

# THE DUOMAX<sup>M</sup> PLUS<sup>+</sup>

## DUAL GLASS 60-CELL MODULE



**60 CELL**  
MONOCRYSTALLINE MODULE

**280-325W**  
POWER OUTPUT RANGE

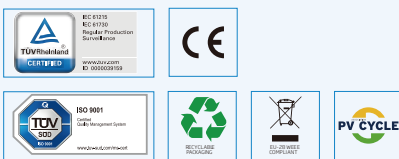
**19.7%**  
MAXIMUM EFFICIENCY

**0~+5W**  
BINNING 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 is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

### Comprehensive Products And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716  
ISO 9001: Quality Management System  
ISO 14001: Environmental Management System  
ISO14064: Greenhouse gases Emissions Verification



### Highly reliable due to stringent quality control

- Increased module robustness to minimize micro-cracks
- 100% EL double inspection



### Enhanced safety

- Fire class A certified by TÜV Rheinland according to fire test IEC 61730-2/MST 23
- Certified for fire type 13 (UL 1703)



### Increased value

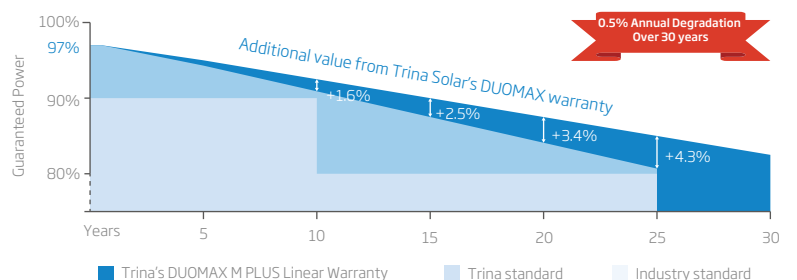
- Higher maximum system voltage reduces BOS costs
- 30 year linear warranty
- 0.5% annual degradation
- Low thermal coefficients for more energy production at higher temperatures



### Certified to withstand the most challenging environmental conditions

- Module coating resistant to sand, acid, and alkali
- 2400 Pa wind load
- 5400 Pa snow load

Trina Solar's DUOMAX M PLUS Linear Performance Warranty



### PRODUCTS

TSM-XXXDEG5(II)  
TSM-XXXDEG5.07(II)  
TSM-XXXDEG5.40(II)

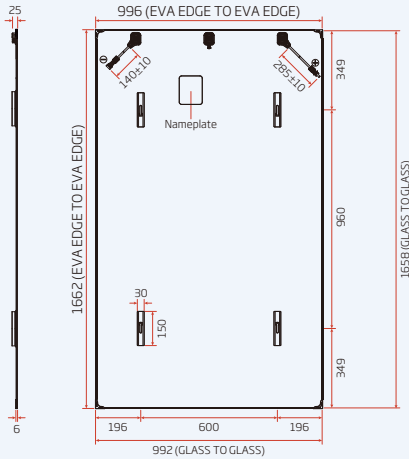
### INSTALLATION METHODS

Clamp  
Clamp  
Gecko Grip

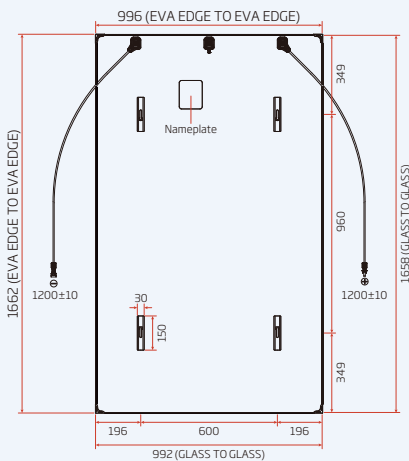
### POWER RANGE (XXX)

