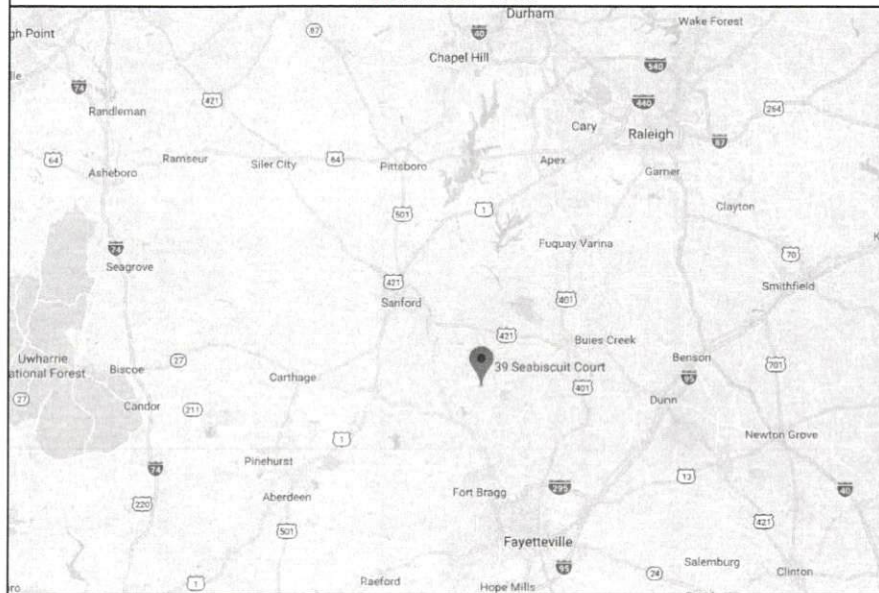


VICINITY MAP



PROPERTY MAP



ENGINEER:



MODEL ENERGY

300 FAYETTEVILLE ST.
#1430
RALEIGH, NC 27602
919-274-9905
MODELENERGY.COM

P-1194

JOB TITLE:

NEW SOLAR PV SYSTEM
3.9 KW DC INPUT
3.9 KW AC EXPORT

Jeffery Bick
39 Seabiscuit Ct.
LILLINGTON, NC 27546

CLIENT:



ISSUED FOR:	DATE:
PERMIT	7/13/18

PROJECT INFORMATION

PV1.1

CONSTRUCTION NOTES

- ALL WORK AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL, STATE, AND LOCAL CODES AND ORDINANCES
- FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS
- WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS
- THE PHOTOVOLTAIC SYSTEM SHALL NOT EXCEED 600 VOLTS OR 800 AMPS
- EACH ELECTRICAL APPLIANCE SHALL BE PROVIDED WITH A NAMEPLATE GIVING THE IDENTIFYING NAME AND THE RATING IN VOLTS AND AMPERES, OR VOLTS AND WATTS. IF THE APPLIANCE IS TO BE USED ON A SPECIFIC FREQUENCY OR FREQUENCIES, IT SHALL BE SO MARKED. WHERE MOTOR OVERLOAD PROTECTION EXTERNAL TO THE APPLIANCES IS REQUIRED, THE APPLIANCE SHALL BE SO MARKED
- WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE
- GROUNDING DC PHOTOVOLTAIC ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION THAT MEETS THE REQUIREMENTS OF NEC SECTION 690.5. UNGROUNDED DC PHOTOVOLTAIC ARRAYS SHALL COMPLY WITH NEC SECTION 690.35
- IN ONE- AND TWO-FAMILY DWELLINGS, LIVE PARTS IN PHOTOVOLTAIC SOURCE CIRCUITS AND PHOTOVOLTAIC OUTPUT CIRCUITS OVER 150 VOLTS TO GROUND, SHALL ONLY BE ACCESSIBLE TO QUALIFIED PERSONS WHILE ENERGIZED.
- PHOTOVOLTAIC SYSTEMS SHALL BE PERMANENTLY MARKED AT VARIOUS EQUIPMENT LOCATIONS TO IDENTIFY THAT A PHOTOVOLTAIC SYSTEM IS INSTALLED AND THAT VARIOUS DANGERS ARE PRESENT.
- EACH PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A PHOTOVOLTAIC SYSTEM DISCONNECT
- WHERE ALL TERMINALS OF A DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A WARNING SIGN SHALL BE MOUNTED ON OR ADJACENT TO THE DISCONNECT
- A PERMANENT LABEL FOR THE DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE SHALL BE PROVIDED BY THE INSTALLED AT THE DC DISCONNECT MEANS
- A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES SERVING THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL POWER PRODUCTION SOURCES.
- A PERMANENT PLAQUE OR DIRECTORY SHALL BE PROVIDED DENOTING THE LOCATIONS OF THE SERVICE DISCONNECT MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECT MEANS IF THEY ARE NOT LOCATED AT THE SAME LOCATION.
- ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
DC	DIRECT CURRENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
EMT	ELECTRICAL METAL TUBING
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
I	CURRENT
IMP	CURRENT AT MAXIMUM POWER
Isc	SHORT-CIRCUIT CURRENT
kVA	KILOVOLT AMPERE
kW	KILOWATT
MAX	MAXIMUM
MIN	MINIMUM
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
NOM	NOMINAL
NTS	NOT TO SCALE
Pnom	NOMINAL POWER
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
SN	SOLAR NOON
STC	STANDARD TEST CONDITIONS
TYP	TYPICAL
V	VOLT
VMP	VOLTAGE AT MAXIMUM POWER
Voc	OPEN-CIRCUIT VOLTAGE
W	WATT

