Form # P 01

ELECTRICAL PERMIT
City of Portland, Me.

To the Chief Electrical Inspector, Portland Maine:
The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the City of Portland Electrical Ordinance, National Electrical Code and the following specifications:

Date _____
Permit # _____
CBL# _____

LOCATION: 49 Merrill Street **METER MAKE & #** _____
CMP ACCOUNT # _____ **OWNER** Peter Lisa Adams
TENANT Peter Lisa Adams **PHONE #** 939-5753

							TOTAL	EACH	FEE
OUTLETS		Receptacles		Switches		Smoke Detector		.20	
FIXTURES		Incandescent		Fluorescent		Strips		.20	
SERVICES		Overhead		Underground		TTL AMPS	<800	15.00	
		Overhead		Underground			>800	25.00	
Temporary Service		Overhead		Underground		TTL AMPS		25.00	
								25.00	
METERS		(number of)						1.00	
MOTORS		(number of)						2.00	
RESID/COM		Electric units						1.00	
HEATING		oil/gas units		Interior		Exterior		5.00	
APPLIANCES		Ranges		Cook Tops		Wall Ovens		2.00	
		Insta-Hot		Water heaters		Fans		2.00	
		Dryers		Disposals		Dishwasher		2.00	
		Compactors		Spa		Washing Machine		2.00	
		Others (denote)						2.00	
MISC. (number of)		Air Cond/win						3.00	
		Air Cond/cent				Pools		10.00	
		HVAC		EMS		Thermostat		5.00	
		Signs						10.00	
		Alarms/res						5.00	
		Alarms/com						15.00	
		Heavy Duty(CRKT)						2.00	
		Circus/Carnv						25.00	
		Alterations						5.00	
		Fire Repairs						15.00	
		E Lights						1.00	
		E Generators						20.00	
PANELS		Service		Remote		Main		4.00	
TRANSFORMER		0-25 Kva						5.00	
		25-200 Kva						8.00	
		Over 200 Kva						10.00	
						TOTAL AMOUNT DUE			
		MINIMUM FEE/COMMERCIAL 55.00				**MINIMUM FEE**	**45.00**		

CONTRACTORS NAME ReVision Energy **MASTER LIC. #** ME60019303
ADDRESS 142 Presumpscot St Portland **LIMITED LIC. #** _____
TELEPHONE (207) 221-6342 04103

SIGNATURE OF CONTRACTOR _____

White Copy - Office • **Yellow Copy - Applicant**

CS6P-220/225/230/235/240P

Electrical Data

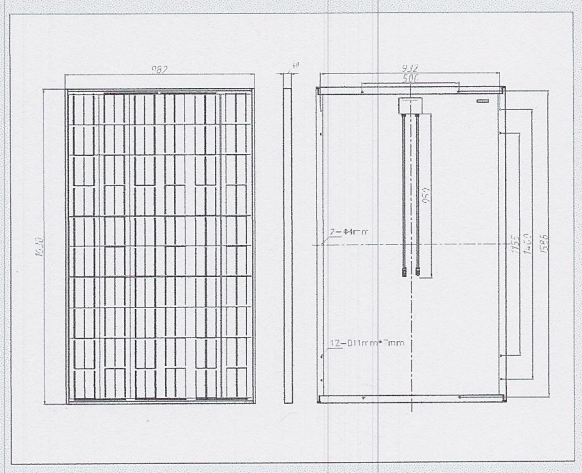
		CS6P-220P	CS6P-225P	CS6P-230P	CS6P-235P	CS6P-240P
Nominal Maximum Power at STC (Pmax)		220W	225W	230W	235W	240W
Optimum Operating Voltage (Vmp)		29.2V	29.4V	29.6V	29.8V	29.9V
Optimum Operating Current (Imp)		7.53A	7.65A	7.78A	7.90A	8.03A
Open Circuit Voltage (Voc)		36.6V	36.7V	36.8V	36.9V	37.0V
Short Circuit Current (Isc)		8.09A	8.19A	8.34A	8.46A	8.59A
Operating Temperature		-40℃~+85℃				
Maximum System Voltage		1000V (IEC) /600V (UL)				
Maximum Series Fuse Rating		15A				
Power Tolerance		+5W				
Temperature Coefficient	Pmax	-0.43%/℃				
	Voc	-0.34 %/℃				
	Isc	0.065 %/℃				
	NOCT	45℃				

