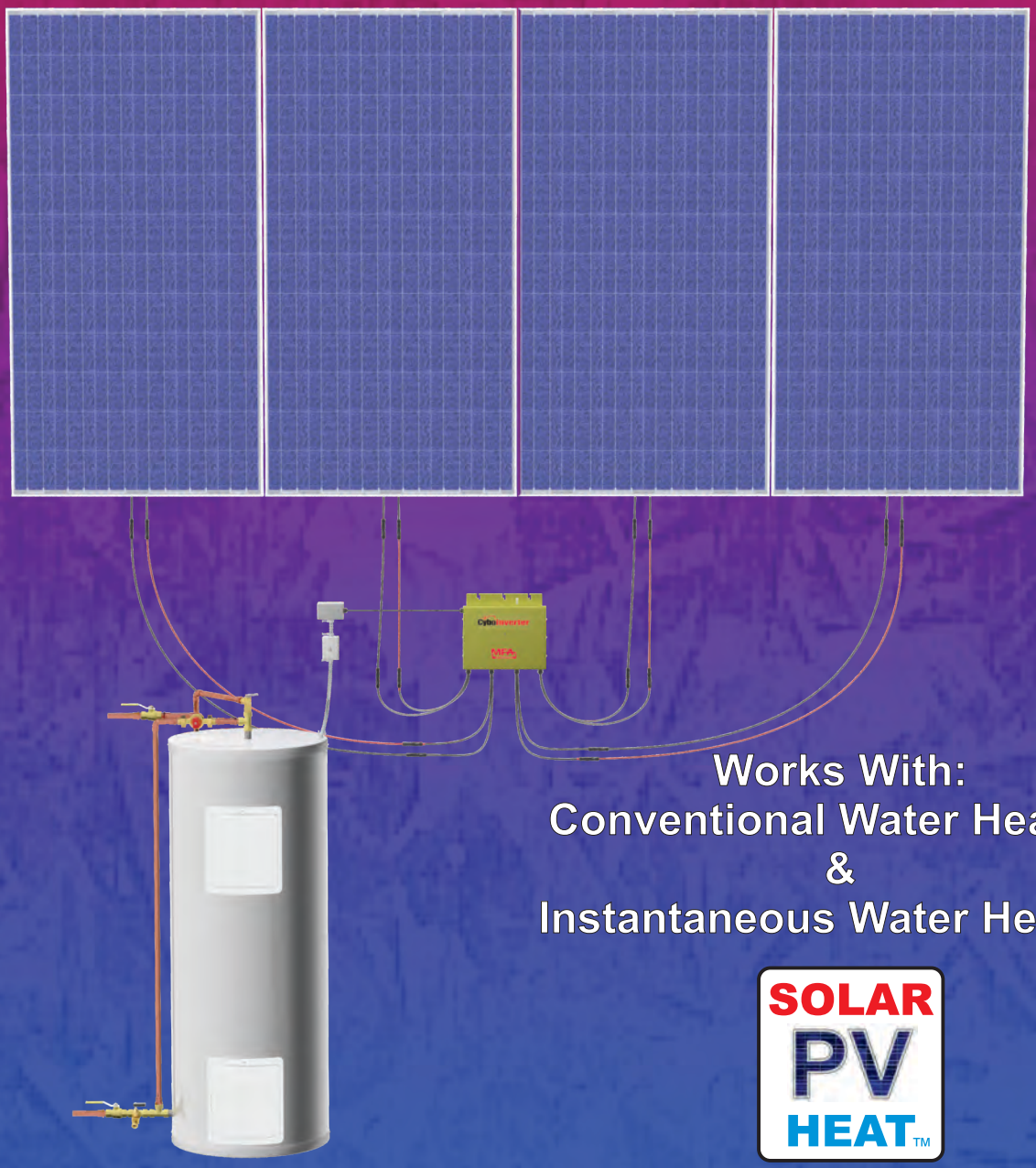
Solar Hot Water

Now Using: Solar Electric (PV) Technology that;

Costs Less,
Is More Reliable,
Saves More Money

Displaces Tonnes of Co_2 a Year!



