



TSM60-4-135M-145M

60CELL

Mono PERC Module

135M-145Wp

Power Output Range

1000VDC

Maximum System Voltage

18.4%

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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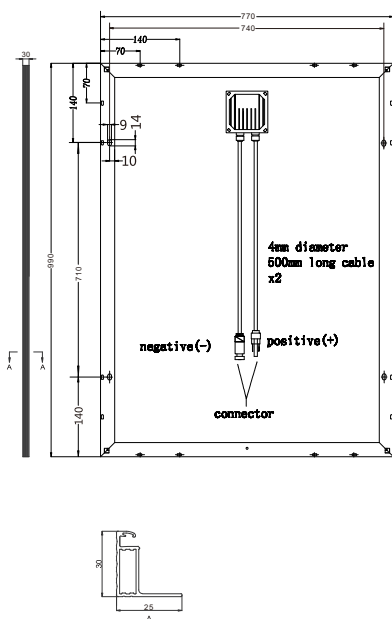
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LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty / 25 year Linear Power Warranty



Dimensions of PV Module Unit: mm



ELECTRICAL DATA(STC)

Model Number	TSM60-4-135M	TSM60-4-140M	TSM60-4-145M
Rated Power in Watts-Pmax(Wp)	135	140	145
Open Circuit Voltage-Voc(V)	21.45	21.8	22.15
Short Circuit Current-Isc(A)	7.78	7.9	8.02
Maximum Power Voltage-Vmpp(V)	18.31	18.66	19.01
Maximum Power Current-Impp(A)	7.39	7.51	7.63
Module Efficiency(%)★	17.7	18.4	19

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM 1.5 according to EN 60904-3.
 ★Module Efficiency(%):Round-off to the nearest number

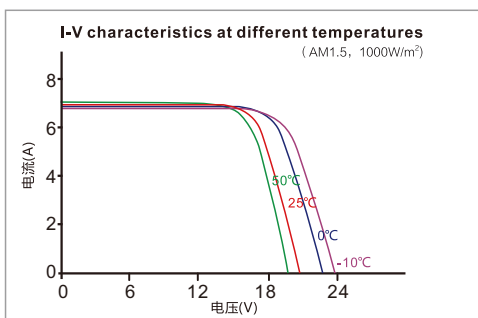
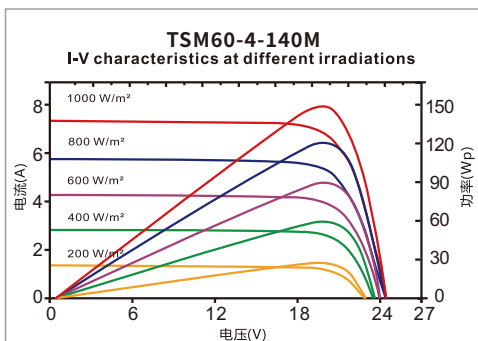
ELECTRICAL DATA(NMOT)

Model Number	TSM60-4-135M	TSM60-4-140M	TSM60-4-145M
Maximum Power Pmax(Wp)	102.3	106.1	110
Open Circuit Voltage-Voc(V)	19.95	20.27	20.6
Short Circuit Current-Isc(A)	6.38	6.48	6.58
Maximum Power Voltage-Vmpp(V)	17.01	17.32	17.64
Maximum Power Current-Impp(A)	6.02	6.13	6.24

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

MECHANICAL DATA

Solar cells	Monocrystalline
Cell configuration	60 cells (4x15)
Module dimensions	990x770x30mm
Cables	4.0mm ² (12AWG), Positive (+), Negative (-) 500mm (Connector Included)
Substrate	White Back-sheet
Connector	Twinsel PV-SY02, IP68
J-Box	SY012, IP68, 1000VDC, 2 Schottky bypass diodes
Weight	7.5kg
Frame	Anodized Aluminium Alloy type 6005-2T6



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	1000VDC
Max Series Fuse Rating	15A
Limiting Reverse Current	15A

PACKAGING CONFIGURATION

	40ft(HQ)Aluminum Frame
Number of modules per container	2134
Number of modules per pallet	2
Number of modules per container	1067
Packaging box dimensions(L × W × H) in mm	1010x80x795
Box gross weight [kg]	16

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