

TSM108-9-400M-420M

108 CELL

Mono PERC Module

400M-420Wp

Power Output Range

1500VDC

Maximum System Voltage

21.5%

Maximum Efficiency

KEY SALIENT FEATURES



Global, Tier 1 manufacturer brand, with independently certified state-of-the-art automated manufacturing



Industry leading lowest thermal co-efficient of power



Excellent low irradiance performance



Excellent PID resistance



Dual stage 100% EL Inspection warranting defect-free product



Module Imp binning radically reduces string mismatch losses



Excellent wind load 2400Pa & snow load 5400Pa under certain installation method



Comprehensive product and system certification

- ◆ IEC61215:2016; IEC61730-1/-2:2016;
- ◆ ISO 9001:2015 Quality Management System
- ◆ ISO 14001:2015 Environmental Management System
- ◆ ISO 45001:2018 Occupational Health and Safety Management System

About Twinsel

Founded in 2002, Twinsel is a leading, excellent manufacturer of solar modules and solar off-grid systems. In 2022 its annual production capacity of solar modules reaches 2GW, Twinsel is committed to providing our customers with a wide range of services from consulting, scouting the site, design construction, financing to smart transportation. Our dream is to turn the desert into an oasis and the night into light. Bring our customers better price, more stable quality and better use experience.

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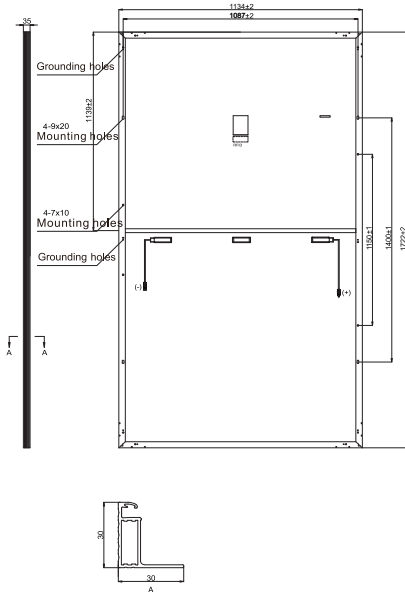
LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty / 25 year Linear Power Warranty



Dimensions of PV Module

Unit: mm



ELECTRICAL DATA(STC)

Model Number	TSM108-9-400M	TSM108-9-405M	TSM108-9-410M	TSM108-9-415M	TSM108-9-420M
Rated Power in Watts-Pmax(Wp)	400	405	410	415	420
Open Circuit Voltage-Voc(V)	36.75	37	37.25	37.50	37.75
Short Circuit Current-Isc(A)	13.77	13.83	13.88	13.94	14.01
Maximum Power Voltage-Vmpp(V)	30.76	31.0	31.25	31.49	31.73
Maximum Power Current-Impp(A)	13.01	13.07	13.12	13.18	13.24
Module Efficiency (%) *	20.4	20.7	21.0	21.3	21.5

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

* Module Efficiency (%): Round-off to the nearest number

ELECTRICAL DATA(NMOT)

Model Number	TSM108-9-400M	TSM108-9-405M	TSM108-9-410M	TSM108-9-415M	TSM108-9-420M
Maximum Power-Pmax (Wp)	306.4	306.7	306.5	310.2	313.9
Open Circuit Voltage-Voc (V)	34.55	34.79	35.02	35.26	35.49
Short Circuit Current-Isc (A)	11.14	11.18	11.22	11.27	11.32
Maximum Power Voltage-Vmpp (V)	28.57	28.80	29.03	29.25	29.47
Maximum Power Current-Impp (A)	10.48	10.52	10.56	10.60	10.65

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

MECHANICAL DATA

Solar cells	Monocrystalline
Cell configuration	108 cells (6×18)
Module dimensions	1722×1134×30mm
Weight	22 kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	White Back-sheet
Frame	Anodized Aluminium Alloy type 6005-2T6, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm ² (12AWG), Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Twinsel PV-SY02, IP68

TEMPERATURE&MAXIMUM RATINGS

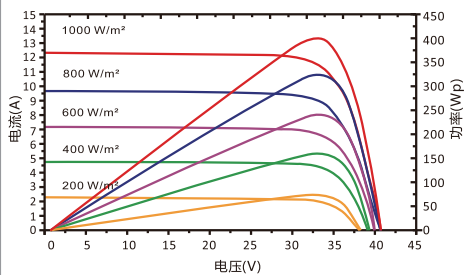
Nominal Module Operating Temperature (NMOT)	45°C±2°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Isc	0.05%/°C
Temperature Coefficient of Pmax	-0.34%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	25A
Limiting Reverse Current	25A

PACKAGING CONFIGURATION

	40ft(HQ)Aluminum Frame	20ft(HQ)Aluminum Frame
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1760×1110×1275	1760×1110×1275
Box gross weight[kg]	810	810

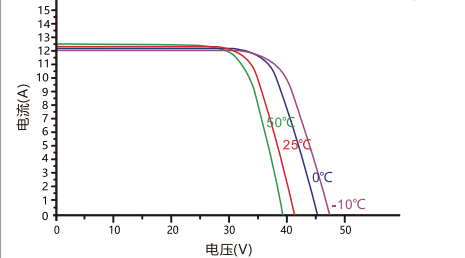
TSM108-9-415M

I-V characteristics at different irradiancies



I-V characteristics at different temperatures

(AM1.5, 1000W/m²)



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