Works With:
Conventional Water Heaters
&
Instantaneous Water Heaters

SOLAR PV HEAT™

Solar Hot Water: Old Approach vs. New

Components (and their service issues)

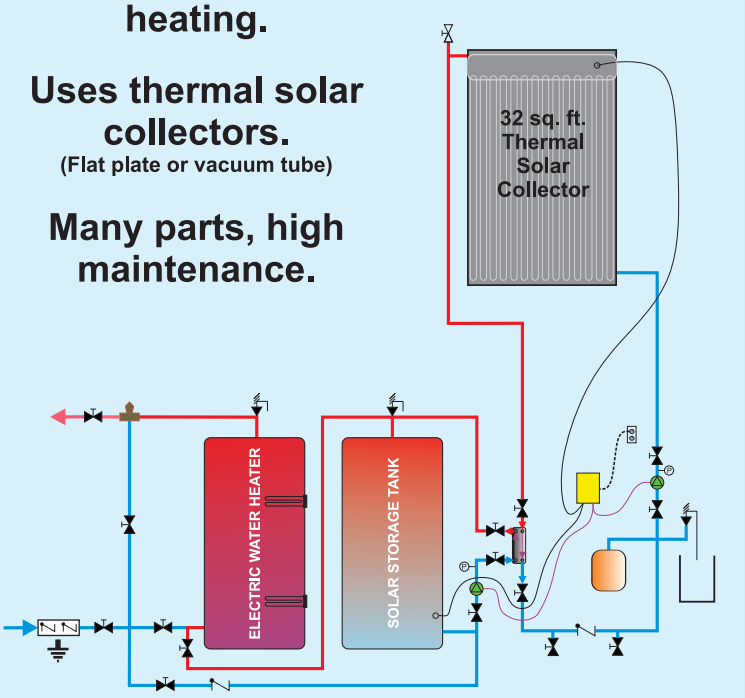
1 or 2 pumps - fail electrically or hydraulically
1 Heat exchanger - lose efficiency by fouling
Glycol fluid - ages & becomes acidic
Glycol fluid - can freeze if not maintained
Glycol fluid - can overheat & be damaged
Glycol fluid - leaks, is expensive to replace
1 Expansion tank - fail due to age / overheating
1 Solar controller - fail due to age / overheating
2 - 3 solar sensors - fail due to age
Tank to roof piping - leaks due to bad work
1 Back-flow preventer - fail, require annual service
Pressure & temp. gauges - fail due to age
Air vents - fail due to age / bad glycol
Pressure relief valves - fail due to overheating
Isolation valves - seize due to age
Check-valves - fail due to fouled fluids
Pipe Jacket & insulation - fail due to age / animals
Tubular glass collectors - fail by glass breakage
Tubular glass collectors - fail by vacuum loss
Etc., etc.....

Problems!!

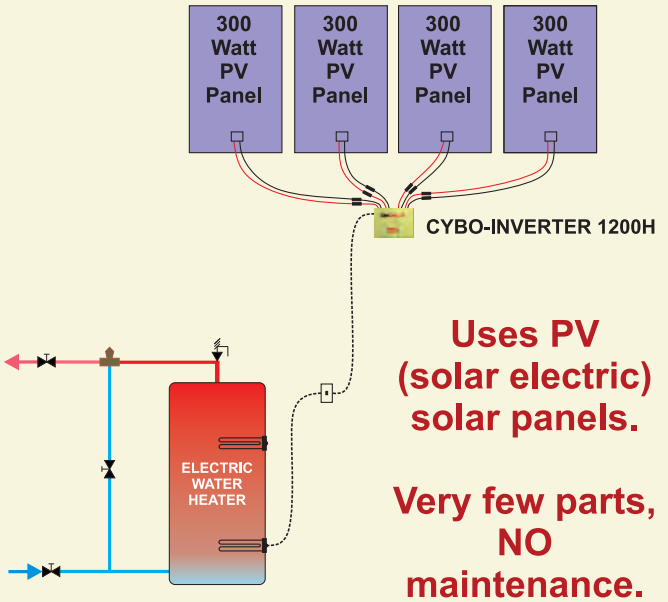
Old & now obsolete approach to solar heating.

Uses thermal solar collectors.
(Flat plate or vacuum tube)

Many parts, high maintenance.



New & Future approach to solar heating.



Uses PV (solar electric) solar panels.

Very few parts, NO maintenance.

No Noise
No Leaks
No Pumps
No Glycols
No Freezing
No Heat Dump
No Overheating
No Utility Approval
No Heat Exchangers
No Fragile Glass Tubes
No Parasitic Power Use
No Panel to Tank Plumbing

PV Powered Heat

No Problems!!

