B

Type

Plans

BLD14 - 1984

Permit Number

16360

Street Number

Bloomfield Rd

Street Name

BLO

Community Code

027 - 090 - 003

APN

COUNTY OF SONOMA - PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403 (707) 565-1900 FAX (707) 565-1103

Please Print Your Name: Solar City — Date Applied: 4/28/2014

INFORMATION WITHIN HEAVY LINE TO BE COMPLETED BY APPLICANT

SITE LOCATION INFORMATION - PRINT CLEARLY

Site Address: 6360 Bloomfield Rd. — City: Petaluma — ZIP: 94952

Cross-Street: Atchinson Rd — #027-090-003 — Project Phone #: ( ) — Project Fax #: ( )

Directions: — Email address: — Unit #: — Lot #:

Describe Project: Install 7 roof mounted solar panels (1.75KW) on barn

Living Area: — Garage: — Decks: — Contract Price: $7,000 —

OWNER NAME AND ADDRESS			APPLICANT NAME AND ADDRESS		
Name: Nat Hayward			Name: Solar City		
Mailing Address: 6360 Bloomfield Rd.			Mailing Address:		
City: Petaluma	State: CA	ZIP: 94952	City:	State:	ZIP:
Day Ph: (707) 696 9071	Fax: ( )		Day Ph: ( )	Fax: ( )	
CONTRACTOR INFORMATION			**OTHER PERSONS (ARCHITECT, ENGINEER, ETC.)**		
Company Name: Solar City			Name:		
Address: 1360 A D. McDowell			Address:		
City: Petaluma	State: CA	ZIP: 94954	City:	State:	ZIP:
Day Ph: (707) 230 1973	Fax: ( )		Day Ph: ( )	Fax: ( )	
			License No:	Exp. Date:	

WORKER'S COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☑ I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier Liberty Mut. Ins. Co.

Policy No. WA7166D065823

(This section need not be completed if the permit is for one hundred dollars ($100) or less).

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the worker's compensation laws of California, and agree that if I should become subject to the worker's compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Exp. Date: 9/1/14 Applicant: Solar City

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

OWNER-BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044 Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law.).

☐ I am exempt under Sec. _____, B & P.C. for this reason _____

By my signature below I acknowledge that, except for my personal residence in which I must have resided for at least one year prior to completion of the improvements covered by this permit, I cannot legally sell a structure that I have built as an owner-builder if it has not been constructed in its entirety by licensed contractors. I understand that a copy of the applicable law, Section 7044 of the Business and Professions Code, is available upon request when this application is submitted or at the following website: http://www.leginfo.ca.gov/calaw.html.

Date _____ Signature of Property Owner or Authorized Agent _____

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Lic. Class C46 C10 Lic. No. 888104

Exp. Date 12/31/14 Contractor Solar City

ASBESTOS DECLARATION

Written asbestos notification pursuant to Part 61 of Title 40 of the Code of Federal Regulations is required when asbestos exists in buildings, or portions thereof, undergoing demolition. I hereby declare that demolition authorized by this permit is from construction that (☐ does) (☐ does not) contain asbestos, or that ☐ no demolition is authorized by this permit.

I certify that I have read this application and affirm under penalty of perjury that the above information is correct. I agree to comply with all local Ordinances and State laws relating to building construction. I hereby authorize representatives of the County of Sonoma to enter upon the above-mentioned property for inspection purposes. If, after making the Certificate of Exemption for the Worker's Compensation provision of the Labor Code I should become subject to such provisions, I will forthwith comply. In the event I do not comply with the Workman's Compensation law, this permit shall be deemed revoked.

PERMITTEE SIGNATURE _____

1362 D. McDowell ADDRESS — Petaluma CITY — 94954 ZIP

☐ Contractor ☐ Owner ☐ Other Licensed Professional

THIS PERMIT SHALL EXPIRE IN THREE(3) YEARS FROM DATE FEES ARE PAID UNLESS OTHERWISE NOTED BY CODE ENFORCEMENT

CONSTRUCTION LENDING DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued. (Sec. 3097, Civ. C.).

Lenders Name _____

Lenders Address _____

FOR DEPARTMENT USE

Zoning _____ File No. _____ Acres _____

Existing Use/Structures _____

Proposed Use/Structures _____

Zoning Min. Yard Requirements: Front _____ Left _____ Right _____ Back _____

NOTE: Fire Safe Standards require all parcels greater than 1 Acre to have a min. 30' setback unless mitigated. ☐ Mitigation Required ☐ Address subject to change

Approval for Permit Issuance: By: _____ Date: _____

Approval for Occupancy: By: _____ Date: _____

Conditions: _____

Sewer Connection: ☐ Available ☐ Fees Paid

Approved by: _____ Date: _____

Road Encroachment: ☐ Fees Paid

Approved by: _____ Date: _____

Septic System Permit/Clearance # _____

Approved by: _____ Date: _____

Flood Zone: ☐ Yes ☒ No 100 Year Flood Elevation: _____

Site Review _____

Drainage Review:

Approved by: _____ Date: _____

Fire:

Approved by: _____ Date: _____

Code Enforcement Violation ☐ Yes ☒ No Violation # _____

This permit is limited to _____ days.

Work Authorized: ROOF MOUNTED PV SYSTEM

☒ Plans Approved ☐ No Plans Subject to Field Inspection — Date: 4/29/14 — ☐ Post FIRM ☐ Pre FIRM — ☐ Alquist Priolo Report Available ☐ Geotechnical report Available

Planchet Cleared By: — Date: — Type of Construction: VB — Occupancy: R — No. of Stories: — No. of Bedrooms: —

Permit Cleared for Issuance By: — Date: 4/29/14 — Auto. Fire Sprinklers Required: NO — No of Units: — Certificate of Occupancy: —

Machine Space for Permit Fee

PAYMENT RECEIVED $ _____ APR 29 2014 PERMIT AND RESOURCE MANAGEMENT DEPARTMENT COUNTY OF SONOMA

Distribution: White - File Canary - Applicant Blue - Assessor Cardstock - Inspector

cmuller s:\handouts\cse\CIS-007.cdr Revised: 01/29/2009

JOB ADDRESS: 6360 Bloomfield Rd BLD

PERMIT NUMBER: BLD14-1884

INSPECTION AREA: 03

131) SPECIAL INSPECTION REQUIRED	☐ YES	☒ NO	IF YES, SEE ADDITIONAL SHEET

INSPECTION RECORD	DATE	NAME
101) ROUGH GRADING		
103) FOUNDATION		
FORMS/SETBACK		
FOOTING		
WALLS		
106) UFER GROUND #		
104) CAISSONS/PIERS		
105) SLAB		
107) UNDERGROUND UTILITIES		
110) MASONRY		
109) RETAINING WALLS		
113) FIREPLACE		
FOOTING		
HEARTH/PROTECTION		
THROAT		
114) CHIMNEY		
120) UNDERFLOOR/UNDERSLAB		
115) HYDRONICS		
116) U/F ELECTRICAL		
117) U/F MECHANICAL		
118) U/F PLUMBING		
119) U/F FRAMING		
139) U/F INSULATION		
126) SHEAR WALLS		
☐ INTERIOR ☐ EXTERIOR		
127) DIAPHRAGMS		
☐ ROOF ☐ FLOOR		
134) SIDING/SHEATHING		
125) HOLD DOWNS		
132) CLOSE-IN		
122) ROUGH ELECTRICAL		
123) ROUGH MECHANICAL		
124) ROUGH PLUMBING		
128) ROUGH FRAME		
160) SMOKE DETECTORS		
139) INSULATION		
142) WALLBOARD		
143) FIREWALLS		
135) STUCCO/PLASTER		
☐ LATH ☐ SCRATCH		
137) ROOFING		
130) TUB/SHOWER PAN		
162) FIRE DAMPERS/DOORS		
164) SUSPENDED CEILING		
☐ ROUGH ELEC. ☐ ROUGH MECH.		
165) EXITING - RAMPS/STAIRS		
163) HANDRAILS/GUARDRAILS		
CORRIDORS/DOORS		
166) ACCESSIBILITY COMPLIANCE		
144) WATER TANKS		
☐ SLAB ☐ WALLS		
170) TEMPORARY OCCUPANCY		
171) TEMPORARY ELECTRICAL		
172) TEMPORARY GAS		
174) ELECTRIC METER AUTHORIZATION		
152) PANEL BOARDS/SERVICE		
189) SEPTIC ELECTRIC FINAL		
175) GAS METER AUTHORIZATION		
153) GAS PRESSURE TEST		
HOUSE YARD		
190) MANUF. HOME FOUNDATION		
191) MANUF. HOME INSTALLATION		
CONTINUITY		
STAIRS/SKIRTS		
RIDGE BOLTING		
193) MANUF. HOME COND. FINAL		
SWIMMING POOLS		
194) PRE-GUNITE		
195) PRE-DECK		
196) PRE-PLASTER/FENCE		
197) VINYL/FIBERGLASS POOL EXCAVATION		
102) GRADING FINAL		
176) ELECTRICAL FINAL		
177) MECHANICAL FINAL		
178) PLUMBING FINAL		
199) FINAL	8-7-14	
OCCUPANCY (OK TO OCCUPY)		

REMARKS

6-30-14 CONTRACTOR / PLANS NOT ON SITE

8-5-14 " " " " "

650) SUSMP INSPECTION		
651) NPDES EROSION COMPLIANCE		
652) NPDES SEDIMENT COMPLIANCE		
653) NPDES DOCS/SWPPP		

FIRE INSPECTION REQUIRED ☐ Yes ☒ No	DATE	NAME
759) KNOX BOX		
760) PROPANE TANK HOLD DOWNS		
770) SPRINKLER FINAL		
771) ABOVEGROUND HYDROSTATIC		
772) UNDERGROUND HYDROSTATIC		
773) UNDERGROUND FLUSH		
774) THRUST BLOCKS		
775) PIPE WELD		
776) HYDRANTS/APPLIANCES		
777) PUMP ACCEPTANCE		
778) WATER SUPPLY/TANK		
779) ALARM SYSTEM		
780) HOOD & DUCT SYSTEM		
781) ABOVEGROUND TANK/DISPENSER		
198) FIRE FINAL		

CLEARANCES:

FIRE ☐ Local ☐ County

HEALTH DEPARTMENT

ZONING

SANITATION

PLAN RETENTION REQUIRED? ☐ Yes ☐ No

PERMIT # BLD14-1884

sennis CIS-008.cdr Rev. 04/15/04

Smoke/CO Alarm Self Verification Form

CNI-037

Building Permit # BLD 14-1884

Dear Property Owner:

The California Residential Code (CRC) requires carbon monoxide alarms (CO alarms) in dwellings as well as smoke alarms when building permits are issued and the scope of work exceeds a total cost or calculated valuation of $1,000. In order to grant a final approval on your permit, it is necessary to verify the installation of these alarms within your dwelling. This form provides the ability to self-verify to PRMD when work done does not allow convenient access to the interior of the dwelling (*e.g.*, re-roof or other exterior work).

