SOLAR VOLTAIC
Nature's Technology Partner
TM

SOLAR VOLTAIC™ : Thin-film PV Modules

Thin Film, Amorphous, the High Temperature photovoltaic modules.
Our photovoltaic panels output from 18 Watts Peak to 10 Kilowatts Peak, the most **cost efficient,** CE certification photovoltaic panels, on the market.

Front of Module

Performance per Modular section (Any number of modules may be used)

Rated power (Pmax)	12 Watts
Annual Energy Yield (Tropical)	1.3 Kilo Watt hours, per rated Watt Peak
Nominal Voltage	17.3 V
Limited Warranty	15 years

Configuration

Any number of Modules, may be mounted to a Single Frame, to give any size you require. Example of 1 module and 10 module size, specified below:

Electrical Characteristics per	Single module	Array of 10 Modules
Maximum power (Pmax)	18.75 W/P (12 Watts)	187.50 W/P (120 Watts)
Voltage at Pmax (Vmp)	16 V	16 V
Current at Pmax	800 mA	8 Amps
Warranted minimum Pmax	11 W	110 W
Short-circuit current (Isc)	1.2 Amps	12 Amps
Open circuit voltage (Voc)	22 V	22 V
Temperature coefficient of Isc	0 % per degree Centigrade	
Temperature coefficient of Voc	- 0 V per degree Centigrade	
Temperature coefficient of power	- 0 % per degree Centigrade	
NOCT	60°C	
Maximum system voltage	1,000 V insulation (Safety 48 V)	

Mechanical Characteristics per Single Module

(Any number of modules may be used in an array.)

Dimensions : Length: 925mm Width: 325mm Depth: 22mm

Weight : 3.0 Kg (6.61 Pounds)

Solar Cells : 29 cells (10mm x 915mm) Thin Film Deposition

Connections : Male and Female Parallel Connectors. 10 amp RCA. No screws. Polarity protected. Never comes loose and never needs Tightening. Corrosion proof. Can only fit the correct way round and prevents problems of Wrong Connections, Completely.

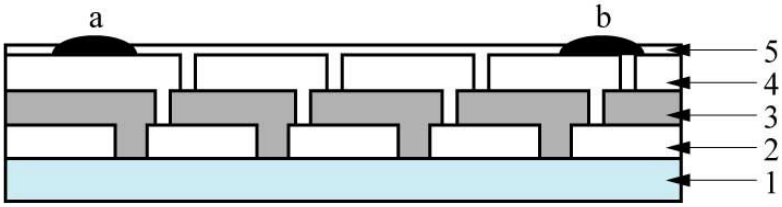
Diodes : Schottky reverse protection diode 30 V

Construction : 4mm Glass Substrate fused directly to cell structure at 550 degrees Centigrade. Coated by evaporation of Aluminium as collector. Final electrical insulation and backing, of spray coated, Heat Conductive Polymer, to remove Heat.

