Together we can make a difference.™

origin

Origin3000 Solar System Panel Specifications

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

Manufacturer	Mono Or Poly	Size (Watts)
Suntech	Poly	250
Trina Solar	Poly	250

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

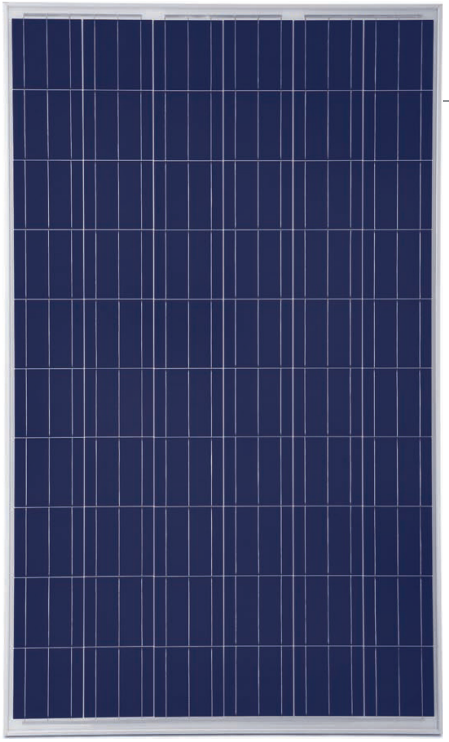
The choice of panels will be at the **sole discretion** of our installer subject to such matters as stock availability.

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

TSM-PC05A
TSM-PA05A

THE Honey MODULE

by Trinasolar



15.9%
MAX EFFICIENCY

260W
MAX POWER OUTPUT

10 YEAR
PRODUCT WARRANTY

25 YEAR
LINEAR POWER WARRANTY

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

Independently certified by **international certification bodies**

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

Founded in 1997, Trina Solar is a vertically integrated PV manufacturer, involved in the production of ingots, wafers and cells to the assembly of high quality modules, using both mono and multicrystalline technologies. As of July 2011, the Company has already achieved an annualized nameplate module capacity of approximately 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.

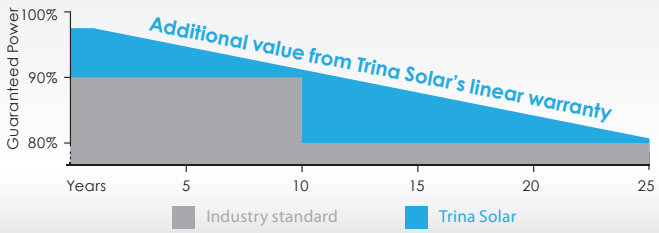
Trina Solar Limited
www.trinasolar.com

Trinasolar
The power behind the panel

NEW

LINEAR PERFORMANCE WARRANTY

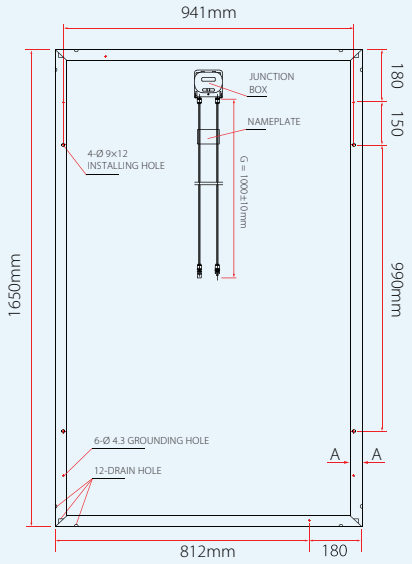
10 Year Product Warranty • 25 Year Linear Power Warranty