Under Standard Test Conditions (STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25℃

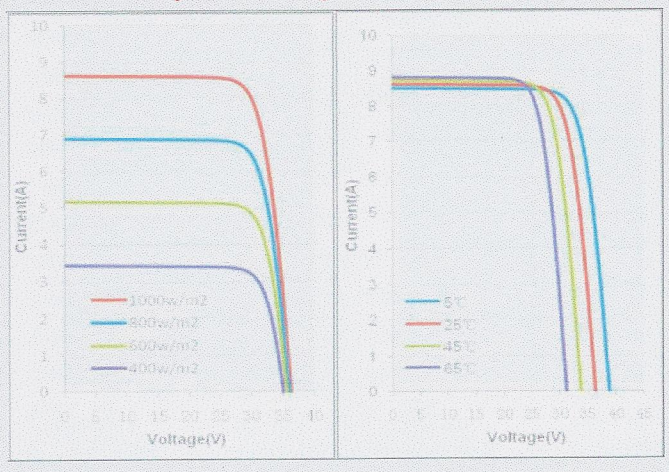
Mechanical Data

Cell Type	Poly-crystalline
Cell Arrangement	60 (6 x 10)
Dimensions	1638 x 982 x 40mm (64.5 x 38.7 x 1.57in)
Weight	20kg (44.1 lbs)
Front Cover	Tempered glass
Frame Material	Anodized aluminium alloy
Standard Packaging (Modules per Pallet)	20pcs

Engineering Drawings



I-V Curves (CS6P-240P)



*Specifications included in this datasheet are subject to change without prior notice.

About Canadian Solar

Canadian Solar Inc. is one of the world's largest solar companies. As a leading vertically-integrated manufacturer of ingots, wafers, cells, solar modules and solar systems. Canadian Solar delivers solar power products of uncompromising quality to worldwide customers. Canadian Solar's world class team of professionals works closely with our customers to provide them with solutions for all their solar needs.

Canadian Solar was founded in Canada in 2001 and was successfully listed on NASDAQ Exchange (symbol: CSIQ) in November 2006. Canadian Solar has expanded its cell capacity to 800MW and module capacity to 1.3GW in 2010.

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www.canadiansolar.com

MICROINVERTER TECHNICAL DATA

60 and 72 Cell Modules

Input Data (DC)	M190-72-208-S11/2/3	M190-72-240-S11/2/3
Recommended input power (STC)	230W	230W
Maximum input DC voltage	54V	54V
Peak power tracking voltage	22V – 40V	22V – 40V
Min./Max. start voltage	28V/54V	28V/54V
Max. DC short circuit current	12A	12A
Max. input current	10A	10A
Output Data (AC)		
Maximum output power	190W	190W
Nominal output current	920mA	800mA
Nominal voltage/range	208V/183V-229V	240V/211V-264V
Extended voltage/range	208V/179V-232V	240V/206V-269V
Nominal frequency/range	60.0/59.3-60.5	60.0/59.3-60.5
Extended frequency/range	60.0/59.2-60.6	60.0/59.2-60.6
Power factor	>0.95	>0.95
Maximum units per branch	21	15
Efficiency		
Peak inverter efficiency	95.5%	95.5%
CEC weighted efficiency	95.0%	95.0%
Nominal MPP tracking	99.6%	99.6%
Mechanical Data		
Operating temperature range	-40°C to +65°C	-40°C to +65°C
Night time power consumption	30mW	30mW
Dimensions (WxHxD)	8" x 5.25" x 1.25"	
Weight	4.4 lbs	
Cooling	Natural Convection – No Fans	
Enclosure environmental rating	Outdoor – NEMA 6	
Features		
Communication	Powerline	
Warranty	15 Years	
Compliance	UL1741/IEEE1547 FCC Part 15 Class B	

