

THIP Series

120-CELL HALF-CUT MONOCRYSTALLINE SOLAR MODULE

**SANG-DE21M(19)
585-610Watt**

Key Feature



Mould efficiency up to 21.6% achieved through advanced cell technology and manufacturing process



Qualified encapsulating materials and stringent production process control ensure the product is highly PID resistant



Lower LCOE, Reduced BOS cost, higher return on investment



Special cutting and soldering technology leads low hotspot risk



Ideal choice for Large-scale Power station installation



Certified to withstand: wind load (2400Pa) and snow load(5400Pa)

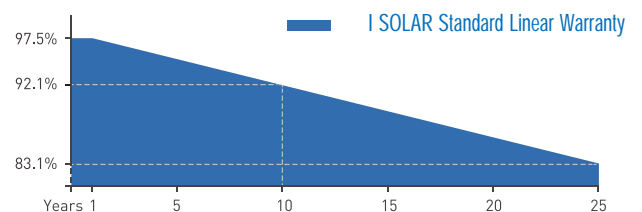
Certifications and standards:
IEC 61215, IEC 61730, conformity to CE



Delivers Reliable Performance Over Time

- Lead manufacturer of crystalline silicon photovoltaic modules
- Automatic production line and world-class technology
- Long-term reliability tests
- 2 EL inspection ensuring defect-free solar modules
- Rigorous quality control to meet the international quality standard: ISO9001;ISO18001 and ISO45001
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing testing: IEC 61701, IEC 62716, DIN EN 60068-2-68)

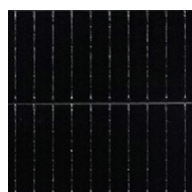
Linear Performance Warranty



10 Years Product Warranty 25 Years Linear Power Warranty

Special Cell Design

The unique cell design leads to reduced electrodes resistance and raised cells efficiency. Residual stress reduction can be more even, reducing the micro-cracks and hotspot risks



MBB

IP68 Rated Junction Box



The 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

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585-610Watt

Electrical Data(STC)

Maximum Power	P _{max} (W)	585	590	595	600	605	610
Maximum Power Voltage	V _{mp} (V)	34.0	34.2	34.4	34.6	34.8	35.0
Maximum Power Current	I _{mp} (A)	17.21	17.25	17.30	17.34	17.39	17.43
Open Circuit Voltage	V _{oc} (V)	40.9	41.1	41.3	41.5	41.7	41.9
Short Circuit Current	I _{sc} (A)	18.25	18.29	18.34	18.38	18.43	18.47
Module Efficiency	(%)	20.7	20.8	21.0	21.2	21.4	21.6
Output Power Tolerance	(W)	0~+5					

STC: 1000W/m² Irradiation, 25°C Module Temperature and AM 1.5g Spectrum

Electrical Data(NOCT)

Maximum Power	P _{max} (W)	438	442	446	450	454	458
Maximum Power Voltage	V _{mp} (V)	31.8	32.0	32.2	32.4	32.6	32.8
Maximum Power Current	I _{mp} (A)	13.77	13.81	13.85	13.89	13.93	13.96
Open Circuit Voltage	V _{oc} (V)	38.6	38.8	39.0	39.2	39.4	39.6
Short Circuit Current	I _{sc} (A)	14.69	14.73	14.77	14.81	14.85	14.88

NOCT: 800W/m² Irradiation, 20°C Ambient Temperature and Wind Speed 1m/s

Mechanical Characteristics

Number of Cells	120(12*10)
Dimension LxWxH(mm)	2172x1303x35 (85.5x51.30x1.38 inch)
Weight(kg)	30.5(67.2lb)
Front Glass	3.2mm High Transmission, Coated Tempered Glass
Back-sheet	White
Frame	Silver White, Anodized Aluminum Alloy
Junction Box	IP68 Rated
Cable	TUV, 1x4mm ² ; Anode:300mm, Cathode:300mm
Number of Diodes	3
Wind/Snow Load	2400Pa/5400Pa
Connectors	MC Compatible

For more details please check the installation manual

Temperature Ratings

Nominal Operating Cell Temperature(NOCT)	44±2°C
Temperature Coefficient of I _{sc}	+0.05%/°C
Temperature Coefficient of V _{oc}	-0.30%/°C
Temperature Coefficient of P _{max}	-0.39%/°C

Maximum Ratings

Operating Temperature	-40 to +85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A

Packing Configuration

Module per Pallet	31PCS
Module per Stack	31PCS
Module per Container(20feet)	155PCS
Module per Container(40feet)	558PCS

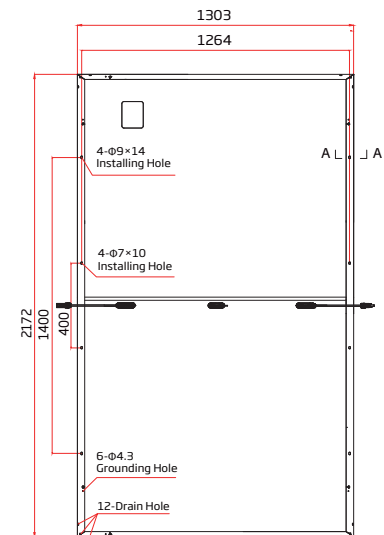
Optional

Connectors	<input type="checkbox"/> Original MC
Cable Length	<input type="checkbox"/> 1400mm
Frame	<input type="checkbox"/> Black
Back-sheet	<input type="checkbox"/> Black

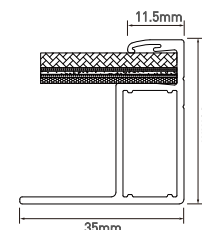
Contact us for More Information

email: sales.manager@sangsolar.com

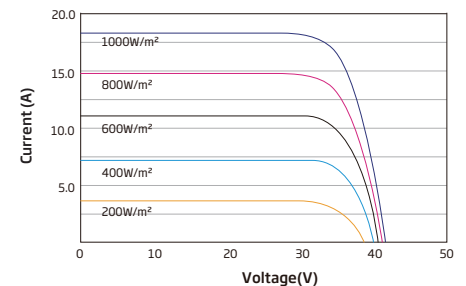
Module Dimension



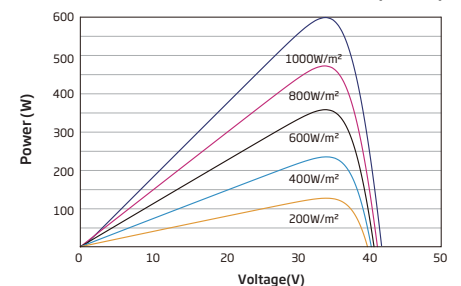
Back View



I-V Curve at Different Temperature(600W)



P-V Curve at Different Irradiation (600W)



Noting: READ THE INSTALLATION MANUAL BEFORE USING THE PRODUCT