CODE REFERENCES

2017 NATIONAL ELECTRIC CODE
2012 NORTH CAROLINA BUILDING CODE
2012 NORTH CAROLINA RESIDENTIAL CODE
2012 NORTH CAROLINA FIRE CODE

SHEET INDEX

PV1.1 - PROJECT INFORMATION
PV2.1 - SITE & STRUCTURAL INFORMATION
PV3.1 - ELECTRICAL INFORMATION
PV4.1 - EQUIPMENT LABELS

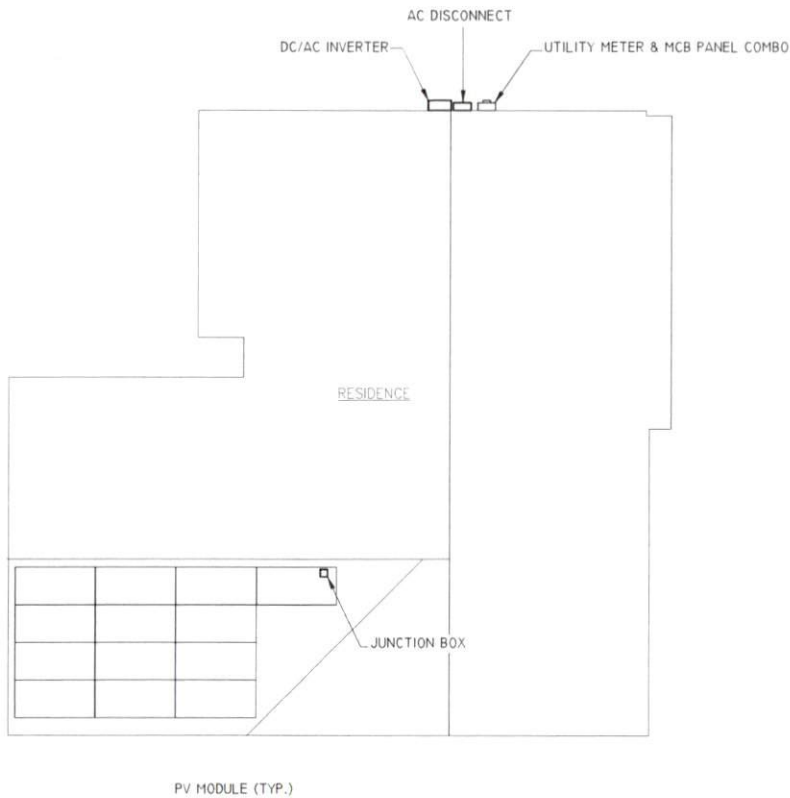
SITE CONDITIONS

ASCE 7-10 WIND SPEED - 115 MPH
EXPOSURE CATEGORY - B
RISK CATEGORY - II

LEGEND

	DISCONNECT SWITCH
	FUSE
	CIRCUIT BREAKER
	EQUIP. GROUND

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ROOF MOUNT & FASTENER	
ROOF MOUNT:	
MAKE	SOLAR ROOF HOOK
MODEL	L-FOOT
MATERIAL	ALUMINUM
FASTENER	
MAKE	SOLAR ROOF HOOK
MODEL	QUICKBOLT
MATERIAL	304 SS
SIZE	5/16-18 X 7"
GENERAL	
WEIGHT	1 LBS
FASTENERS PER MOUNT	1 PER MOUNT
MAX. PULL-OUT FORCE	960 LBS.
SAFETY FACTOR	2.0
DESIGN PULL-OUT FORCE	480 LBS.

ARRAY SUMMARY	
# MODULES	13
MOD. ATT. MID	18
MOD. ATT. END	16
ROOF MOUNTS	43
RAIL LENGTH	145 FT.
ARRAY AREA	229 sqFT.
ARRAY WEIGHT	717 LBS.
AZIMUTH @ SN	165°
TILT ANGLE	40°

PV MODULES	
MAKE	CAN SOLAR
MODEL	CS6K-300MS
WIDTH	39.1"
LENGTH	65"
THICKNESS	1.57"
WEIGHT	40.1 LBS

MOUNTING RAILS	
MAKE	UNIRAC
MODEL	SM STANDARD
MATERIAL	ALUMINUM
WEIGHT	1.25 LBS./FT.
SPACING	34 IN.


ROOF SUMMARY	
STRUCTURE	
TYPE	WOOD TRUSSES
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 4"
SPACING	24" o.c.
EFF. SPAN	11'-8"
PITCH	10 / 12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	WOOD COMPOSITE
THICKNESS	7/16"
WEIGHT	1.6 LBS./SQFT.
ROOFING:	
TYPE	ARCH SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.3 LBS./SQFT.

ROOF LOADING	
DEAD LOAD:	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.7 LBS./SQFT.
