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Energía

CINTAC[®]

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> Kits de energía

3kWp Híbrido

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

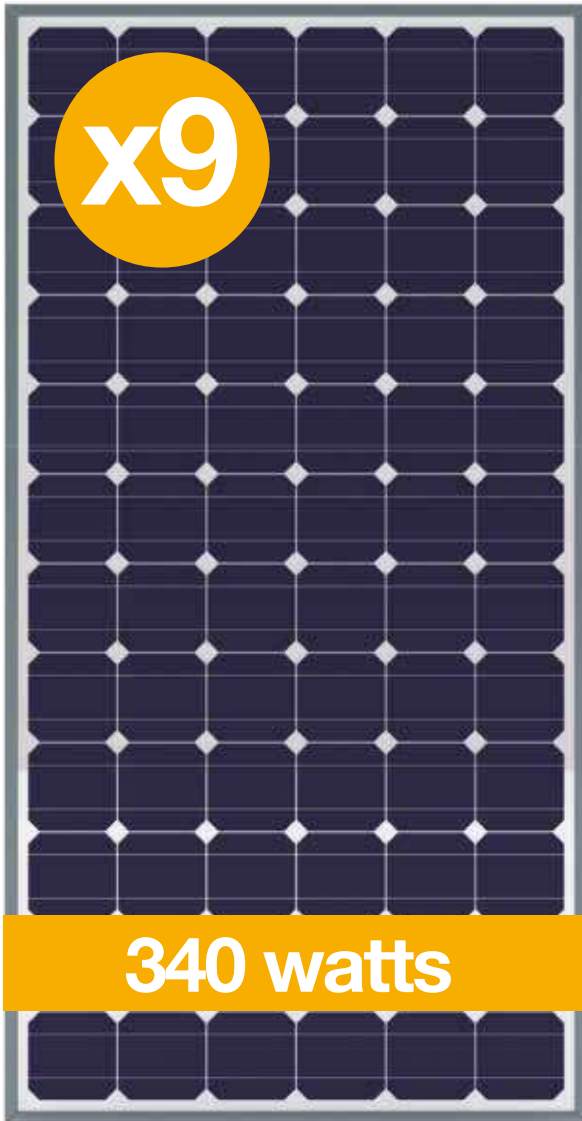
Advanced fully automatic production line with advance quality inspection control 100% EL inspection during produce and before delivery 0~+5% positive power output, optimizing the current classified, make sure the modules matching system performance and get more power output.

Excellent Reliability and Weather Resistance

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

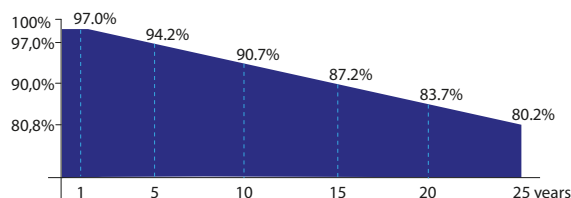
Certified to pass the highest (Level Six) salt mist corrosion, ammonia, 1000h PID, sand and dust abrasion testing.

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	Lenght 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 Hall	Maximum diameter of 45 mm with impact speed of 30.7 m·s ⁻¹

ELECTRICAL CHARACTERISTICS AT STANDARD TEST CONDITIONS (STC)

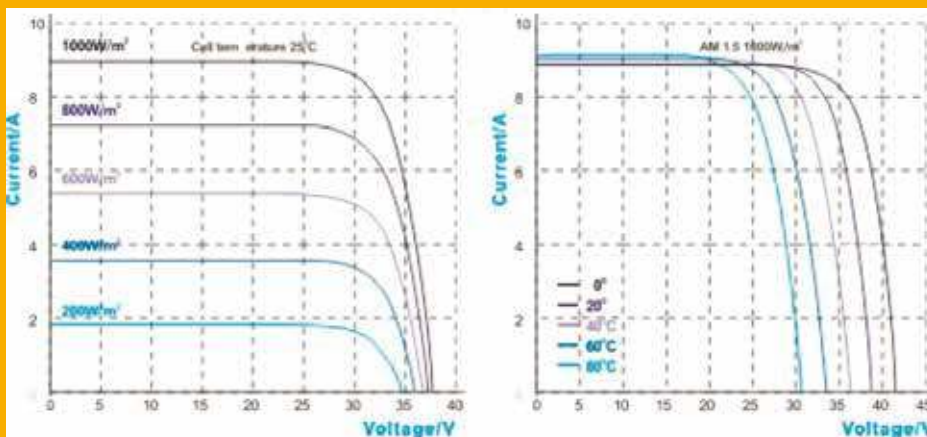
Module Type: TW 285 MW-60	345	340	335	330
Maximum Power -Pm (W)	345	340	335	330
Open Circuit Voltage-Voc (V)	46.7	46.5	46.3	46.1
Short Circuit Current-Isc (A)	9.52	9.44	9.36	9.28
Maximum Power Voltage -Vm (V)	38.4	38.2	38.0	37.7
Maximum Power Current-Im (A)	9.02	8.91	8.83	8.75
Module Efficiency-η (%)	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 3kWp SK-SU3000E