As of January 1, 2014, all new and replacement battery operated smoke alarms must be equipped with a non-replaceable, non-removable battery capable of powering the alarm for 10 years. All existing smoke alarms shall be replaced after 10 years from the date of manufacture or if the date of manufacture cannot be determined.

By signing this document, the property owner certifies to PRMD that both smoke alarms and CO alarms have been installed on the above referenced project as specified below:

Smoke alarms are installed in accordance with the approved manufacturer's instructions in all of the following areas:

a. Each sleeping unit
b. In hallways of areas giving access to the sleeping units
c. On each floor, if a multi-story
d. In the basement, if a basement exits

Carbon Monoxide alarms are installed in accordance with the approved manufacturer's instructions in all of the following areas where fossil fuel burning appliances are installed, including fireplaces:

a. Outside each sleeping unit
b. On every floor level of dwelling unit, including basements, outside each sleeping unit

Please fill in the permit number above and the requested information below and return the form by mail to the Sonoma County Permit and Resource Management Department, Building & Safety Division, 2550 Ventura Avenue, Santa Rosa, CA 95403. Alternatively, this form may be submitted to the building inspector at the time the final inspection is performed.

Nat Heyward — Property Owner's Name

N. Heyward — Signature

7/1/14 — Date

6360 Bloomfield Rd., Petaluma, Ca, 94952 — Project Address

Inspector

Sonoma County Permit and Resource Management Department
2550 Ventura Avenue, Santa Rosa, CA 95403-2829 (707) 565-1900 Fax (707) 565-1972

File copy
BUD14-884

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
BLDG	BUILDING
CONC	CONCRETE
DC	DIRECT CURRENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
(E)	EXISTING
EMT	ELECTRICAL METALLIC TUBING
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
HDG	HOT DIPPED GALVANIZED
I	CURRENT
Imp	CURRENT AT MAX POWER
Isc	SHORT CIRCUIT CURRENT
kVA	KILOVOLT AMPERE
kW	KILOWATT
LBW	LOAD BEARING WALL
MIN	MINIMUM
(N)	NEW
NEUT	NEUTRAL
NTS	NOT TO SCALE
OC	ON CENTER
PL	PROPERTY LINE
POI	POINT OF INTERCONNECTION
PV	PHOTOVOLTAIC
SCH	SCHEDULE
SS	STAINLESS STEEL
STC	STANDARD TESTING CONDITIONS
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
Vmp	VOLTAGE AT MAX POWER
Voc	VOLTAGE AT OPEN CIRCUIT
W	WATT
3R	NEMA 3R, RAINTIGHT

ELECTRICAL NOTES

1. WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A SIGN WILL BE PROVIDED WARNING OF THE HAZARDS PER ART. 690.17.
2. EACH UNGROUNDED CONDUCTOR OF THE MULTIWIRE BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART. 210.5.
3. A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART. 110.3.
4. CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH ART. 250.97, 250.92(B)
5. DC CONDUCTORS EITHER DO NOT ENTER BUILDING OR ARE RUN IN METALLIC RACEWAYS OR ENCLOSURES TO THE FIRST ACCESSIBLE DC DISCONNECTING MEANS PER ART. 690.31(E).
6. ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING.
7. MODULE FRAMES SHALL BE GROUNDED AT THE UL-LISTED LOCATION PROVIDED BY THE MANUFACTURER USING UL LISTED GROUNDING HARDWARE.
8. MODULE FRAMES, RAIL, AND POSTS SHALL BE BONDED WITH EQUIPMENT GROUND CONDUCTORS AND GROUNDED AT THE MAIN ELECTRIC PANEL.
9. THE DC GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED ACCORDING TO ART. 250.166(B) & 690.47.

JURISDICTION NOTES

★ APPROVED ★
AS NOTED

PERMIT NO. BUD14-884

BY

PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

APPROVED JOB COPY OF THESE PLANS SHALL BE ON JOB SITE.

BUILDER SHALL NOT DEVIATE FROM THESE APPROVED PLANS. REQUESTS FOR DEVIATIONS SHALL BE SUBMITTED IN WRITING TO THE PERMIT AND RESOURCE MANAGEMENT DEPARTMENT. DEVIATIONS MADE ON THE JOB SITE WITHOUT PRIOR APPROVAL MAY RESULT IN CORRECTION OR REJECTION OF THE WORK.

APPROVAL OF THESE PLANS AND SPECIFICATIONS DOES NOT AUTHORIZE DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS OR COMPLIANCE WITH CODE REQUIREMENTS. SPECIAL INSPECTIONS WHEN REQUIRED SHALL BE PERFORMED BY QUALIFIED INSPECTORS.

PLEASE READ ALL PERTINENT SECTIONS OF APPLICABLE CODES.

LICENSE

CA # 888104
C-10

MODULE GROUNDING METHOD: ZEP SOLAR

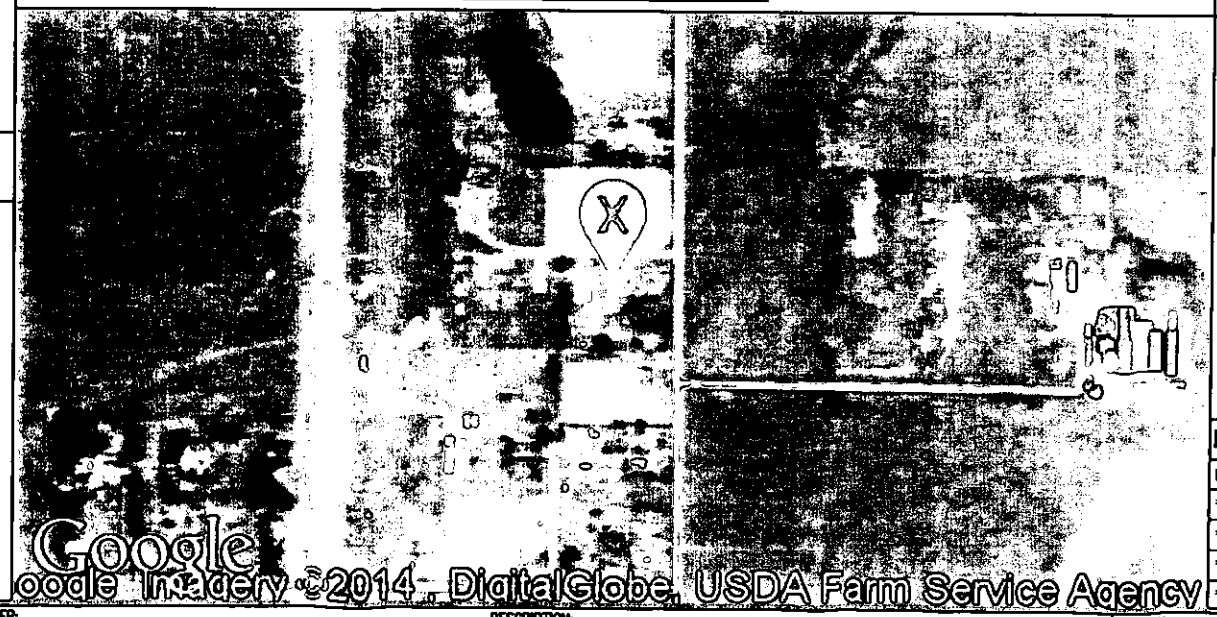
AHJ: Sonoma County

UTILITY: Pacific Gas and Electric Company

GENERAL NOTES

1. THIS SYSTEM IS GRID-INTERTIED VIA A UL-LISTED POWER-CONDITIONING INVERTER.
2. THIS SYSTEM HAS NO BATTERIES, NO UPS.
3. SOLAR MOUNTING FRAMES ARE TO BE GROUNDED.
4. ALL WORK TO BE DONE TO THE 2013 CALIFORNIA BUILDING CODE AND THE 2013 CALIFORNIA RESIDENTIAL CODE.
5. ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2011 NATIONAL ELECTRIC CODE AS AMENDED BY THE 2013 CALIFORNIA ELECTRIC CODE.