TOTAL	6.6 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQFT.
UPLIFT ZONE 2	-29 LBS./SQFT.
UPLIFT ZONE 3	-29 LBS./SQFT.
DOWNWARD	23 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-240 LBS.
UPLIFT ZONE 2	-189 LBS.
UPLIFT ZONE 3	-94 LBS.
DOWNWARD	122 LBS.

ROOF ZONES:	
ALL ZONES	MAX. OVERHANG = 16"
ZONE 1	MAX. FASTENER SPAN ZONE 1 = 72"
ZONE 2	MAX. FASTENER SPAN ZONE 2 = 48"
ZONE 3	MAX. FASTENER SPAN ZONE 3 = 24"

STATEMENT OF STRUCTURAL COMPLIANCE


THE EXISTING ROOF STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF THE PURPOSED PV SYSTEM. IN ADDITION, THE RACKING AND FASTENING SYSTEM SHALL BE CAPABLE OF SECURING THE SYSTEM TO THE STRUCTURE UNDER DESIGN CONDITIONS WHEN INSTALLED PROPERLY AND IN ACCORDANCE WITH THE RACKING AND FASTENING ARRANGEMENT DETAILED WITHIN THESE DRAWINGS.

SIGNED: 

NAME: ANDREW W. KING, PE

TITLE: PROFESSIONAL ENGINEER

ENGINEER:




MODEL ENERGY
 300 FAYETTEVILLE ST.
 #1430
 RALEIGH, NC 27602
 919-274-9905
 MODELENERGY.COM
 P-1194

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 3.9 kW AC EXPORT
 Jeffrey Bick
 39 Seabiscuit Ct.
 LILLINGTON, NC 27546

CLIENT:



ISSUED FOR: _____ DATE: _____
 PERMIT: _____ 7/13/18

SITE & STRUCTURAL INFORMATION
PV2.1

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PV MODULES	
MAKE	CAN. SOLAR
MODEL	CS6K-300MS
TECHNOLOGY	MONO-CRYST.
NOM. POWER (P _{NOH})	300 WATTS
NOM. VOLT. (V _{MP})	32.5 VOLTS
O.C VOLT. (V _{OC})	39.7 VOLTS
MAX. SYS. VOLT.	1000 V (UL)
TEMP. COEF. (V _{TC})	-0.30 %/°C
NOM. CURR. (I _{MP})	9.24 AMPS
S.C. CURR. (I _{SC})	9.83 AMPS
MAX. SERIES FUSE	15 AMPS

