# **DUOMAX** prost

TSM-DEG14.40(II)

**MODULE** 



MONOCRYSTALLINE MODULE

340-375W

POWER OUTPUT RANGE

**19.1%** 

**MAXIMUM EFFICIENCY** 

# 0/+5W

POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina Solar as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners

# **Comprehensive Product And System Certificates**

IEC61215/IEC61730/UL1703/IEC61701/IEC62716 ISO 9001: Quality Management System ISO 14001: Environmental Management System Greenhouse Gas Emissions Verification IS014064

OHSAS 18001: Occupational Health and Safety Management System























# **Excellent low light performance** on cloudy days, mornings and evenings

- Back surface field
- Monocrystalline cells with advanced Honey surface texturing

Corner Protection

Selective emitter



# Maximize limited space with top-end efficiency

- Up to 191 W/m<sup>2</sup> power density
- Low thermal coefficients for greater energy production at high operating temperatures



### Improved durability

- Anti PID
- Reduced soiling due to natural cleaning



#### **Enhanced safety**

· Fire class A certified by TUV Rheinland according to fire test IEC 61730-2 / MST 23



#### Increased value

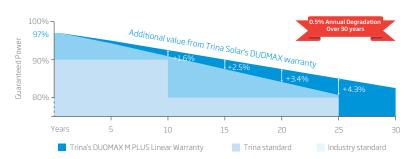
- 1,500 V system voltage reduces BOS costs by increased string length
- 30 year linear warranty
- 0.5% annual degradation



# Certified to withstand challenging environmental conditions

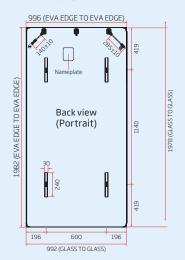
- Module coating resistant to sand, acid, and alkali
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

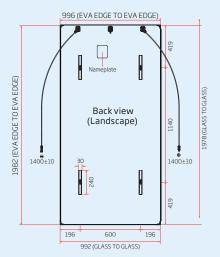
## Trina Solar's DUOMAX M PLUS Linear Performance Warranty



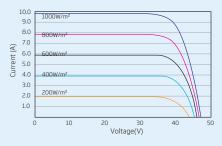


#### **DIMENSIONS OF PV MODULE** TSM-DEG14.40(II) (unit: mm)

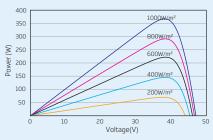




#### I-V CURVES OF PV MODULE (365W)



#### P-V CURVES OF PV MODULE (365W)



| ELECTRICAL DATA @ STC                       | TSM-<br>340 | TSM-<br>345 | TSM-<br>350 | TSM-<br>355 | TSM-<br>360 | TSM-<br>365 | TSM-<br>370 | TSM-<br>375 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Peak Power Watts-PMAX (Wp)*                 | 340         | 345         | 350         | 355         | 360         | 365         | 370         | 375         |
| Power Output Tolerance-P <sub>MAX</sub> (W) | 0/+5        | 0/+5        | 0/+5        | 0/+5        | 0/+5        | 0/+5        | 0/+5        | 0/+5        |
| Maximum Power Voltage-V <sub>MPP</sub> (V)  | 38.1        | 38.4        | 38.8        | 39.1        | 39.2        | 39.5        | 39.7        | 40.0        |
| Maximum Power Current-IMPP (A)              | 8.93        | 8.99        | 9.03        | 9.08        | 9.18        | 9.25        | 9.32        | 9.39        |
| Open Circuit Voltage-Voc (V)                | 46.3        | 46.4        | 46.6        | 46.7        | 46.9        | 47.1        | 47.3        | 47.5        |
| Short Circuit Current-Isc (A)               | 9.41        | 9.44        | 9.48        | 9.52        | 9.57        | 9.61        | 9.66        | 9.71        |
| Module Efficiency η <sub>m</sub> (%)        | 17.3        | 17.6        | 17.8        | 18.1        | 18.3        | 18.6        | 18.9        | 19.1        |

