

TWxxxP60-FA2 Series

Polycrystalline Silicon PV Module

Product Specification

(60 pcs Multi 156 × 156 mm Cells, With Tongling J-box 1000 V System Voltage)

Typical Electrical Characteristics

Typical Type	Unit	TW210P60-FA2	TW215P60-FA2	TW220P60-FA2	TW225P60-FA2	TW230P60-FA2	TW235P60-FA2	TW240P60-FA2	TW245P60-FA2	
Max-Power	P_m (W)	210	215	220	225	230	235	240	245	
Power Tolerance	%	0 ~ +5w				0 ~ +5w				
Max-Power Voltage	V_m (V)	28.4	28.7	28.9	29.2	29.4	29.8	30.0	30.4	
Max-Power Current	I_m (A)	7.40	7.50	7.62	7.71	7.82	7.89	8.00	8.06	
Open-Circuit Voltage	V_{oc} (V)	36.1	36.4	36.7	36.8	37.3	37.6	37.6	37.8	
Short-Circuit Current	I_{sc} (A)	8.00	8.11	8.20	8.20	8.22	8.29	8.38	8.50	
Encapsulated Cell Efficiency	η_c (%)	14.75%	15.00%	15.25%	15.75%	16.00%	16.50%	16.75%	17.00%	
Module Efficiency	η_m (%)	12.91%	13.22%	13.52%	13.83%	14.14%	14.45%	14.75%	15.06%	
Test Condition		STC:AM=1.5, 1000W / m ² , Cells Temperature 25 °C					STC:AM=1.5, 1000W / m ² , Cells Temperature 25 °C			

CONSTRUCTION MATERIALS

Front cover (material/type/thickness)	Low iron tempered glass 3.2 mm
Cell (quantity/material/type/dimensions)	60 (6 × 10) / Multicrystalline / 156 mm × 156 mm
Encapsulant (material)	EVA
Frame (material/color/anodization color)	Anodized aluminum alloy / silver / clear
Junction box (protection degree)	Ip65 & IP67
Cable (length/cross-section area)	1100 mm / 4 mm ²

MECHANICAL CHARACTERISTICS

Dimension (L×W×H)	1640 mm × 992 mm × 40 mm
Installation Hole Dimension	860 mm × 942 mm
Weight	19.5 kg
Packing Configuration	23 pcs / carton or 26 pcs / carton
Quantity/Pallet	1 carton/pallet
Loading Capacity	644 pcs / 40 ft or 728 pcs / 40 HQ

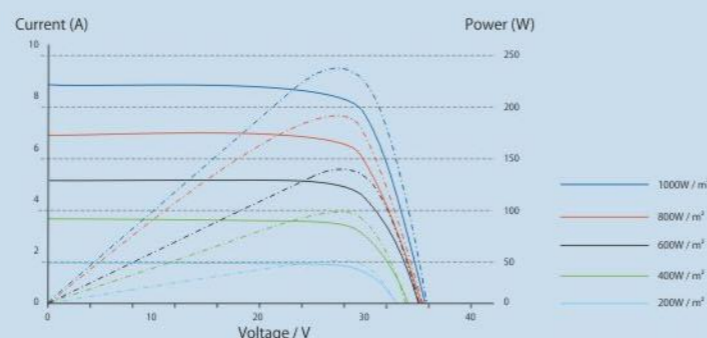
OPERATING CONDITIONS

Max. system voltage	Dc1000 V (TUV)
Max. series fuse rating	15 A
Limiting reverse current	Do not apply external voltages large than Voc of the module
Operating temperature range	-40 °C ~ +85 °C
Max. static load, front (snow & wind)	5400 Pa
Max. static load, back (wind)	2400 Pa
Max. hailstone impact (diameter/velocity)	25 mm / 23 m / s

CERTIFICATIONS



TW235P60-FA2 Module IV Curves



THERMAL CHARACTERISTICS

Nominal operating temperature	47 ± 2 °C
Temperature coefficient of Pmax	-0.44% / °C
Temperature coefficient of Voc	-0.34% / °C
Temperature coefficient of Isc	0.06% / °C

WARRANTY

Manufacturing: 10 years

Power Output:

- Within the first one year, the output power shall not degrade more than 2%
- Within the first two years, the output shall not degrade more than 3%
- In the following 23 years, the average annual power degradation shall not exceed more than 0.7%

