



Millennium Electric T.O.U. Ltd.

MSS®

- Multi Solar System -



Multi Solar System

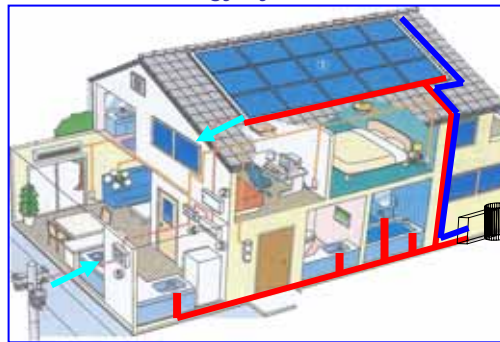
Renewable Energy System

Multi Solar System (MSS) Millennium's patented technology simultaneously produces electricity (PV cells), hot water (thermal collector components) and hot air at high efficiency. The electricity and hot water can be used for various functions including hot water, hot air for space heating/space cooling by air/heat exchange conditioning technology and electricity for lighting and home appliances. Energy storage technology is used in off-grid applications.

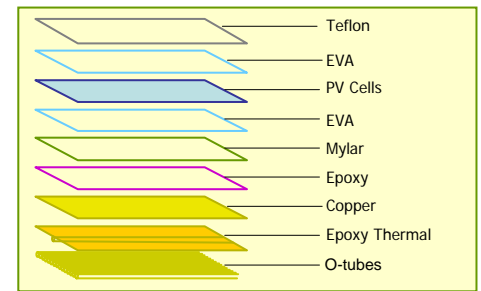
Features & Benefits

- Integral cooling system:** Enables 20%, PV annual efficiency enhancement.
- High electricity production:** Utilizes a "sun trap" by using low iron double glazing polarized one-way mirror glass on the PVT collector.
- Better use of Light Spectrum:** using IR wavelength for thermal energy and the Visible Light wavelength for electricity.
- Saving in framing costs:** Uses the same frame for combined PV and Thermal panel.
- Saving hard glass lamination costs:** Uses the same glass cover for the PVT collector.
- Savings in construction costs:** Uses one construction setup for both the PV and thermal system.
- Savings of rooftop area costs:** Uses an integrated dual system.

Integrated and Comprehensive Renewable Energy System



Multi-layered, Multi Functional Patented Panel



The Economic Rational of Installing a Building Integrated MSS

The MSS three functions: Photovoltaic electricity, Water heating and Space heating.

Integrated system cost analysis results, assuming a 20 year life:
3¢ per Kwh of energy.

Energy Cost/ Production	Total Production/ Cost	Cost of				Size of Wall or Roof
		Hot Air	Water	PV	Building /M ²	
Cost Including Building	\$ 850	\$ 50	\$ 100	\$ 600	\$ 100	1m ² Multi Solar System
Peek Production Per M ²	750 Wp	300 Wp	300 Wp	150 Wp	—	Wp of 1m ²
Assuming 5 Hours Of Peek Sunshine	3750 Whd	1500 Wh	1500 Wh	750 Wh	—	Daily Wh
Production of 10m ² Roof Top System	Cost \$ 8500 7500 WP	3000 Wp	3000 Wp	1500 Wp	\$1000	Cost of 10m ² multi solar system
Assuming 5 Hours Of Peek Sunshine	37500 Whd	15000 Whd	15000 Whd	7500 Whd	—	Daily KWp for 10 m ²

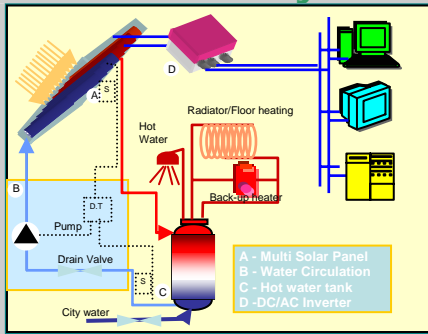
Millennium Electric T.O.U. Ltd.

Tel +972-9-7439490
Fax +972-9-7453654

www.millenniumsolar.com
info@millenniumsolar.com

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MSS® System elements

- ☒ MSS® Multi solar panel (PV, Water, Air)
- ☒ Inverter/Charge controller (grid/off-grid)
- ☒ Electricity storage (Off-grid system)
- ☒ Water Tank
- ☒ Water circulation
- ☒ Heat exchange cooling system (optional)
- ☒ Back-up heating system
- ☒ Wiring and plumbing

☑ High Performance

High-power module using 2x72 125mm square multicrystalline silicon cells with 14.3 % module conversion efficiency. Photovoltaic module with bypass diode minimizes the power drop caused by shade.

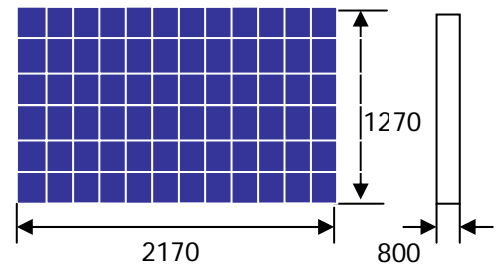
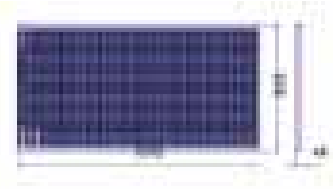
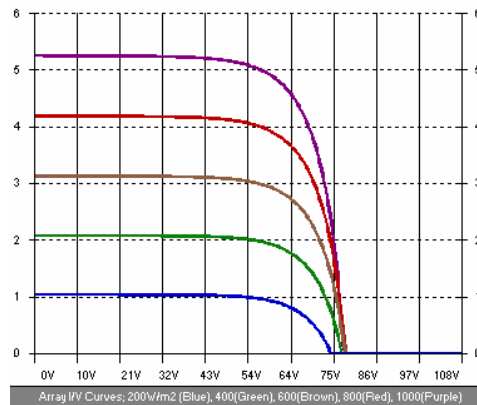
☑ High Quality

Advanced EVA encapsulation with highest quality strengthened glass embedded with years of manufacturing and quality assurance procedures.

☑ Lifetime Guarantee

Manufacturer lifetime guarantee for 25 year. Warranty for module 80% performance after 20 years.

MSS® panel I/V at 200-1000 W/m²



Max power	320 watt peak +-5%
Max power point voltage	67.7 Volts
Max power current	4.73 Amps
Open circuit voltage	86.0 Volts
Short circuit current	5.1 Amps

Cells	Multicrystalline Si, textured and anti-reflectivity layered
Contacts	Redundant contact on each cell for circuit reliability
Laminate	EVA
Front face	Tempered glass with improved light transmission

Note: Test conditions 1 Kw/m, 25°C, AM1.5

Back face	Though multi layered back sheet tedlar
Frame	Anodized aluminum
Connection Box	1xIP65 with built-in bypass diodes
Grounding connection	Yes
Specification	IEC 61215, class II TUV certificate