VICINITY MAP



INDEX

BUILDING PLAN CHECK
★ APPROVED ★
APR 2 9 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

REV BY DATE COMMENTS

REV A	NAME	DATE	COMMENTS
*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	*

JOB NUMBER: JB-9491161 00
MOUNTING SYSTEM: Comp Mount Type C
MODULES: (7) Advantage Module
INVERTER: POWER-ONE # AURORA PVI-3.0-OUTD-S-US-Z-A

PREMISE OWNER:
HEYWARD, NAT
6360 BLOOMFIELD RD
PETALUMA, CA 94952

7076659671

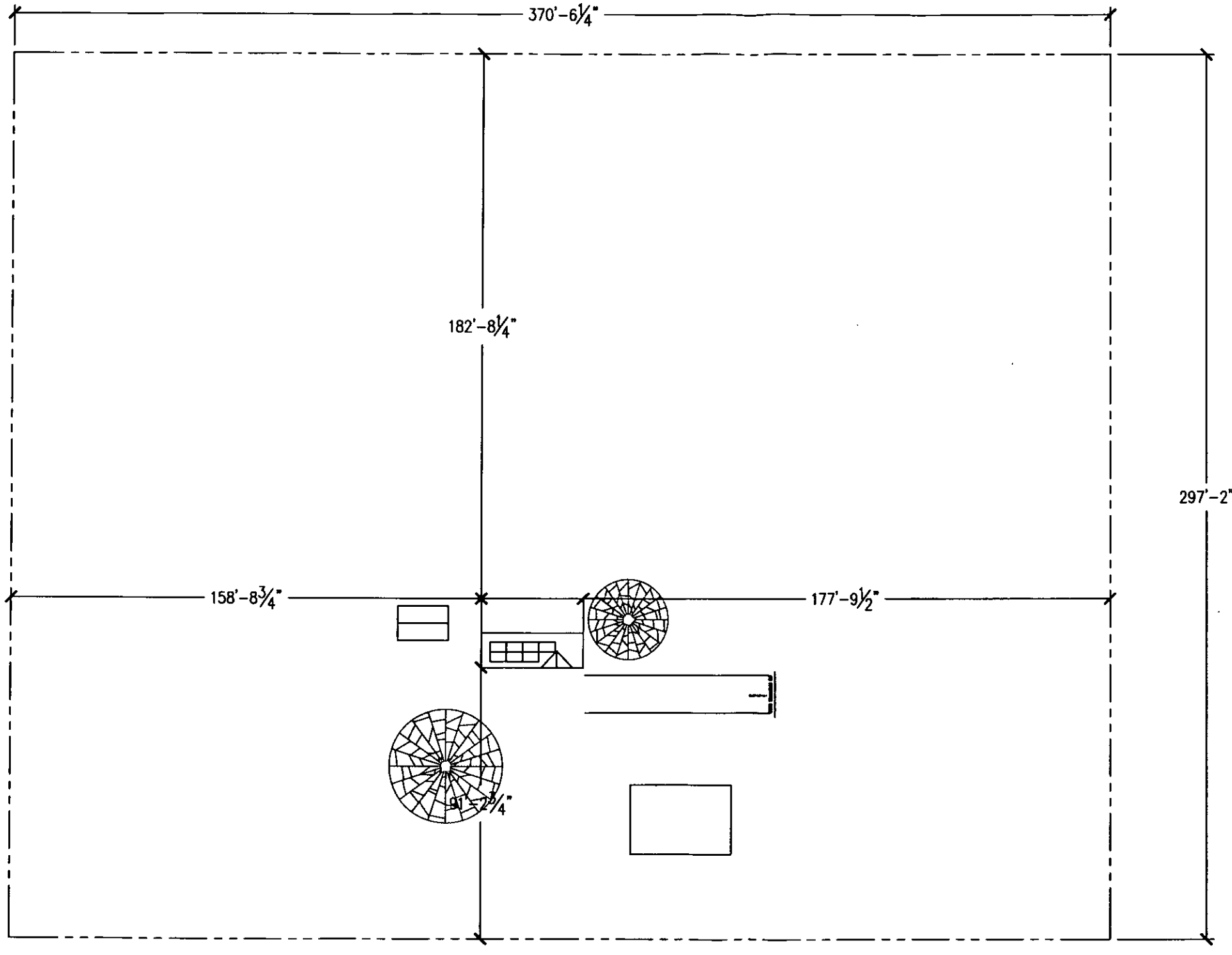
DESCRIPTION:
HEYWARD RESIDENCE
1.75 KW PV Array

PAGE NAME: COVER SHEET

DESIGN: Oscar Murcia

SHEET: PV 1 REV: DATE: 4/2/2014

SolarCity
3055 Clearview Way
San Mateo, CA 94402
T:(650) 638-1028 F:(650) 638-1029
(888)-SOL-CITY (765-2489) www.solarcity.com



BUILDING PLAN CHECK
☆ APPROVED ☆
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

PROPERTY PLAN

Scale: 1" = 40'-0"

0 40' 80'

N W E S

JOB NUMBER: JB-9491161 00
MOUNTING SYSTEM: Comp Mount Type C
MODULES: (7) Advantage Module
INVERTER: POWER-ONE # AURORA PVI-3.0-OUTD-S-US-Z-A

PREMISE OWNER:
HEYWARD, NAT
6360 BLOOMFIELD RD
PETALUMA, CA 94952

7076659671

DESCRIPTION:
HEYWARD RESIDENCE
1.75 KW PV Array

PAGE NAME:
PROPERTY PLAN

DESIGN: Oscar Murcia

SHEET: PV 2 REV: DATE: 4/2/2014

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UPLIFT CALCULATIONS

SolarCity **SleekMount™ PV System Structural Design Software**

04.02.2014
Version #33.7

Project Information & Table Of Contents			
Risk Category:		II	
PV System Type		SolarCity SleekMount™	
Comp Roof		Comp Roof	
Layers of Comp Roofing		1	
Roof Slope		34°	
Rafter Spacing		24" O.C.	
PV System Module Orientation		Landscape and Portrait	
PV Module Area		123 sf	
PV Module Width		39"	
PV Module Length		65"	
Standoff (Attachment Hardware)		Comp Mount Type C	

Reduced Ground/Roof Live/Snow Loads			
Ground Snow Load	pg	**0.0 psf**	**ASCE Table 7-1**
Surrounding Roof Snow		**0.0 psf**	**ASCE Eq: 7.4-1**
Roof Snow Over PV Modules		**0.0 psf**	**ASCE Eq: 7.4-1**

Wind Design Criteria			
Wind Design Code		ASCE 7-10	
Wind Design Method		Partially/Fully Enclosed Method	
Basic Wind Speed	V	110 mph	Fig. 26.5-1A
Exposure Category		C	Section 26.7
Roof Style		Gable Roof	Fig. 30.4-2A/B/C-5A/B
Mean Roof Height	h	15 ft	Section 26.2
Effective Wind Area (1 Module)	A	17.6 sf	IBC 1509.7.1
Wind Pressure Calculation Coefficients			
Wind Pressure Exposure	Kz	0.85	Table 30.3-1
Topographic Factor	Kzt	1.00	Section 26.8
Wind Directionality Factor	Kd	0.85	Section 26.6-1
Importance Factor	I	NA	
Velocity Pressure	**qh**	**qh = 0.00256 (Kz) (Kzt) (Kd) (V^2) 22.4 psf**	**Equation 30.3-1**
Ext. Pressure Coefficient (Up)	GCp (Up)	-0.95	Fig. 30.4-2A/B/C-5A/B
Ext. Pressure Coefficient (Down)	GCp (Down)	0.88	Fig. 30.4-2A/B/C-5A/B
Design Wind Pressure	**p**	**p = qh (GCp)**	**Equation 30.4-1**
Wind Pressure Up	**p(up)**	**-21.3 psf**	
Wind Pressure Down	**p(down)**	**19.6 psf**	

Allowable Standoff Spacings				
		X-Direction	**Y-Direction**
Max Allowable Standoff Spacing	Landscape	72"	39"
Max Allowable Cantilever	Landscape	24"	NA
Standoff Configuration	Landscape	Not-Staggered	
Max Standoff Tributary Area	Trib	20 sf	
PV Assembly Dead Load	W-PV	3 psf	
Net Wind Uplift at Standoff	T-actual	-220 lbs	
Uplift Capacity of Standoff	T-allow	500 lbs	
Standoff Demand/Capacity	DCR	44.0%	
Max Allowable Standoff Spacing	Portrait	48"	65"
Max Allowable Cantilever	Portrait	20"	NA
Standoff Configuration	Portrait	Not-Staggered	
Max Standoff Tributary Area	Trib	22 sf	
PV Assembly Dead Load	W-PV	3 psf	
Net Wind Uplift at Standoff	T-actual	-244 lbs	
Uplift Capacity of Standoff	T-allow	500 lbs	
Standoff Demand/Capacity	DCR	48.8%	

BUILDING PLAN CHECK APPROVED
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

JOB NUMBER: JB-9491161 00
MOUNTING SYSTEM: Comp Mount Type C
MODULES: (7) Advantage Module
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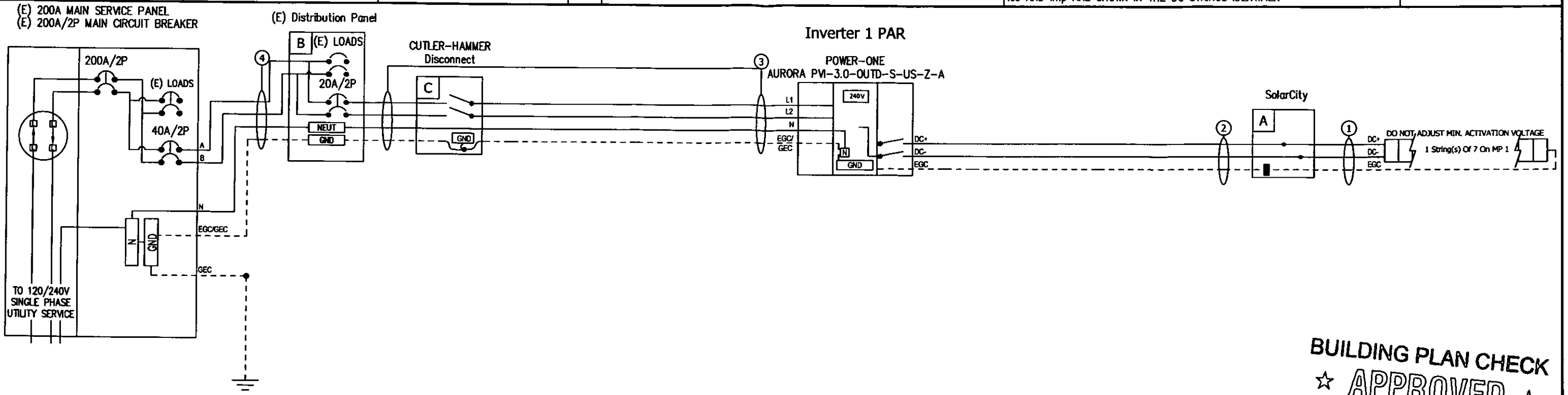
GROUND SPECS	MAIN PANEL SPECS	GENERAL NOTES	INVERTER SPECS	MODULE SPECS	LICENSE
BOND (N) #8 GEC TO (N) GROUND ROD AT PANEL WITH IRREVERSIBLE CRIMP	Panel Number: Cutler Hammer Meter Number: 1009653653 Underground Service Entrance	Inv 1: DC Ungrounded	INV 1 — (1) POWER-ONE # AURORA PVI-3.0-OUTD-S-US-Z-A LABEL: A FCI Inverter; Zigbee 3000W, 240V, 96% INV 2 INV 3	— (7) Advantage Module PV Module; 250W, 227.9W PTC, Poly, 60cell, Blck Frame, White Bcksht, ZEP Voc: 38.4 Vpmax: 30.1 Isc AND Imp ARE SHOWN IN THE DC STRINGS IDENTIFIER	CA # 888104 C-10



