

Trina module
Mounting system hardware
Trinamount system



TSM-PC05/PA05.10



Interlock



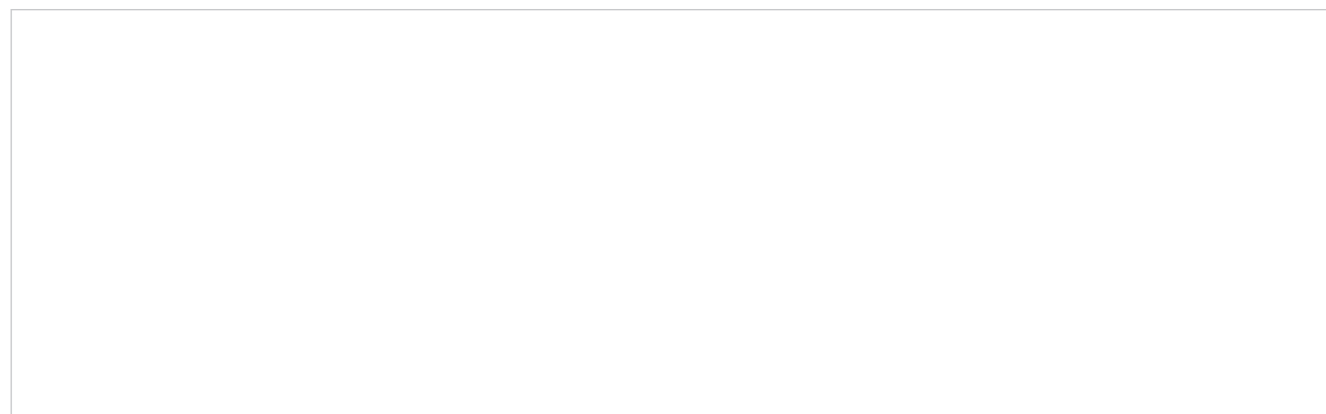
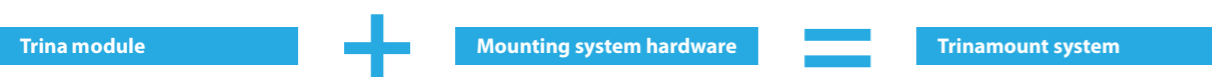
Leveling Foot



Ground Bolt



Trinamount Tool



TSM_EU_2011_RevA_PC05/PA05.10 (available Q3/2011)

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Founded in 1997, Trina Solar is a vertically integrated PV manufacturer, producing everything from ingots to modules, using both mono and multicrystalline technologies. By the end of 2011, the company will have a nameplate module capacity of 1.9GW. Trina Solar's wide range of products are used in residential, commercial, industrial and public utility applications throughout the world.

Only by matching an efficient cost-structure with proven performance will we, as an industry, achieve grid parity. And at Trina Solar, we have both.

Trinamount II - For pitched roof







by Trinasolar

Combining PV module expertise with a highly innovative mounting system solution, Trina Solar is introducing Trinamount—the fastest, easiest and least expensive way to mount PV modules onto residential and commercial rooftops.

With a series of drop-in and quarter-turn connections on a specialized module frame, this mounting solution installs up to 5 times faster than conventional mounting systems.

Trinamount connects directly to the module frame, eliminating the need for long rails. By drastically reducing the number of parts, cost of materials and installation time, Trinamount offers the optimal solution for residential and commercial installations.



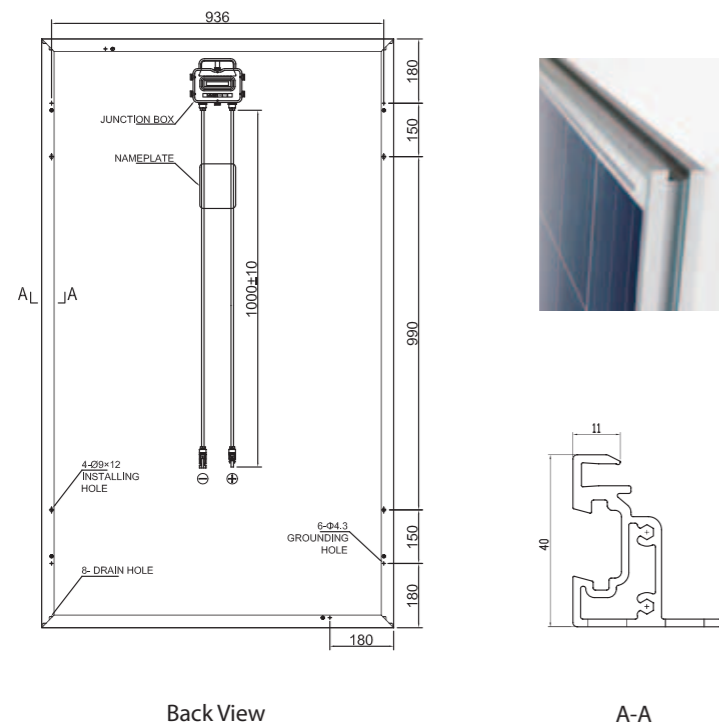
-  Fast and simple to install through drop in mounting solution
-  Low parts and SKU count in comparison to conventional mounting solutions
-  Superior aesthetic solution for residential rooftops
-  Long rail elimination reduces inventory and freight cost
-  Theft resistant and auto grounding hardware
-  Compact packaging with module and mounting hardware delivered on pallet

Applications:

