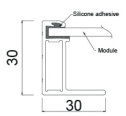
PHYSICAL CHARACTERISTICS

FRONT VIEW



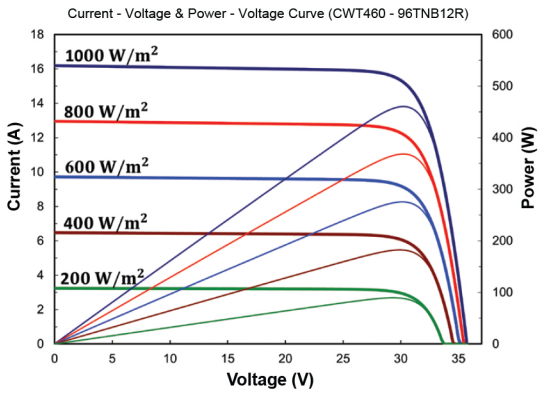
BACK VIEW





FRAME SECTION

ELECTRICAL CHARACTERISTICS



* The specifications are obtained under the standard test conditions: 1000W/m2 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.

CW USA Energy®