MODULE OPTIMIZER	
MAKE	SOLAR EDGE
MODEL	P300
DC INPUT	
NOM. POWER	300 WATTS
VOLT. RANGE	8-48
MAX. CURR.	10.0 AMPS
DC OUTPUT	
NOM. POWER	300 WATTS
MAX. VOLT.	60 VOLTS
MAX. CURR.	15.0 AMPS
MIN. STRING	8 OPTIMIZERS
MAX. STRING	25 OPTIMIZERS
MAX. POWER	5250 WATTS

NOTES:

- P320 OPTIMIZERS CAN BE USED INSTEAD OF THE P300

JUNCTION BOX	
MAKE	SOLADECK
MODEL	0783-3R
PRO. RATING	NEMA 3R
VOLT. RATING	600 VOLTS
AMP RATING	120 AMPS
UL LISTING	UL 50

CONDUCTOR SCHEDULE													
TAG	CURRENT CARRYING CONDUCTORS				GROUNDING CONDUCTORS				CONDUIT/RACEWAY				NOTES
	QTY.	SIZE	MATERIAL	INSULATION	QTY.	SIZE	MATERIAL	INSULATION	QTY.	SIZE	MATERIAL	LOCATION	
C1	2	10 AWG	COPPER	PV WIRE	1	6 AWG	COPPER	BARE	-	-	-	FREE AIR	1
C2	2	10 AWG	COPPER	THWN-2	1	10 AWG	COPPER	THWN-2	1	1/2"	ROMEX/EMT	INT/EXT	2.4
C3	3	12 AWG	COPPER	THWN	1	10 AWG	COPPER	THWN	1	1/2"	ROMEX/EMT	INT/EXT	2.4
XC	-	-	-	-	-	-	-	-	-	-	-	-	3

NOTES:

- MANUFACTURER PROVIDED, UL LISTED WIRING HARNESS FOR USE ON EXPOSED ROOFS
- CONDUIT SIZE SHOWN IS CODE MINIMUM. LARGER SIZES ARE ALLOWED.
- EXISTING CONDUCTORS, FIELD VERIFY
- EQUIPMENT TERMINAL RATING SHALL BE A MINIMUM OF 75°C AT BOTH END OF CONDUCTOR

DC/AC INVERTER	
MAKE	SOLAREEDGE
MODEL	SE4000A-US
TECHNOLOGY	TRANSFORMER-LESS
DC INPUT	
MAX. POWER	5400 WATTS
VOLT. RANGE	350-500 VOLTS
NOM. VOLT.	350 VOLTS
MAX. CURRENT	15.5 AMPS
STRING INPUTS	2 STRINGS
AC OUTPUT	
NOM. POWER	3680 WATTS
NOM. VOLT.	240/1 VOLTS
MAX. POWER	4000 WATTS
MAX. CURR.	16 AMPS
GFP (Y/N)	YES
GFCI (Y/N)	YES
AFCI (Y/N)	YES
DC DISC. (Y/N)	YES
RAPID SHUTDOWN	YES
FUSE RATING	15 AMPS
PROTECT RATING	NEMA 3R

AC DISCONNECT	
MAKE	GENERIC
MODEL	N/A
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
AMP RATING	30 AMPS AMPS
UL LIST. (Y/N)	YES
FUSED (Y/N)	NO
FUSE RATING	N/A