- composition shingle
- trapezoidal metal
- standing seam roof

Trinamount II - For pitched roof TSM-PC05/PA05.10

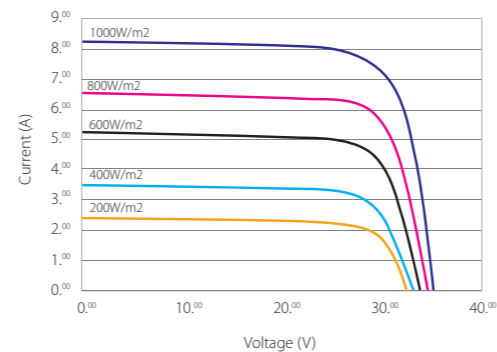
Dimensions of PV module TSM-PC05/PA05.10



Back View

A-A

I-V Curves of PV module TSM-230PC05/PA05.10



Efficiency	up to 14.7%
Wattage	up to 240W
Years warranty	25

Certification (in progress)



Electrical Data @ STC	TSM-220PC05/PA05.10	TSM-225PC05/PA05.10	TSM-230PC05/PA05.10	TSM-235PC05/PA05.10	TSM-240PC05/PA05.10
Peak Power Watts- P_{MAX} (WP)	220	225	230	235	240
Power Output Tolerance- P_{MAX} (%)	0/+3	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage- V_{MAX} (V)	29.0	29.4	29.8	30.1	30.4
Maximum Power Current- I_{MPP} (A)	7.60	7.66	7.72	7.81	7.89
Open Circuit Voltage- V_{OC} (V)	36.8	36.9	37.0	37.1	37.2
Short Circuit Current- I_{SC} (A)	8.15	8.20	8.26	8.31	8.37
Module Efficiency η_m (%)	13.4	13.7	14.1	14.4	14.7

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C)

Mechanical Data

Solar cells	Multicrystalline 156 x 156mm (6 inches)
Cells orientation	60 cells (6x10)
Module dimension	1650 x 992 x 40mm (64.95 x 39.05 x 1.57inches)
Weight	19.5kg (43.0lb)
Glass	High transparency solar glass 3.2mm (0.13inches)
Frame	Anodized aluminium alloy
J-Box	IP 65 rated
Cables/Connector	Photovoltaic Technology cable 4.0mm ² (0.006inches ²), 1000mm (39.4inches), MC4

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	46°C (±2°C)
Temperature Coefficient of P_{MPP}	-0.45%/°C
Temperature Coefficient of V_{OC}	-0.35%/°C
Temperature Coefficient of I_{SC}	0.05%/°C

Maximum Ratings

Operational Temperature	-40~+85°C
Maximum System Voltage	1000/600VDC
Max Series Fuse Rating	15A

Warranty

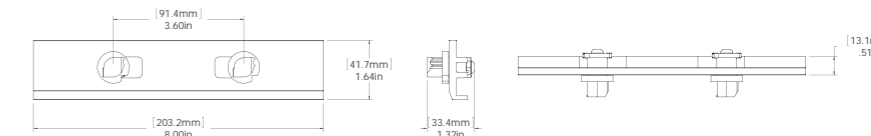
5 years workmanship warranty
10 years warranty, 90% power output
25 years warranty, 80% power output

Packaging Configuration

Modules per box	25 pcs
Modules per 40" container	650pcs

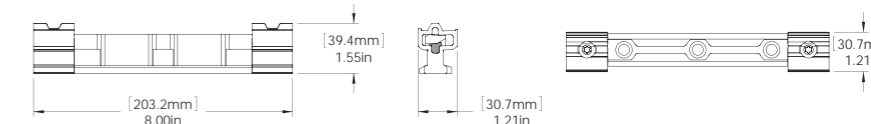
Basic Hardware

Interlock



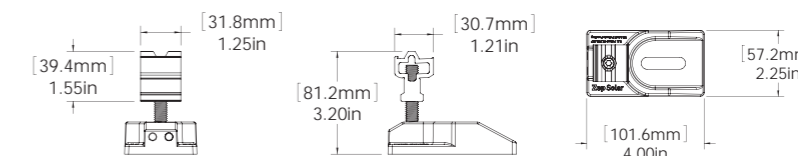
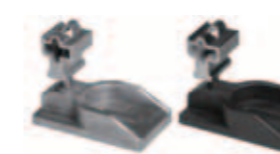
The Interlock provides north-south and east-west structural and ground bond connections creating a structurally contiguous hyper-bonded array. ETL Listed to UL1703

Hybrid Interlock



The Hybrid Interlock functions as both Interlock and Leveling Foot for areas where the structural attachment falls at an Interlock location.

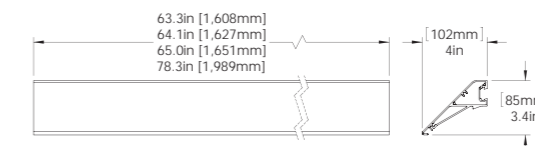
Leveling Foot



The Leveling Foot provides a means of attachment between the PV array and the mounting surface or flashed attachment apparatus and allows for easy array height adjustment (1.25" throw).

Accessories

Array Skirt



Enhancing both function and aesthetics, the Array skirt facilitates easy front-row installation while providing a clean look at the front of the PV array (available in both clear and black finish).

Ground Bolt



Attaches to Groove. One Ground Bolt per every 72 modules max (see Installation Manual for instructions).

Wire Clip



Clips into Groove for ultra-fast and easy management of PV wiring and micro-inverter cables.

Trinamount Tool, Flat Tool



Trinamount Tool: 4 functions, 1 tool; Flat Tool: For inter-module removal.