



Monocrystalline PV module 72 cells



Electrical Characteristics

Model	UP-M165M	UP-M170M	UP-M175M	UP-M180M	UP-M185M	UP-M190M
Max Power Pm (W)	165	170	175	180	185	190
Max Power Voltage Vm (V)	35.2	35.4	35.6	35.8	36.0	36.3
Max Power Current Im (A)	4.69	4.81	4.92	5.03	5.14	5.23
Open-Circuit Voltage Voc (V)	44.0	44.2	44.4	44.6	44.8	45.1
Short-Circuit Current Isc (A)	5.03	5.19	5.29	5.38	5.43	5.55
Cell Efficiency	15.7%	16.2%	16.7%	17.2%	17.6%	18.1%
Module Efficiency	12.9%	13.3%	13.7%	14.1%	14.5%	14.9%
Maximum System Voltage (V)	1000 (TUV) / 600 (UL)					
Power Tolerance	± 3%					
Series Fuse Rating (A)	15					

Components & Mechanical Data

Front Glass	High Transparency Tempered Glass, 3.2 mm - Saint Gobain (Albarino) // Pilkington
Junction Box	Huber+Suhner (IP 67) Radox RH3 // Tyco , 1740971-1
Bypass Diode	3 diodes - ST STPS1545CG // Diotec SL1515
Output Cables	Cable Tyco 1.1 m, ZHSCG (4 mm ² et 12AWG), IEC and UL approved
Connectors	MC4 // Tyco , IP67, IEC and UL approved
Frame	Anodized aluminum alloy type 6063-T5
Encapsulation Material	EVA (0.50 ± 0.03 mm thickness)
Back Foil	White TPT (0.32 ± 0.03 mm thickness)
Silicone Sealant	Dow Corning
Temperature Range	-40°C to +90°C
Max Load	5400 Pa
Impact Resistance	Steel ball - 535 g dropped from 1.3 m high

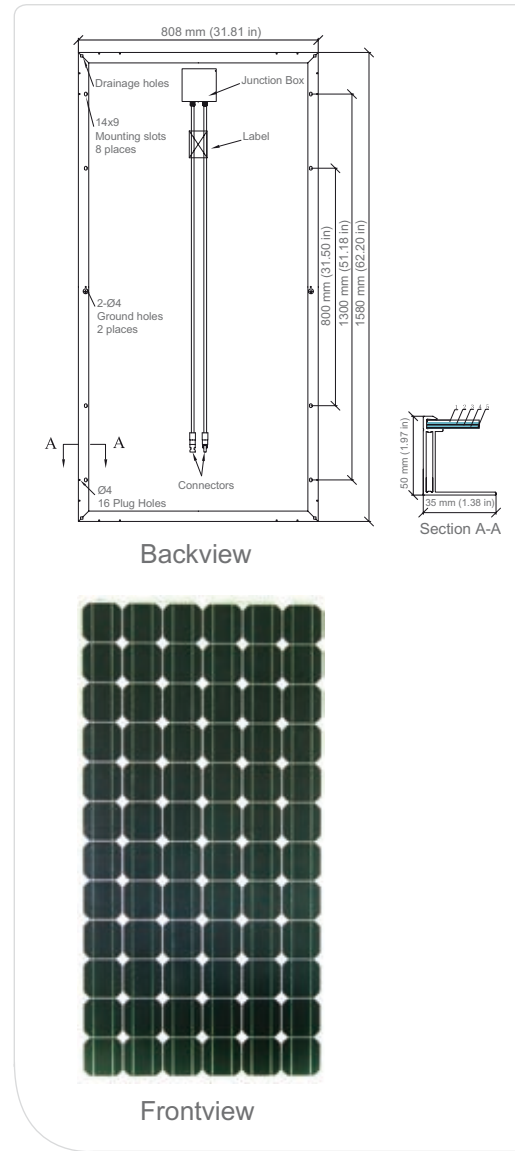
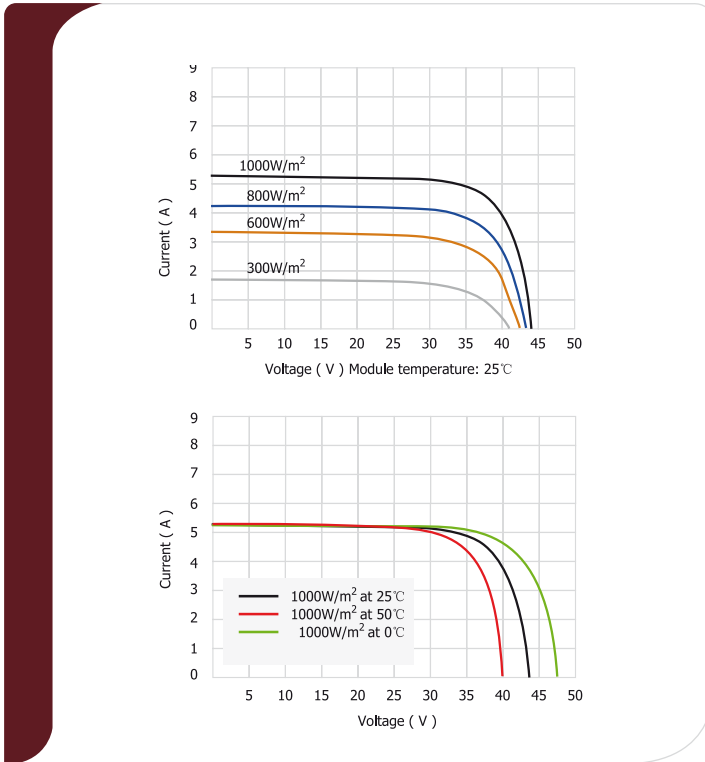
Specifications