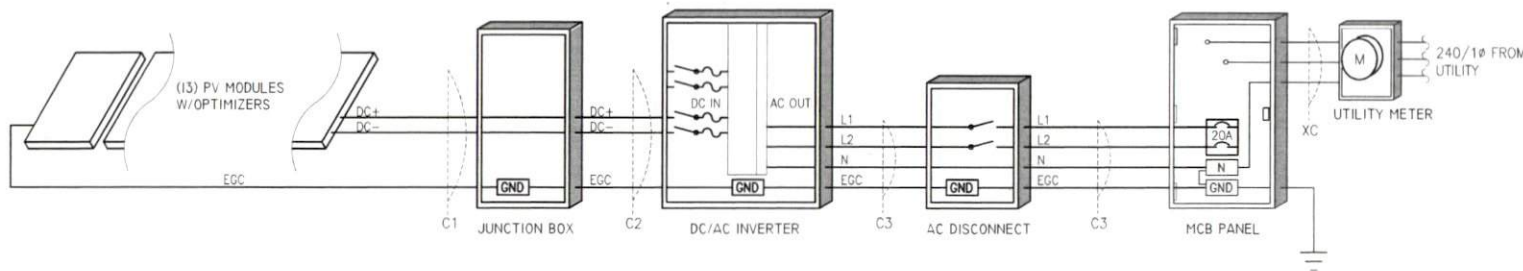
NOTES:

- LOAD-BREAK RATED
- VISIBLE OPEN
- LOCKABLE IN OPEN POSITION
- INSTALL ADJACENT TO METER

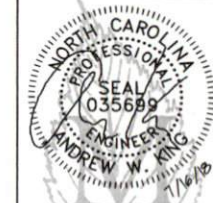
MCB PANEL/SERVICE DISCONNECT (EXISTING)	
MAKE	EATON
MODEL	MBI2I2L200BTS
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
BUS RATING	200 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	NO
BREAKER RATING	N/A

NOTES:

- BACK-FEED SOLAR OUTPUT VIA 20A BREAKER AT THE OPPOSITE END OF THE BUS BAR FROM MAIN BREAKER



ENGINEER:



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ELECTRICAL INFORMATION

PV3.1

PHOTOVOLTAIC ARRAY AC DISCONNECT
 MAXIMUM OPERATING AC VOLTAGE: 240V
 MAXIMUM OPERATING CURRENT: 16 AMPS

PLACE ON COVER OF AC DISCONNECT SWITCH

WARNING!
ELECTRIC SHOCK HAZARD!
DO NOT TOUCH TERMINALS!
 TERMINALS ON BOTH THE LINE AND LOAD SIDES
 MAY BE ENERGIZED IN THE OPEN POSITION.

PLACE ON JUNCTION BOX

WARNING!
 PHOTOVOLTAIC POWER SOURCE

PLACE ON DC CONDUIT

WARNING!
ELECTRIC SHOCK HAZARD!
DO NOT TOUCH TERMINALS!
 DUAL POWER SOURCE. PHOTOVOLTAIC
 SYSTEM IS SECONDARY POWER SOURCE.
 TERMINALS ON BOTH THE LINE AND LOAD SIDES
 MAY BE ENERGIZED IN THE OPEN POSITION.

PLACE ON MCB PANEL

WARNING!
INVERTER OUTPUT CONNECTION:
 DO NOT RELOCATE THIS OVER-CURRENT DEVICE

LABEL FOR PV INPUT BREAKER

**PHOTOVOLTAIC SYSTEM EQUIPPED
 WITH RAPID SHUTDOWN**

RAPID SHUTDOWN LABEL

WARNING!
**ELECTRIC SHOCK HAZARD. THE DC
 CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM
 ARE UNGROUNDED AND MAY BE ENERGIZED.**

PLACE ON JUNCTION BOXES, COMBINER BOXES, DISCONNECTS AND
 EQUIPMENT THAT ARE CONNECTED TO UNGROUNDED CIRCUITS.

WARNING!
ELECTRIC SHOCK HAZARD!
DO NOT TOUCH TERMINALS!
 TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED
 IN THE OPEN POSITION. THE DC CONDUCTORS OF THIS
 PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE
 ENERGIZED.

PHOTOVOLTAIC POWER SOURCE
 OPERATING AC VOLTAGE: 240V
 MAX OPERATING AC OUTPUT CURRENT: 16 AMPS

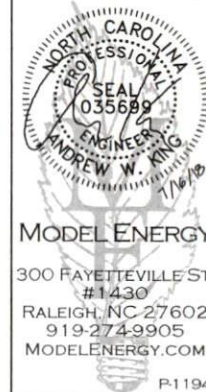
PHOTOVOLTAIC ARRAY DC DISCONNECT
 OPERATING DC VOLTAGE: 350 VOLTS
 OPERATING CURRENT: 11.1 AMPS
 MAX SYSTEM VOLTAGE: 500 VOLTS
 SHORT-CIRCUIT CURRENT: 15 AMPS