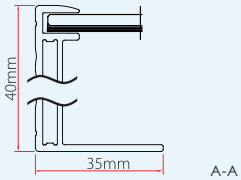
TSM-PC05A / TSM-PA05A THE Honey MODULE

by Trinasolar

DIMENSIONS OF PV MODULE TSM-PC/PA 05A

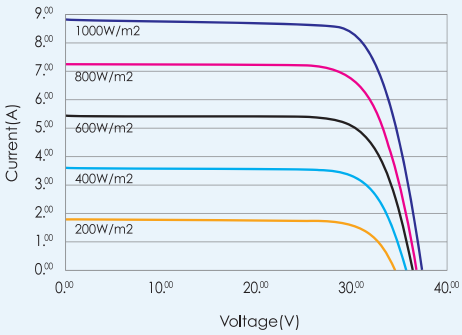


Back View



A-A

I-V CURVES OF PV MODULE TSM-250 PC/PA 05A



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

CERTIFICATION

ELECTRICAL DATA @ STC	TSM-245 PC/PA05A	TSM-250 PC/PA05A	TSM-255 PC/PA05A	TSM-260 PC/PA05A
Peak Power Watts-P_{MAX} (Wp)	245	250	255	260
Power Output Tolerance-P_{MAX} (%)	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage-V_{MP} (V)	30.2	30.5	30.9	31.3
Maximum Power Current-I_{MPP} (A)	8.12	8.20	8.26	8.31
Open Circuit Voltage-V_{OC} (V)	37.7	37.8	38.0	38.2
Short Circuit Current-I_{SC} (A)	8.83	8.90	8.95	9.02
Module Efficiency η_m (%)	15.0	15.3	15.6	15.9

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

ELECTRICAL DATA @ NOCT	TSM-245 PC/PA05A	TSM-250 PC/PA05A	TSM-255 PC/PA05A	TSM-260 PC/PA05A
Maximum Power (W)	180	183	187	191
Maximum Power Voltage (V)	27.4	27.7	28.0	28.2
Maximum Power Current (A)	6.56	6.62	6.68	6.76
Open Circuit Voltage (V)	34.6	34.8	34.9	35.1
Short Circuit Current (A)	7.14	7.20	7.24	7.30

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

MECHANICAL DATA	
Solar cells	Multicrystalline 156 × 156mm (6 inches)
Cell orientation	60 cells (6 × 10)
Module dimension	1650 × 992 × 40mm (64.95 × 39.05 × 1.57 inches)
Weight	19.5kg (43.0 lb)
Glass	High transparancy solar glass 3.2mm (0.13 inches)
Frame	Anodized aluminium alloy
J-Box	IP 65 rated
Cables / Connector	Photovoltaic Technology cable 4.0mm² (0.006 inches²), 1000mm (39.4 inches), MC4

TEMPERATURE RATINGS	
Nominal Operating Cell Temperature (NOCT)	46°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.41%/°C
Temperature Coefficient of V_{OC}	-0.32%/°C
Temperature Coefficient of I_{SC}	0.053%/°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: 25 pcs
Modules per 40' container: 650 pcs

TSM_EN_Dec_2011

Trinasolar
The power behind the panel

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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STP250S - 20/Wd+
STP245S - 20/Wd+

SUNTECH
Solar powering a green future™

250 Watt
CRYSTALLINE SILICON SOLAR MODULE



Features

High module conversion efficiency
(up to 15.2%), through superior cell technology and leading manufacturing capability

Positive tolerance
Guaranteed positive tolerance from 0~5% ensures power output reliability

Extended wind load and snow load tests
Entire module certified to withstand extreme wind (3800 Pascal) and snow loads (5400 Pascal) *

Self clean effect
Anti-reflective, hydrophobic layer improves light absorption and reduces surface dust

Excellent weak light performance
Excellent performance under low light environments (mornings, evenings, and cloudy days)

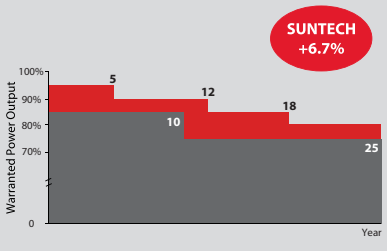
Suntech current sorting process
All Suntech modules sorted and packaged by amperage, maximizing system output by reducing mismatch losses by up to 2%

Certifications and standards:
IEC 61215, IEC 61730, conformity to CE

Trust Suntech to Deliver Reliable Performance Over Time

- World's No.1 manufacturer of crystalline silicon photovoltaic modules
- Unrivaled manufacturing capacity and world-class technology
- Rigorous quality control meeting the highest international standards : ISO 9001: 2008, ISO 14001: 2004 and ISO 17025:2005

Industry-leading warranty



- Warrants 6.7% more power than the market standard over 25 years
- 25-year transferrable power output warranty: 5 years/95%, 12 years/90%, 18 years/85%, 25 years/80% **
- Based on nominal power
- 5 years material and workmanship warranty



Suntech's new Technology reduces the proportion of oxygen in the cells of the Wd+ module resulting in a stabile energy output from day one. The energy footprint is 33% less than standard cell production process.



Latest IP67 rated junction box improves module performance stability. Modules can be installed in every orientation. High performance connectors provide low resistance interconnection to ensure the full utilization of module power output.

* Please refer to Suntech Standard Module Installation Manual for details.
** Please refer to Suntech Product Warranty for details.