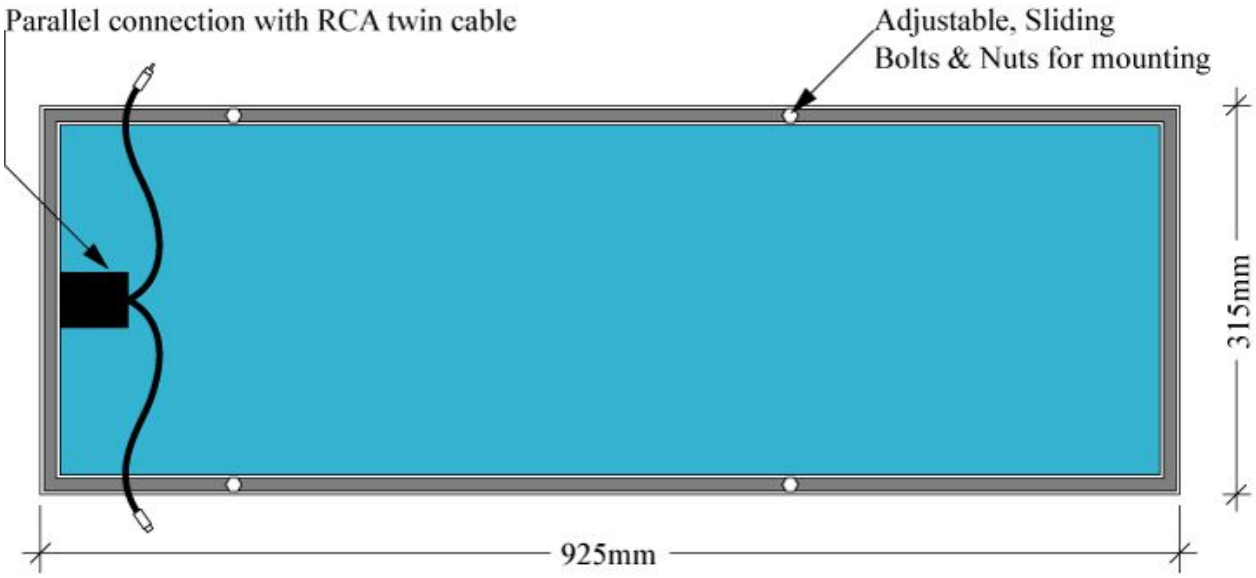
Frame : Anodized Aluminum alloy, colour: Silver. Adjustable, Sliding, Bolt Head, connection to allow for fitting, to any size of support Frame. Multiple mounting Rack included, for easy mounting of any number of Modules.

Module Diagram

Solar Cell Structure

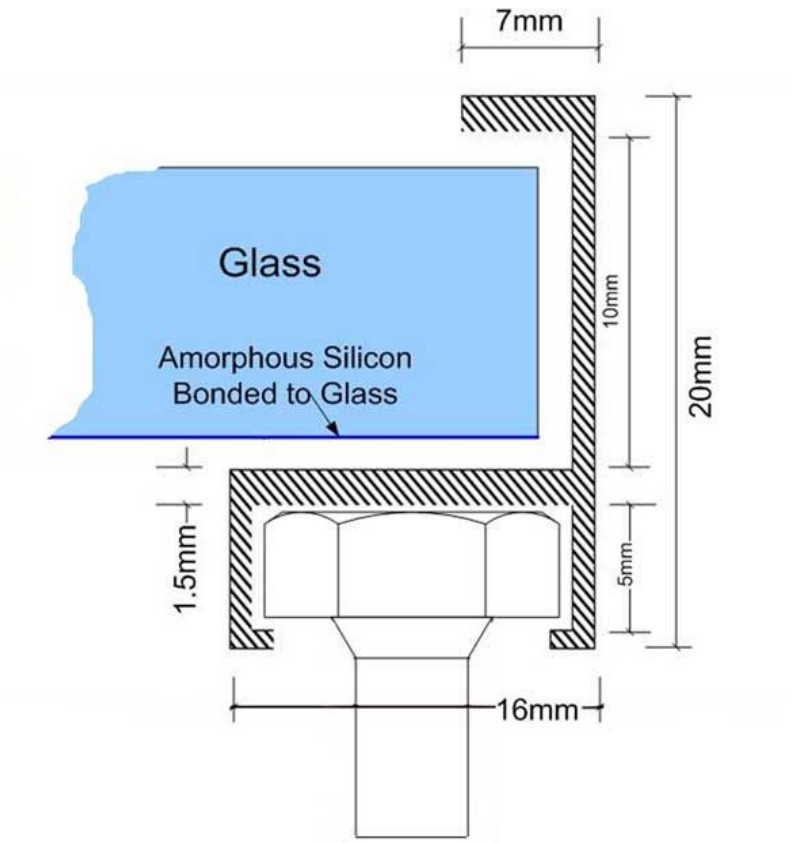


a - Positive point.
b - Negative point.
1 - Glass.
2 - SnO2 layer (cell positive layer, transparent).
3 - Amorpous Si Film (laminated by P, I, N junction).
4 - Aluminium layer (cell negative layer).
5 - UV coating (cut off with air), and backing.



