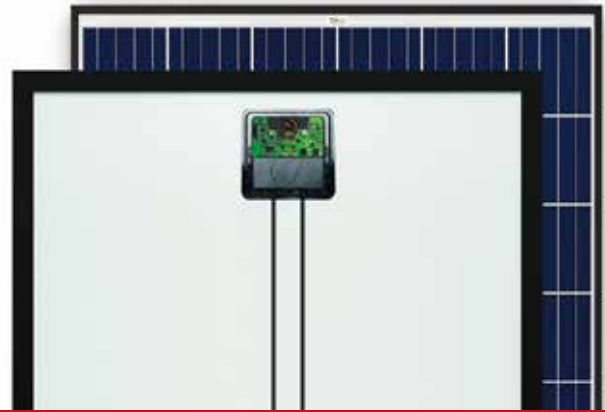


Trina smart DC

THE OPTIMIZED SOLUTION



COMPATIBLE WITH MOST TRINA MODULES

245-310 W
POWER OUTPUT RANGE

FULLY INTEGRATED SMART SOLUTION

As a leading global manufacturer of next generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, 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 as the backbone of our shared success in driving Smart Energy Together.

Trina Solar Limited
www.trinasolar.com

Trinasolar
Smart Energy Together



Safer Solar

- Panel-level disconnect to remotely deactivate modules
- Arc, fire and safety hazard mitigation



More Efficient O&M

- Panel-level monitoring to pinpoint problems
- Detailed real-time alerts and analytics



Highest Power Density

- Install more modules on any roof
- Uneven string lengths enables design flexibility



Maximized Energy Harvest

- Impedance matching technology eliminates mismatch losses
- More power from each module bin



Lower BOS Costs from Smart Curve Technology

- 30% lower max open circuit voltage, 30% longer strings
- Fewer combiners, fuses and copper wiring required



