

# TWxxxP72-EA

Polycrystalline Silicon PV Module

## Product Specification

(72pcs Multi 156×156mm Cells, With Tongling J-box1000V System Voltage)

### Typical Electrical Characteristics at Standard Test Conditions(STC)

Typical Type	Unit	TW275P72 - EA	TW280P72 - EA	TW285P72 - EA	TW290P72 - EA	TW295P72 - EA	TW275P72 - EA	TW280P72 - EA	TW285P72 - EA	TW290P72 - EA	TW295P72 - EA
Max-Power	$P_m$ (W)	275	280W	285W	290W	295W	198.4	201.9	205.4	209.1	212.5
Power Tolerance	W	0 ~ + 5									
Max-Power Voltage	$V_m$ (V)	35.3	35.6	35.8	36.0	36.2	32.2	32.3	32.5	32.8	33.0
Max-Power Current	$I_m$ (A)	7.79	7.87	7.96	8.06	8.15	6.17	6.24	6.31	6.37	6.44
Open-Circuit Voltage	$V_{oc}$ (V)	44.7	44.9	45.2	45.3	45.4	40.4	40.5	40.8	40.8	40.9
Short-Circuit Current	$I_{sc}$ (A)	8.28	8.38	8.47	8.53	8.62	6.76	6.84	6.92	6.97	7.04
Encapsulated Cell Efficiency	$\eta_c$ (%)	16.00	16.25	16.50	17.00	17.25					
Module Efficiency	$\eta_m$ (%)	14.18	14.44	14.69	14.95	15.21					

STC:AM=1.5, 1000W/m<sup>2</sup>, Cells Temperature 25°C

### Typical Electrical Characteristics at Nominal Operating Cell Temperature (NOCT)

NOCT: 800W/m<sup>2</sup> irradiance, 20°C ambient temperature, 1m/s wind speed

#### MECHANICAL CHARACTERISTICS

Dimension (L×W×H)	1956mm×992mm×50mm
Standard Installation Hole Dimension	1176mm×942mm
Weight	27kg
Front cover (material/type/thickness)	Low iron tempered glass-4mm
Cell (quantity/material/type/dimensions)	72(6×12)/Multicrystalline/ 156mm×156mm
Encapsulant (material)	EVA
Frame(material/color/anodization color)	Anodized aluminum alloy/silver/clear
Junction box(Protection degree)	Ip65 & IP67
Cable (length/cross-section area)	1100mm/4mm <sup>2</sup>

#### OPERATING CONDITIONS

Max. hailstone impact (diameter/velocity)	25mm hail, form 1 m of distance at 23 m/s
Max. system voltage	Dc1000 V (TUV)
Max. series fuse rating	15 A
Operating temperature range	-40 °C~+85 °C
Max. static load, front (snow & wind)	5400 Pa
Max. static load, back (wind)	2400 Pa

#### PACKAGING

Container	20Ft (pcs)	40Ft (pcs)	40Hft (pcs)
Modules/pallet	18	18	20
Capacity	180	396	440

#### 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

#### CERTIFICATIONS



#### 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%

#### I-V Curves of TW270P72-EA at different irradiance