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SOLAR PV HEAT

Solar System Sizing and Savings

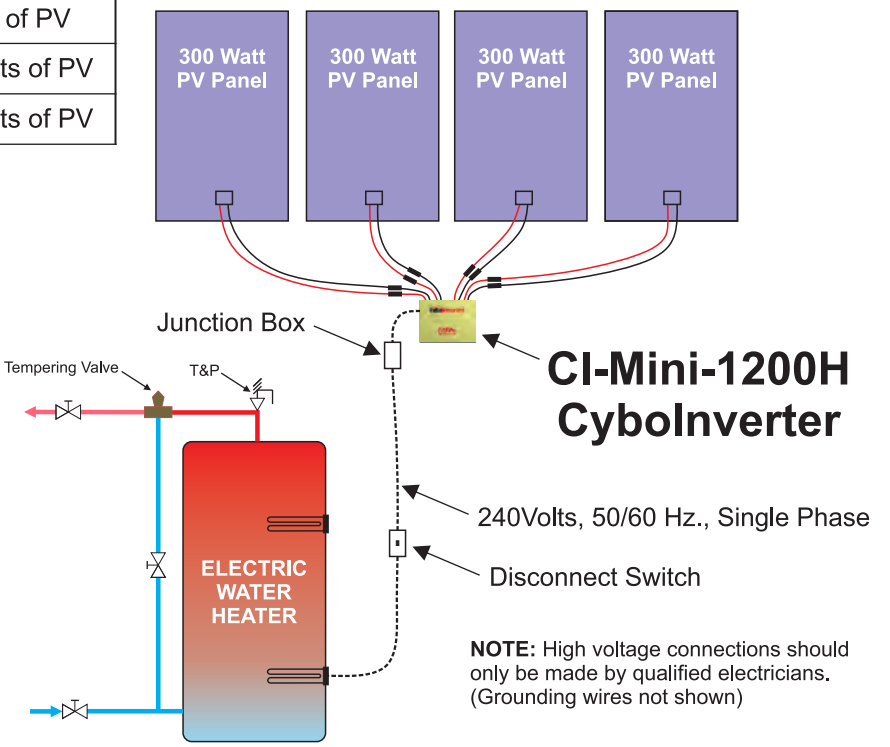
Sizing a PV Solar Water Heating System		
# of Persons/ Bedrooms	Hot Water Storage Tank Size	# of 1200H CyboInverters
1-2	150 Litres	1 - 1200 watts of PV
3-4	280 Litres	2 - 2400 watts of PV
5-6	455 Litres	1 + 2 - 3600 watts of PV
7-8	560 Litres	2 + 2 - 4800 watts of PV

PV Solar Hot Water Systems should be sized according to the number of people using the hot water they produce.

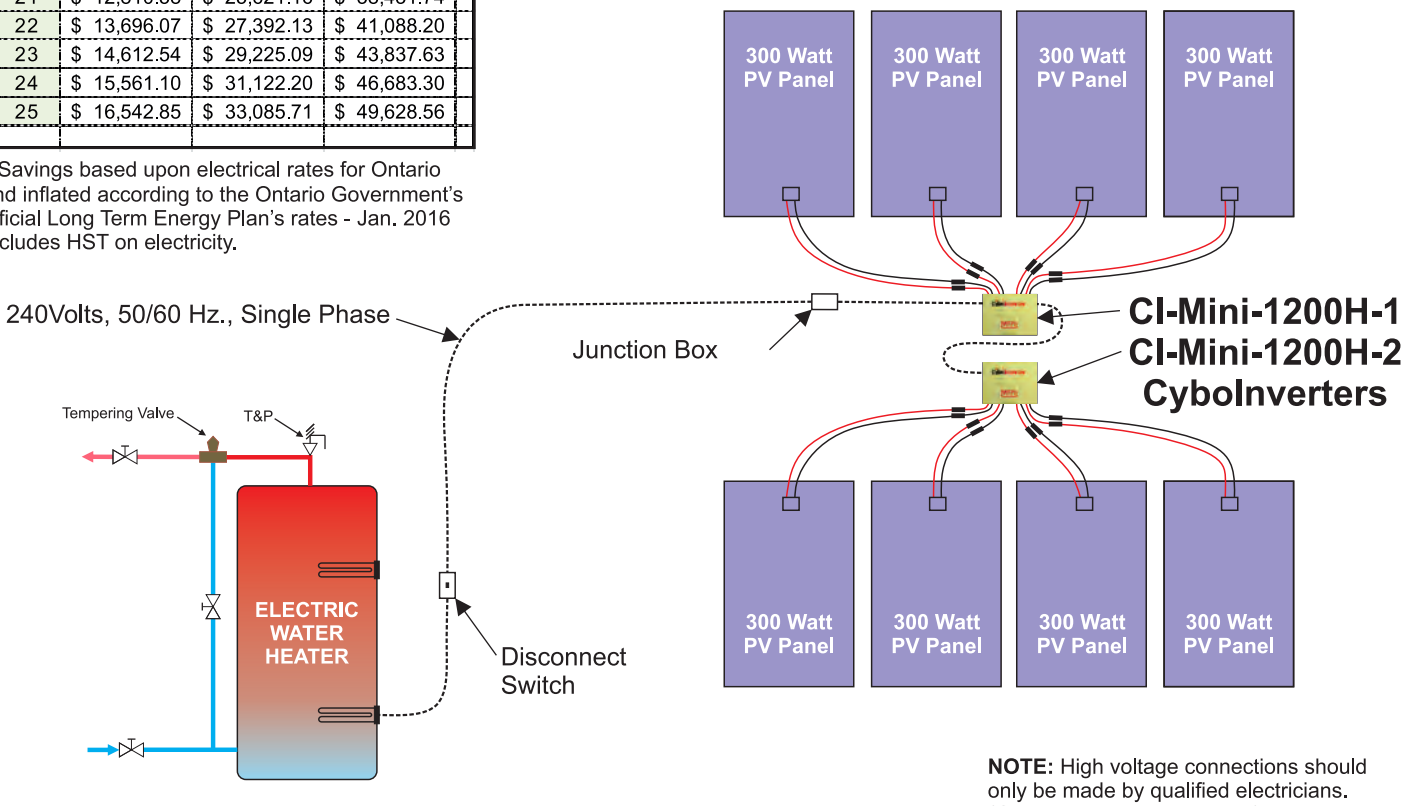
However, over-sizing a PV SDHWS cannot create over-heating situations the way over-sizing a glycol-based SDHWS does.