Fully Integrated

- Compatible with any inverter
- No additional boxes to mount on module

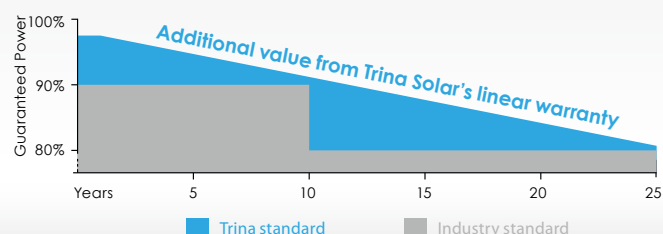


Highly reliable due to stringent quality control

- PID resistant

LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty



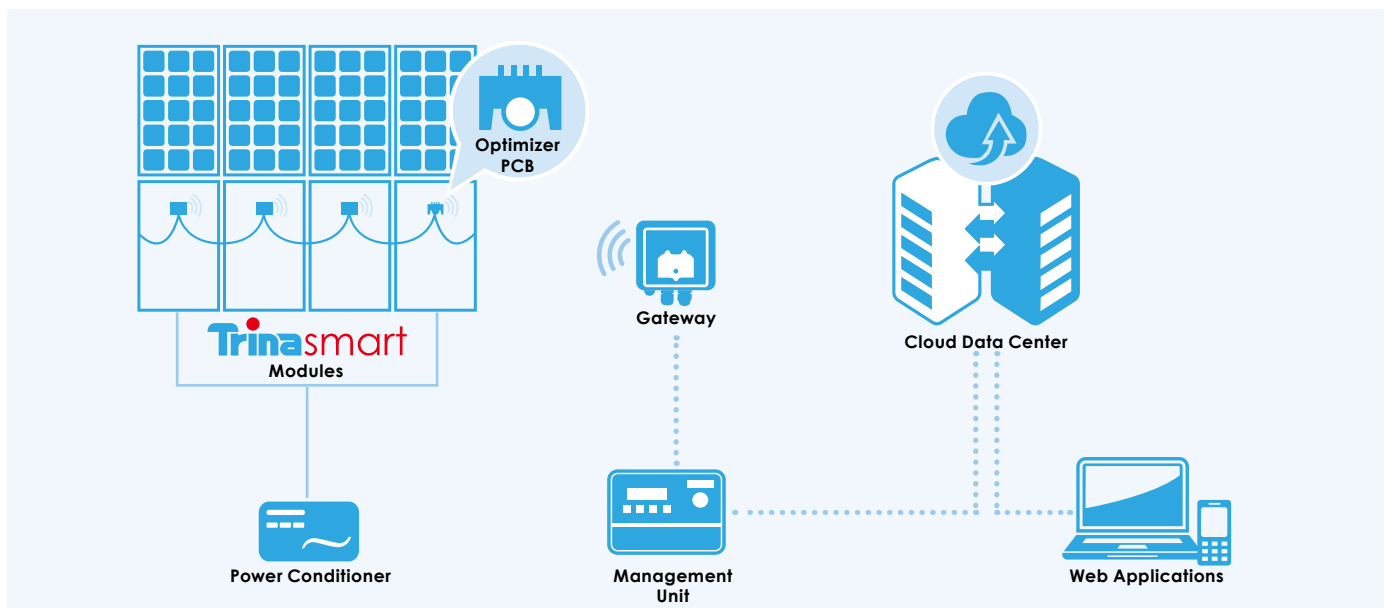
Trinasmart DC

Trinasmart modules incorporate innovative power electronics from Tigo Energy to achieve module-level diagnostics, maximum energy harvest through module level DC power optimization, and reduction of arc, fire and safety hazards.

Integration of the module optimizer into the junction-box enables patented Smart Curve technology, which allows up to 30% longer strings and significant balance-of-system (BOS) savings.

SYSTEM ARCHITECTURE

Trinasmart system components work together with any inverter to maximize energy harvest. Trinasmart modules communicate wirelessly through the gateway, allowing users to monitor system performance in real time.

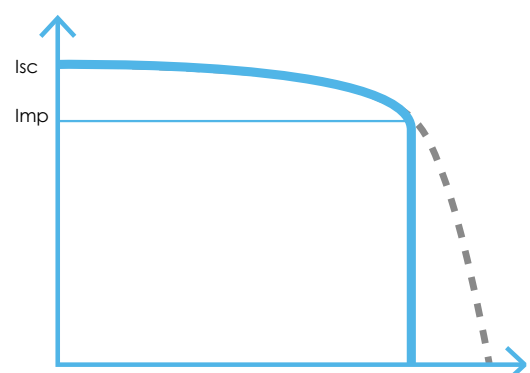


SMART CURVE TECHNOLOGY

Module-integrated Trinasmart technology reduces the open circuit voltage range for each module and allows longer strings to be designed. The maximum voltage is programmed by Trina Solar in the factory.

- Hardware voltage clamp prevents over-voltage
- Design up to 30% longer strings
- Fewer combiner boxes, fuses and wiring

■ With Smart-Curve ■ Without Smart-Curve



MAXIMIZER MANAGEMENT UNIT (MMU)

The management unit controls processes in real time and sends data to a remote server for monitoring.

| SPECIFICATIONS ONE UNIT SUPPORTS UP TO 360 TRINASMART MODULES | | |
|---|------------------------|--|
| Communication | Data Backhaul | Ethernet (Cloud Connect to Data Center) |
| | On-Screen Prompts | Module (power, voltage, signal), Internet Check, basic troubleshooting |
| | PV-Safe | Button deactivates the array (at the module-level) |
| | Accessories | Pull data from most meters that speak Modbus (i.e. AC Meters) |
| | Inverter Data | Can pull data from most inverters (SMA, Power One, Fronius, Kaco) |
| Power | Compatibility | 110 / 230V compatible converter (comes with international plugs) |
| Mechanical Specifications | Dimensions (L x W x H) | 159.5 x 90.2 x 57.5 mm |
| | Weight | 1 kg |
| | Environmental Rating | NEMA 3R |
| | Operating Temperature | 0° to +70° C |



Cloud Connect
An internet connection is required for full monitoring functionality.

