

HyPro STP290S - 20/Web STP285S - 20/Web STP280S - 20/Web

SUNTECH
BE UNLIMITED

290 Watt MONOCRYSTALLINE SOLAR MODULE



Features



High module conversion efficiency

17.8%

Module efficiency up to 17.8% achieved through advanced cell technology and manufacturing capabilities



PID resistant

Advanced cell technology and qualified materials lead to high resistance to PID



Positive tolerance

0/+5W

Positive tolerance of up to 5W delivers higher outputs reliability



Suntech current sorting process

2%

System output maximized by reducing mismatch losses up to 2% with modules sorted & packaged by amperage



Extended wind and snow load tests

3800Pa
5400Pa

Module certified to withstand extreme wind (3800 Pascal) and snow loads (5400 Pascal) *



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline

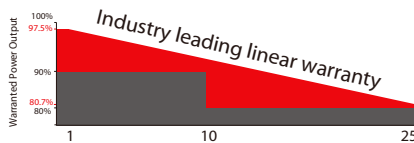
Certifications and standards:
IEC 61215, IEC 61730, conformity to CE



Trust Suntech to Deliver Reliable Performance Over Time

- World-class 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 ISO17025: 2005
- Regular independently checked production process from international accredited institute/company
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing testing: IEC 61701, IEC 62716, DIN EN 60068-2-68)***
- Long-term reliability tests
- 2 x 100% EL inspection ensuring defect-free modules

Industry-leading Warranty based on nominal power



- 97.5% in the first year, thereafter, for years two (2) through twenty-five (25), 0.7% maximum decrease from MODULE's nominal power output per year, ending with the 80.7% in the 25th year after the defined WARRANTY STARTING DATE.****
- 12-year product warranty
- 25-year linear performance warranty

Advanced HyPro Technology



The HyPro cell uses back surface passivation and local BSF technology. The average cell efficiency is up to 20.5%.

IP68 Rated Junction Box



The Suntech IP68 rated junction box ensures an outstanding waterproof level, supports installations in all orientations and reduces stress on the cables. High reliable performance, low resistance connectors ensure maximum output for the highest energy production.

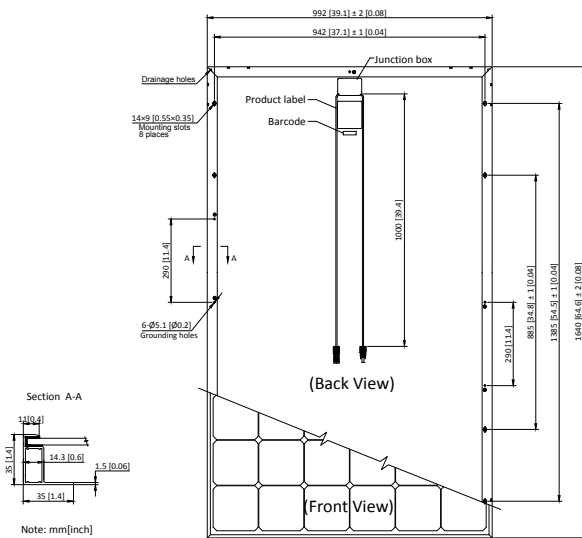
* Please refer to Suntech Standard Module Installation Manual for details. **PV Cycle only for EU market.

*** Please refer to Suntech Product Near-coast Installation Manual for details. **** Please refer to Suntech Product Warranty for details.