	Accumulative Savings*		
Year	1 - 1200H	2 - 1200H	3 - 1200H
1	$ 348.00	$ 696.00	$ 1,044.00
2	$ 730.80	$ 1,461.60	$ 2,192.40
3	$ 1,151.88	$ 2,303.76	$ 3,455.64
4	$ 1,615.07	$ 3,230.14	$ 4,845.20
5	$ 2,101.42	$ 4,202.83	$ 6,304.25
6	$ 2,612.08	$ 5,224.16	$ 7,836.24
7	$ 3,140.62	$ 6,281.24	$ 9,421.85
8	$ 3,687.66	$ 7,375.31	$ 11,062.97
9	$ 4,253.84	$ 8,507.68	$ 12,761.51
10	$ 4,839.84	$ 9,679.68	$ 14,519.51
11	$ 5,446.35	$ 10,892.69	$ 16,339.04
12	$ 6,074.08	$ 12,148.17	$ 18,222.25
13	$ 6,723.79	$ 13,447.59	$ 20,171.38
14	$ 7,396.24	$ 14,792.48	$ 22,188.72
15	$ 8,092.22	$ 16,184.45	$ 24,276.67
16	$ 8,812.57	$ 17,625.14	$ 26,437.70
17	$ 9,558.12	$ 19,116.25	$ 28,674.37
18	$ 10,329.77	$ 20,659.54	$ 30,989.32
19	$ 11,128.43	$ 22,256.86	$ 33,385.29
20	$ 11,955.04	$ 23,910.08	$ 35,865.12
21	$ 12,810.58	$ 25,621.16	$ 38,431.74
22	$ 13,696.07	$ 27,392.13	$ 41,088.20
23	$ 14,612.54	$ 29,225.09	$ 43,837.63
24	$ 15,561.10	$ 31,122.20	$ 46,683.30
25	$ 16,542.85	$ 33,085.71	$ 49,628.56

* Savings based upon electrical rates for Ontario and inflated according to the Ontario Government's official Long Term Energy Plan's rates - Jan. 2016 Includes HST on electricity.



