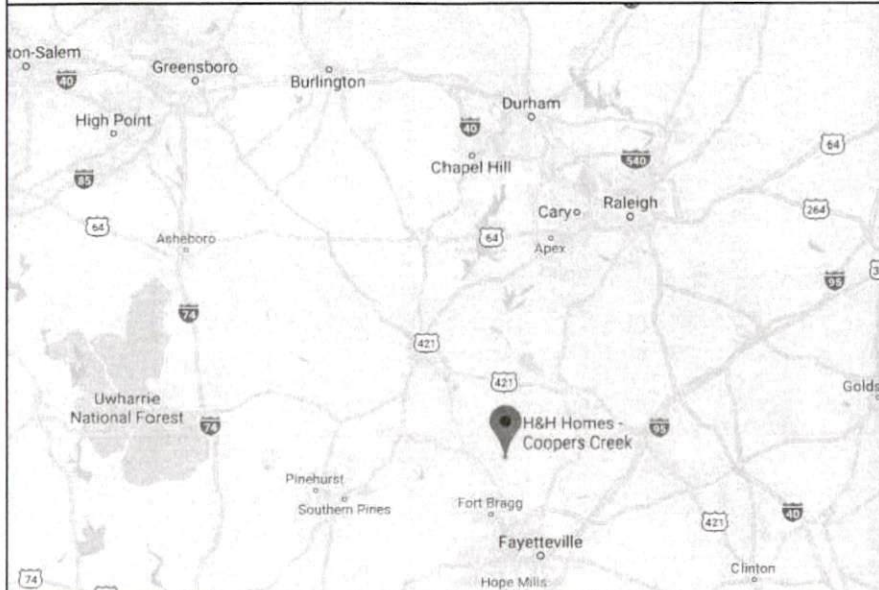


VICINITY MAP



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
 12.0 kW DC INPUT
 11.4 kW AC EXPORT

Samuel R Barthelemy
 87 Coopers Creek Ave
 SPRING LAKE, NC 28390

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 INSTALLER 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
ECC	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
NOH	NOHINAL
NTS	NOT TO SCALE
PNOH	NOHINAL 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
 PV2.2 - SITE & STRUCTURAL INFORMATION
 PV3.1 - ELECTRICAL INFORMATION
 PV4.1 - EQUIPMENT LABELS

SITE CONDITIONS

ASCE 7-10 WIND SPEED - II5 MPH
 EXPOSURE CATEGORY - B
 RISK CATEGORY - II

LEGEND

	DISCONNECT SWITCH
	FUSE
	CIRCUIT BREAKER
	EQUIP. GROUND

CLIENT:

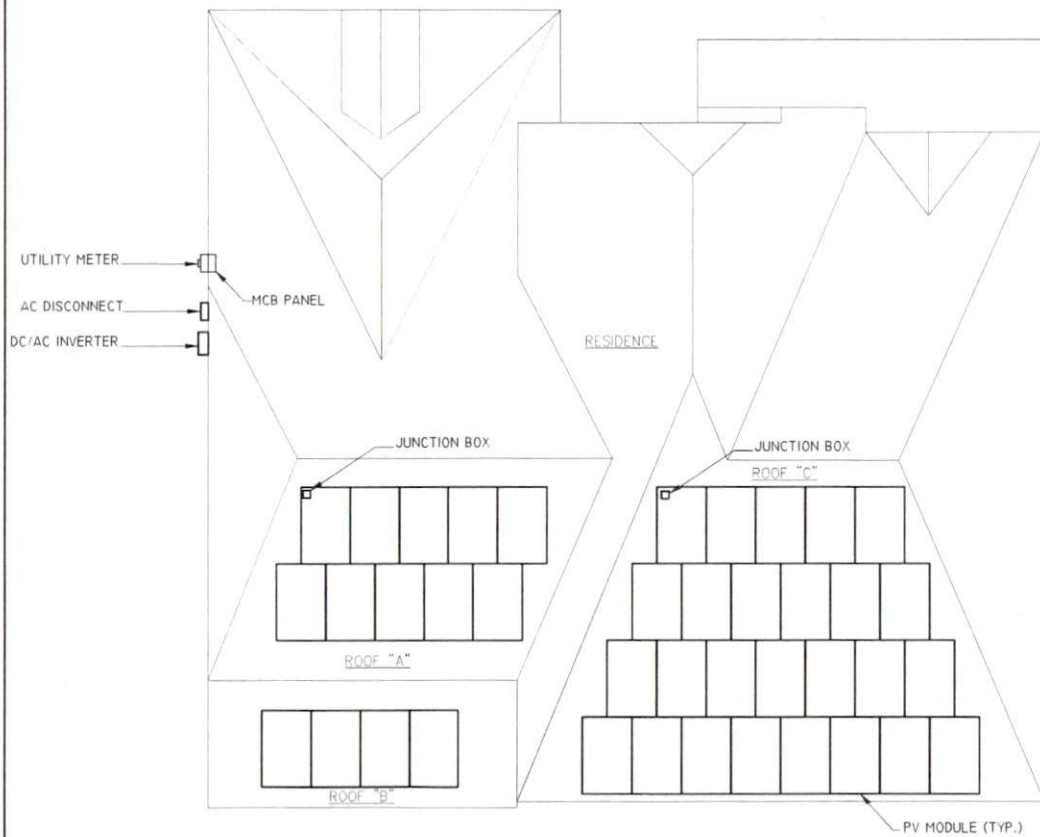


ISSUED FOR: PERMIT
 DATE: 9/27/18

PROJECT INFORMATION

PV1.1

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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
MAX. PULL-OUT FORCE	960 Lbs. / MOUNT
SAFETY FACTOR	2.0
DESIGN PULL-OUT FORCE	480 Lbs. / MOUNT


PV MODULES	
MAKE	CAN. SOLAR
MODEL	CS6K-300MS
WIDTH	39 IN.
LENGTH	65 IN.
THICKNESS	1.6 IN.
WEIGHT	40 LBS.

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

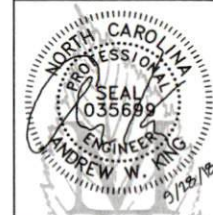
ROOF ZONES:	
ALL ZONES	MAX. OVERHANG = 16'
ZONE 1	MAX. FASTENER SPAN ZONE 1 = 72'
ZONE 2	MAX. FASTENER SPAN ZONE 2 = 48'
ZONE 3	MAX. FASTENER SPAN ZONE 3 = 24'

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.
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CLIENT:



ISSUED FOR: DATE:
 PERMIT 9/27/18

SITE & STRUCTURAL
 INFORMATION

PV2.1

ENGINEER:



MODEL ENERGY
 300 FAYETTEVILLE ST.
 #1430
 RALEIGH, NC 27602
 919.227.4905
 MODELENERGY.COM
 P-1194

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 Samuel R Barthelemy
 87 Coopers Creek Ave
 SPRING LAKE, NC 28390

CLIENT:



ISSUED FOR: DATE:
 PERMIT: 9/27/18

ELECTRICAL
 INFORMATION

PV2.2

ROOF '1' SUMMARY

STRUCTURE	TRUSSES
TYPE	SOUTHERN PINE #2
MATERIAL	2" X 4"
SIZE	24' o.c.
SPACING	14.9'
EFF. SPAN	4 / 12
PITCH	30 LBS./CU.FT.
DENSITY	OSB
DECKING:	WOOD COMPOSITE
TYPE	7/16"
MATERIAL	1.6 LBS./SQFT.
THICKNESS	
WEIGHT	
ROOFING:	ARCH SHINGLE
TYPE	ASPHALT
MATERIAL	2.3 LBS./SQFT.
WEIGHT	

