

HiPower Series

144-CELL HALF CUT MONOCRYSTALLINE
SOLAR MODULE

450 Watt

STPXXXS - B72H/Vnh



Features



High power output

Compared to 158.75mm module, the power output can increase 25W-30W



Suntech current sorting process

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



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

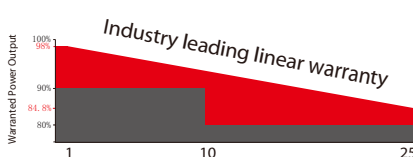
- World-class manufacturer of crystalline silicon photovoltaic modules
- Unrivaled manufacturing capacity and world-class technology
- Rigorous quality control meeting the highest international standards: ISO 9001, ISO 14001 and ISO17025
- Regular independently checked production process from international accredited institute/company
- 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.

Industry-leading Warranty based on nominal power



- 98% in the first year, thereafter, for years two (2) through twenty-five (25), 0.55% maximum decrease from MODULE's nominal power output per year, ending with the 84.8% in the 25th year after the defined WARRANTY STARTING DATE.****
- 15-year product warranty
- 25-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 Warranty for details.
made in China & Vietnam

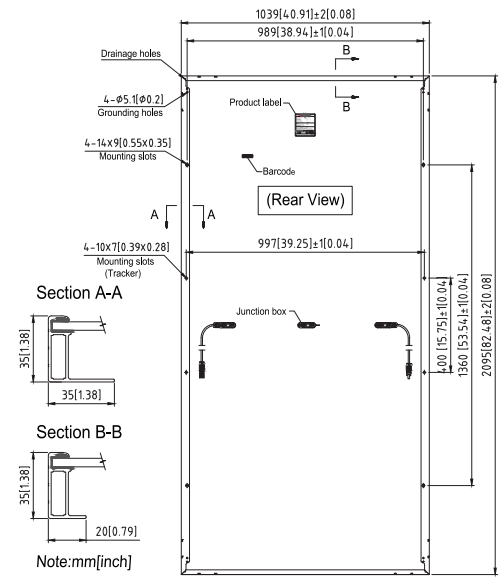
Electrical Characteristics

STC	STPXXS-B72H/Vnh				
Maximum Power at STC (Pmax)	450 W	445 W	440 W	435 W	430 W
Optimum Operating Voltage (Vmp)	41.4 V	41.2 V	41.0 V	40.8 V	40.6 V
Optimum Operating Current (Imp)	10.87 A	10.81 A	10.74 A	10.67 A	10.60 A
Open Circuit Voltage (Voc)	49.2 V	49.0 V	48.8 V	48.6 V	48.4 V
Short Circuit Current (Isc)	11.61 A	11.54 A	11.47 A	11.40 A	11.32 A
Module Efficiency	20.7%	20.4%	20.2%	20.0%	19.8%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	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 +/- 5% and tolerances of Voc and Isc are within +/- 5%.

NMOT	STPXXS-B72H/Vnh				
Maximum Power at NMOT (Pmax)	339.4 W	335.8 W	332.7 W	327.7 W	324.6 W
Optimum Operating Voltage (Vmp)	38.2 V	38.0 V	37.8 V	37.6 V	37.5 V
Optimum Operating Current (Imp)	8.89 A	8.84 A	8.78 A	8.73 A	8.67 A
Open Circuit Voltage (Voc)	46.2 V	46.0 V	45.8 V	45.5 V	45.4 V
Short Circuit Current (Isc)	9.37 A	9.31 A	9.25 A	9.20 A	9.13 A

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



Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.36%/°C
Temperature Coefficient of Voc	-0.304%/°C
Temperature Coefficient of Isc	0.050%/°C

Mechanical Characteristics

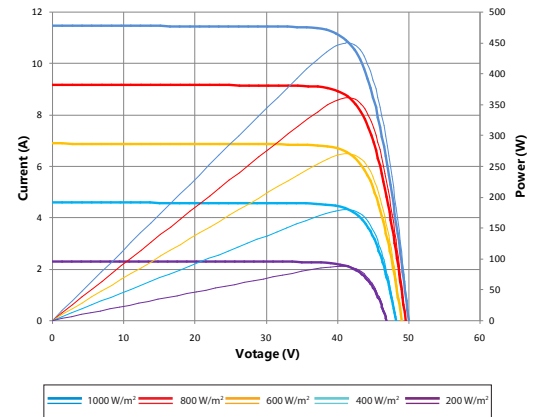
Solar Cell	Monocrystalline silicon 166 mm
No. of Cells	144 (6 × 24)
Dimensions	2095 × 1039 × 35 mm (82.5 × 40.9 × 1.4 inches)
Weight	24.5 kgs (54.0 lbs.)
Front Glass	3.2 mm (0.13 inches) tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm ² , Portrait: (-)350 mm and (+)160 mm in length Landscape: (-)1400 mm and (+)1400 mm in length or customized length
Connectors	Genuine MC4 EVO2, TL-Cable01S
Fire Class Rating	C in accordance with UL 790

Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	31	31
Pallets per container	5	22
Pieces per container	155	682
Packaging box dimensions	2125×1130×1205 mm	
Packaging box weight	812 kg	

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.

Current-Voltage & Power-Voltage Curve (450S)



Dealer information



Water Pump Solar Inverter Selection Guide

MODEL	2.2KW LS		2.2KW	7.5KW	11KW
RATED OUTPUT POWER	2200 W(3HP) (supports 0.75~3HP water pump)		2200 W(3HP) (supports 0.75~3HP water pump)	7500 W(10HP) (supports 3~10HP water pump)	11000 W(15HP) (supports 10~15HP water pump)
PV INPUT (DC)					
Nominal DC Voltage / Maximum DC Voltage	320 VDC / 450 VDC		540 VDC / 800 VDC		
Start-up Voltage	120 VDC		250 VDC		
MPPT Voltage Range	120 VDC ~ 420 VDC		250 VDC ~ 780VDC		
Number of MPP Trackers	1				
AC INPUT					
Input Voltage	220/230/240 VAC (-15% ~ +10%)		N/A		
Input Frequency	47 Hz ~ 63 Hz				
OUTPUT					
Nominal Voltage	220/230/240 VAC		3 x 380/400/415/440 VAC		
Efficiency	> 97%		> 97%		
Nominal Output Current	14 A	10 A	5.0 A	15 A	22 A
Motor Type	Single-phase motor	Three-phase asynchronous motor	Three-phase asynchronous motor		
Frequency Precision	±0.2%				
PROTECTION					
Full Protection	Phase lost, dry pumping, motor locked, weak sunlight, over-voltage, under-voltage, over-current, surge, over-temperature and short circuit protection				
PHYSICAL					
Dimension, D X W X H (mm)	110 x 230 x 342				
Net Weight (kgs)	5	5.5	6	6.5	
IP Protection	IP20				
INTERACE					
Communication Port	RS-232/RS-485				
ENVIRONMENT					
Humidity	< 95% RH (Non-condensing)				
Operating Temperature	-20°C~45°C at 100% full load, 46°C~60°C power derating				

Product specifications are subject to change without further notice.

Recommended Solar Panel Selection

Below are popular solar panel specifications in the market:

- A. 75-A: 75W, Vmp=17.46V, Imp=4.3A, Voc=21.96V C. 140-A: 140W, Vmp=17.9V, Imp=7.82A, Voc=22.0V
 B. 75-B: 75W, Vmp=13.3V, Imp=5.64A, Voc=16.94V D. 250-A: 250W, Vmp=30.64, Imp=8.16A, Voc=37.38V

Inverter Model Solar Panel	2.2KW LS for single-phase output	2.2KW LS for three-phase output	2.2KW	7.5KW	11KW
PV Panel 75-A	19 pieces in Series x 4 Strings (5700W PV Panels)	19 pieces in Series x 2 Strings (2850W PV Panels)	32 pieces in Series (2400W PV Panels)	N/A	N/A
PV Panel 75-B	25 pieces in Series x 3 Strings (5625W PV Panels)	25 pieces in Series x 2 Strings (3750W PV Panels)	42 pieces in Series (3150W PV Panels)	N/A	N/A
PV Panel 140-A	19 pieces in Series x 2 Strings (5320W PV Panels)	19 pieces in Series (2660W PV Panels)	N/A	32 pieces in Series x 2 Strings (8960W PV Panels)	32 pieces in Series x 3 Strings (13440W PV Panels)
PV Panel 250-A	11 pieces in Series x 2 Strings (5500W PV Panels)	11 pieces in Series (2750W PV Panels)	N/A	19 pieces in Series x 2 Strings (9500W PV Panels)	19 pieces in Series x 3 Strings (14250W PV Panels)