

Gen₂

INTEGRATED



Minimal Footprint
Maximum Output
PVT Solar Technology plus
Thermal Energy Storage



Windward Passage Hotel St. Thomas, USVI
Energy savings of \$6000/year

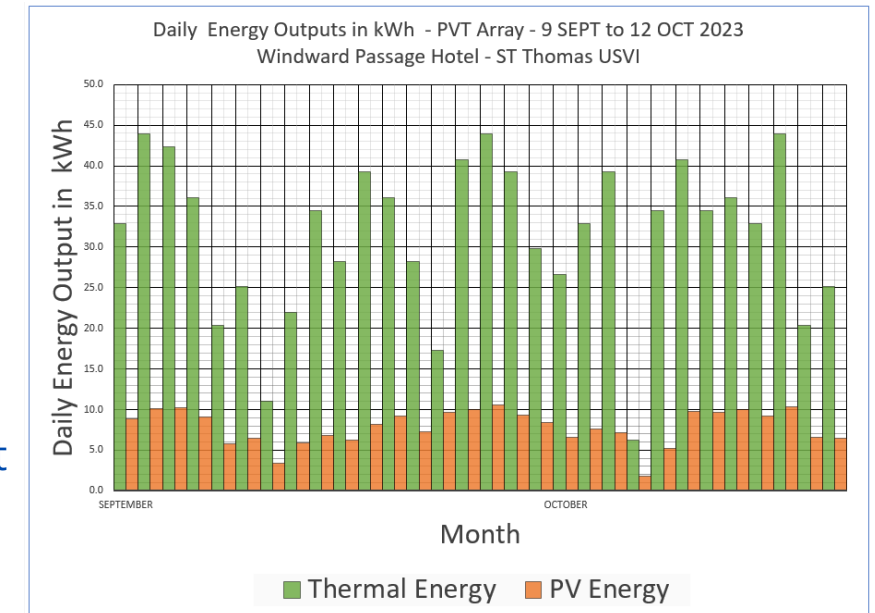


16 Module PVT Array – Windward Passage
Peak PV Output = 2,160 Watts
Peak Thermal Output = 10,160 Watts
Thermal Storage Capacity = 350 Gallons
Thermal Energy Storage = 55 kWh
PV Electrical Output is grid tied

Thermal Output is stored in a 350 Gallon PowerPanel Gen₂O Tank. Thermal Energy is used to heat domestic hot water supply into the hotel day and night.



Real-Time Data



PowerPanel successfully combines PV (Photovoltaic) and Thermal technologies (PVT) resulting in 2X decarbonization and 4X energy production compared to a PV only module

Luxury 69 Unit Apartment Building BVQ Lofts, Cleveland Ohio
96 PVT Modules plus 2,100 gallons thermal storage



CUSTOMIZED SYSTEMS

Three groundbreaking technologies all in one package. Custom Arrays starting as low as 8 modules.

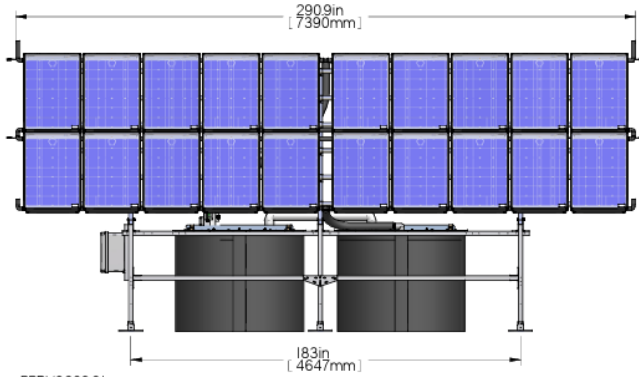
The complete system combines PowerPanel PVT 1 modules with our custom scalable PowerPanel Racking, and the highly efficient Thermal Edge Storage Tank. This system provides a cost effective solution to any power needs as well as provide a viable way to live off grid in any climate.

POWER OUTPUT SPECIFICATIONS

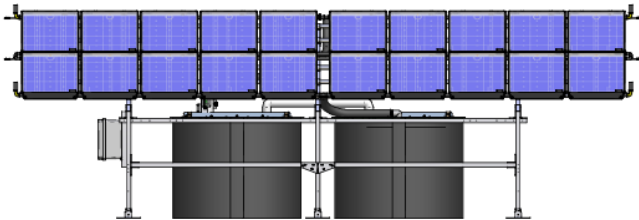
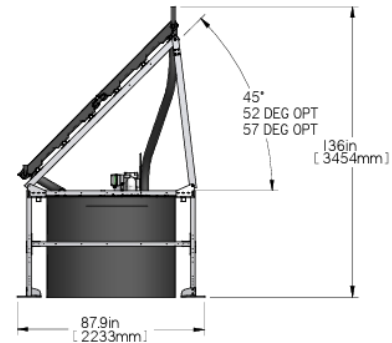
Modules	PV Peak Electrical (Watts DC)	Peak Thermal (Watts)	Total Power
20	2,700	12,360	15,060
200	27,000	123.6	150,600
400	54,000	247.2	301,200