PLACE ON THE COVER OF INVERTER/DC DISCONNECT SWITCH

EQUIPMENT LABEL NOTES

1. LABELS SHALL HAVE A RED BACKGROUND COLOR WITH WHITE LETTERING. TEXT SHALL BE IN ALL CAPITAL LETTERS AND NOT BE BOLD FONT
2. LABEL MATERIAL SHALL BE SUITABLE FOR THE EQUIPMENT ENVIRONMENT
3. CONDUIT SHALL BE MARKED WITH REQUIRED LABEL EVERY 10 FEET

ENGINEER:



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EQUIPMENT LABELS

PV4.1

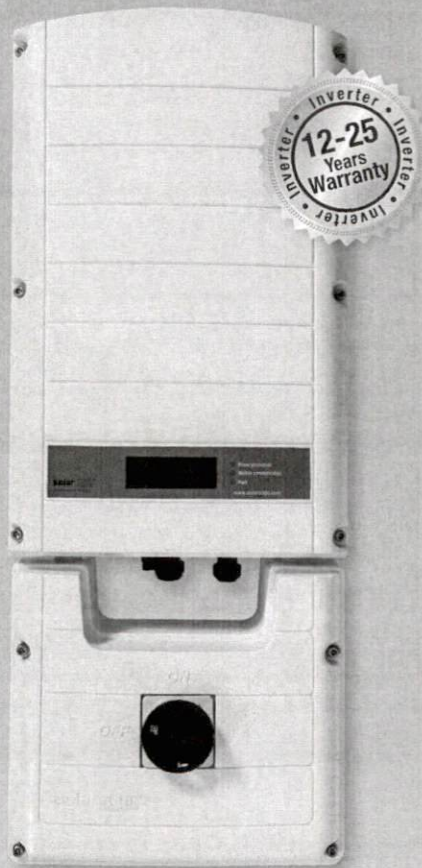


SolarEdge Single Phase Inverters

For North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

INVERTERS



The best choice for SolarEdge enabled systems

- Integrated arc fault protection for NEC 2011 690.11 compliance
- Rapid shutdown for NEC 2014 690.12
- Superior efficiency (98%)
- Small, lightweight and easy to install on provided bracket
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Outdoor and indoor installation
- Fixed voltage inverter, DC/AC conversion only
- Pre-assembled Safety Switch for faster installation
- Optional – revenue grade data, ANSI C12.1



Single Phase Inverters for North America

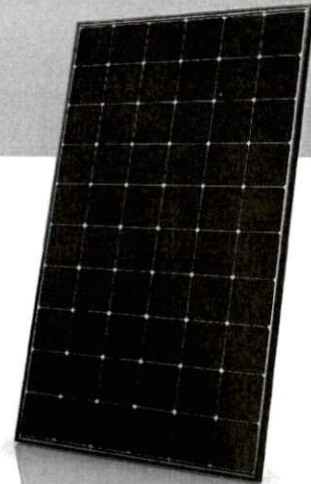
SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

