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Energía

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> Kits de energía

3kWp Monofásico

MONO SOLAR MODULE TW345MW-72

Advantages

High power

High power output, increasing power generation.

Excellent Low-light Performance

In Low-radiation environment such as morning, evening or rainy day, its generating capacity is higher than normal module

Perfect self-cleaning Performance

Reducing the power loss due to dust cover (dirt effect)

Strict quality control

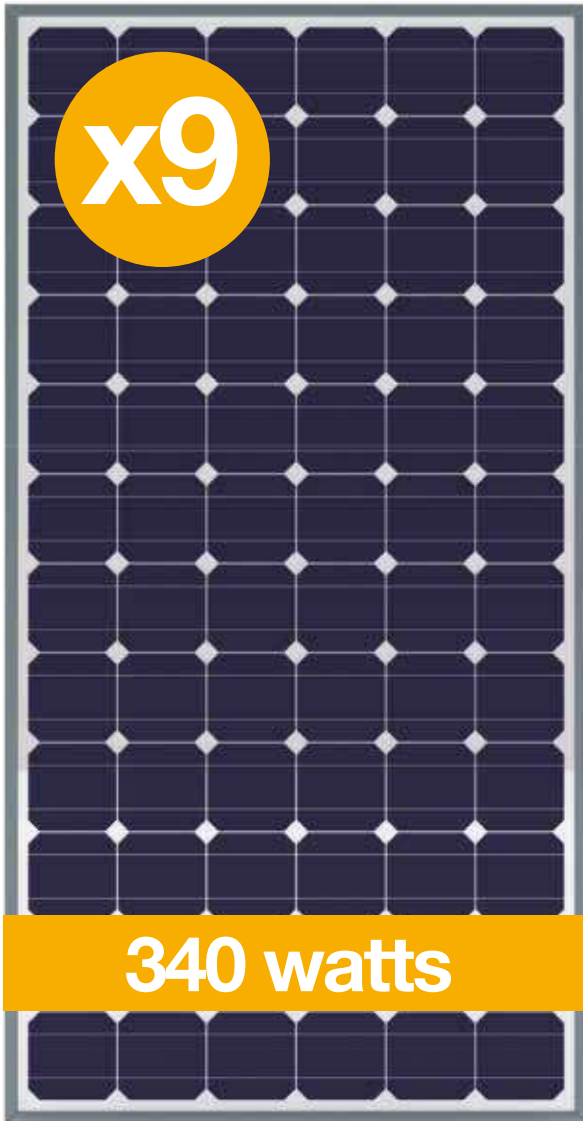
Advanced fully automatic production line with advanced quality inspection control 100% EL inspection during produce and before delivery 0~+5% positive power output, optimizing the current classified, make sure the modules matching system performance and get more power output.

Excellent Reliability and Weather Resistance

All modules passed TÜV Rheinland certification and the rigorous TÜV Rheinland diversity test.

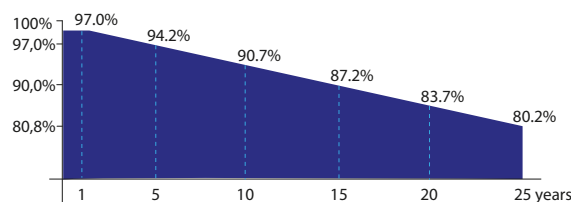
Certified to pass the highest (Level Six) salt mist corrosion, ammonia, 1000h PID, sand and dust abrasion testing.

Certified to pass mechanical load resistance testing for special conditions, such as snow loads (5400Pa), wind loads (2400Pa) and allowable hail load testing (Diameter 45mm hailstones at 30.7m/s).