BUILDING PLAN CHECK
☆ APPROVED ☆
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

Voc* = MAX VOC AT MIN TEMP

	AC		DC
POI — (1) Ground Rod; 5/8" x 8', Copper	B — (1) CUTLER-HAMMER # BR220 PV BACKFEED BREAKER Breaker; 20A/2P, 2 Spaces C — (1) CUTLER-HAMMER # DG221URB Disconnect; 30A, 240Vac, Non-Fusible, NEMA 3R — (1) CUTLER-HAMMER # DG030NB Ground/Neutral Kit; 30A, General Duty (DG)		A — (1) SolarCity # 4 STRING JUNCTION BOX 2x2 STRINGS, UNFUSED, GROUNDED — (1) ZEP # 850-1196-002 Universal Box Bracket; [PKG B]
④ EGC — (1) AWG #6, THWN-2, Black — (1) AWG #6, THWN-2, White — (1) AWG #10, THWN-2, Green EGC Vmp = 240 VAC Imp = 14.5 AAC — (1) Conduit Kit; 3/4" EMT 8	③ TOH — (1) AWG #10, THWN-2, Black — (1) AWG #10, THWN-2, Red — (1) AWG #10, THWN-2, White NEUTRAL Vmp = 240 VAC Imp = 14.5 AAC — (1) AWG #8, THWN-2, Green EGC/GEC — (1) Conduit Kit; 3/4" EMT	② EGC — (1) AWG #10, THWN-2, Black Voc* = 298.96 VDC Isc = 8.87 ADC — (1) AWG #10, THWN-2, Red Vmp = 210.7 VDC Imp = 8.31 ADC — (1) AWG #10, THWN-2, Green EGC — (1) Conduit Kit; 3/4" EMT 8	① EGC — (2) AWG #10, PV WIRE, Black Voc* = 298.96 VDC Isc = 8.87 ADC — (1) AWG #10, Solid Bare Copper EGC Vmp = 210.7 VDC Imp = 8.31 ADC 8

JOB NUMBER: JB-9491161 00
MOUNTING SYSTEM: Comp Mount Type C
MODULES: (7) Advantage Module
INVERTER: POWER-ONE # AURORA PVI-3.0-OUTD-S-US-Z-A

PREMISE OWNER:
HEYWARD, NAT
6360 BLOOMFIELD RD
PETALUMA, CA 94952

7076659671

DESCRIPTION:
HEYWARD RESIDENCE
1.75 KW PV Array

PAGE NAME:
THREE LINE DIAGRAM

DESIGN: Oscar Murcia

SHEET: PV 6 REV: DATE: 4/2/2014

SolarCity
3055 Clearview Way
San Mateo, CA 94402
T:(650) 638-1028 F:(650) 638-1029
(888)-SOL-CITY (765-2489) www.solarcity.com

YGE-Z 60 CELL SERIES

YL250P-29b (NEW!)
YL245P-29b
YL240P-29b
YL235P-29b
YL230P-29b

YINGLI SOLAR

U.S. Soccer Powered by Yingli Solar

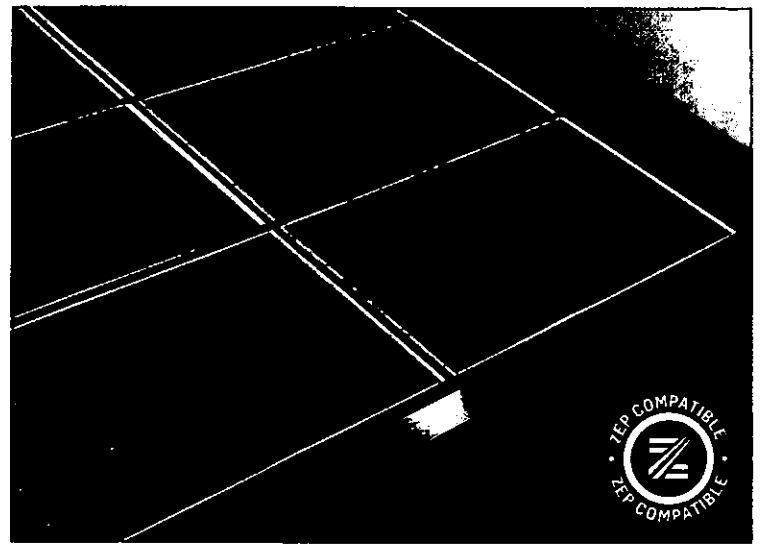
YINGLI SOLAR Z SERIES **Ideal for residential and commercial applications where cost savings, installation time, and aesthetics matter most.**

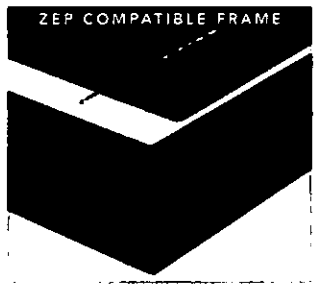
Best Choice for INSTALLERS

- Lower balance-of-system costs with Zep Compatible™ frame.
- Reduce on-roof labor costs by more than 25%.
- Leverage the built-in grounding system – if it's mounted, it's grounded.
- Lower your parts count – eliminate rails, screws, mounting clips, and grounding hardware.
- Design and permit projects easily with access to layout calculator and stamped drawings.

Best Choice for HOMEOWNERS

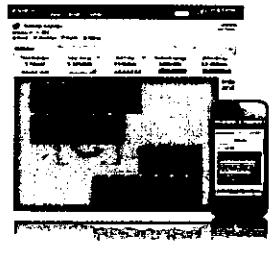
- Lower installation costs with savings across equipment and labor.
- Minimize roof penetrations while maintaining the system's structural integrity.
- Invest in an attractive solar array that includes a black frame, low mounting profile, and aesthetic array skirt.
- Increase energy output with flexible module layouts (portrait or landscape).
- Trust in the reliability and theft-resistance of the Zep Compatible™ system.





AC SOLUTION OPTION

The YGE-Z Series is now available as an *Enphase Energized*™ AC Solution. This solution delivers optimum performance and integrated intelligence. The Enphase M215-Z Zep Compatible Microinverter is designed to connect directly into the Z Series module groove, eliminating the need for tools or fasteners – all with one easy step.



Intelligent real-time monitoring at the system and module level with Enlighten.

WARRANTIES

Leading limited power warranty* ensures 91.2% of rated power for 10 years, and 80.7% of rated power for 25 years.

10-year limited product warranty.

* In compliance with our warranty terms and conditions.

QUALIFICATIONS & CERTIFICATES

UL 1703 and ULC 1703, CEC, FSEC, ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007, SA8000

YINGLISOLAR.COM/US | Yingli Americas

YGE-Z 60 CELL SERIES

Powered by YINGLI

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)							
Module type			YL250P-29b	YL245P-29b	YL240P-29b	YL235P-29b	YL230P-29b
Power output	P_{max}	W	250	245	240	235	230
Power output tolerances	ΔP_{max}	W			-0/+5		
Module efficiency	η_m	%	15.3	15.0	14.7	14.4	14.1
Voltage at P_{max}	V_{mpp}	V	30.4	30.2	29.5	29.5	29.5
Current at P_{max}	I_{mpp}	A	8.24	8.11	8.14	7.97	7.80
Open-circuit voltage	V_{oc}	V	38.4	37.8	37.5	37.0	37.0
Short-circuit current	I_{sc}	A	8.79	8.63	8.65	8.54	8.40

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3
Average relative efficiency reduction of 5.0% at 200W/m² according to EN 60904-1

Electrical parameters at Nominal Operating Cell Temperature (NOCT)							
Power output	P_{max}	W	181.1	177.9	174.3	170.7	167.0
Voltage at P_{max}	V_{mpp}	V	27.6	27.2	26.6	26.6	26.6
Current at P_{max}	I_{mpp}	A	6.56	6.54	6.56	6.42	6.29
Open-circuit voltage	V_{oc}	V	35.4	34.5	34.2	33.8	33.8
Short-circuit current	I_{sc}	A	7.12	6.99	7.01	6.92	6.81

NOCT: open-circuit module operation temperature at 800W/m² irradiance, 20°C ambient temperature, 1 m/s wind speed

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46 +/- 2
Temperature coefficient of P_{max}	γ	%/°C	-0.45
Temperature coefficient of V_{oc}	β_{Voc}	%/°C	-0.33
Temperature coefficient of I_{sc}	α_{Isc}	%/°C	0.06
Temperature coefficient of V_{mpp}	β_{Vmpp}	%/°C	-0.45

OPERATING CONDITIONS

Max. system voltage	600Vdc
Max. series fuse rating	15A
Limiting reverse current	15A
Operating temperature range	-40 to 194°F (-40 to 90°C)
Max. static load, front (e.g., snow and wind)	50 psf (2400 Pa)
Max. static load, back (e.g., wind)	50 psf (2400 Pa)
Hailstone impact	1 in (25 mm) at 51 mph (23 m/s)

CONSTRUCTION MATERIALS

Front cover (material/type/thickness)	Low-iron glass / tempered / 3.2 mm Glass may have anti-reflective coating
Cell (quantity/material/type/dimensions/ area/# of busbars)	60 / polysilicon / multicrystalline / 156 mm x 156 mm / 243.3 cm² / 2 or 3
Encapsulant (material)	Ethylene vinyl acetate (EVA)
Frame (material/color)	Anodized aluminum alloy / black
Junction box (protection degree)	≥IP65
Cable (type/length/gauge/outside diameter)	PV Wire / 43.31 in (1100 mm) / 12 AWG / 0.244 in (6.2 mm)
Plug connector (manufacturer/type/protection degree)	Amphenol / H4 / IP68

The specifications in this datasheet are not guaranteed and are subject to change without prior notice.
This datasheet complies with EN 50380:2003 requirements.

