

**BIFACIAL TOPCON
MONOCRYSTALLINE 132TNB12R**

- ◆ TT615-132TNB12R 615 Wp ◆ TT600-132TNB12R 600 Wp
- ◆ TT610-132TNB12R 610 Wp ◆ TT595-132TNB12R 595 Wp
- ◆ TT605-132TNB12R 605 Wp ◆ TT590-132TNB12R 590 Wp



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



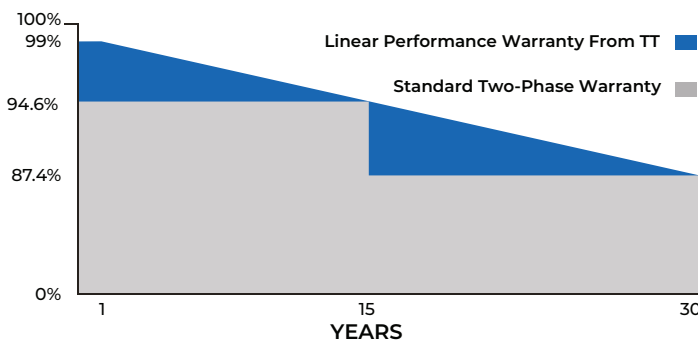
0~+5W Positive Power Tolerance



Easy Installation



Twice EVA Laminated Double Glass



Half-Cut

DOUBLE GLASS



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

- ✓ 30 Years Performance Warranty
- ✓ 15 Years Product Warranty

Model Type	TT590 132TNB12R	TT595 132TNB12R	TT600 132TNB12R	TT605 132TNB12R	TT610 132TNB12R	TT615 132TNB12R
Peak Power (Pmax)	590Wp	595Wp	600Wp	605Wp	610Wp	615Wp
Module Efficiency	21.8	22.0	22.2	22.4	22.6	22.8
Maximum Power Voltage (Vmp)	39.09	39.27	39.44	39.60	39.77	39.96
Maximum Power Current (Imp)	15.09	15.15	15.21	15.28	15.34	15.39
Open Circuit Voltage (Voc)	47.30	47.50	47.70	47.90	48.10	48.30
Short Circuit Current (Isc)	15.85	15.90	15.95	16.00	16.05	16.10
Power Tolerance	0~+5W					
Maximum System Voltage	1500V DC					
Operating Temperature	-40 ~ +85°C					
Protection Class	UL Type 29					
Maximum Series Fuse Rating	25A					

MECHANICAL SPECIFICATIONS

Cell Dimensions (mm/inch)	182x105 / 7.17x4.14
Cells per Module (Anzahl)	132 (6x22)
Weight (kg/lbs)	33.1 / 72.97
Panel Dimensions (mm/inch)	2382x1134x30 / 93.78x44.65x1.20
Max. Wind/Snow Load (Pa)	2400/5400
Junction Box	IP68
Junction Box Cable Length (mm/inch)	300-1600 / 11.81-63.00
Glass Thickness (mm/inch)	2.0 - 2.0 / 0.08 - 0.08

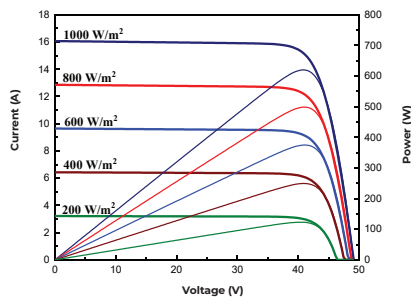
REAR SIDE POWER GAIN

(10% rear side power gain)

Leistungsgewinn Rückseite	590	595	600	605	610	615
Maximale Leistung (Pmax)	637	643	648	653	659	664
Kurzschlussstrom (Isc)	17.12	17.17	17.23	17.28	17.33	17.39
Leerlaufspannung (Voc)	47.30	47.50	47.70	47.90	48.10	48.30
Nennstrom (Imp)	16.30	16.36	16.43	16.50	16.56	16.62
Nennspannung (Vmp)	39.09	39.27	39.44	39.60	39.77	39.96

ELECTRICAL CHARACTERISTICS

Current - Voltage & Power - Voltage Curve (TT600 - 132TNB12R)



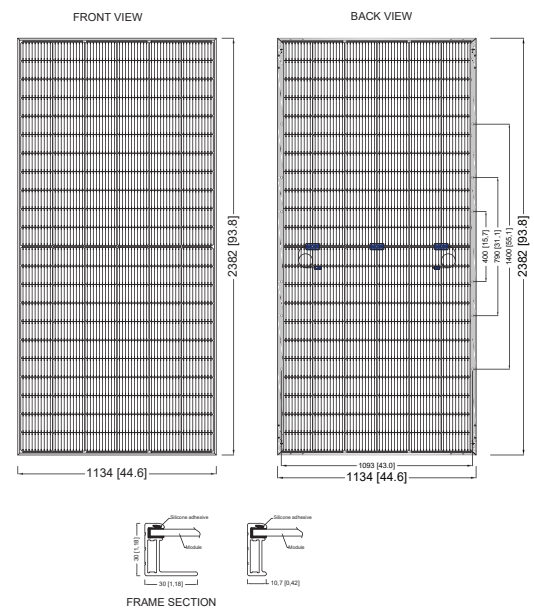
TEMPERATURE CHARACTERISTICS

Temp. Coeff. of (Isc)	0.046%/°C
Temp. Coeff. of (Voc)	-0.260%/°C
Temp. Coeff. of (Pmax)	-0.300%/°C

PACKING CONFIGURATION

Container	40' HC
Pieces per Pallet	36
Pieces per Container	720
Pallet Per Container	20

PHYSICAL 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 6%. 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.

* TommaTech® GmbH reserves the right to change the specification of products without prior notice.