



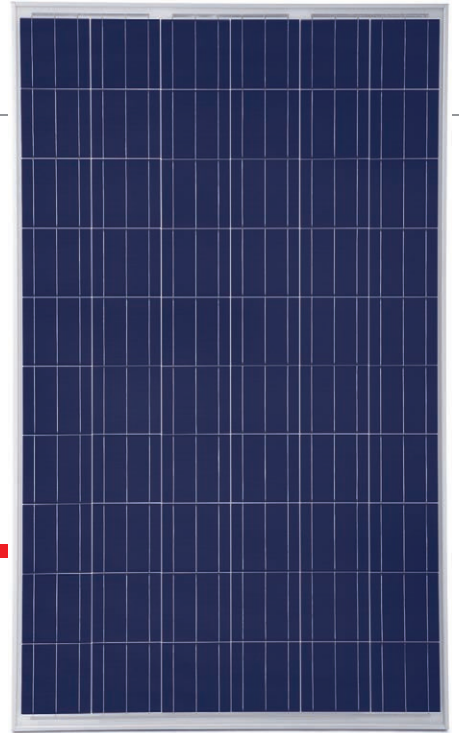
Origin - Solar System Panel Specifications

Your Origin system will be supplied with the following set of panels:

Manufacturer	Mono Or Poly	Size (Watts)
Trina Solar	Poly	230

Please note all solar panels supplied are CEC accredited and compliant with IEC/EN61730 and IEC/EN61215 or IEC/EN61646.

Please see the following specification sheet for further details and panel specifications.



TSM-PC05 TSM-PA05

THE UNIVERSAL SOLUTION

15.0%
MAX EFFICIENCY

245W
MAX POWER OUTPUT

10 YEAR
PRODUCT WARRANTY

25 YEAR
LINEAR POWER WARRANTY

Founded in 1997, Trina Solar is one of the world's leading PV companies. Since its IPO on the NYSE in 2006, Trina Solar has developed a vertically integrated business model, with in-house production of ingots, wafers, cells and solar panels in both mono and multicrystalline technologies. Its manufacturing capacity for solar panels will be 2.4GW by the end of 2012, making it one of the largest solar manufacturers in the world. Trina Solar's extensive portfolio includes panels for all kinds of applications- residential, utility, offgrid, BIPV as well as innovative system solutions.

With 20 branch offices around the world, Trina Solar is serving leading installers, distributors, utilities and developers in all major PV markets. Trina Solar is committed to driving down the cost of solar and making it more affordable for all.

Trina Solar Limited
www.trinasolar.com



Module can bear snow loads up to **5400Pa** and wind loads up to **2400Pa**



Guaranteed power output **0~+3%**



High performance under low light conditions
Cloudy days, mornings and evenings



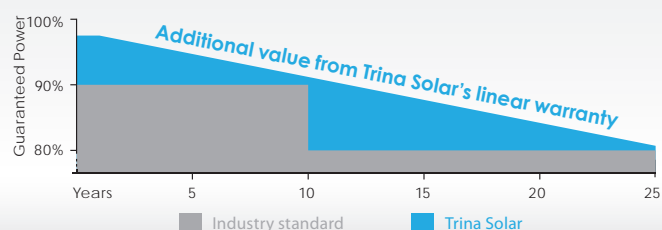
Manufactured according to International Quality and Environment Management System Standards
ISO9001, ISO14001



Approved **original MC4** Photovoltaic connector used with highest reliability

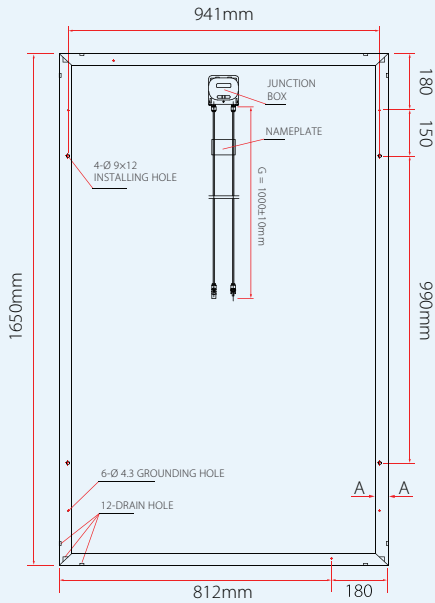
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty

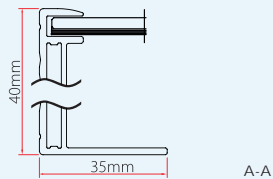


TSM-PC05 / TSM-PA05 THE UNIVERSAL SOLUTION

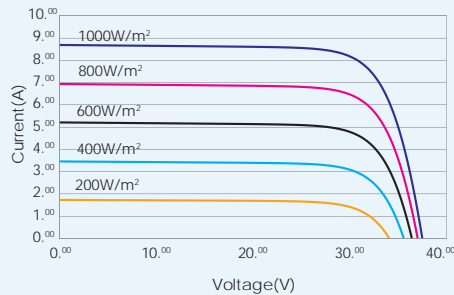
DIMENSIONS OF PV MODULE TSM-PC/PA05



Back View



I-V CURVES OF PV MODULE TSM-245 PC/PA05



Average efficiency reduction of 4.5% at 200W/m² according to EN 60904-1.

CERTIFICATION




ELECTRICAL DATA @ STC	TSM-230 PC/PA05	TSM-235 PC/PA05	TSM-240 PC/PA05	TSM-245 PC/PA05
Peak Power Watts- P_{MAX} (Wp)	230	235	240	245
Power Output Tolerance- P_{MAX} (%)	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage- V_{MP} (V)	29.2	29.3	29.7	30.2
Maximum Power Current- I_{MPP} (A)	7.90	8.03	8.10	8.13
Open Circuit Voltage- V_{OC} (V)	37.1	37.2	37.3	37.5
Short Circuit Current- I_{SC} (A)	8.53	8.55	8.62	8.68
Module Efficiency η_m (%)	14.1	14.4	14.7	15.0

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C). Power measurement tolerance: $\pm 3\%$

ELECTRICAL DATA @ NOCT	TSM-230 PC/PA05	TSM-235 PC/PA05	TSM-240 PC/PA05	TSM-245 PC/PA05
Maximum Power- P_{MAX} (Wp)	167	171	174	178
Maximum Power Voltage- V_{MP} (V)	26.3	26.4	26.6	26.8
Maximum Power Current- I_{MPP} (A)	6.35	6.48	6.55	6.64
Open Circuit Voltage (V)- V_{OC} (V)	33.9	34.0	34.1	34.2
Short Circuit Current (A)- I_{SC} (A)	6.95	6.97	7.04	7.10

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. Power measurement tolerance: $\pm 3\%$

MECHANICAL DATA

Solar cells	Multicrystalline 156 × 156mm (6 inches)
Cell orientation	60 cells (6 × 10)
Module dimensions	1650 × 992 × 40mm (64.95 × 39.05 × 1.57 inches)
Weight	19.5kg (43.0 lb)
Glass	High transparency solar glass 3.2mm (0.13 inches)
Frame	Anodized aluminium alloy
J-Box	IP 65 rated
Cables	Photovoltaic Technology cable 4.0mm ² (0.006 inches ²), 1000mm (39.4 inches)
Connector	MC4 

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	45°C ($\pm 2^\circ\text{C}$)
Temperature Coefficient of P_{MAX}	-0.43%/°C
Temperature Coefficient of V_{OC}	-0.32%/°C
Temperature Coefficient of I_{SC}	0.047%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC(IEC)/600V DC(UL)
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: 24 pcs
- Modules per 40' container: 672 pcs