GATEWAY

The Gateway provides wireless communication with up to 120 Trinasmart modules and the MMU. Up to seven Gateways can be connected to a single MMU.

| GATEWAY SPECIFICATIONS | | |
|--|--|-------------------------------------|
| MMU Communications | Wireless (802.15) | |
| | RS-485 cable connection; in series with other Gateways | |
| Mounting Location | Center of array | |
| Mounting Method | Mounted to module frame or rack | Clips included for frame mounting |
| Wireless Range | 15m line-of-sight | |
| Maximum number of Trinasmart modules per Gateway | 120 | |
| Mechanical Specifications | Dimensions | 141.3 x 48.5x 33.3mm (with bracket) |
| | Weight | 0.9kg |
| | Operating temperature range | -30°C +70°C |
| | Enclosure environmental rating | IP 65 |



Gateway
The wireless communications system is FCC and CE Class 2 certified. Fixing hole comes with a M3.5X6 SST pan head screw.

MONITORING SERVICE

Trinasmart monitoring provides total insight into the performance of any system. You can choose to upgrade online once your system is installed.

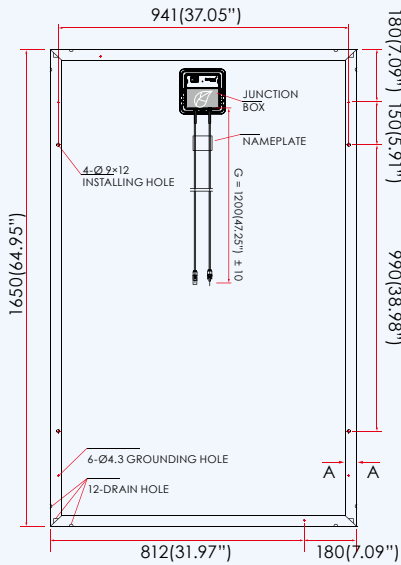


Explore the monitoring portal at www.trinasmart.com

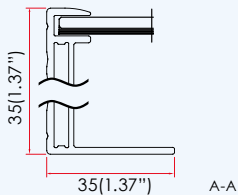
| FEATURES | FREE | PREMIUM |
|--------------------------------------|------------------------|--------------|
| Reports | Monthly | Daily |
| 1-min data granularity | current&previous month | Full History |
| Full history | • | • |
| Safety alerts | • | • |
| Dashboard showing enviomental impact | • | • |
| Trending data charts | • | • |
| Performance analytics | | • |
| Ability to download | | • |
| Device Integration | | • |
| Performance alerts | | • |

DIMENSIONS OF PV MODULE

Unit:mm

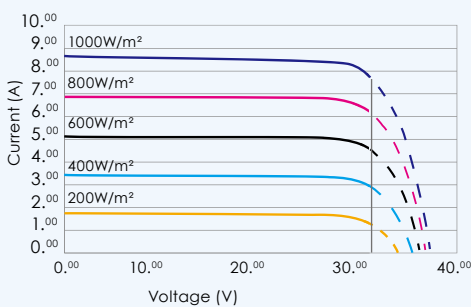


Back View



A-A

I-V CURVES OF PV MODULE (245W)



CERTIFICATION



ELECTRICAL DATA (STC)

| | | | | |
|---------------------------------------|--------|------|------|------|
| Peak Power Watts- P_{MAX} (Wp) | 245 | 250 | 255 | 260 |
| Power Output Tolerance- P_{MAX} (%) | 0 ~ +3 | | | |
| Maximum Power Voltage- V_{MPP} (V) | 29.9 | 30.3 | 30.5 | 30.6 |
| Maximum Power Current- I_{MPP} (A) | 8.20 | 8.27 | 8.37 | 8.50 |
| Smart Curve- V_{limit} (V)* | 33.0 | | | |
| Maximum Current- I_M (A) | 9.50 | | | |
| Module Efficiency η_m (%) | 15.0 | 15.3 | 15.6 | 15.9 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3
 Typical efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1
 * Trinasmart modules limit the open circuit voltage