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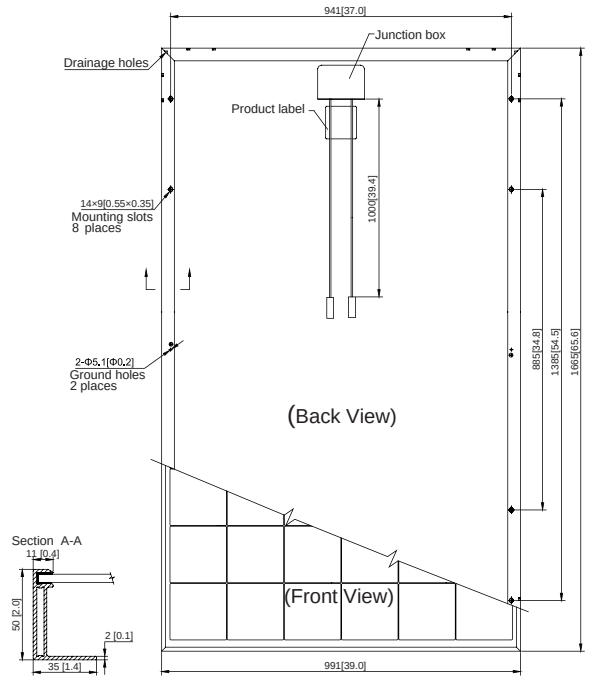
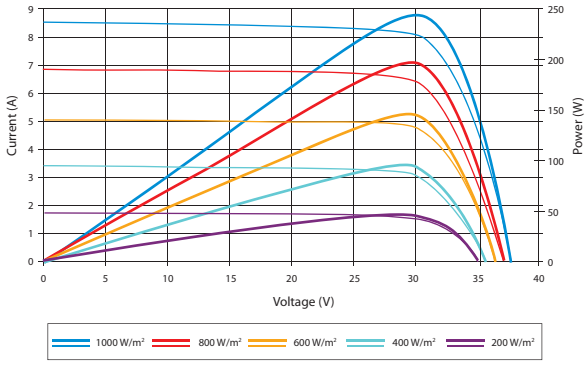
STP250S - 20/Wd+
STP245S - 20/Wd+



Note: mm [inch]

Current-Voltage & Power-Voltage Curve (245S-20)



Exellent performance under weak light conditions: at an irradiation intensity of 200 W/m² (AM 1.5, 25 °C), 95.5% or higher of the STC efficiency (1000 W/m²) is achieved

Electrical Characteristics

STC	STP250S-20/Wd	STP245S-20/Wd
Optimum Operating Voltage (Vmp)	30.7 V	30.5 V
Optimum Operating Current (Imp)	8.15 A	8.04 A
Open - Circuit Voltage (Voc)	37.4 V	37.3 V
Short - Circuit Current (Isc)	8.63 A	8.52 A
Maximum Power at STC (Pmax)	250 W	245 W
Module Efficiency	15.2%	14.8%
Operating Module Temperature	-40 °C to +85 °C	
Maximum System Voltage	1000 V DC (IEC) / 600 V DC (UL)	
Maximum Series Fuse Rating	20 A	
Power Tolerance	0/+5%	

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5
Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within ± 3%

NOCT	STP250S-20/Wd	STP245S-20/Wd
Maximum Power (W)	183 W	180 W
Maximum Power Voltage (V)	28.0 V	27.9 V
Maximum Power Current (A)	6.52 A	6.45 A
Open Circuit Voltage (Voc)	34.4 V	34.3 V
Short Circuit Current (Isc)	6.96 A	6.89 A

NOCT: Irradiance 800 W/m², ambient temperature 20 °C, wind speed 1 m/s
Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within ± 3%

Mechanical Characteristics

Solar Cell	Crystalline silicon 156 × 156 mm (6 inches)
No. of Cells	60 (6 × 10)
Dimensions	1665 × 991 × 50 mm (65.6 × 39.0 × 2.0 inches)
Weight	19.8 kgs (43.7 lbs.)
Front Glass	3.2 mm (0.13 inches) tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP67 rated
Output Cables	TUV (2Pfg1169:2007), UL 4703, UL 44 4.0 mm² (0.006 inches²), symmetrical lengths (-) 1000 mm (39.4 inches) and (+) 1000 mm (39.4 inches)
Connectors	RADOX® SOLAR integrated twist locking connectors

Temperature Characteristics

Nominal Operating Cell Temperature (**NOCT**)	45±2°C
Temperature Coefficient of Pmax	-0.45 %/°C
Temperature Coefficient of Voc	-0.34 %/°C
Temperature Coefficient of Isc	0.050 %/°C

Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	21	21
Pallets per container	6	28
Pieces per container	126	588

Dealer information

Specifications are subject to change without further notification