Yingli Green Energy Americas, Inc.
info@yingliamericas.com
Tel: +1 (888) 686-8820

YINGLISOLAR.COM/US | NYSE:YGE

 | YGEZ60CellSeries2012_EN_201206_V01

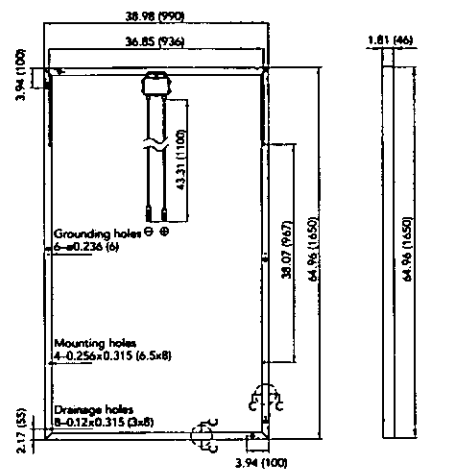
GENERAL CHARACTERISTICS

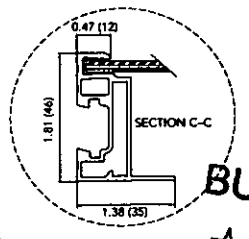
Dimensions (L/W/H)	64.96 in (1650 mm) / 38.98 in (990 mm) / 1.81 in (46 mm)
Weight	45.2 lbs (20.5 kg)

PACKAGING SPECIFICATIONS

Number of modules per pallet	22
Number of pallets per 53' container	36
Packaging box dimensions (L/W/H)	67 in (1700 mm) / 45 in (1150 mm) / 47 in (1190 mm)
Box weight	1076 lbs (488 kg)

Units: inch (mm)





Warning: Read the Installation and User Manual (UM) carefully before handling, installing and operating Yingli modules.

Our Partners

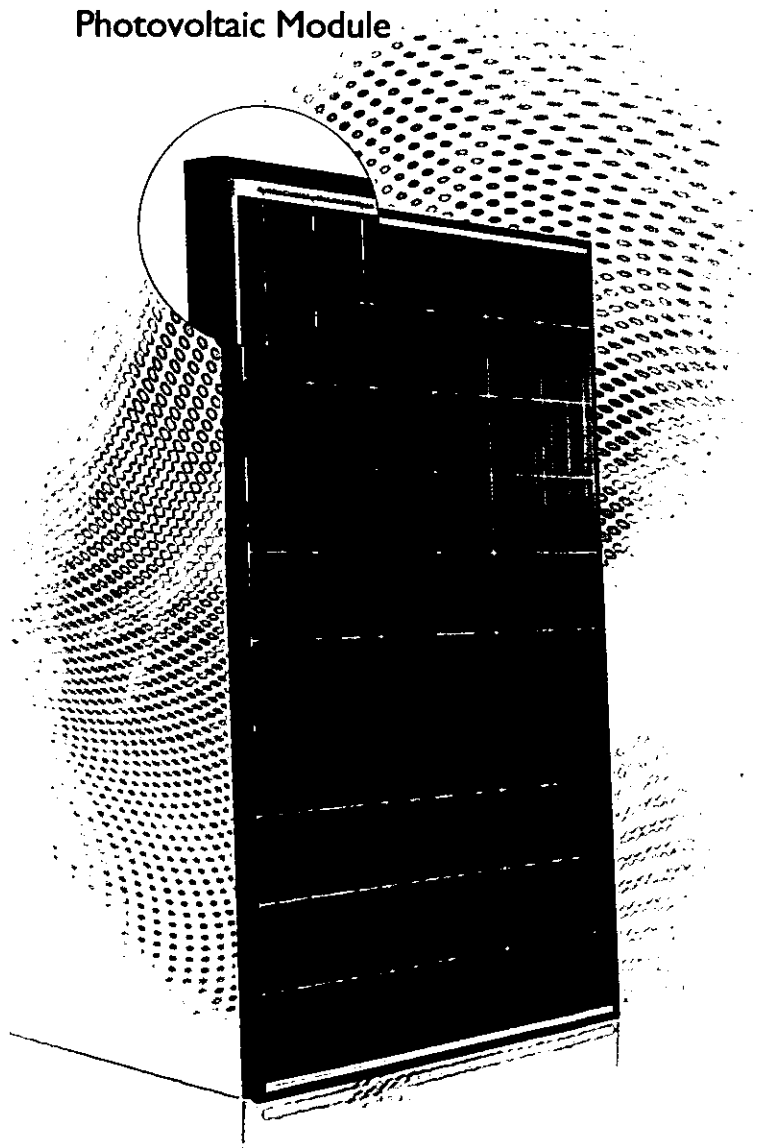
BUILDING PLAN CHECK
APPROVED
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

YINGLI SOLAR

U.S. Soccer Powered by Yingli Solar

GreenTriplex PM245P01

Multi-Crystalline Photovoltaic Module



Power Range
245 ~ 260 Wp

Highly Strengthened Design
Module complies with advanced loading tests to meet 2400 Pa loading requirements

IP-67 Rated Junction Box
Advanced water and dust proof level

Integrated Racking Solution
Simplifies installation process and reduces labor costs

PV CYCLE

GreenTriplex PM245P01 (245 ~ 260 Wp)

Electrical Data

Typ. Nominal Power P_N	245 W	250 W	255 W	260 W
Typ. Module Efficiency	15.2%	15.5%	15.8%	16.1%
Typ. Nominal Voltage V_{mp} (V)	30.3	30.6	30.8	31.2
Typ. Nominal Current I_{mp} (A)	8.09	8.17	8.28	8.34
Typ. Open Circuit Voltage V_{OC} (V)	37.2	37.4	37.6	37.7
Typ. Short Circuit Current I_{SC} (A)	8.64	8.69	8.76	8.83
Maximum Tolerance of P_N	0 / +3%			

* Above data are the effective measurement at Standard Test Conditions (STC)
* STC: irradiance 1000 W/m², spectral distribution AM 1.5, temperature 25 ± 2 °C, in accordance with EN 60904-3
* The given electrical data are nominal values which account for basic measurements and manufacturing tolerances of ±10%, with the exception of P_N. The classifications is performed according to P_N

Temperature Coefficient

NOCT	46 ± 2 °C
Typ. Temperature Coefficient of P_N	-0.44 % / K
Typ. Temperature Coefficient of V_{OC}	-0.32 % / K
Temperature Coefficient of I_{SC}	0.04 % / K

* NOCT: Normal Operation Cell Temperature, measuring conditions: irradiance 800 W/m², AM 1.5, air temperature 20 °C, wind speed 1 m/s

Mechanical Characteristics

Dimensions (L x W x H)	1639 x 983 x 40 mm (64.53 x 38.70 x 1.57 in)
Weight	19.5kg (43 lbs)
Front Glass	High transparent solar glass (tempered), 3.2 mm (0.13 in)
Cell	60 multicrystalline solar cells, 156 x 156 mm (6" x 6")
Cell Encapsulation	EVA
Back Sheet	Composite film (White)
Frame	Anodized aluminum frame (Black)
Junction Box	IP-67 rated with 3 bypass diodes
Cables	1 x 4 mm² (0.04 x 0.16 inch²), length: each 1.0 m (39.37 in)
Connector Type	Tyco PV4

Operating Conditions

Operating Temperature	-40 ~ +85 °C
Ambient Temperature Range	-40 ~ +45 °C
Max. System Voltage UL	1000V
Serial Fuse Rating	15 A
Maximum Surface Load Capacity	Tested up to 2400 Pa according to UL1703

Warranties and Certifications

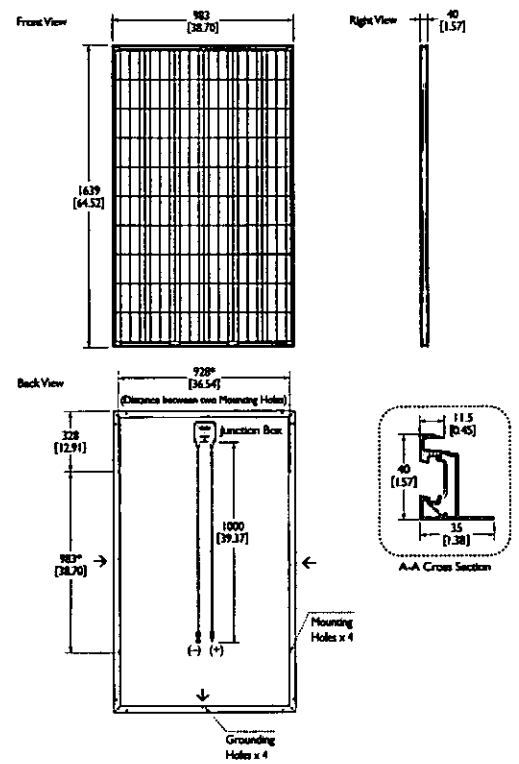
Product Warranty	Maximum 10 years for material and workmanship
Performance Guarantee	Guaranteed output of 90% for 10 years and 80% for 25 years
Certifications	According to UL 1703 guidelines *

* Please confirm other certifications with official dealers

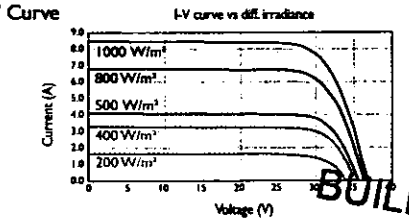
Packing configuration

Container	20' GP	40' GP	40' HQ
Pieces per pallet	26	26	26
Pallets per container	6	14	28
Pieces per container	156	364	728

Dimensions mm [inch]



I-V Curve



Current/voltage characteristics with dependence on irradiance and module temperature.