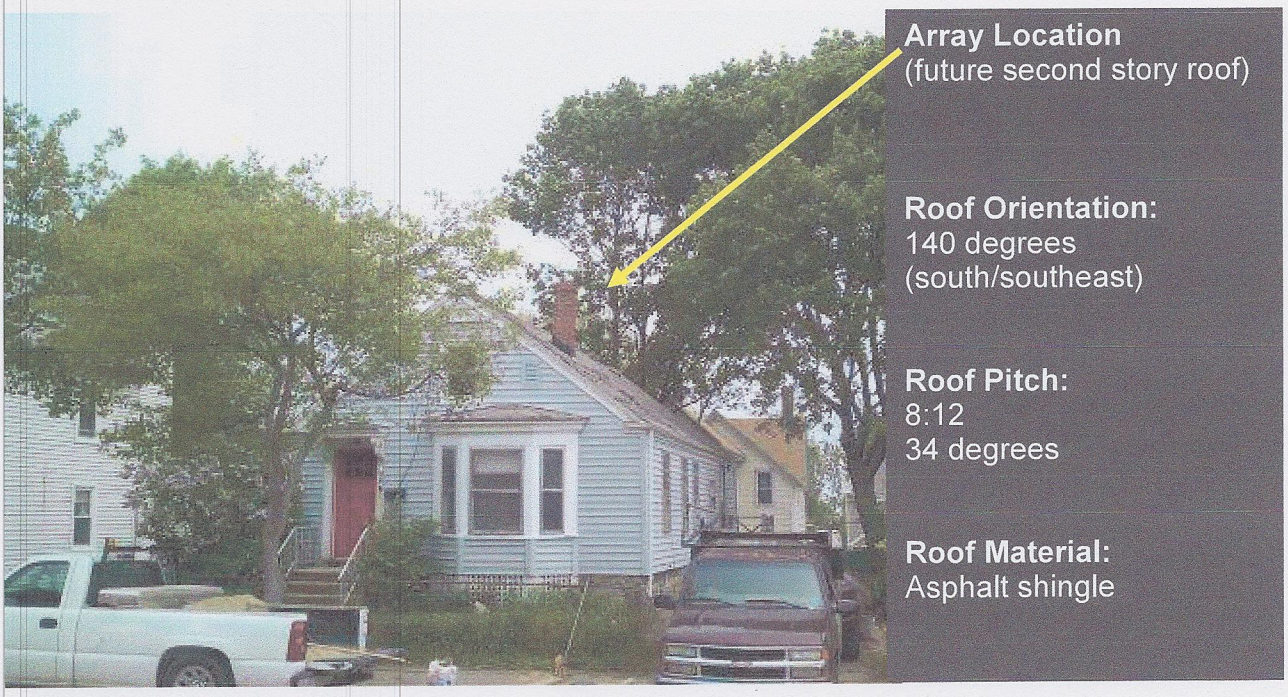
Enphase Energy, Inc.
201 1st Street, Suite 300, Petaluma, CA 94952
877 797 4743 enphaseenergy.com

142-00005 REV 04

Professional design, installation and service of solar energy systems

2.3 Kilowatt Grid-Tied Photovoltaic System Proposal

Client: Peter Adams
Address: 49 Merrill Street, Portland, ME 04101
Date: 8 June 2011



Project Summary

System	Performance	Cost	Incentives	Net Cost
2.3 kilowatt grid-tied photovoltaic array coupled with Enphase Energy microinverters. Includes real-time system monitoring.	• Produce roughly 3,000 kilowatt hours of clean, renewable electricity annually. • Offset roughly 4,000 lbs. of CO2 emissions annually.	$11,417 Installed	-($3,425) fed tax credit -($2,000) State rebate	$5,992

System Overview

Based on an evaluation of your anticipated household electricity demand and rooftop solar gain, ReVision Energy proposes a roof-mounted photovoltaic array of 2.3 kilowatts (nominal). The system utilizes Canadian Solar 230-watt photovoltaic panels and Enphase Energy

microinverters. The proposed array will consist of 10 panels arranged to occupy the highest, sunniest point on the souteastern roof. The panels will be mounted on a Powerrail aluminum mounting system and the total array area will be roughly 153 ft2.

