



ALPHA SERIES 180 MODULE

The Alpha Series 180 provides exceptional performance.

Utilizing 72 grade A solar cells, the 180 watt solar module is perfect for residential rooftop to megawatt size utility scale projects. The mono crystalline module is manufactured to provide excellent conversion efficiency and maximum kilowatt/hour production. All cells are individually flash tested and each assembled module is quality assured to exceed warranty performance and liability.

MODULE FEATURES

- High-efficiency solar cell construction
- Cell Conversion Efficiencies 16.5% - 17.5%
- Nominal 24 V DC for standard output
- Non-leaded and tin coated ribbon and wash free soldering flux
- High transmissivity low-iron 1/8" tempered glass
- Light anodized aluminum frame to prevent the occurrence of water freezing and warping
- Cross-linking rated above 80%
- Fully automatic lamination technology
- All modules are warranted to perform at 90% for 10 years and 80% at 25 years

ALPHA SERIES

180W

TWES-(180)72M



MONO-CRYSTALLINE SOLAR MODULE



ALPHA SERIES MONO-CRYSTALLINE SOLAR MODULE

TWES-(180)72M

Specifications and Data

Panel Dimensions	62.2" x 31.8" x 1.6"~1.7" (1580mm x 808mm x 41~43mm)
Weight	34.2 lb (15.5 kg)
Cells	Mono-Crystalline 5" x 5" (125mm x 125mm)
Glass	1/8" (3.2mm) Tempered Glass
Frame	Anodized Aluminum Alloy; Color: Silver
Junction Box	IP65 Rated Junction Box with Bypass Diodes
Cable	4 mm ² solar cable (RHW AWG #12)
Connector	Multi-Contact (MC4) PV plug connectors
EVA	EVA
Backsheet	TPT / TPE

Temperature Coefficients

Nominal Operating Cell Temperature (NOCT)	116°F ± 35°F (47°C ± 2°C)
Temperature Coefficient of ISC (α)	0.038% / °C
Temperature Coefficient of VOC (β)	-0.34% / °C
Temperature Coefficient of Pmax	-0.48% / °C

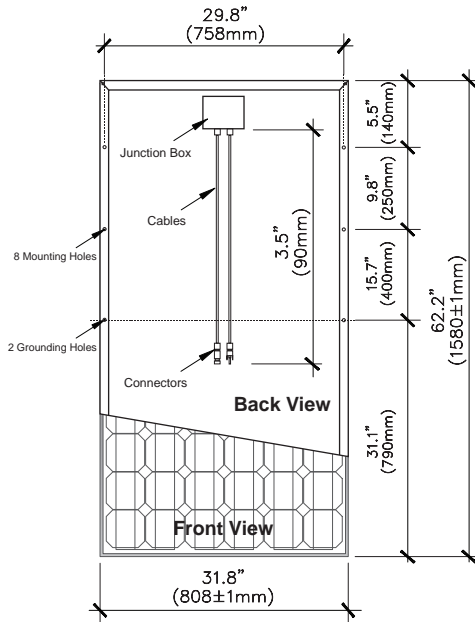
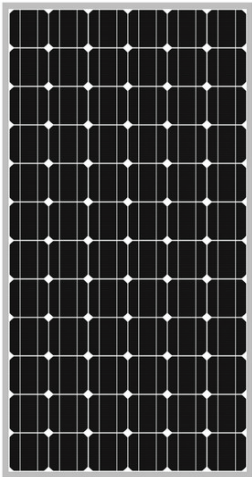
Permissible Operating Conditions

Operating Temperature	-40°F to +185°F (-40°C to +85°C)
Maximum Hail Diameter @ 43Mph (80Km/h)	up to 1" (25mm)
Wind Impact	≤ 2400 Pa
Snow Impact	≤ 5400 Pa

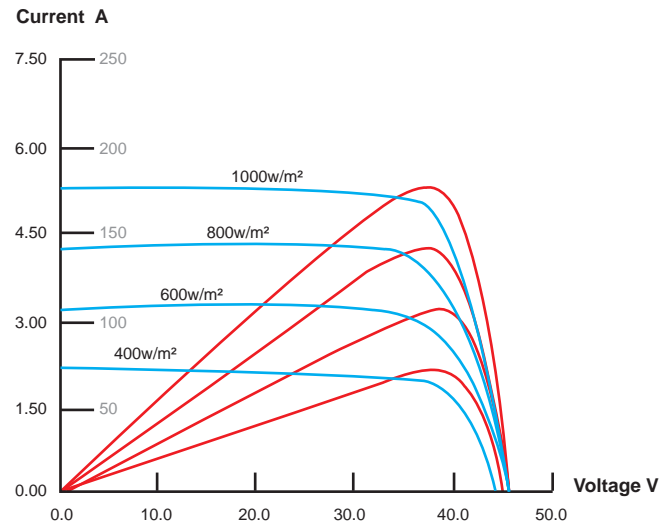
Electrical Data

Model	Pmax (±3%)	Vmp	Imp	Voc	Isc	Max System Voltage	Standard Test Conditions
TWES-(180)72M	180W	36.0V	5.00A	43.2V	5.60A	DC 600V (UL)	Irradiance: 1000W/m ² AM: 1.5 Temperature: 77°F (25°C)

Dimensions



IV Curves



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