NOTE: High voltage connections should only be made by qualified electricians. (Grounding wires not shown)



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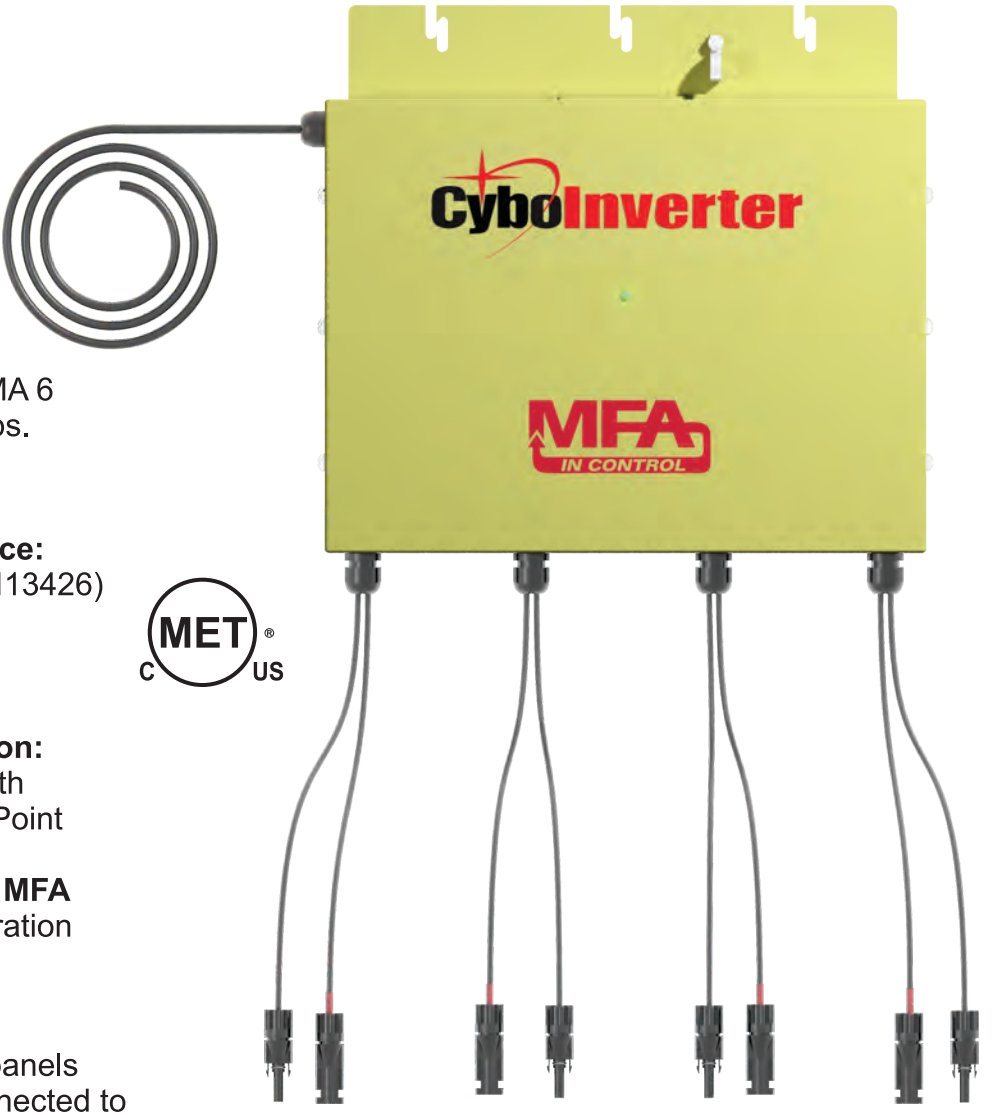
The revolutionary technology that makes solar PV heating practical & cost-effective.

CyboEnergy's CI-Mini-1200H **CyboInverter**

Connecting solar electric solar (PV) panels directly into an electrical heating element will produce very little heat. This new technology can capture up to 96% of the electrical energy generated by the solar (PV) panels - and deliver it to an electrical element for heating water, air or even an electric barbeque or frying pan!

Power Output.
Maximum: 1150 watts
Voltage: 10 - 264 AC
Amperage: Max 9.5
Frequency: 50 - 60 Hz.
Efficiency: Max 96%
DC GFI: Built in



Enclosure: Outdoor NEMA 6
Weight: 6.5 Kgs - 14.25 lbs.

Safety & EMC Compliance:
UL 1741 & IEEE 1547 (E113426)
CSA C22.2 107.1
FCC Part 15, Class A

Performance Optimization:
Each panel is provided with MPPT (Maximum Power Point Tracking). 99% efficient Patented, award winning, **MFA** software controls the operation

Heating Capacity:
Up to four - 300 watt PV panels (60 or 72 cell) can be connected to one 1200H. Two CI-Mini-1200H CyboInverters can be linked to each other - to deliver up to 2300 watts of heat!

MC4 connectors - clip-lock together, requires a special tool to separate. Cannot be accidentally reversed.

Available From:

SOLAR PV HEAT™

Canadian Distributor
Web: www.solarpvheat.ca
EM: info@solarpvheat.ca
PH: 905-845-2433