Component Specifications

- (10) 230-watt Canadian Solar photovoltaic panels (www.canadiansolar.com)
- (10) Enphase Energy microinverters (www.enphaseenergy.com)
- 5-year subscription to Enphase Enlighten web-based monitoring service (http://www.enphaseenergy.com/products/products/enlighten.cfm)
- Powerrail roof mounting system with anodized aluminum rail and stainless fastening
- All hardware, disconnects, cable, and labor to provide a code-compliant, NABCEP-certified installation.

At left is a 2.0 kw grid-tied photovoltaic array installed flush to an asphalt roof on a home in Bowdoinham.

We are proposing a similar flush-mounted installation for your home utilizing ten panels total.

Canadian Solar photovoltaic panels come with a 25-year performance warranty and expected useful lifespan of 40+ years, enabling you to lock in your own clean electricity rate for the next four decades.

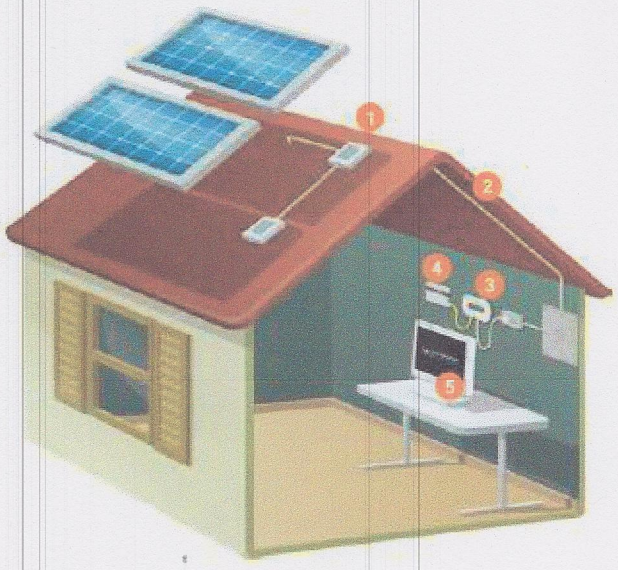
System Operation

Whenever sun shines on the solar electric panels, direct current electricity will be generated. The DC electricity from each module is converted to AC electricity by the individual Enphase inverters, affixed to the underside of each panel. The advantage of microinverters is that the output of the rest of the array is not affected if a portion of panels are shaded.

The AC electricity that is created by the inverters will then feed directly into your home's load center. Any loads operating while the sun is shining will be fed directly by the solar electricity. The local utility company will install a second electric meter near the existing meter recording your usage, to record electricity you feed into the grid. If there is more electricity being generated by the sun than being used in the house, the second meter will spin, creating a credit on your next bill. You can bank your surplus from month to month for up to a year.