Linear Power Warranty of TW Monocrystalline Solar Module
10 years Product Workmanship Warranty 25 years Linear Power Warranty

Guaranteed Power Performance



MONO SOLAR MODULE TW345MW-72

MECHANICAL CHARACTERISTICS

Dimensions	1956x990x40mm (LxWxH)
Weight	27.5kg
Front Glass	White toughened safety glass, 4,0mm
Encapsulation	EVA (Ethylene-Vinyl-Acetate)
Cells	72pcs 156.75x156.75mm Monocrystalline solar 5BB cells
Backsheet	Composite film
Frame	Anodized aluminium profile
Junction Box	Rated current 13A, IP67, TUV&UL
Cable	Length 900mm, 1x4mm ²
Connector	Compatible with MC4

TEMPERATURE CHARACTERISTICS

NOCT	45°C (±2°C)
Temperature Coefficient of Voc	-0.32%/°C
Temperature Coefficient of Isc	0.045%/°C
Temperature Coefficient of Pm	-0.41%/°C

MAXIMUM RATINGS

Maximum System Voltage [V]	DC 1000 (IEC) DC 1000 (UL)
Series Fuse Rating [A]	20
Maximum Surface Load Capacity [Pa]	5,400
Temperature Range [°C]	- 40 to + 85
Withstanding Ball	Maximum diameter of 45 mm with impact speed of 30.7 m·s ⁻¹

ELECTRICAL CHARACTERISTICS AT STANDARD TEST CONDITIONS (STC)

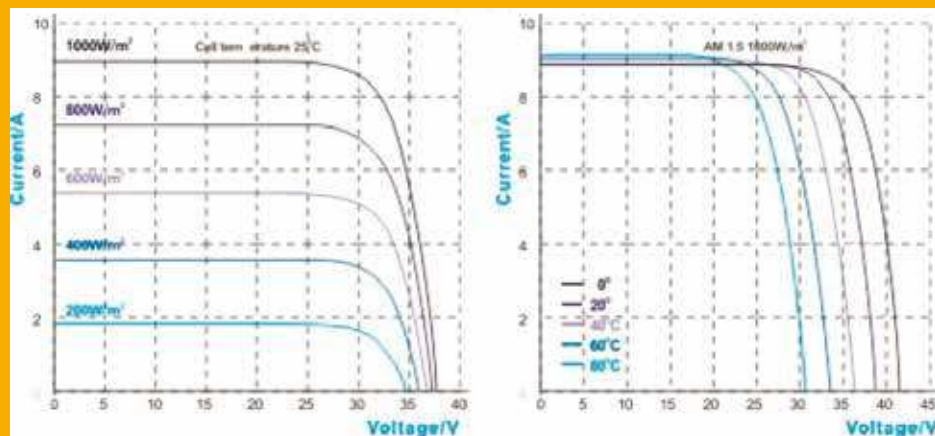
Module Type: TW 285 MW-60	345	340	335	330
Maximum Power -Pm (W)	345	340	335	330
Open Circuit Voltage-Voc (V)	46.7	46.5	46.3	46.1
Short Circuit Current-Isc (A)	9.52	9.44	9.36	9.28
Maximum Power Voltage -Vm (V)	38.4	38.2	38.0	37.7
Maximum Power Current-Im (A)	9.02	8.91	8.83	8.75
Module Efficiency-η (%)	17.82	17.56	17.30	17.04

ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power -Pm (W)	258	255	252	249
Open Circuit Voltage-Voc (V)	43.4	43.2	43.0	42.7
Short Circuit Current-Isc (A)	7.72	7.66	7.60	7.54
Maximum Power Voltage -Vm (V)	35.4	35.2	35.0	34.8
Maximum Power Current-Im (A)	7.29	7.24	7.20	7.16

- Note:** 1. Standar Test Conditions (STC): irradiance 1000 W/m² AM 1.5; ambient temperature 25°C According to EN 60904-3;
2. Normal Operating Cell Temperature (NOCT): Irradiance 800W/ m²; wind speed 1m/s, cell temperature 45°; ambient temperature 20°C
3. Tolerance of Pm: 0~+5W, Test Uncertainty of power: ±3%, Test Tolerance of Voc (V), Isc (a), Vm (V) and Im (A): ±5%.