ELECTRICAL DATA (NOCT)

| | | | | |
|--------------------------------------|------|------|------|------|
| Maximum Power- P_{MAX} (Wp) | 182 | 186 | 190 | 193 |
| Maximum Power Voltage- V_{MPP} (V) | 27.6 | 28.0 | 28.1 | 28.3 |
| Maximum Power Current- I_{MPP} (A) | 6.59 | 6.65 | 6.74 | 6.84 |
| Smart Curve- V_{limit} (V) | 33.0 | | | |
| Maximum Current- I_M (A) | 9.50 | | | |

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

MECHANICAL DATA

| | |
|-------------------|---|
| Solar cells | Multicrystalline 156 × 156 mm (6 inches) |
| Cell orientation | 60 cells (6 × 10) |
| Module dimensions | 1650 × 992 × 35 mm (64.95 x 39.05 x 1.37 inches) |
| Weight | 19 kg (41.9lb) |
| Glass | 3.2 mm (0.13 inches), High Transmission, AR Coated Tempered Glass |
| Backsheet | White |
| Frame | Silver Anodized Aluminium Alloy (PD05.002), Black (PD05.082) |
| J-Box | IP 65 rated |
| Cables | Photovoltaic Technology cable 4.0 mm ² (0.006 inches ²), 1200 mm (47.25" inches) |
| Connector | (H4) Amphenol *MC4 upon special request |
| Fire Type | Type 2 |

TEMPERATURE RATINGS

| | |
|---|-------------|
| Nominal Operating Cell Temperature (NOCT) | 44°C (±2°C) |
| Temperature Coefficient of P_{MAX} | - 0.41%/°C |
| Temperature Coefficient of V_{OC} | 0%/°C |
| Temperature Coefficient of I_{SC} | 0.05%/°C |

MAXIMUM RATINGS

| | |
|-------------------------|-------------------------------|
| Operational Temperature | -40~+85°C |
| Maximum System Voltage | 1000V DC(UL) 1000V DC(IEC) |
| Max Series Fuse Rating | 15A |

WARRANTY

10 year workmanship warranty
 25 year linear performance warranty
 (Please refer to product warranty for details)

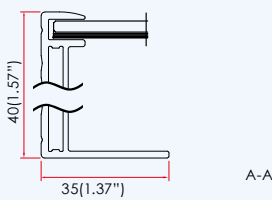
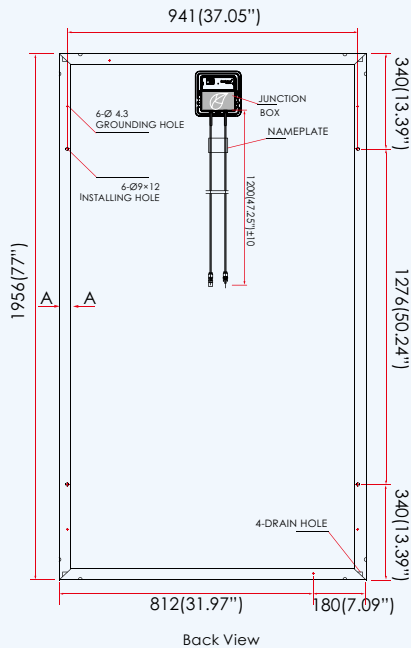
PACKAGING CONFIGURATION