ROOF '2' SUMMARY

STRUCTURE	TRUSSES
TYPE	SOUTHERN PINE #2
MATERIAL	2" X 4"
SIZE	24' o.c.
SPACING	8-5'
EFF. SPAN	4 / 12
PITCH	30 LBS./CU.FT.
DENSITY	OSB
DECKING:	WOOD COMPOSITE
TYPE	7/16"
MATERIAL	1.6 LBS./SQFT.
THICKNESS	
WEIGHT	
ROOFING:	ARCH SHINGLE
TYPE	ASPHALT
MATERIAL	2.3 LBS./SQFT.
WEIGHT	

ROOF '3' SUMMARY

STRUCTURE	TRUSSES
TYPE	SOUTHERN PINE #2
MATERIAL	2" X 4"
SIZE	24' o.c.
SPACING	22-8"
EFF. SPAN	4 / 12
PITCH	30 LBS./CU.FT.
DENSITY	OSB
DECKING:	WOOD COMPOSITE
TYPE	7/16"
MATERIAL	1.6 LBS./SQFT.
THICKNESS	
WEIGHT	
ROOFING:	ARCH SHINGLE
TYPE	ASPHALT
MATERIAL	2.3 LBS./SQFT.
WEIGHT	

ROOF '4' ARRAY SUMMARY

# MODULES	10
MOD. ATT. MID	16
MOD. ATT. END	8
ROOF MOUNTS	18
RAIL LENGTH	70 FT.
ARRAY AREA	177 SQFT.
ARRAY WEIGHT	196 LBS.
AZIMUTH @ SN	176°
TILT ANGLE	20°

ROOF '5' ARRAY SUMMARY

# MODULES	4
MOD. ATT. MID	6
MOD. ATT. END	4
ROOF MOUNTS	6
RAIL LENGTH	30 FT.
ARRAY AREA	71 SQFT.
ARRAY WEIGHT	201 LBS.
AZIMUTH @ SN	176°
TILT ANGLE	20°

ROOF '6' ARRAY SUMMARY

# MODULES	26
MOD. ATT. MID	44
MOD. ATT. END	16
ROOF MOUNTS	40
RAIL LENGTH	180 FT.
ARRAY AREA	459 SQFT.
ARRAY WEIGHT	1284 LBS.
AZIMUTH @ SN	176°
TILT ANGLE	20°

ROOF '4' LOADING

DEAD LOAD:	5.9 LBS./SQFT.
ROOFING:	2.8 LBS./SQFT.
PV ARRAY:	6.7 LBS./SQFT.
TOTAL:	-23 LBS./SQFT.
WIND LOAD:	-38 LBS./SQFT.
UP/LIFT ZONE 1:	-57.1 LBS./SQFT.
UP/LIFT ZONE 2:	13.6 LBS./SQFT.
UP/LIFT ZONE 3:	-37.4 LBS.
FASTENER LOAD:	-412 LBS.
UP/LIFT ZONE 1:	-309 LBS.
UP/LIFT ZONE 2:	134 LBS.
UP/LIFT ZONE 3:	
DOWNWARD:	

ROOF '5' LOADING

DEAD LOAD:	5.9 LBS./SQFT.
ROOFING:	2.8 LBS./SQFT.
PV ARRAY:	6.7 LBS./SQFT.
TOTAL:	-23 LBS./SQFT.
WIND LOAD:	-38 LBS./SQFT.
UP/LIFT ZONE 1:	-57.1 LBS./SQFT.
UP/LIFT ZONE 2:	13.6 LBS./SQFT.
UP/LIFT ZONE 3:	-37.4 LBS.
FASTENER LOAD:	-412 LBS.
UP/LIFT ZONE 1:	-309 LBS.
UP/LIFT ZONE 2:	161 LBS.
UP/LIFT ZONE 3:	
DOWNWARD:	

ROOF '6' LOADING

DEAD LOAD:	5.9 LBS./SQFT.
ROOFING:	2.8 LBS./SQFT.
PV ARRAY:	6.7 LBS./SQFT.
TOTAL:	-23 LBS./SQFT.
WIND LOAD:	-38 LBS./SQFT.
UP/LIFT ZONE 1:	-57.1 LBS./SQFT.
UP/LIFT ZONE 2:	13.6 LBS./SQFT.
UP/LIFT ZONE 3:	-37.4 LBS.
FASTENER LOAD:	-412 LBS.
UP/LIFT ZONE 1:	-309 LBS.
UP/LIFT ZONE 2:	156 LBS.
UP/LIFT ZONE 3:	
DOWNWARD:	