Cells	Monocrystalline silicon solar cells 125 mm x 125 mm
Number of cells	72 (6 x 12)
Dimensions (mm)	1580 x 808 x 40
Weight (kg)	15.4

Temperature Coefficients

NOCT (°C)	45 ± 2
Temperature Coefficient of I _{sc} (%/°C)	0.05 ± 0.01
Temperature Coefficient of V _{oc} (%/°C)	-0.32 ± 0.02
Temperature Coefficient of I _m (%/°C)	-0.02 ± 0.02
Temperature Coefficient of V _m (%/°C)	-0.42 ± 0.03
Temperature Coefficient of P _m (%/°C)	-0.43 ± 0.05

IV Curves

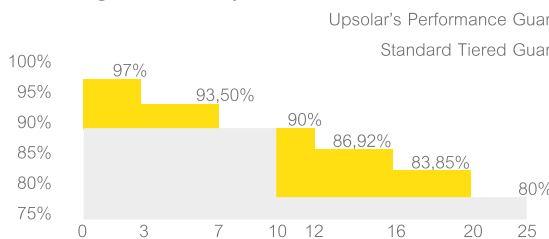


NOTE:

- STC: Irradiance 1000 W/m², Module temperature 25°C, AM = 1.5
- Nominal Operating Cell Temperature above data is only for reference
- Deviation of V_m(V), I_m(A), V_{oc}(V) and I_{sc}(A) of ±10%

WARRANTIES:

Product guarantee: 5 years



PowerGuard Warranty Summary

Upsolar's PowerClip warranty policy protects against design defects, delaminating modules, power output falling outside the established degradation curve and coverage begins immediately.

The Program guarantees the funding of valid claims filed by end-customers pursuant to Upsolar's module warranty; is worldwide and protects all modules sold by Upsolar Co., Ltd. and subsidiary companies.

The Program delivers non-cancelable, irrevocable coverage and is fully-paid for; meaning valid claims will be paid out regardless of the solvency or existence of Upsolar over the full 25-year term, by A.M. Best rated "A" (Excellent) or better internationally recognized insurance providers.

Certifications:



AS/NZS 5033 Compliant PV Modules

Laboratories:



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