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Electrical Characteristics

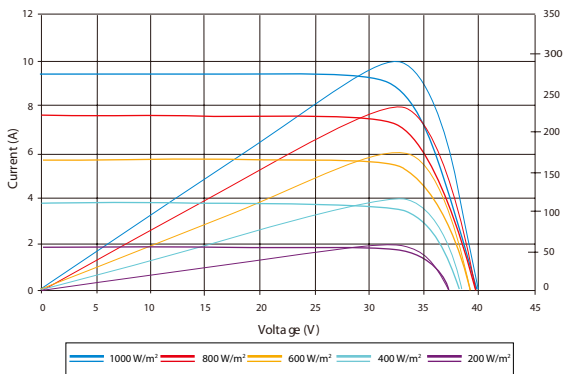
| STC | STP290S-20/ Wem | STP285S-20/ Wem | STP280S-20/ Wem |
|---------------------------------|--------------------|--------------------|--------------------|
| Maximum Power at STC (Pmax) | 290 W | 285 W | 280 W |
| Optimum Operating Voltage (Vmp) | 31.7 V | 31.6 V | 31.5 V |
| Optimum Operating Current (Imp) | 9.15 A | 9.02 A | 8.89 A |
| Open Circuit Voltage (Voc) | 39.8 V | 39.6 V | 39.4 V |
| Short Circuit Current (Isc) | 9.55 A | 9.48 A | 9.41 A |
| Module Efficiency | 17.8% | 17.5% | 17.2% |
| Operating Module Temperature | -40 °C to +85 °C | | |
| Maximum System Voltage | 1000 V DC (IEC) | | |
| Maximum Series Fuse Rating | 20 A | | |
| Power Tolerance | 0/+5 W | | |

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 | STP290S-20/ Wem | STP285S-20/ Wem | STP280S-20/ Wem |
|---------------------------------|--------------------|--------------------|--------------------|
| Maximum Power at NOCT (Pmax) | 214.7 W | 210 W | 207 W |
| Optimum Operating Voltage (Vmp) | 29.6 V | 28.9 V | 28.9 V |
| Optimum Operating Current (Imp) | 7.25 A | 7.27 A | 7.16 A |
| Open Circuit Voltage (Voc) | 36.7 V | 36.4 V | 36.2 V |
| Short Circuit Current (Isc) | 7.73 A | 7.67 A | 7.60 A |

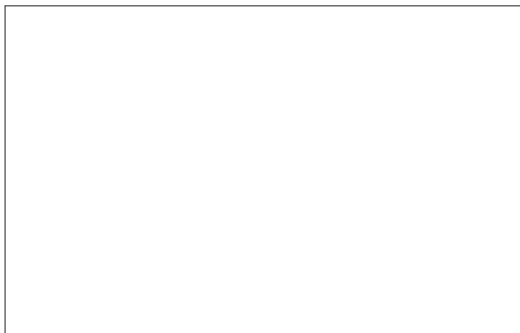
NOCT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;
Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within +/- 3%

Current-Voltage & Power-Voltage Curve (290S-20)



Excellent performance under weak light conditions: at an irradiation intensity of 200 W/m² (AM 1.5, 25 °C), **96.5%** efficiency (200 W/m²) is achieved

Dealer information



Temperature Characteristics

| | |
|---|------------|
| Nominal Operating Cell Temperature (NOCT) | 45±2°C |
| Temperature Coefficient of Pmax | -0.40 %/°C |
| Temperature Coefficient of Voc | -0.34 %/°C |
| Temperature Coefficient of Isc | 0.060 %/°C |

Mechanical Characteristics

| | |
|---------------|---|
| Solar Cell | Monocrystalline silicon 156.75 × 156.75 mm (6 inches) |
| No. of Cells | 60 (6 × 10) |
| Dimensions | 1640 × 992 × 35mm (64.6 × 39.1 × 1.4 inches) |
| Weight | 18.2 kgs (40.1 lbs.) |
| Front Glass | 3.2 mm (0.13 inches) tempered glass |
| Frame | Anodized aluminium alloy |
| Junction Box | IP68 rated (3 bypass diodes) |
| Output Cables | TUV (2Pfg1169:2007) 4.0 mm ² (0.006 inches ²), symmetrical lengths (-) 1000mm (39.4 inches) and (+) 1000 mm (39.4 inches) |
| Connectors | MC4 compatible |

Packing Configuration

| Container | 20' GP | 40' HC |
|-----------------------|--------|--------|
| Pieces per pallet | 30 | 30 |
| Pallets per container | 6 | 28 |
| Pieces per container | 180 | 840 |

Information on how to install and operate this product is available in the installation instruction. All values indicated in this data sheet are subject to change without prior announcement. The specifications may vary slightly. All specifications are in accordance with standard EN 50380. Color differences of/in the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.