Back of Module

Frame cross section



Note : This publication summarizes product warranty and specifications, which are subject to change without prior notice. Should you need further information, please give us a call at +60(3)7980 5419 or e-mail us at solarcon@tm.net.my

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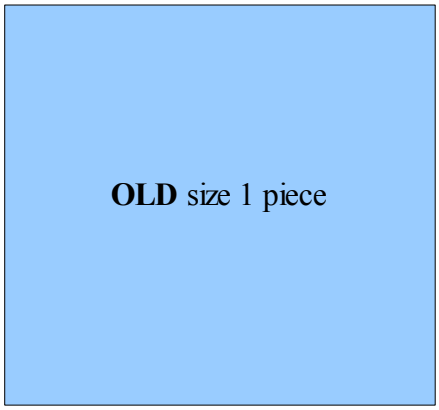
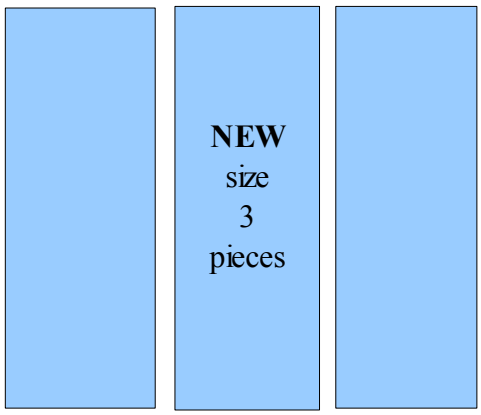
"SPLIT PANEL" design, for ease of use.

The original panel size was very large. Difficult to handle and very heavy.





The new **"SPLIT PANEL"** size is still 1 square Metre, BUT is now split into 3 pieces. Still the same power output, still the same surface area but many advantages.

OLD 1 piece design 56 Watts Peak	NEW "SPLIT DESIGN" 56 Watts Peak
Total **21 Kg with frame.** *Very Heavy 1 piece.* *Glass must be 6mm Thick at this size to be strong.* *Frame must be thicker to hold the extra weight.*	Total of 3 pieces is only **9Kg with frame.** *Slimline design in 3 pieces.* *Needs only 3mm Glass for strength.* *Each piece is 3Kg.*
Difficult to carry. *Needs **2 people** to carry the big panel.*	Easy to carry. ***1 person** can carry 3 pieces, under 1 arm, easily.*
A Big panel has HIGH Wind resistance. ***Pole blows down** in a storm easily.*	Small panels have LOW Wind resistance. *3 pieces can be mounted side by side, with an Air Gap between each panel. This allows the Wind to blow THROUGH the gaps and **does not blow down** the pole.*
NO ADAPTABILITY. *That means you can have **only 56wp** **or** **112wp**.*	Gives you more ADAPTABILITY, to get the size most suitable for your requirements. *You can have just the single **18wp** **or** **36wp** **or** **56wp** **or** **72wp** **or** **112wp** **or** **130wp, etc...***
High cost. *If you need 70wp, you **must buy 2 big panels, of 112wp.***	**Cost saving** from buying only the amount you need. *If you need 70wp, you **only need to buy 72wp.*** *Saving the cost of 40wp, that you do not need.*
High cost of loss from Damage. *Loss of Total 56wp panel.*	**Low cost** of loss from Damage. *If 1 x 18Wp piece is damaged. **One third of the loss** of a big panel.*
System integrity is compromised if the big 56wp panel is broken. **100% loss of power.**	56wp is split into 3 pieces. If one piece is broken, the other 2 still produce two thirds of the power. System remains intact. **33% loss of power.**
High cost of heavy mounting structure to hold 21Kg panels with High Wind resistance..	**Low cost**, Lightweight structure to hold 9kg panels with Low Wind resistance.