	SE3000A-US	SE3800A-US	SE5000A-US	SE6000A-US	SE7600A-US	SE10000A-US	SE11400A-US		
OUTPUT									
Nominal AC Power Output	3000	3800	5000	6000	7600	9980 @ 208V	11400	VA	
Max. AC Power Output	3300	4150	5400 @ 208V 5450 @ 240V	6000	8350	10000 @ 240V 10800 @ 208V 10950 @ 240V	12000	VA	
AC Output Voltage Min.-Nom.-Max. ⁽¹⁾ 183 - 208 - 229 Vac	-	-	✓	-	-	✓	-		
AC Output Voltage Min.-Nom.-Max. ⁽¹⁾ 211 - 240 - 264 Vac	✓	✓	✓	✓	✓	✓	✓		
AC Frequency Min.-Nom.-Max. ⁽¹⁾	59.3 - 60 - 60.5							Hz	
Max. Continuous Output Current	12.5	16	24 @ 208V 21 @ 240V	25	32	48 @ 208V 42 @ 240V	47.5	A	
GFDI Threshold							1	A	
Utility Monitoring, Islanding Protection, Country Configurable Thresholds							Yes	Yes	
INPUT									
Maximum DC Power (STC)	4050	5100	6750	8100	10250	13500	15350	W	
Transformer-less, Ungrounded							Yes		
Max. Input Voltage							500	Vdc	
Nom. DC Input Voltage							325 @ 208V / 350 @ 240V	Vdc	
Max. Input Current ⁽²⁾	9.5	13	16.5 @ 208V 15.5 @ 240V	18	23	33 @ 208V 30.5 @ 240V	34.5	Adc	
Max. Input Short Circuit Current							45	Adc	
Reverse-Polarity Protection							Yes		
Ground-Fault Isolation Detection							600ka Sensitivity		
Maximum Inverter Efficiency	97.7	98.2	98.3	98.3	98	98	98	%	
CEC Weighted Efficiency	97.5	98	97 @ 208V 98 @ 240V	97.5	97.5	97 @ 208V 97.5 @ 240V	97.5	%	
Nighttime Power Consumption	< 2.5			< 4				W	
ADDITIONAL FEATURES									
Supported Communication Interfaces	RS485, RS232, Ethernet, ZigBee (optional)								
Revenue Grade Data, ANSI C12.1	Optional ⁽³⁾								
Rapid Shutdown – NEC 2014 690.12	Yes								
STANDARD COMPLIANCE									
Safety	UL1741, UL1699B, UL1998, CSA 22.2								
Grid Connection Standards	IEEE1547								
Emissions	FCC part15 class B								
INSTALLATION SPECIFICATIONS									
AC output conduit size / AWG range	3/4" minimum / 16-6 AWG				3/4" minimum / 8-3 AWG				
DC input conduit size / # of strings / AWG range	3/4" minimum / 1-2 strings / 16-6 AWG				3/4" minimum / 1-3 strings / 14-6 AWG				
Dimensions with Safety Switch (HxWxD)	30.5 x 12.5 x 7.2 / 775 x 315 x 184				30.5 x 12.5 x 10.5 / 775 x 315 x 260				in / mm
Weight with Safety Switch	51.2 / 23.2		54.7 / 24.7		88.4 / 40.1			lb / kg	
Cooling	Natural Convection				Natural convection and internal fan (user replaceable)		Fans (user replaceable)		
Noise	< 25				< 50				dBa
Min.-Max. Operating Temperature Range	-13 to +140 / -25 to +60 (-40 to +60 version available ⁽⁴⁾)							°F / °C	
Protection Rating	NEMA 3R								

⁽¹⁾ For other regional settings please contact SolarEdge support.
⁽²⁾ A higher current source may be used; the inverter will limit its input current to the values stated.
⁽³⁾ Revenue grade inverter P/N: SExxxxA-US000NNR2 (for 7600W inverter: SE7600A-US002NNR2).
⁽⁴⁾ -40 version P/N: SExxxxA-US000NNU4 (for 7600W inverter: SE7600A-US002NNU4).



RoHS



SUPERPOWER CS6K-290 | 295 | 300MS

Canadian Solar's new SuperPower modules with Mono-PERC cells significantly improve efficiency and reliability. The innovative technology offers superior low irradiance performance in the morning, in the evening and on cloudy days, increasing the energy output of the module and the overall yield of the solar system.

KEY FEATURES



11 % more power than conventional modules



Excellent performance at low irradiance: 97.5 %



High PTC rating of up to 91.87 %



Improved energy production due to low temperature coefficients



IP67 junction box for long-term weather endurance



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa



linear power output warranty



product warranty on materials and workmanship

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2008 / Quality management system

ISO 14001:2004 / Standards for environmental management system

OHSAS 18001:2007 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730: VDE / CE / MCS / CEC AU

UL 1703 / IEC 61215 performance: CEC listed (US)

UL 1703: CSA / IEC 61701 ED2: VDE / IEC 62716: VDE / Take-e-way

UNI 9177 Reaction to Fire: Class 1



* As there are different certification requirements in different markets, please contact your local Canadian Solar sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

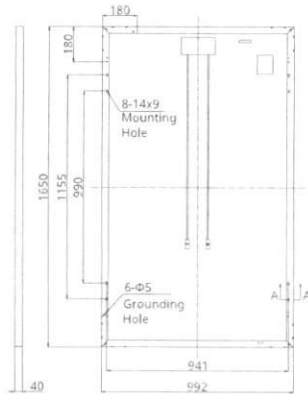
CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 15 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.