PV MODULES	
MAKE	CAN. SOLAR
MODEL	CS6K-300MS
TECHNOLOGY	MONO-CRYST.
NOM. POWER (P _{NOH})	300 WATTS
NOM. VOLT. (V _{MPP})	32.5 VOLTS
O.C. VOLT. (V _{OC})	39.7 VOLTS
MAX. SYS. VOLT.	1000 V (UL)
TEMP. COEF. (VTC)	-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	SOLAREEDGE
MODEL	P320
DC INPUT:	
NOM. POWER	320 WATTS
VOLT. RANGE	8-48
MAX. CURR.	11.0 AMPS
DC OUTPUT:	
NOM. POWER	320 WATTS
MAX. VOLT.	60 VOLTS
MAX. CURR.	15 AMPS
MIN. STRING	8 OPTIMIZERS
MAX. STRING	25 OPTIMIZERS
MAX. POWER	5250 WATTS

JUNCTION BOX	
MAKE	SOLADECK
MODEL	0785-3R
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	
C1.1	4	10 AWG	COPPER	PV WIRE	1	6 AWG	COPPER	BARE	-	-	-	FREE AIR	1
C1.2	2	10 AWG	COPPER	PV WIRE	1	6 AWG	COPPER	BARE	-	-	-	FREE AIR	1
C2.1	4	10 AWG	COPPER	THWN-2	1	10 AWG	COPPER	THWN-2	1	1/2"	EMT	EXT	2.4
C2.2	2	10 AWG	COPPER	THWN-2	1	10 AWG	COPPER	THWN-2	1	1/2"	EMT	EXT	2.4
C3	3	6 AWG	COPPER	THWN	1	10 AWG	COPPER	THWN	1	3/4"	EMT	EXT	2.4
C4	3	6 AWG	COPPER	THWN	-	-	-	-	1	3/4"	EMT	EXT	2.4
XC	-	-	-	-	-	-	-	-	-	-	-	-	3

NOTES:

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

DC/AC INVERTER	
MAKE	SOLAREEDGE
MODEL	SEI1400A-US
TECHNOLOGY	TRANSFORMER-LESS
DC INPUT:	
MAX. POWER	15350 WATTS
VOLT. RANGE	350-500 VOLTS
NOM. VOLT.	350 VOLTS
MAX. CURRENT	34.5 AMPS
STRING INPUTS	3 STRINGS
AC OUTPUT:	
NOM. POWER	11400 WATTS
NOM. VOLT.	240 VOLTS
MAX. POWER	12000 WATTS
MAX. CURR.	47.5 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	60 AMPS
UL LIST. (Y/N)	YES
FUSED (Y/N)	YES
FUSE RATING	60 AMPS