Dealer Stamp

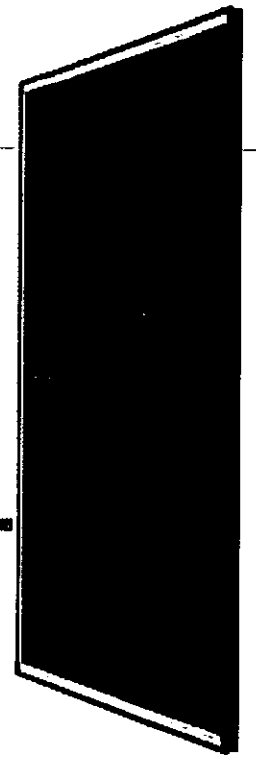
BUILDING PLAN CHECK
APPROVED
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

BenQ Solar

AU Optronics Corporation
No. 1, Li-Hsin Rd. 2, Hsinchu Science Park, Hsinchu 30078, Taiwan
Tel: +886-3-500-8899 E-mail: BenQSolar@auo.com www.BenQSolar.com

BenQ Solar

Mono Multi Solutions



TSM-PA05.18
THE TRINAMOUNT MODULE

60 CELL
MULTICRYSTALLINE MODULE WITH TRINAMOUNT FRAME

240-260W
POWER OUTPUT RANGE

15.9%
MAXIMUM EFFICIENCY

0~+3%
POWER OUTPUT GUARANTEE

As a leading global manufacturer of next generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners as the backbone of our shared success in driving Smart Energy Together.

Trina Solar Limited
www.trinasolar.com

Trinasolar
Smart Energy Together

Our most versitile product
- Compatible with all major BOS components and system designs

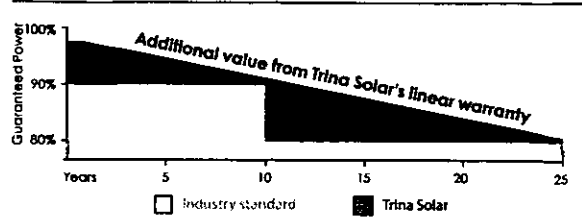
One of the industry's most trusted modules
- Over 2 GW sold across all major global markets
- Field proven performance

Highly reliable due to stringent quality control
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyong certification requirements

Certified to withstand challenging environmental conditions
- 130 km/hr wind load (2400 Pa)
- 900 kg snow load per module (5400 Pa)

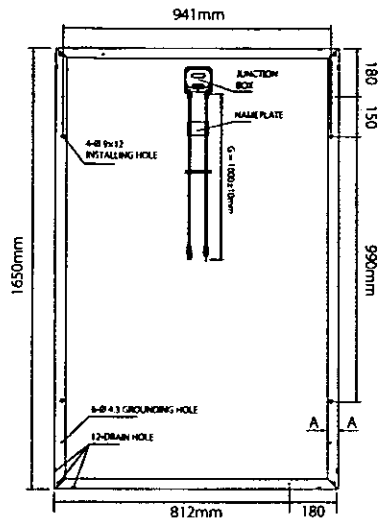
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty

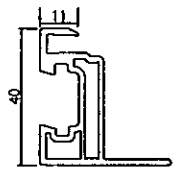


TSM-PA05.18 TRINAMOUNT II WITH THE UNIVERSAL MODULE

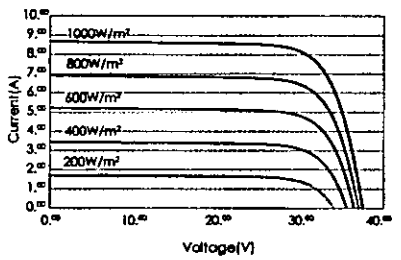
DIMENSIONS OF PV MODULE TSM-PA05.18



Back View



I-V CURVES OF PV MODULE TSM-245 PA05.18



ELECTRICAL DATA @ STC	TSM-240 PA05.18	TSM-245 PA05.18	TSM-250 PA05.18	TSM-255 PA05.18	TSM-260 PA05.18
Peak Power Watts-P_{MAX} (Wp)	240	245	250	255	260
Power Output Tolerance-P_{MAX} (%)	0/+3	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage-V_{MP} (V)	29.7	30.2	30.3	30.5	30.7
Maximum Power Current-I_{MPP} (A)	8.10	8.13	8.27	8.36	8.47
Open Circuit Voltage-Voc (V)	37.3	37.5	37.6	37.7	37.9
Short Circuit Current-Isc (A)	8.62	8.68	8.85	8.92	9.00
Module Efficiency η_m (%)	14.7	15.0	15.3	15.6	15.9

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
Average efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1.

ELECTRICAL DATA @ NOCT	TSM-240 PA05.18	TSM-245 PA05.18	TSM-250 PA05.18	TSM-255 PA05.18	TSM-260 PA05.18
Maximum Power-P_{MAX} (Wp)	174	178	181	184	188
Maximum Power Voltage-V_{MP} (V)	26.6	26.8	27.0	27.2	27.4
Maximum Power Current-I_{MPP} (A)	6.55	6.64	6.70	6.77	6.86
Open Circuit Voltage (V)-Voc (V)	34.1	34.2	34.3	34.4	34.6
Short Circuit Current (A)-Isc (A)	7.04	7.10	7.25	7.31	7.37

NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA	
Solar cells	Multicrystalline 156 × 156 mm (6 inches)
Cell orientation	60 cells (6 × 10)
Module dimensions	1650 × 992 × 40 mm (64.95 × 39.05 × 1.57 inches)
Weight	18.6 kg (41.0 lbs)
Glass	High transparency solar glass 3.2 mm (0.13 inches)
Backsheet	White
Frame	Black Anodized Aluminium Alloy with Trinamount Groove
J-Box	IP 65 or IP 67 rated
Cables	Photovoltaic Technology cable 4.0 mm² (0.006 inches²), 1100 mm (43.3 inches)
Connector	Original MC4

TEMPERATURE RATINGS	
Nominal Operating Cell Temperature (NOCT)	45°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.43%/°C
Temperature Coefficient of Voc	-0.32%/°C
Temperature Coefficient of Isc	0.047%/°C

MAXIMUM RATINGS	
Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC(IEC)/ 600V DC(UL)
Max Series Fuse Rating	15A

WARRANTY
10 year Product Workmanship Warranty
25 year Linear Power Warranty
(Please refer to product warranty for details)

PACKAGING CONFIGURATION
Modules per box: 24 pieces
Modules per 40' container: 672 pieces

CERTIFICATION

BUILDING PLAN CHECK
☆ APPROVED ☆
APR 29 2014
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

Trinasolar
Smart Energy Together

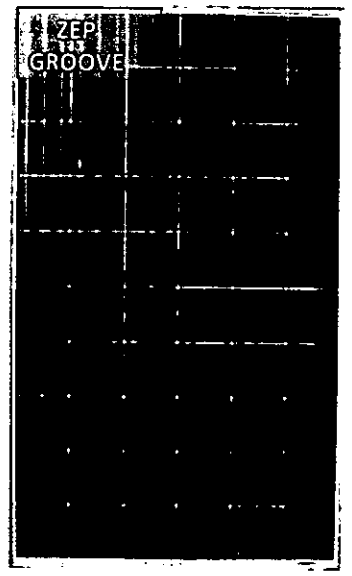
ReneSola

Virtus®II Module

245W, 250W, 255W, 260W

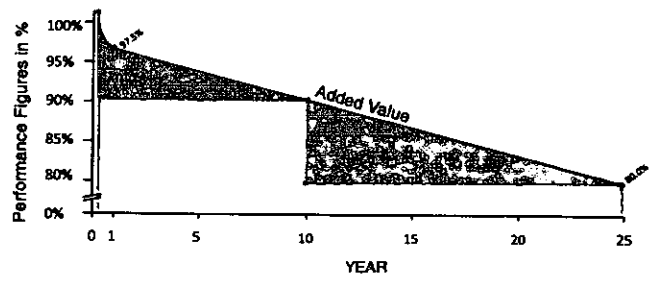
Virtus II

- **High Module Conversion Efficiencies**
- **Zep Compatible**
- **Mechanical Load Capability of up to 5400 Pa**
- **Conforms with IEC 61215:2005, IEC 61730: 2004, UL 1703 PV Standards**
- **ISO9001, OHSAS18001, ISO14001 Certified**
- **Application Class A, Safety Class II, Fire Rating C**



Black also available

Guarantee



10-year *material & workmanship*

25-year *linear power output*

APPROVED PRODUCT

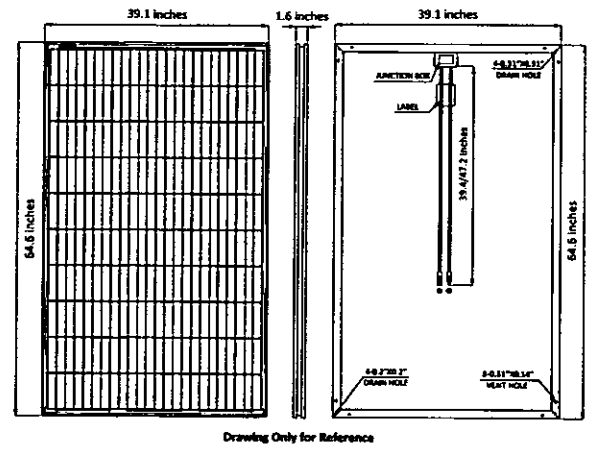
ReneSola.com

ReneSola

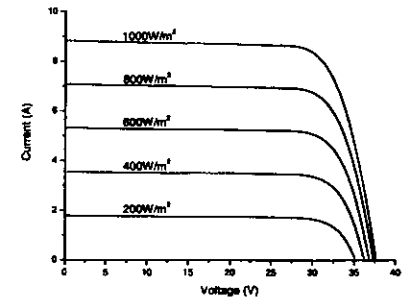
Virtus®II Module

245W, 250W, 255W, 260W

Dimensions



I-V Curves



Varied Irradiation Efficiencies

Irradiance	200W/m²	400W/m²	600W/m²	800W/m²	1000W/m²
Efficiency	15.8%	16.2%	16.2%	16.1%	16.0%

