

TSM132-8-645M-670M

132 CELL

Mono PERC Module

645-670Wp

Power Output Range

1500VDC

Maximum System Voltage

21.6%

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



ISO9001
ISO14001
ISO45001
IEC62941



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.

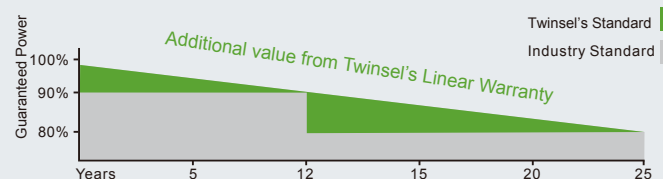
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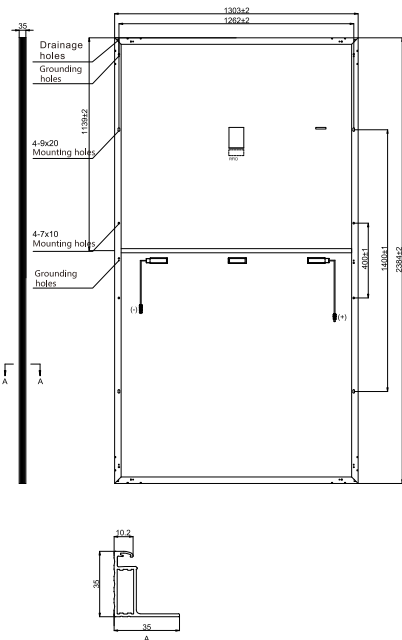
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LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty / 25 year Linear Power Warranty



Dimensions of PV Module Unit: mm



ELECTRICAL DATA(STC)

Model Number	TSM132-8-645M	TSM132-8-650M	TSM132-8-655M	TSM132-8-660M	TSM132-8-665M	TSM132-8-670M
Rated Power in Watts-Pmax(Wp)	645	650	655	660	665	670
Open Circuit Voltage-Voc(V)	45.15	45.35	45.55	45.75	45.95	46.15
Short Circuit Current-Isc(A)	18.18	18.23	18.28	18.33	18.38	18.43
Maximum Power Voltage-Vmpp(V)	37.58	37.76	37.94	38.12	38.30	38.48
Maximum Power Current-Impp(A)	17.17	17.22	17.27	17.32	17.37	17.42
Module Efficiency (%) *	20.8	20.9	21.1	21.2	21.4	21.6

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	TSM132-8-645M	TSM132-8-650M	TSM132-8-655M	TSM132-8-660M	TSM132-8-665M	TSM132-8-670M
Maximum Power-Pmax (Wp)	488.6	492.4	496.2	500.0	503.8	507.6
Open Circuit Voltage-Voc (V)	41.99	42.18	42.36	42.55	42.73	42.92
Short Circuit Current-Isc (A)	14.91	14.95	14.99	15.03	15.07	15.11
Maximum Power Voltage-Vmpp (V)	34.87	35.04	35.21	35.38	35.54	35.71
Maximum Power Current-Impp (A)	14.01	14.05	14.09	14.13	14.17	14.21

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

MECHANICAL DATA

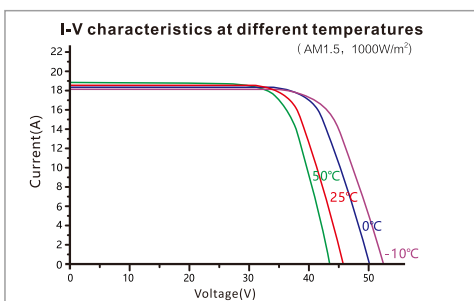
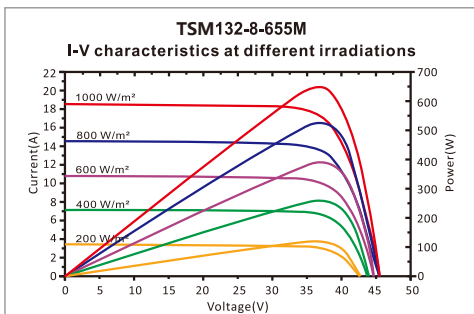
Solar cells	Monocrystalline	
Cell configuration	132 cells (6×11×6×11)	
Module dimensions	2384×1303×35mm	
Cables	4.0mm ² (12AWG), Positive(+)350mm, Negative(-)230mm (Connector Included)	
Superstrate	High Transmission, Low Iron, Tempered ARC Glass	
Substrate	White Back-sheet	
Connector	Twinssel PV-SY02, IP68	
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes	
Weight	34kg	35.5kg
Frame	Anodized Aluminium Alloy type 6005-2T6, Silver Color	High strength alloy steel

TEMPERATURE&MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pmax	-0.34%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	30A
Limiting Reverse Current	30A

PACKAGING CONFIGURATION

	40ft(HQ)Aluminum Frame	40ft(HQ)Alloy Steel Frame
Number of modules per container	558	558
Number of modules per pallet	31	31
Number of pallets per container	18	18
Packaging box dimensions (LxWxH) in mm	1320×1120×2515	1320×1120×2520
Box gross weight[kg]	1105	1145



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