

# BIFACIAL BIPV TOPCON MONOKRISTALLIN 72 TNKB12R

**TOMMATECH**  
GmbH  
GERMAN-based company

## ◆ TT345-72TNKB12R 200



### 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



### According to guideline DIN 18008. For vertical and overhead glazing (DIBt Z-70.3-293 Approval).

Deutsches  
Institut  
für  
Bautechnik

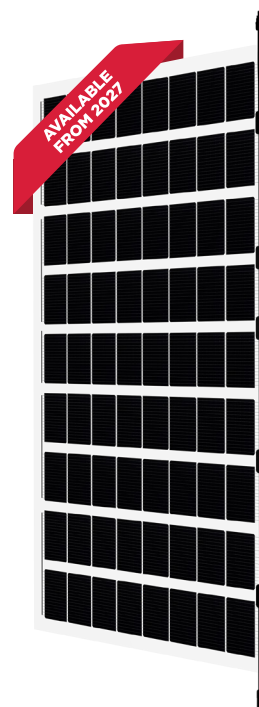
**DIBt**

TommaTech GmbH

Allgemeine  
bauaufsichtliche  
Zulassung/  
Allgemeine Bau-  
artgenehmigung

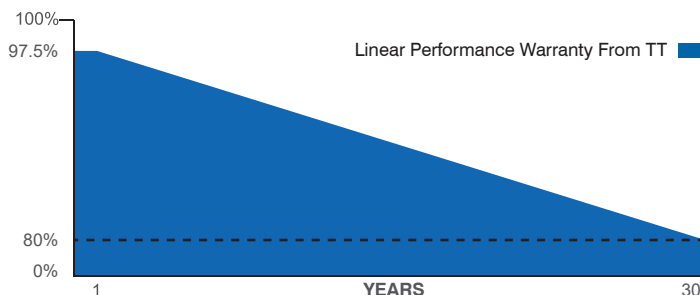
Nr. Z-70.3-293

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TT345Wp

TommaTech's Building Integrated Solar Modules (BIPV) are designed with the latest generation of high efficiency cells, providing a smart and environmentally friendly energy solution that is also aesthetically pleasing. Designed in 4 main sizes, the solar modules are preferred in many areas such as restaurants, cafes, homes, offices, workplaces, hotels, pools, conservatories and terraces of houses. The system is equipped with aluminum infrastructure and provides both thermal insulation and tightness. The system, which can be designed as an off-grid, grid-tied or hybrid solar energy system, is also a real eye-catcher.



ISO 9001:2015



ISO 14001:2015



ISO 45001:2018



SOMPO



30 Years Performance Warranty



30 Years Product Warranty

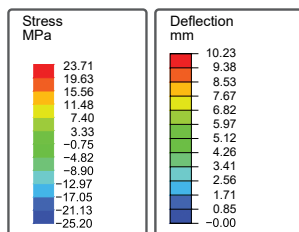
| Model Type                        | 72TNKB12R-200 |
|-----------------------------------|---------------|
| Peak Power (Pmax)                 | 345 Wp        |
| Module Efficiency                 | 17.60         |
| Maximum Power Voltage (Vmp)       | 45.12         |
| Maximum Power Current (Imp)       | 7.65          |
| Open Circuit Voltage (Voc)        | 52.56         |
| Short Circuit Current (Isc)       | 8.23          |
| Cells per Module                  | 72 (9x8)      |
| Cell Dimensions(mm)               | 182.3x105     |
| Panel Dimensions (mm)             | 2000x980x7.6  |
| Weight (kg)                       | 38.25         |
| Transparent Area (%)              | 30            |
| Front / Back Glass Thickness (mm) | 3.2 / 4.0     |
| Power Tolerance                   | 0~+5W         |
| Maximum System Voltage            | 1500V DC      |
| Nominal Operating Cell Temp.      | -40 ~ +85°C   |
| Protection Class                  | Class II      |
| Maximum Series Fuse Rating        | 20A           |
| Max. Wind/Snow Load (Pa)          | 2400 / 2400   |
| Junction Box                      | IP68          |
| Junction Box Cable Length(cm)     | 30-130        |

## 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

|                       |           |
|-----------------------|-----------|
| Module Model          | 72TNKB12R |
| Truck                 | 40' GP    |
| Pieces per Pallet     | 20        |
| Pieces per Conteyner  | 400       |
| Pallet per Conteyner  | 20        |
| Weight of Pallet (kg) | 765       |

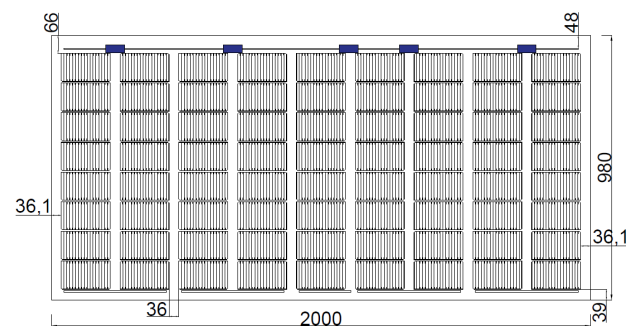


\*Simulation Results Under 2400Pa Pressure

3.2+4.0mm  
Twice EVA  
Laminated  
Double Glass

## PHYSICAL CHARACTERISTICS

## TT345-72TNKB12R 200



\* 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.