Electrical Characteristics STC	JC245M-24/Bb	JC250M-24/Bb	JC255M-24/Bb	JC260M-24/Bb
Maximum Power (Pmax)	245 W	250 W	255 W	260 W
Power Tolerance	0 ~ +5W	0 ~ +5W	0 ~ +5W	0 ~ +5W
Module Efficiency	15.1%	15.4%	15.7%	16.0%
Maximum Power Current (Imp)	8.19 A	8.31 A	8.39 A	8.53 A
Maximum Power Voltage (Vmp)	29.9 V	30.1 V	30.4 V	30.5 V
Short Circuit Current (Isc)	8.73 A	8.83 A	8.86 A	8.95 A
Open Circuit Voltage (Voc)	37.3 V	37.4 V	37.5 V	37.6 V

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C)

Electrical Characteristics NOCT	JC245M-24/Bb	JC250M-24/Bb	JC255M-24/Bb	JC260M-24/Bb
Maximum Power (Pmax)	182 W	185 W	189 W	193 W
Maximum Power Current (Imp)	6.53 A	6.57 A	6.63 A	6.74 A
Maximum Power Voltage (Vmp)	27.9 V	28.2 V	28.5 V	28.6 V
Short Circuit Current (Isc)	7.04 A	7.12 A	7.20 A	7.27 A
Open Circuit Voltage (Voc)	35.0 V	35.0 V	35.1 V	35.2 V

Values at Normal Operating Cell Temperature, Irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s

Mechanical Characteristics

Cell Type	156 x156 mm Polycrystalline, 60 (6x10) pcs in series
Glass	High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP65/IP67 rated, with bypass diodes
Dimension	*64.6 x 39.1 x 1.6 inches
Output Cable	12 AWG, 39.4/47.2 inches
Weight	44.1 lbs
Installation Hole Location	See Drawing Above

Characteristics

Temperature Coefficient of Voc	-0.30%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pmax	-0.40%/°C
Nominal Operating Cell Temperature (NOCT)	45°C±2°C

Packing Information

Container	20' GP	40' GP	40' HQ
Pallets per Container	12	28	28
Pieces per Container	300	700	770

*Contact Renesola for tolerance specification

CAUTION: All rights reserved. Design and specification are subject to change without prior notice.

Maximum Ratings

Operating Temperature	-40°F ~ + 185°F
Maximum System Voltage	1000VDC (EU) / 600VDC (US)
Maximum Series Fuse Rating	20A (EU) / 20A (US)

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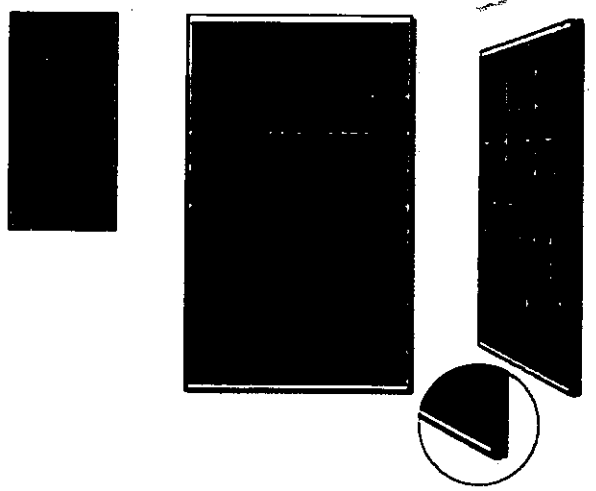
NewEdge
Breakthrough Frame Design

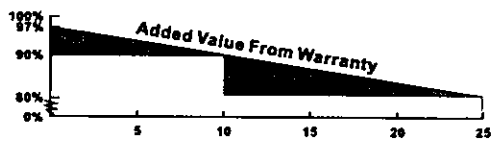
CanadianSolar



NewEdge
Black-framed CS6P
235/240/245/250/255PX

Key Features

- Quick and easy to install - dramatically reduces installation time
- Lower system costs - can cut rooftop installation costs in half
- Aesthetic seamless appearance - low profile with auto leveling and alignment
- Built-in hyper-bonded grounding system - if it's mounted, it's grounded
- Theft resistant hardware
- Ultra-low parts count - 3 parts for the mounting and grounding system
- Industry first comprehensive warranty insurance by AM Best rated leading insurance companies in the world
- Industry leading plus only power tolerance: 0 ~+5W
- Backward compatibility with all standard rooftop and ground mounting systems
- **Backed By Our New 10/25 Linear Power Warranty Plus our added 25 year Insurance coverage**



- 10 year product warranty on materials and workmanship
- 25 year linear power output warranty

Next Generation Solar Module

NewEdge, the next generation module designed for multiple types of mounting systems, offers customers the added value of minimal system costs, aesthetic seamless appearance, auto groundingand theft resistance.

The black-framed CS6P-PX is a robust 60 cell solar module incorporating the groundbreaking Zep compatible frame. The specially designed frame allows for rail-free fast installation with the industry's most reliable grounding system. The module uses high efficiency poly-crystalline silicon cells laminated with a white back sheet and framed with black anodized aluminum. The black-framed CS6P-PX is the perfect choice for customers who are looking for a high quality aesthetic module with lowest system cost.

Best Quality

- 235 quality control points in module production
- EL screening to eliminate product defects
- Current binning to improve system performance
- Accredited Salt mist resistant

Best Warranty Insurance

- 25 years worldwide coverage
- 100% warranty term coverage
- Providing third party bankruptcy rights
- Non-cancellable
- Immediate coverage
- Insured by 3 world top insurance companies

Comprehensive Certificates

- IEC 61215, IEC 61730, IEC61701 ED2, UL1703, CEC Listed, CE and MCS
- ISO9001: 2008: Quality Management System
- ISO/TS16949:2009: The automotive quality management system
- ISO14001:2004: Standards for Environmental management system
- QC080000 HSPM: The Certification for Hazardous Substances Regulations
- OHSAS 18001:2007 International standards for occupational health and safety
- REACH Compliance

www.canadiansolar.com

CS6P-235/240/245/250/255PX
Black-framed

Electrical Data

STC	CS6P-235PX	CS6P-240PX	CS6P-245PX	CS6P-250PX	CS6P-255PX
Nominal Maximum Power (Pmax)	235W	240W	245W	250W	255W
Optimum Operating Voltage (Vmp)	29.8V	29.9V	30.0V	30.1V	30.2V
Optimum Operating Current (Imp)	7.90A	8.03A	8.17A	8.30A	8.43A
Open Circuit Voltage (Voc)	36.9V	37.0V	37.1V	37.2V	37.4V
Short Circuit Current (Isc)	8.46A	8.59A	8.74A	8.87A	9.00A
Module Efficiency	14.61%	14.92%	15.23%	15.54%	15.85%
Operating Temperature	-40℃~+85℃				
Maximum System Voltage	1000V (IEC)/600V (UL)				
Maximum Series Fuse Rating	15A				
Application Classification	Class A				
Power Tolerance	0 ~ +5W				

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

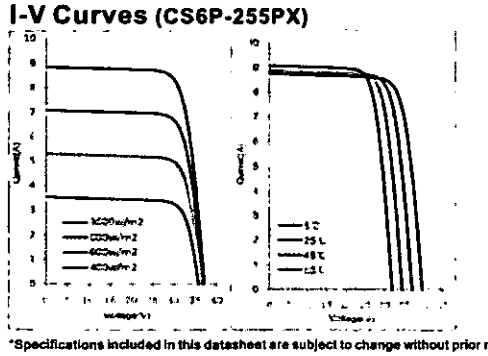
NOCT	CS6P-235PX	CS6P-240PX	CS6P-245PX	CS6P-250PX	CS6P-255PX
Nominal Maximum Power (Pmax)	170W	174W	178W	181W	185W
Optimum Operating Voltage (Vmp)	27.2V	27.3V	27.4V	27.5V	27.5V
Optimum Operating Current (Imp)	6.27A	6.38A	6.49A	6.60A	6.71A
Open Circuit Voltage (Voc)	33.9V	34.0V	34.1V	34.2V	34.4V
Short Circuit Current (Isc)	6.86A	6.96A	7.08A	7.19A	7.29A

Under Normal Operating Cell Temperature, Irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20℃, wind speed 1 m/s

Mechanical Data

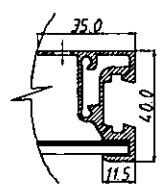
Cell Type	Poly-crystalline 156 x 156mm, 2 or 3 Busbars
Cell Arrangement	60 (6 x 10)
Dimensions	1638 x 982 x 40mm (64.5 x 38.7 x 1.57in)
Weight	20.5kg (45.2 lbs)
Front Cover	3.2mm Tempered glass
Frame Material	Anodized aluminium alloy
J-BOX	IP65, 3 diodes
Cable	4mm²(IEC)/12AWG(UL), 1000mm
Connectors	MC4 or MC4 Comparable
Standard Packaging (Modules per Pallet)	24pcs
Module Pieces per container (40 ft. Container)	672pcs (40'HQ)

I-V Curves (CS6P-255PX)



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

Section A-A



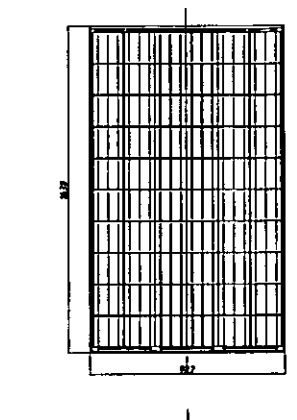
Temperature Characteristics

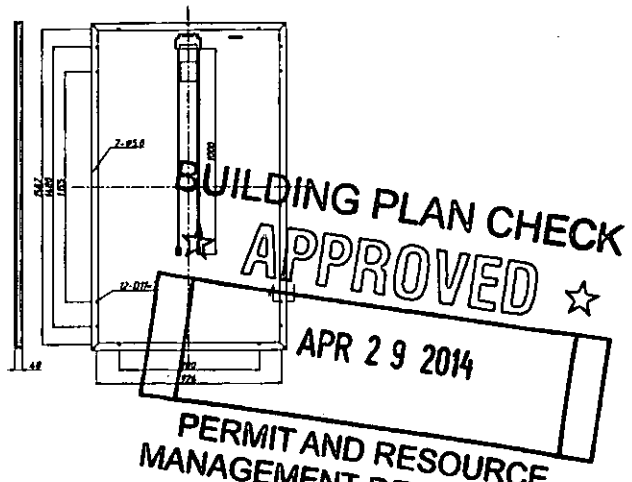
Temperature Coefficient	Pmax	-0.43%/℃
	Voc	-0.34 %/℃
	Isc	0.065 %/℃
Normal Operating Cell Temperature		45±2℃

Performance at Low Irradiance

Industry leading performance at low irradiation environment, +95.5% module efficiency from an irradiance of 1000w/m² to 200w/m² (AM 1.5, 25 ℃)

Engineering Drawings





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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 module manufacturing capacity of 2.05GW and cell manufacturing capacity of 1.3GW.