Modules per box: 30 pieces
 Modules per 40' container: 840 pieces

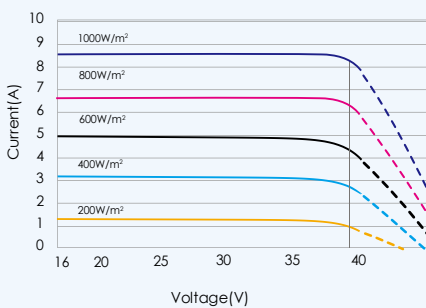


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DIMENSIONS OF PV MODULE
Unit:mm



I-V CURVES OF PV MODULE (295W)



CERTIFICATION



ELECTRICAL DATA (STC)

| | | | | |
|---|--------|------|------|------|
| Peak Power Watts-P _{MAX} (Wp) | 295 | 300 | 305 | 310 |
| Power Output Tolerance-P _{MAX} (%) | 0 ~ +3 | | | |
| Maximum Power Voltage-V _{MPP} (V) | 35.8 | 36.2 | 36.6 | 37.0 |
| Maximum Power Current-I _{MPP} (A) | 8.25 | 8.28 | 8.33 | 8.38 |
| Smart Curve-V _{limit} (V)* | 39.4 | | | |
| Maximum Current-IM(A) | 9.50 | | | |
| Module Efficiency η _m (%) | 15.2 | 15.5 | 15.7 | 16.0 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3
Typical efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1
* Trinasmart modules limit the open circuit voltage

ELECTRICAL DATA (NOCT)

| | | | | |
|--|------|------|------|------|
| Maximum Power-P _{MAX} (Wp) | 220 | 223 | 227 | 231 |
| Maximum Power Voltage-V _{MPP} (V) | 33.2 | 33.5 | 33.8 | 34.1 |
| Maximum Power Current-I _{MPP} (A) | 6.61 | 6.66 | 6.72 | 6.77 |
| Smart Curve -V _{limit} (V) | 39.4 | | | |
| Maximum Current-IM(A) | 9.50 | | | |

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

MECHANICAL DATA

| | |
|-------------------|---|
| Solar cells | Multicrystalline 156 × 156 mm (6 inches) |
| Cell orientation | 72 cells (6 × 12) |
| Module dimensions | 1956 × 992 × 40 mm (77 x 39.05 x 1.57 inches) |
| Weight | 28 kg (61.7lb) |
| Glass | 3.2 mm (0.13" inches),High Transmission, AR Coated Tempered Glass |
| Backsheet | White |
| Frame | Silver Anodized Aluminium Alloy |
| J-Box | IP 65 rated |
| Cables | Photovoltaic Technology cable 4.0 mm ² (0.006 inches ²), 1200 mm (47.25" inches) |
| Connector | (H4) Amphenol * |
| Fire Type | Type 8 |

*MC4 upon special request

TEMPERATURE RATINGS

| | |
|---|-------------|
| Nominal Operating Cell Temperature (NOCT) | 44°C (±2°C) |
| Temperature Coefficient of P _{MAX} | -0.41%/°C |
| Temperature Coefficient of V _{OC} | 0%/°C |
| Temperature Coefficient of I _{SC} | 0.05%/°C |

MAXIMUM RATINGS

| | |
|-------------------------|-------------------------------|
| Operational Temperature | -40~+85°C |
| Maximum System Voltage | 1000V DC(UL) 1000V DC(IEC) |
| Max Series Fuse Rating | 15A |

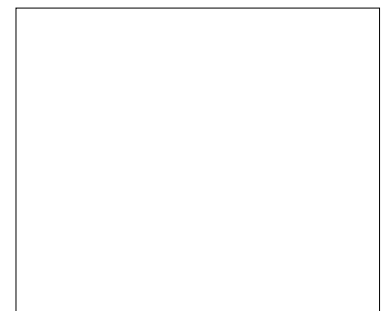
WARRANTY

- 10 year workmanship warranty
- 25 year linear performance warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

- Modules per box: 26 pieces
- Modules per 40' container: 572 pieces



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