SUNTECH

HIPerforma Series

144-CELL HALF CUT BIFACIAL
MONOCRYSTALLINE SOLAR MODULE

390-410 Watt

STP*XXX*S - A72/Pnh+

STP*XXX*S - A72/Pfh+



Features

High power output
Compared to normal module, the power output can increase 5W-10W

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

Excellent weak light performance
More power output in weak light condition, such as haze, cloudy, and morning

Lower operating temperature
Lower operating temperature and temperature coefficient increases the power output

Extended load tests
Module certified to withstand front side maximum static test load (5400 Pascal) and rear side maximum static test loads (3800 Pascal) *

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

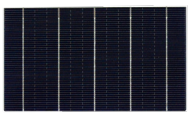
Certifications and standards:
IEC 61215, IEC 61730, conformity to CE

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, ISO 14001 and ISO17025
- 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 × 100% EL inspection ensuring defect-free modules

Special Cell Design

The unique cell design leads to reduced electrodes resistance and smaller current, thus enables higher fill factor. Meanwhile, it can reduce losses of mismatch and cell wear, and increase total reflection.



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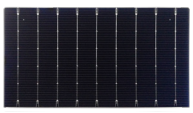

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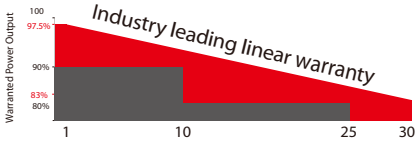
Industry-leading Warranty based on nominal power



- 97.5% in the first year, thereafter, for years two (2) through thirty (30), 0.5% maximum decrease from MODULE's nominal power output per year, ending with the 83% in the 30th year after the defined WARRANTY STARTING DATE.****
- 12-year product warranty
- 30-year linear performance warranty

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. **WEEE 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	STPXXXS-A72/Pnh+ & STPXXXS-A72/Pfh+				
Maximum Power at STC (Pmax)	410 W	405 W	400 W	395 W	390 W
Optimum Operating Voltage (Vmp)	41.1 V	40.9 V	40.7 V	40.5 V	40.3 V
Optimum Operating Current (Imp)	9.98 A	9.91 A	9.83 A	9.76 A	9.68 A
Open Circuit Voltage (Voc)	48.9 V	48.7 V	48.5 V	48.3 V	48.1 V
Short Circuit Current (Isc)	10.49 A	10.42 A	10.34 A	10.27 A	10.20 A
Module Efficiency	20.2%	20.0%	19.7%	19.4%	19.2%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1000/1500 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;
Tolerance of Pmax is within +/- 3% and tolerances of Voc and Isc are within +/- 5%.

NMOT	STPXXXS-A72/Pnh+ & STPXXXS-A72/Pfh+				
Maximum Power at NMOT (Pmax)	308.2 W	304.6 W	300.6 W	297.0 W	293.2 W
Optimum Operating Voltage (Vmp)	38.2 V	38.1 V	37.8 V	37.6 V	37.4 V
Optimum Operating Current (Imp)	8.06 A	8.00 A	7.95 A	7.89 A	7.84 A
Open Circuit Voltage (Voc)	45.9 V	45.7 V	45.4 V	45.3 V	45.1 V
Short Circuit Current (Isc)	8.46 A	8.41 A	8.35 A	8.30 A	8.24 A

NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s.

Electrical Characteristics with Different Rearside Power Gain(Reference to 400 W Front)			
Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	420 W	460 W	500 W
Optimum Operating Voltage (Vmp)	40.7 V	40.7 V	40.8 V
Optimum Operating Current (Imp)	10.32 A	11.30 A	12.29 A
Open Circuit Voltage (Voc)	48.5 V	48.5 V	48.6 V
Short Circuit Current (Isc)	10.86 A	11.89 A	12.93 A
Module Efficiency	20.7%	22.6%	24.6%

Temperature Characteristics

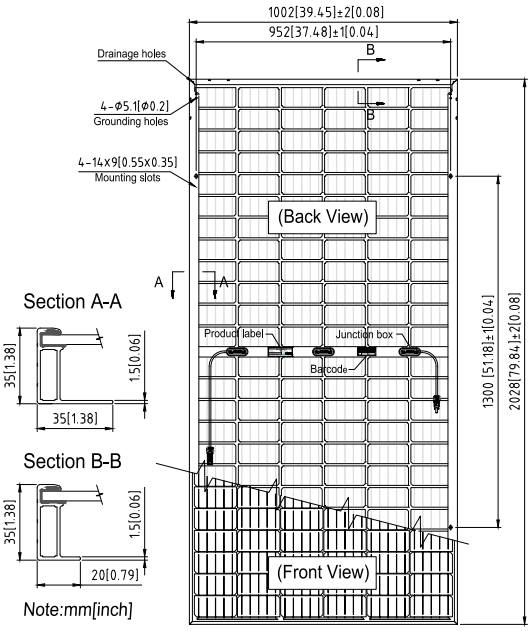
Nominal Module Operating Temperature (**NMOT**)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.37%/°C
Temperature Coefficient of Voc	-0.304%/°C
Temperature Coefficient of Isc	0.050%/°C

Mechanical Characteristics

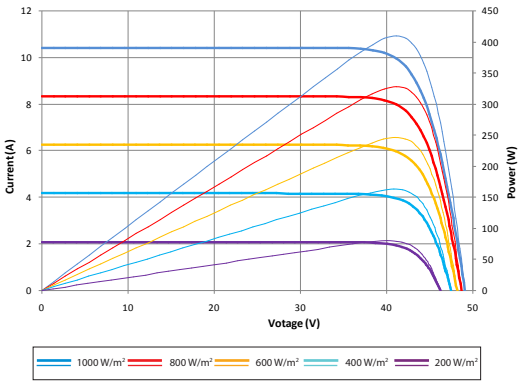
Solar Cell	Monocrystalline silicon 158.75 mm
No. of Cells	144 (6 × 24)
Dimensions	2028 × 1002 × 35 mm (79.8 × 39.4 × 1.4 inches)
Weight	27.0 kgs (59.52 lbs.)
Front Glass	2.0 mm (0.079 inches) semi-tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated
Output Cables	4.0 mm² (0.006 inches²), symmetrical lengths (-) 1400 mm (55.1 inches) and (+) 1400 mm (55.1 inches)
Connectors	1000 V: MC4 compatible 1500 V: MC4 EVO2, Cable 01S
Refer. Bifaciality Factor	(70 ± 5)%

Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	30	30
Pallets per container	5	22
Pieces per container	150	660
Packaging box dimensions	2058 × 1109 × 1173 mm	
Packaging box weight	858 kg	



Current-Voltage & Power-Voltage Curve (410S)



Dealer information

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 the modules relative to the figures as well as discolorations of/in the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

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