CANADIAN SOLAR INC.

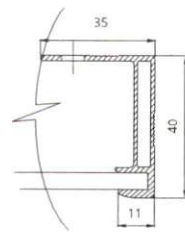
2430 Camino Ramon, Suite 240 San Ramon, CA, USA 94583-4385 | www.canadiansolar.com/na | sales.us@canadiansolar.com

ENGINEERING DRAWING (mm)

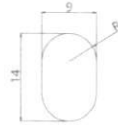
Rear View



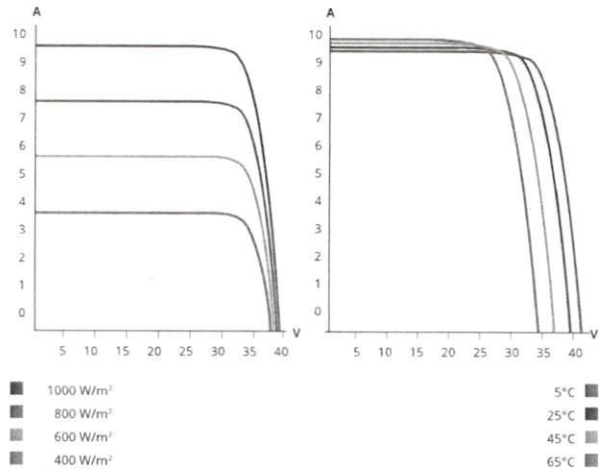
Frame Cross Section A-A



Mounting Hole



CS6K-295MS / I-V CURVES



ELECTRICAL DATA | STC*

CS6K	290MS	295MS	300MS
Nominal Max. Power (Pmax)	290 W	295 W	300 W
Opt. Operating Voltage (Vmp)	32.1 V	32.3 V	32.5 V
Opt. Operating Current (Imp)	9.05 A	9.14 A	9.24 A
Open Circuit Voltage (Voc)	39.3 V	39.5 V	39.7 V
Short Circuit Current (Isc)	9.67 A	9.75 A	9.83 A
Module Efficiency	17.72 %	18.02 %	18.33 %
Operating Temperature	-40°C ~ +85°C		
Max. System Voltage	1000 V (IEC) or 1000 V (UL)		
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)		
Max. Series Fuse Rating	15 A		
Application Classification	Class A		
Power Tolerance	0 ~ + 5 W		

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

ELECTRICAL DATA | NOCT*

CS6K	290MS	295MS	300MS
Nominal Max. Power (Pmax)	210 W	213 W	216 W
Opt. Operating Voltage (Vmp)	29.0 V	29.2 V	29.4 V
Opt. Operating Current (Imp)	7.25 A	7.30 A	7.35 A
Open Circuit Voltage (Voc)	36.2 V	36.4 V	36.6 V
Short Circuit Current (Isc)	7.74 A	7.83 A	7.92 A

* Under Nominal Operating Cell Temperature (NOCT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

PERFORMANCE AT LOW IRRADIANCE

Excellent performance at low irradiance, average relative efficiency of 97.5 % from an irradiance of 1000 W/m² to 200 W/m² (AM 1.5, 25°C).

The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Canadian Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Caution: For professional use only. The installation and handling of PV modules requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the modules.

MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline, 6 inch
Cell Arrangement	60 (6×10)
Dimensions	1650×992×40 mm (65.0×39.1×1.57 in)
Weight	18.2 kg (40.1 lbs)
Front Cover	3.2 mm tempered glass
Frame Material	Anodized aluminium alloy
J-Box	IP67, 3 diodes
Cable	4 mm ² (IEC) or 4 mm ² & 12 AWG 1000 V (UL), 1000 mm (39.4 in)
Connector	T4 (IEC/UL)
Per Pallet	26 pieces, 520 kg (1146.4 lbs)
Per container (40' HQ)	728 pieces

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.39 % / °C
Temperature Coefficient (Voc)	-0.30 % / °C
Temperature Coefficient (Isc)	0.053 % / °C
Nominal Operating Cell Temperature	45±2 °C

PARTNER SECTION