280-325W  
280-325W  
280-325W

### DIMENSIONS OF PV MODULE(mm)

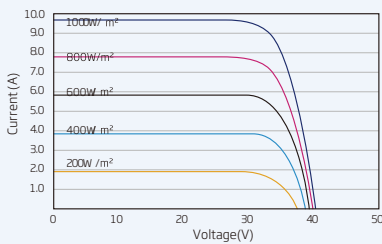


Back View (Portrait)

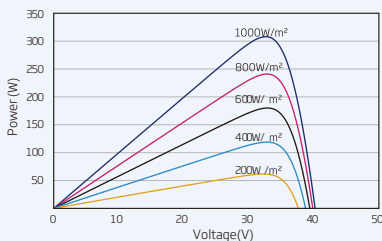


Back View (Landscape)

### I-V CURVES OF PV MODULE(305W)



### P-V CURVES OF PV MODULE(305W)



### ELECTRICAL DATA (STC)

Peak Power Watts-P <sub>MAX</sub> (Wp)*	280	285	290	295	300	305	310	315	320	325
Binning Tolerance -P <sub>MAX</sub> (W)	0 ~ +5									
Maximum Power Voltage-V <sub>MPP</sub> (V)	31.7	31.8	32.2	32.5	32.7	32.9	33.1	33.3	33.5	33.7
Maximum Power Current-I <sub>MPP</sub> (A)	8.84	8.96	9.02	9.08	9.18	9.26	9.37	9.46	9.56	9.65
Open Circuit Voltage-V <sub>OC</sub> (V)	38.4	38.5	38.7	39.4	39.8	40.0	40.2	40.4	40.9	41.2
Short Circuit Current-I <sub>SC</sub> (A)	9.44	9.49	9.59	9.75	9.81	9.84	9.86	9.88	10.03	10.12
Module Efficiency η <sub>m</sub> (%)	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.2	19.4	19.7

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.  
\*Measuring tolerance: ±3%.

### ELECTRICAL DATA (NOCT)

Maximum Power-P <sub>MAX</sub> (Wp)	209	212	216	220	223	227	231	235	239	242
Maximum Power Voltage-V <sub>MPP</sub> (V)	29.4	29.5	29.9	30.1	30.3	30.5	30.7	30.9	31.1	31.3
Maximum Power Current-I <sub>MPP</sub> (A)	7.10	7.20	7.25	7.30	7.38	7.44	7.53	7.60	7.67	7.73
Open Circuit Voltage-V <sub>OC</sub> (V)	35.7	35.8	36.0	36.6	37.0	37.2	37.4	37.5	37.6	38.3
Short Circuit Current-I <sub>SC</sub> (A)	7.62	7.66	7.74	7.87	7.92	7.94	7.96	7.98	8.00	8.17

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

### MECHANICAL DATA

Solar Cells	Monocrystalline 156.75 × 156.75 mm (6 inches)
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1658 × 992 × 5.5 mm (65.3 × 39.1 × 0.216 inches)
Weight	23.5 kg (51.8 lb)
Front Glass	2.5 mm (0.10 inches), High Transmission, AR Coated Heat Strengthened Glass
EVA	White / Transparent
Back Glass	2.5 mm (0.10 inches), Heat Strengthened Glass
Frame	Frameless
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm <sup>2</sup> (0.006 inches <sup>2</sup> ) Portrait: 140/285 mm (5.5/11.2 inches) Landscape: 1200/1200 mm (47.2/47.2 inches)
Connector	Staubli MC4 EVO 2

### TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	44°C (±2°C)
Temperature Coefficient of P <sub>MAX</sub>	- 0.39%/°C
Temperature Coefficient of V <sub>OC</sub>	- 0.29%/°C
Temperature Coefficient of I <sub>SC</sub>	0.05%/°C

### MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating	15A(Power ≤290W) 20A(Power ≥295W)

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

### WARRANTY

10 year Product Workmanship Warranty

30 year Linear Power Warranty

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

Modules per box: 33 pieces

Modules per 40' container: 858 pieces