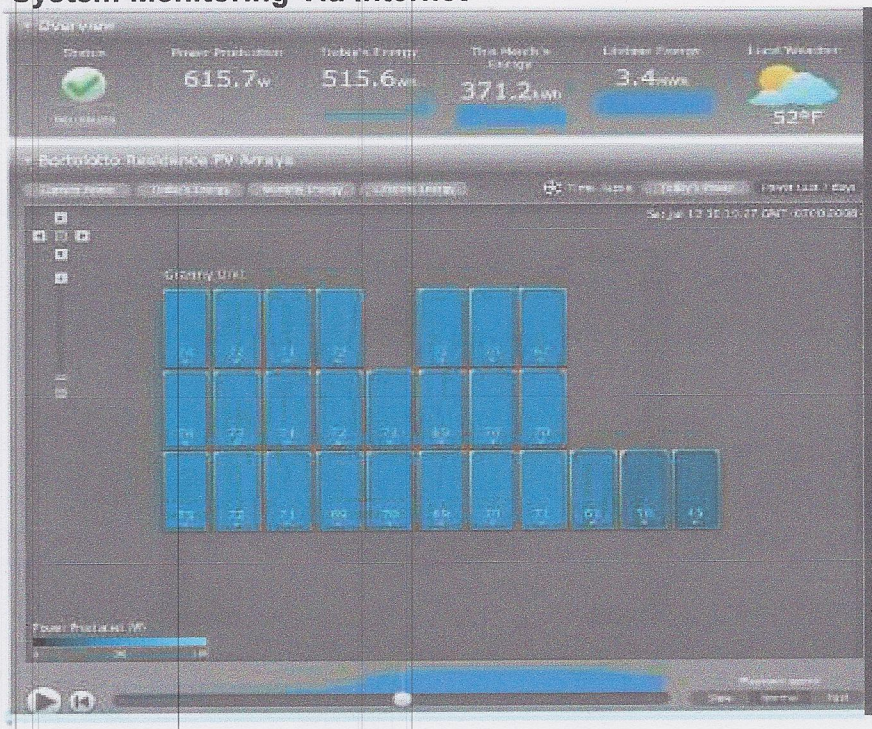
Professional design, installation and service of solar energy systems

System Diagram



1. **Enphase Micro-inverter system**
   - maximizes annual energy harvest
2. **AC power is sent via AC wiring to the load center**
   - performance data also sent via the AC wiring
   - plug & play communications
3. **Envoy Communications Gateway**
   - plugs into any AC outlet
   - collects info via the AC wiring
   - transmits data through a standard Ethernet router to the internet
4. **Standard Ethernet Router**
   - information collected by Enphase Envoy is then transmitted to Enlighten in 5-minute intervals
5. **Enphase Enlighten Monitoring**
   - provides monitoring and analysis
   - performance information can be viewed from any web browser

System Monitoring Via Internet



At left is a computer screen shot of the Envoy Enlightenment monitoring system that is part of your grid-tied photovoltaic system.

A 5-year subscription to the Enlighten Monitoring service is included in the cost of this proposal.

The Enlighten info can be accessed anywhere in the world from a computer with internet access, and helps track the PV system performance in real time.

91 West Main Street
Liberty, ME 04949
(207) 589-4171

142 Presumpscot Street
Portland, ME 04103
(207) 221-6342

www.revisionenergy.com

7 Commercial Drive
Exeter, NH 03833
(603) 501-1822

System Performance
The proposed 2.3 kilowatt grid-tied PV system is expected:

- Generate roughly 3,000 kW/hrs of clean, renewable electricity annually
- Offset roughly 4,000 lbs. of CO2 emissions annually
- Offset roughly 7.2 lbs. of SO2 emissions annually
- Offset roughly 3.8 lbs. of NOx emissions annually

Incentives:
This system qualifies for an uncapped 30% federal tax credit. This credit (not deduction) can be taken against an existing income or AMT tax liability. Please consult with your tax advisor to ensure that you are eligible for this deduction. The system also qualifies for a $2,000 state rebate from Efficiency Maine. **The rebate requires an energy audit**. Our office will assist with the required paperwork to apply for the state rebate.

Price
The price for this system includes the following:

- All materials necessary to mount and wire the solar electric system. This includes all disconnects, fusing, and metering to meet both the National Electrical Code and the NABCEP certification.
- All labor required for installation.
- ReVision Energy will provide you with assistance to apply with Central Maine Power for a Net Energy Billing permit.

Price does not include a $50 processing fee to Central Maine Power for a special meter

Payment Terms
1/3 due upon signing agreement
1/3 due upon equipment delivery
Balance due upon completed installation

Upon customer agreement to the terms of this proposal, ReVision Energy will send an installation agreement and invoice for the first payment.

Note: Estimates of equipment or system efficiency, performance or expected energy savings are for informational purposes only. Due to the large number of variables affecting efficiency and performance that are beyond ReVision Energy's control, ReVision Energy makes no warranty or guaranty that the equipment or system installed in accordance with this proposal shall perform in accordance with such estimates.