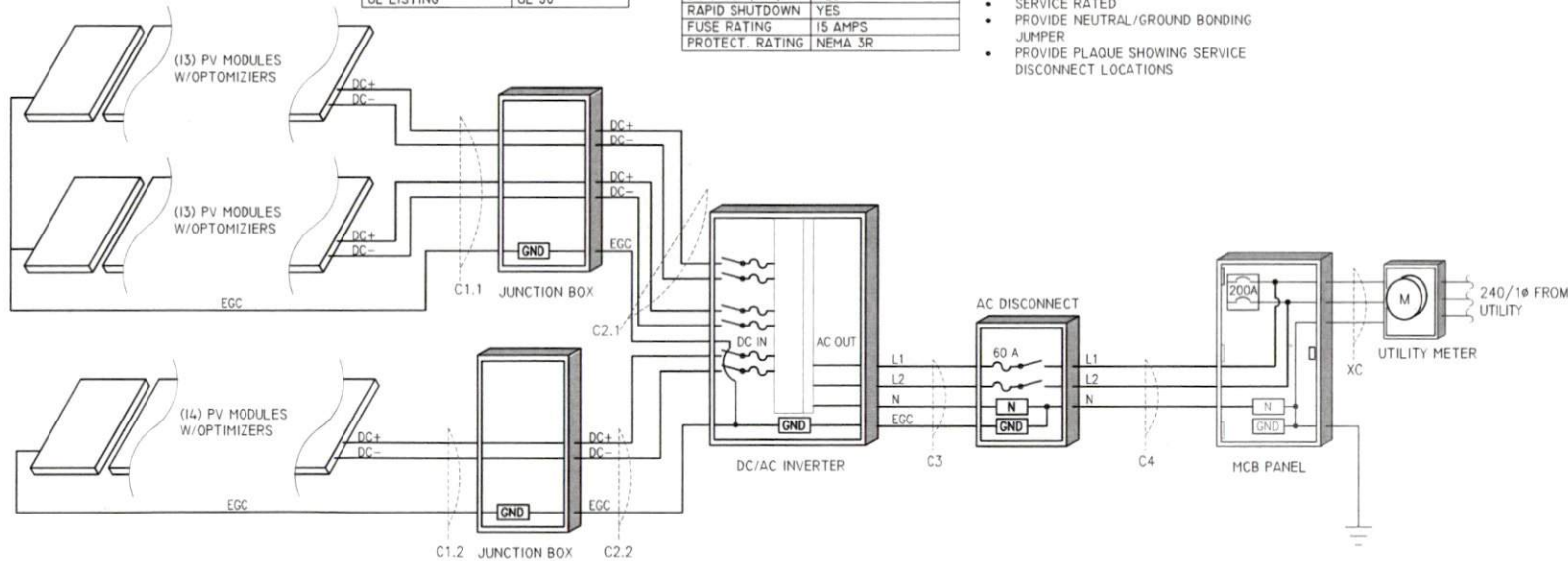
NOTES:

- LOAD-BREAK RATED
- VISIBLE OPEN
- LOCKABLE IN OPEN POSITION
- INSTALL ADJACENT TO METER
- DISCONNECT TO BE READILY ACCESSIBLE TO UTILITY COMPANY PERSONNEL AT ALL TIMES
- SERVICE RATED
- PROVIDE NEUTRAL/GROUND BONDING JUMPER
- PROVIDE PLAQUE SHOWING SERVICE DISCONNECT LOCATIONS

MCB PANEL/SERVICE DISCONNECT (EXISTING)	
MAKE	SQUARE D
MODEL	QOC40UF
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
BUS RATING	200 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	YES
BREAKER RATING	200 AMPS

NOTES:

- BACK-FEED SOLAR OUTPUT VIA SUPPLY SIDE TAP INSIDE OF MCB PANEL.



1 PV SYSTEM ELECTRICAL WIRING SCHEMATIC

SCALE : NTS

ENGINEER:

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CLIENT:



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ELECTRICAL INFORMATION

PV3.1

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PHOTOVOLTAIC ARRAY AC DISCONNECT

MAXIMUM OPERATING AC VOLTAGE: 240V
MAXIMUM OPERATING CURRENT: 48 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: 48 AMPS

PHOTOVOLTAIC ARRAY DC DISCONNECT

OPERATING DC VOLTAGE: 350 VOLTS
OPERATING CURRENT: 34.3 AMPS
MAX SYSTEM VOLTAGE: 500 VOLTS
SHORT-CIRCUIT CURRENT: 45 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