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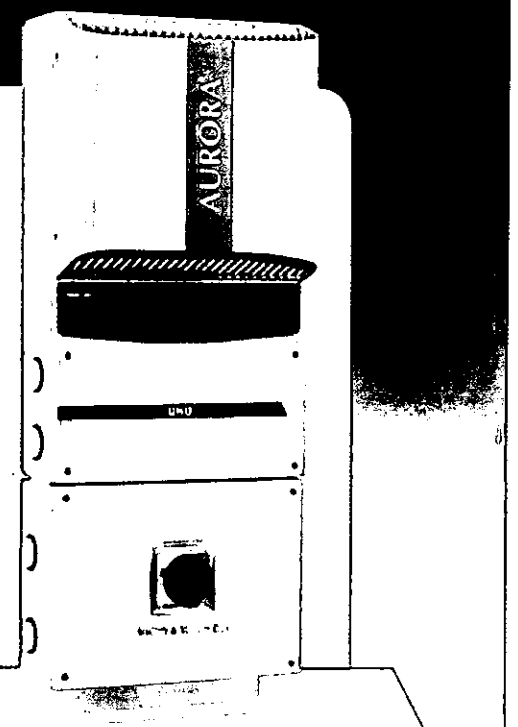
power one
Renewable Energy Solutions

AURORA UNO

PVI-3.0-TL
PVI-3.6-TL
PVI-3.8-TL
PVI-4.2-TL

GENERAL SPECIFICATIONS



The most common residential inverter is the ideal size for an average-sized family home. This family of single-phase string inverter complements the typical number of rooftop solar panels, allowing home-owners to get the most efficient energy harvesting for the size of the property. This rugged outdoor inverter has been designed as a completely sealed unit to withstand the harshest environmental conditions.

One of the key benefits of the Uno family of single-phase inverters is the dual input section to process two strings with independent MPPT especially useful for rooftop installations with two different orientations (ie East and West). The high speed MPPT offers real-time power tracking and improved energy harvesting.

The transformerless operation gives the highest efficiency of up to 97.0%. The wide input voltage range makes the inverter suitable to low power installations with reduced string size.

Features

- Each inverter is set on specific grid codes which can be selected in the field
- Single phase output
- Dual input sections with independent MPPT, allows optimal energy harvesting from two sub-arrays oriented in different directions
- Wide input range
- High speed and precise MPPT algorithm for real time power tracking and improved energy harvesting
- Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable performance across the entire input voltage and output power range
- Outdoor NEMA 4X rated enclosure for unrestricted use under any environmental conditions
- Integrated DC disconnect switch in compliance with international Standards (-S Version)
- RS-485 communication interface (for connection to laptop or datalogger)
- Compatible with PVI-RADIOMODULE for wireless communication with Aurora PVI-DESKTOP
- Integrated Arc Fault Detection and Interruption (-A Version)

TECHNICAL DATA	VALUES	PVI-3.0-OUTD-US			PVI-3.6-OUTD-US			PVI-3.8-OUTD-US			PVI-4.2-OUTD-US		
Nominal Output Power	W	3000			3600			3300	3800		4200		
Maximum Output Power	W	3000	3300[2]	3300[2]	3600	4000[2]	4000[2]	3300	3800	4200[2]	3000	4600[2]	4600[2]
Rated Grid AC Voltage	V	208	240	277	208	240	277	208	240	277	208	240	277
Input Side (DC)													
Number of Independent MPPT Channels		2			2			2			2		
Maximum Usable Power for Each Channel	W	2000			3000			3000			3000		
Absolute Maximum Voltage (Vmax)	V	600											
Start- Up Voltage (Vstart)	V	200 (adj. 120-350)											
Full Power MPPT Voltage Range	V	160-530			120-530			140-530			140-530		
Operating MPPT Voltage Range	V	0.7xVstart-580 (>= 90V)											
Maximum Current (Idcmax) for both MPPT in Parallel	A	20			32			32			32		
Maximum Usable Current per Channel	A	10			16			16			16		
Maximum Short Circuit Current Limit per Channel	A	12.5			20.0			20.0			20.0		
Number of Wire Landing Terminals Per Channel		2 pairs											
Array Wiring Termination		Terminal block, Pressure Clamp, AWG10-AWG4											
Output Side (AC)													
Grid Connection Type		1Ø/2W	Split-Ø/3W	1Ø/2W	1Ø/2W	Split-Ø/3W	1Ø/2W	1Ø/2W	Split-Ø/3W	1Ø/2W	1Ø/2W	Split-Ø/3W	1Ø/2W
Adjustable Voltage Range (Vmin-Vmax)	V	183-228	211-264	244-304	183-228	211-264	244-304	183-228	211-264	244-304	183-228	211-264	244-304
Grid Frequency	Hz	60											
Adjustable Grid Frequency Range	Hz	57-60.5											
Maximum Current (Iacmax)	Arms	14.5	14.5	12.0	17.2	16.0	16.0	16.0	16.0	16.0	20.0	20.0	20.0
Power Factor		> 0.995											
Total Harmonic Distortion At Rated Power	%	< 2											
Grid Wiring Termination Type		Terminal block, Pressure Clamp AWG10 - AWG4											
Protection Devices													
Input													
Reverse Polarity Protection		Yes											
Over-Voltage Protection Type		Varistor, 2 for each channel											
PV Array Ground Fault Detection		Pre start-up Riso and dynamic GFDI (Requires Floating Arrays)											
Output													
Anti-Islanding Protection		Meets UL 1741/IEEE1547 requirements											
External AC OCPD Rating	Arms	20	20	15	25	20	20	20	20	25	25	25	
Over-Voltage Protection Type		Varistor, 2 (L1 - L2 / L1 - G)											
Efficiency													
Maximum Efficiency	%	96.9			97			97			97		
CEC Efficiency	%	96											
Operating Performance													
Night Time Consumption	Wnom	< 0.6											
Stand By Consumption	Wnom	< 8											
Communication													
User-Interface		16 characters x 2 lines LCD display											
Remote Monitoring (1xRS485 incl.)		AURORA-UNIVERSAL (opt.)											
Wired Local Monitoring (1xRS485 incl.)		PVI-USB-RS485_232 (opt.), PVI-DESKTOP (opt.)											
Wireless Local Monitoring		PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)											
Environmental													
Ambient Air Operating Temperature Range	°F (°C)	-13 to +140 (-25 to +60) with derating above 122 (50)											
Ambient Air Storage Temperature Range	°F (°C)	-40 to 176 (-40 to +80)											
Relative Humidity	% RH	0-100 condensing											
Acoustic Noise Emission Level	db (A) @ 1m	< 50											
Maximum Operating Altitude without Derating	ft(m)	6560 (2000)											
Mechanical Specifications													
Enclosure rating		NEMA 4X											
Cooling		Natural Convection											
Dimensions (H x W x D)	in (mm)	33.8 x 12.8 x 8.7 (859 x 325 x 222)											
Weight	lb (kg)	< 47.3 (21.3)											
Shipping Weight	lb (kg)	< 60 (27.0)											
Mounting System		Wall bracket											
Conduit Connections[3]		Trade size KOs: (2ea x 1/2") and (2ea x 1-1/4", 3 places side, front, rear) Side: (2) plugged 3/4" openings, (2) Concentric EKOs 3/4", 1" Back: (4) Concentric EKOs 3/4", 1"											
DC Switch Rating (Per Contact)	A/V	25 / 600											
Safety													
Isolation Level		Transformerless (Floating Array)											
Safety and EMC Standard		UL 1741, CSA - C22.2 N. 107.1-01, UL1998 UL 16998, FCC Part 15 Class B											
Safety Approval		cCSAus											
Warranty													
Standard Warranty	years	10											
Extended Warranty	years	15 & 20											
Available Models													
Standard - Without DC Switch and Wiring Box		PVI-3.0-OUTD-US			PVI-3.6-OUTD-US			PVI-3.8-OUTD-US			PVI-4.2-OUTD-US		
Standard - With DC Switch and Wiring Box		PVI-3.0-OUTD-S-US			PVI-3.6-OUTD-S-US			PVI-3.8-OUTD-S-US			PVI-4.2-OUTD-S-US		
With DC Switch, Wiring box and Arc Fault Detector and Interrupter		PVI-3.0-OUTD-S-US-A			PVI-3.6-OUTD-S-US-A			PVI-3.8-OUTD-S-US-A			PVI-4.2-OUTD-S-US-A		

*All data is subject to change without notice
[2] Capability enabled at nominal AC voltage and with sufficient DC power available
[3] When equipped with optional DC switch and Wiring Box