Scan QR Code to watch a *Lunch & Learn* Video on PVT Technology

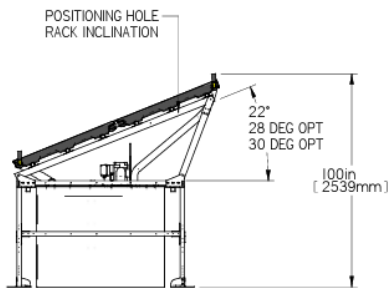




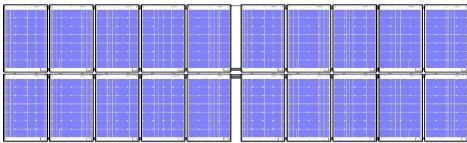
PPRM0609.01
 20 MODULE - PVT ARRAY - HIGH LATITUDE RACKING
 OUTPUTS : PV PEAK = 2.7 kW DC AT STC
 THERMAL PEAK = 12.7 kW (43,000 BTU)
 THERMAL STORAGE - DUALTANK 2700 LITER CAPACITY = 104 kWh AT 35 DEG C TEMPERATURE DIFFERENTIAL
 INSTALLED FOOTPRINT = 16.5 m²



PPRM0587.01
 20 MODULE - PVT ARRAY - LOW LATITUDE RACKING
 OUTPUTS : PV PEAK = 2.7 kW DC AT STC
 THERMAL PEAK = 12.7 kW (43,000 BTU)
 THERMAL STORAGE - DUALTANK 2700 LITER CAPACITY = 104 kWh AT 35 DEG C TEMPERATURE DIFFERENTIAL
 INSTALLED FOOTPRINT = 18.6 m²



PVT Array



Reference Assembly Number	PPRM0611.01
Electrical Generation DC peak at STC	2,700 Watt
PV Cell	HJT N type - 28 cells in series per module
Module Voc	19.1 Volts DC
Module Isc	9.38 Amps DC
Thermal Generation (peak Delta T = 0)	12,700 Watts
Module Intercept per ISO 9806	0.751
a 1 slope per ISO 9806	3.570 Watts per m ² deg K

Thermal Storage Tanks



Reference Part Number	PPTS0115.03
Multi Tank Connection - Reference Part Number	PPTS0123.02
Storage Volume	350 gallons [1350 Liters]
Diameter	60 inches [1.524 m]
Overall Height	49.6 inches [1.259 m]
Weight (no fluid)	114 lbs [51.5 kgs]
Weight (filled with water)	3,089 lbs [1,402 kgs]
Floor Loading (filled with water)	157.4 lbs per sq ft [769 kgs per m ²]
Energy Storage per Deg C Temperature	1.56 kWh [5,353 BTU]
Energy Storage @ 35 Deg C Temp Delta	54.6 kWh [186,350 BTU]
Temperature loss - 24 hour (free convection)	2.1 Deg C [3.8 Deg F]

Pump Module and Controls



Pump Module - Reference Part Number	PPPL0001.06
Motor (standard)	1/2 hp washdown 90 VDC
Pump Head Material	Noryl Plastic
Performance (water)	35 Gal per Min at 30 foot head height
Level Sensor	Float type - Hall effect
Temperature Sensor	NTC (Negative Temp Coefficient)
Weight	22 kgs [48 lbs]
Thermal Control	Embedded WiFi enabled Microprocessor
Control Type	Differential Temperature
Monitoring Type	Web based MQTT architecture
Power Supply (Motor)	120 to 240 VAC to 48 VDC
Power Supply (Controller)	48 VDC to 12VDC

Heat Exchanger



Heat Exchanger - Reference Part Number	PPPL0484.02
Type	Immersive - 8 bar
Body Construction	Nylon Plastic
Plumbing Construction	1 inch SCHD 80 CPVC Pipe & Fittings
Heat Exchanger Connection (Inlet and Outlet)	1 inch female tapered pipe
Heat Transfer Rate (SI)	38 kW at 28 liter per minute flow
Heat Transfer Rate (Imperial)	[130,000 BTU per hr at 7.4 GPM]
Maximum Flow Rate	233 liters per minute [60 GPM]
Operating Pressure	5.5 Bar [80 psi]
Operating Temperature (Min)	Minus 40 deg C [minus 40 Deg F]
Operating Temperature (Max)	121 deg C [250 deg F]
Weight	9 kgs [20 lbs]