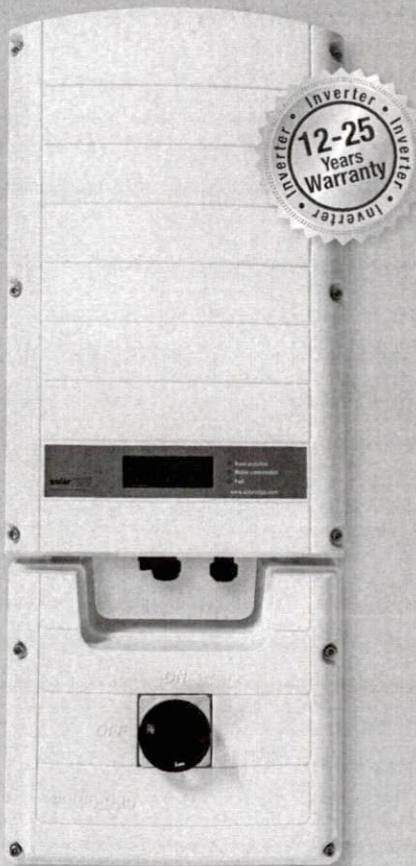


INVERTERS

SolarEdge Single Phase Inverters

For North America

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



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

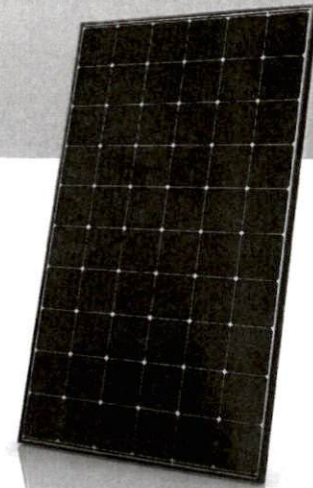
SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

	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 10000 @ 240V	11400	VA	
Max. AC Power Output	3300	4150	5400 @ 208V 5450 @ 240V	6000	8350	10800 @ 208V 10950 @ 240V	12000	VA	
AC Output Voltage Min.-Nom.-Max. ⁽¹⁾ 183 - 208 - 229 Vac	-	-	✓	-	-	✓	-		
AC Output Voltage Min.-Nom.-Max. ⁽²⁾ 211 - 240 - 264 Vac	✓	✓	✓	✓	✓	✓	✓		
AC Frequency Min.-Nom.-Max. ⁽³⁾	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-US000NRR2 (for 7600W inverter: SE7600A-US002NRR2).
 (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.

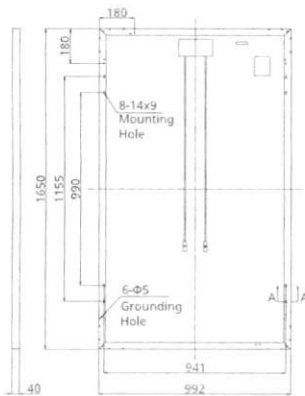
CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 15 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is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

CANADIAN SOLAR INC.

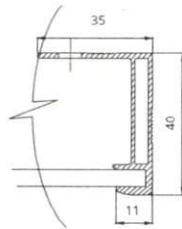
2430 Camino Ramon, Suite 240 San Ramon, CA, USA 94583-4385 | www.canadiansolar.com/na | sales.us@canadiansolar.com

ENGINEERING DRAWING (mm)

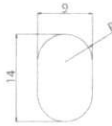
Rear View



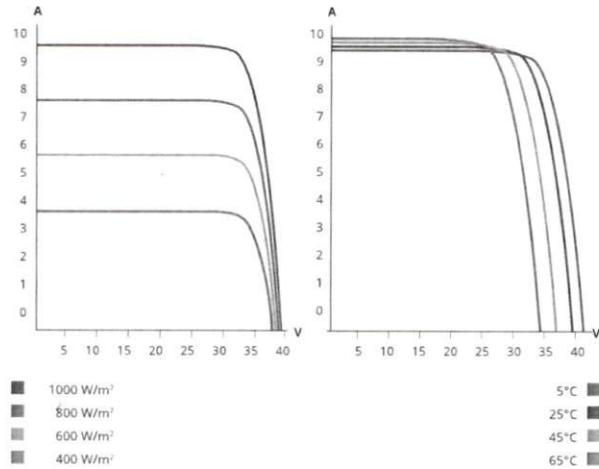
Frame Cross Section A-A



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