IV CURVE



IV CURVE

Packaging	26 pcs/pallet 22 pallet/40'HQ 572 pcs/40'HQ 5 pallet/20'GP 130 pcs/20'GP
Warranty	10 year Product Workmanship Warranty 25 year Linear Power Warranty

*Declaration: With the technical progress and product updates, there exists a deviation between the technical parameter of the TW Solar's late products and the technical parameter in this specification, The TW Solar reserves the right to adjust the technical parameter at any time without notifying the customers, TW Solar has the ultimate power of interpretation to this technical specification.

Tipo de Kit con modelo de Inversor

**Kit 1kWp
Inversor:
X11-1.1 Mini**

**Kit 3kWp
Inversor:
X1-3.0 Air**

**Kit 5kWp
Inversor:
X1-5.0 Boost**

Entrada (CC)

Max.recommended DC power [W]:	1250	3200	5200
Max. input DC voltage [V]:	400	600	600
Max. input current [A]:	10	10	12/12
MPPT voltage range [V]:	55-380	100-580	125-580
Start input/output voltage [V]:	60/70	65/120	110/150
Number of MPP tracker/strings per MPP trac	1/1	1/1	2/1

Salida (AC)

AC nominal power [VA]:	1100	3000	4600
Max. AC power [VA]:	1100	3000	4600
Norminal AC voltage; range [V]:	220/230/240; 180~280	220/230/240; 180~280	220/230/240; 180~280
AC grid frequency; range) [Hz]:	50/60; ±5	50/60; ±5	50/60; ±5
Max. AC current [A]:	5,5	14	21
Power factor (full load):	0.8 leading~ 0.8 lagging	0.8 leading~ 0.8 lagging	0.8 leading~ 0.8 lagging
Total harmonic distortion(THD) [%]:	<2	<2	<2

POWER CONSUMPTION

Standby consumption [W]:	<5	<5	<10
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EFFICIENCY

MPPT efficiency[%]:	99,9	99,9	99,9
Euro efficiency[%]:	95,5	96,8	97
Max. efficiency[%]:	97,1	97,9	97,8

SAFETY & PROTECTION

Over voltage protection:	SI	SI	SI
Over current protection:	SI	SI	SI
isolation impedance monitoring:	SI	SI	SI
Ground fault current monitoring:	SI	SI	SI
DC injection monitoring:	SI	SI	SI
RCD protection:	SI	SI	SI
Safety:	EN62109-1/-2	EN62109-1/-2	EN62109-1/-2
EMC:	EN61000-6-2;EN610000-6-3; EN61000-3-2;EN610000-3-3	IDEM	IDEM
Certification:	G83/2;AS4777.2-2015; VDE4105; EN50438; CQC	IDEM	IDEM

ENVIRONMENT LIMITS

Protection class:	IP65	IP65	IP65
Operating temperature[°C]:	-20~+60 (derating at 45)	-20~+60 (derating at 45)	-20~+60 (derating at 45)
Humidity[%]:	0~95 (no condensation)	0~95 (no condensation)	0~95 (no condensation)
Attitude[m]:	2000	2000	2000
Storage temperature[°C]:	-20~+60	-20~+60	-20~+60
Noise emission[dB]:	<25	<30	<25

DIMENSION & WEIGHT

Dimensions(W*H*D) [mm]:	248*350*124	323*402*119	339*420*143
Weight[Kg]:	7	9,5	16,7

GENERAL DATA

Topology:	Transformerless	Transformerless	Transformerless
Communication interface:	RS485/WIFI (optional)/DRM/USB	IDEM	IDEM
Display:	6 LED	11 LED	Backlight 16*4 character
Standard warranty[years]:	5-10	5-10	5-10
Cooling type: Natural	Natural	Natural	Natural