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM1.5  $^\star$  Measuring tolerance:  $\pm 3\%$ 

| ELECTRICAL DATA @ NOCT              | TSM-<br>340 | TSM-<br>345 | TSM-<br>350 | TSM-<br>355 | TSM-<br>360 | TSM-<br>365 | TSM-<br>370 | TSM-<br>375 |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Maximum Power-P <sub>MAX</sub> (Wp) | 253         | 257         | 261         | 264         | 268         | 272         | 276         | 279         |
| Maximum Power Voltage-UMPP (V)      | 35.3        | 35.6        | 36.0        | 36.3        | 36.4        | 36.6        | 36.8        | 37.1        |
| Maximum Power Current-IMPP (A)      | 7.18        | 7.22        | 7.26        | 7.30        | 7.38        | 7.43        | 7.49        | 7.54        |
| Open Circuit Voltage-Uoc (V)        | 43.0        | 43.1        | 43.3        | 43.4        | 43.6        | 43.8        | 44.0        | 44.1        |
| Short Circuit Current-Isc (A)       | 7.60        | 7.62        | 7.65        | 7.69        | 7.73        | 7.76        | 7.80        | 7.84        |

NOCT: Irradiance at 800 W/m², Ambient Temperature 20 °C, Wind Speed 1 m/s.

#### **MECHANICAL DATA**

| Solar Cells       | Monocrystalline 156.75 × 156.75 mm   |
|-------------------|--|
| Cell Orientation  | 72 cells (6 x 12)  |
| Module Dimensions | 1978 × 992 × 6 mm<br>1982 × 996 × 6 mm with edge banding<br>1984 × 998 × 7.6 mm with corner protector (Std)* |
| Weight            | 28.0 kg  |
| Front Glass       | 2.5 mm, high transparency, AR coated and heat strengthened glass   |
| EVA               | White  |
| Back Glass        | 2.5 mm, heat strengthened glass  |
| Frame             | Frameless  |
| J-Box             | IP 67 rated or IP 68 rated   |
| Cables            | Photovoltaic Technology Cable 4.0 mm <sup>2</sup><br>Portrait: 140/285 mm, Landscape: 1400/1400 mm           |
| Connector         | MC4 EVO2/UTX/TS4   |

<sup>\*</sup> Do not combine with slide-in solutions.

#### **TEMPERATURE RATINGS**

| Nominal Operating Cell<br>Temperature (NOCT) | 44°C (±2K) |
|--|------------|
| Temperature Coefficient of PMAX              | - 0.39%/K  |
| Temperature Coefficient of Voc               | - 0.29%/K  |
| Temperature Coefficient of Isc               | 0.05%/K    |

#### WARRANTY

10 year Product Workmanship Warranty 30 year Linear Performance Warranty (Please refer to product warranty for details)

#### **PACKAGING CONFIGURATION**

| Modules per box:           | 33 pieces  |
|----------------------------|------------|
| Modules per 40' container: | 726 pieces |

#### **MAXIMUM RATINGS**

| Operational<br>Temperature  | -40 to +85°C                                 |
|-----------------------------|--|
| Maximum System<br>Voltage   | 1500 V DC (IEC)<br>1000 V DC (UL)            |
| Max Series Fuse<br>Rating** | 15 A (Power ≤ 365 W)<br>20 A (Power ≥ 370 W) |
| Mechanical Load*            | 5400 Pa                                      |
| Wind Load*                  | 2400 Pa                                      |

 $<sup>{}^{\</sup>textstyle\star}\,{\sf Max.\,mechanical\,loading\,values\,depend\,on\,the\,mounting}$ method applied and only clamps approved by Trina Solar

#### **MORE OPTIONS**

Compact AR (Antireflective) coating POE (Polyolefin Elastomer) foil

TSM\_EN\_2017\_B



should be used.
\*\* DO NOT connect fuse in combiner box with two or more strings in parallel connection.