

THE TALLMAX

FRAMED 144 HALF-CELL MULTI-BUSBAR MODULE



144-CELL
MONOCRYSTALLINE MODULE

395-420W
POWER OUTPUT RANGE

20.9%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

PRODUCTS	COLOR	POWER RANGE
TSM-DE15M(II)	Silver	395-420W



High power output

- Reduce BOS cost with high power bin and 1500V system voltage
- New cell string layout and split J-box location reduces the energy loss caused by inter-row shading
- Lower resistance of half-cut cells and increased MBB (Multi Busbar) reflectance ensure higher power



High energy generation, low LCOE

- Excellent 3rd party validated IAM and low light performance with cell process and module material optimization
- Low Pmax temp coefficient (-0.36%) increases energy production
- Better anti-shading performance and lower operating temperature



Certified to perform in highly challenging environments

- High PID resistance through cell process and module material control
- Resistant to salt, acid, and ammonia
- Certified to 5400 Pa positive load and 2400 Pa negative load



Easy to install, wide application

- Frame design enables compatibility with standard installation methods
- Deployable for ground-mounted and rooftop projects
- Safe and easy to transport, handle and install

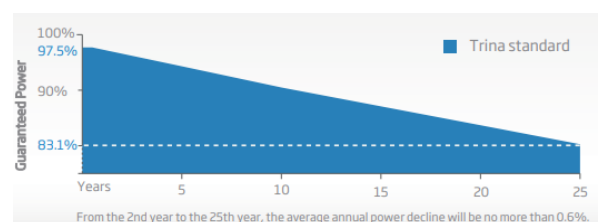
Comprehensive Products and System Certificates

UL 61730
IEC 61215 / IEC 61730 / IEC 61701 / IEC 62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
OHSAS 18001: Occupation Health and Safety Management System



PERFORMANCE WARRANTY

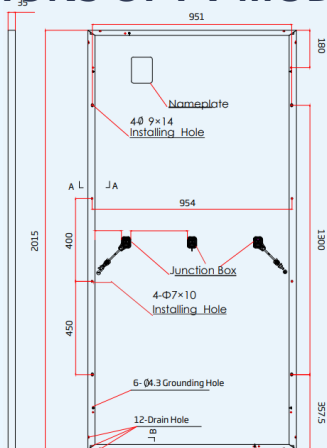
12 Year Product Warranty · 25 Year Power Warranty



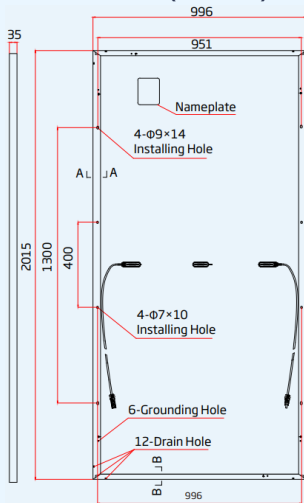
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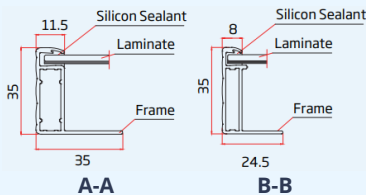
DIMENSIONS OF PV MODULE(mm)



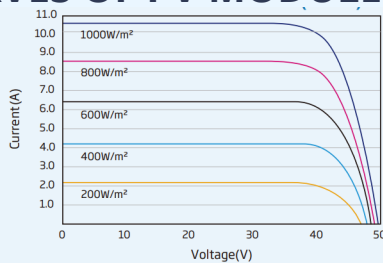
Back View (Portrait)



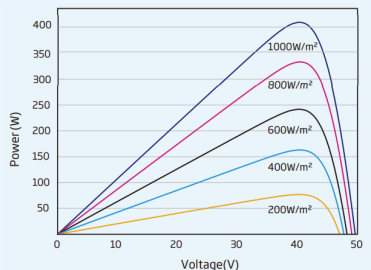
Back View (Landscape)



I-V CURVES OF PV MODULE(410W)



P-V CURVES OF PV MODULE(410W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	395	400	405	410	415	420
Power Output Tolerance-PMAX (W)	0 ~ +5					
Maximum Power Voltage-VMPP (V)	40.1	40.3	40.5	40.7	40.9	41.0
Maximum Power Current-IMPP (A)	9.86	9.92	10.00	10.07	10.15	10.25
Open Circuit Voltage-VOC (V)	48.7	49.0	49.2	49.4	49.6	49.7
Short Circuit Current-ISC (A)	10.37	10.45	10.52	10.59	10.66	10.76
Module Efficiency η m (%)	19.7	19.9	20.2	20.4	20.7	20.9

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

*Measurement tolerance: ±3%.

ELECTRICAL DATA (NMOT)

Maximum Power-PMAX (Wp)	298	301	305	309	313	317
Maximum Power Voltage-VMPP (V)	37.7	38.0	38.1	38.4	38.6	38.8
Maximum Power Current-IMPP (A)	7.90	7.93	8.01	8.05	8.11	8.18
Open Circuit Voltage-VOC (V)	45.9	46.1	46.3	46.5	46.6	46.7
Short Circuit Current-ISC (A)	8.36	8.42	8.48	8.54	8.59	8.66

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

MECHANICAL DATA

Solar Cells	Monocrystalline PERC 158.75mm
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2015 × 996 × 35 mm (79.33 × 39.21 × 1.38 inches)
Weight	22.0kg (48.5lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²), Portrait: N 450 mm/P 450 mm (17.72/17.72 inches), Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	Trina TS4/MC4-Evo2
Fire Type	Type 1

TEMPERATURE RATINGS

NMOT	41°C (±3°C)
Temperature Coefficient of PMAX	-0.36%/°C
Temperature Coefficient of VOC	-0.26%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	20A

WARRANTY

12 year Product Workmanship Warranty
25 year Linear Power Warranty

PACKAGING CONFIGURATION

Modules per box: 31 pieces
Modules per 40' container: 682 pieces
Pallet dimensions (L x W x H): 2055 x 1125 x 1153 mm
Pallet weight: 723.5kg (1,595lb)