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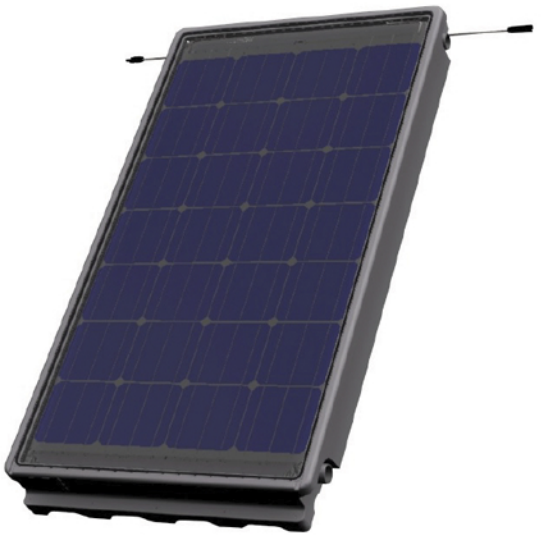
PVT1

PHOTOVOLTAIC + THERMAL (PVT)

Deployments: Off-grid, disaster relief, developing nation, humanitarian and human welfare improvement.

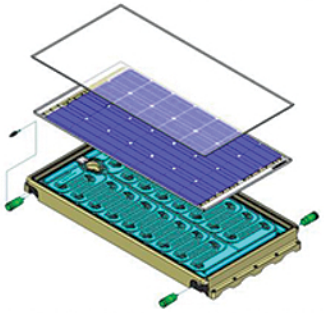


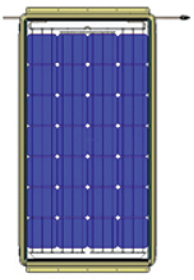
The Power Panel PVT module combines photovoltaic (PV) and solar thermal energy collection into a single panel. Designed for use in on-grid and off-grid residential and commercial systems, this Combined Heat and Power module delivers both electrical and thermal energy for 80% peak sun capture, well beyond the 20% energy capture for a similar sized PV-only panel.

The Power Panel PVT is a patented design module for use in non-pressurized drain back thermal energy systems. The unique design eliminates high cost materials and maintenance associated with pressurised flat plate and evacuated tube collector designs most commonly found in the solar thermal industry. The innovative design provides highly efficient peak thermal sun capture compared to available flat plate and evacuated tube systems.

FEATURES & BENEFITS

- Active cooling of the PV cells increases performance vs. industry standard PV.
- High efficiency Monocrystalline solar cells and silicon encapsulation construction provides superior PV performance over the life of the system.
- High-transmission glazed tempered glass provides enhanced thermal performance, stiffness and impact resistance.
- Robust, recyclable materials provide long life, light weight construction with custom color availability.
- Reduced installation time, costs and footprint as a result of incorporating both technologies into a single panel.
- Scalable to fit various fixed and tracking racking array options for ground or roof based applications





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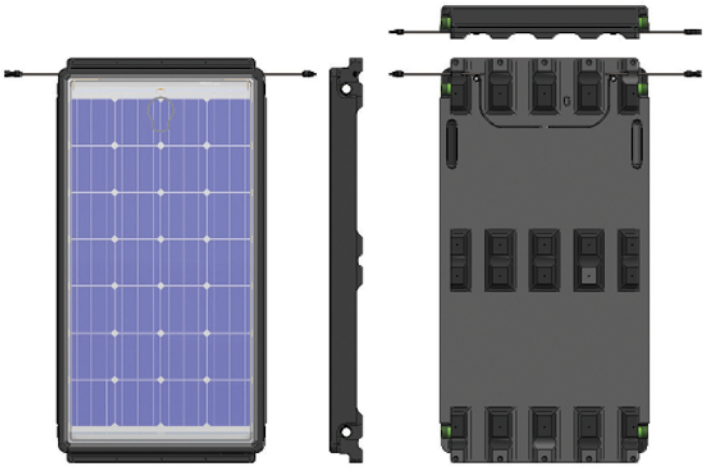
Product View

Height: 1383.5mm
Width: 717.9mm
Thickness: 111.1mm
Rack Mounting - 50mm Dia
3 Locations, 632mm spacing
Fluid Connection: 38mm Hose Barbs



Collector Specifications

PVT- Glazed, Flat Plate, Unpressurized, Drainback
Flow Rate: 0.0406 kg/(s m²)
Fluid Capacity: 2.0 liters (0.5 gallons)
Gross Area: 0.985 m² (10.60 ft²)
Working Fluid: Water

Thermal Data

Collector Thermal Performace			
Kilowatt Hours (thermal) Per Panel Per Day			
Per m². day	6.3 kWh	4.7 kWh	3.1 kWh
A (-5 deg C)	4.4	3.3	2.3
B (5 deg C)	4.1	3	1.9
C (20 deg C)	3.5	2.4	1.4
D (50 deg C)	2.2	1.2	0.3
E (80 deg C)	0.9	0.2	0

Electrical Data

Standard Test Conditions	
Nominal Maximum Power (Pmax)	115 W
Optimum Operating Voltage (Vmp)	14.2V
Optimum Operating Current (Imp)	8.075A
Open Circuit Voltage (Voc)	17.6V
Short Circuit (Isc)	8.64A
Cell Efficiency	17.19%
Module Efficiency	11.73%
Operating Temperature	-40°C~+85°C
Maximum System Voltage	600V (UL)
Maximum Series Fuse Rating	15A
Application Classification	Class A
Power Tolerance	0~+5W

PVT1 Qualifications

Intertek/ETL: 4010192
Conforms to UL 1703 and UL 1279
Certified to ULC/ORD C1703
FSEC Reg. - PV: PD14-NT90-0101
FSEC Reg. - Thermal: 100569
SRCC Registration Number: 2012015A
Y Intercept : 0.751
Slope = -3.570 Watts/m² deg K

25 Year PV Performance Warranty
Made in USA
United States Patent # 8,476,522

Construction Data

Cell Type	Monocrystalline, 156mm, 3 Busbar,
No. of cells	28 (7 cell array x 4 strands)
Dimensions	1383.5mm x 717.9mm x 111.1mm (54.47 in. x 28.26 in. x 4.37 in.)
Weight	16.8 Kg (37 lbs.)
Top Glass	Low-Iron, Clear, Tempered, 3.2mm (.125 in.) thickness
Enclosure	Molded Plastic and Engineered Foam
Cable	12 AWG, 19 Strand, Tinned Copper PV Wire
Connectors	Tyco SolarLok

Related Products