Entrada (CC)

Max.recommended DC power [W]:	3300
Max. DC voltage [V]:	550
Norminal DC operating voltage [V]:	360
Max. input current [A]:	12
Max. short circuit current [A]:	15
MPPT voltage range [V]:	125 - 530
No. of MPP trackers	1
Strings per MPP tracker	1

Salida (AC)

Norminal AC power [VA]:	3000
Max. AC power [VA]:	3300
Rated grid voltage (AC voltage range) [V]:	230 (180 to 270)
Rated grid frequency [Hz]:	50/60
Norminal AC current [A]:	13
Max. AC current [A]:	14,4
Displacement power factor:	0.8 leading to 0.8 lagging
Total harmonic distortion(THD, rated power) [%]:	<3
Load control:	Yes (optional)

OUTPUT DC (BATTERY)

Battery voltage range [V]:	40-60
Recommended battery voltage [V]:	48
Max. charging/discharging power [W]:	2500
Max. charging/discharging current [A]:	25
Communication interfaces:	Can/RS232
Reverse connect protection:	Yes

EPS OUTPUT (WITH BATTERY)

EPS rated power [VA]:	2000
EPS rated voltage [V], Frequency [Hz]:	230;50/60
EPS rated current [A]:	8,7
EPS peak power [W]; Duration [s]:	1.5xR rated, 10
Switch time [s]:	<5
Total harmonic distortion (THD, linear load) [%]:	<3
Parallel operation	No

EFFICIENCY

MPPT efficiency [%]:	99,9
Euro efficiency [%]:	97,0
Max. efficiency [%]:	97,6
Max. charg efficiency (PV to BAT) [%]:	94,0
Ma. discharge efficiency (BAT to AC) [%]:	91,0

POWER CONSUMPTION

Standby consumption [W]:	<7
Idle mode:	Yes

STANDARD

Safety:	IEC62109-1;IEC62109-2;IEC62040-1
EMC:	IEC61000-6-1/2/3
Certification:	VDE 4105 / AS / NZS4777.2 / C10 11 / EN50438-DK / OVE / ONORME 8001 / G83,G59 / CEI 0-21

ENVIROMENT LIMIT

Protection class	IP20 (indoor use)
Operating temperature range [C]:	-10 ~ +50 (derating at 40)
Altitude [m]:	<2000
Storage temperature [C]:	-20 ~ +60
Noise emission (typical) [dB]:	<40
Over voltage category:	III (electric supply side), II (PV side)

DIMENSION AND WEIGHT

Dimension (WxHxD) [mm]:	700*591*151
Weight [kg]:	Forced airflow
Cooling concept:	Transformerless
Topology:	Ethernet / WIFI / Dry Contact
Communication:	Backlight 16*4 character
LCD display:	48
Nominal Voltage [V]:	2400
Nominal Capacity Wh:	220
Usable Capacity (Wh):	440*410*89
Dimension (mm):	24
Weight kg:	45 ~ 54
Discharge Voltage [V]:	52,5 ~ 54
Charge Voltage [V]:	5kW@1Min
Peak Discharge Power [W]:	5kW@1Min
Peak Charge Power [W]:	RS232 RS485 CAN
Communication:	0 ~ 50 Charge
Working Temperature:	-10 ~ 59 Discharge
Working Temperature:	-20 ~ 60
Certification:	TÜV / CE / UN38.3 / TLC
Design life:	10+Years 25/77
Cycle life:	> 6.000 25°C