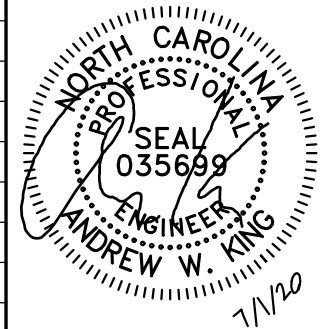


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**MATERIALS SUMMARY**

PART:	QTY:
Q.PEAK DUO BLK-G6 330	38
SOLAREGE P400 OPTIMIZER	38
SOLAREGE SE11400H-US INVERTER	1
168" XR10 IRONRIDGE RAIL	5
204" XR10 IRONRIDGE RAIL	12
XR10 BONDED SPLICE	12
UFO CLAMP	84
STOPPER SLEEVE (32 MM)	16
GD-LUG-003	5
S-5! SOLARFOOT ATTACHMENT	166
IRONRIDGE L-FOOT	166
2" TYPE 17 AB MILLED POINT SCREWS	664
CELL CARD	1



**CLIENT INFO**

KEVIN BRYANT  
 14 JAMES W DAVIS LANE  
 SANFORD, NC 27332

**PROJECT INFO**

DC INPUT: 12.54 kW  
 AC EXPORT: 11.40 kW  
 DOI INSPT. METHOD: OPTION 2

**CODE REFERENCES**

NATION ELECTRICAL CODE v. 2017  
 NC FIRE PROTECTION CODE v. 2018  
 NC BUILDING CODE v. 2018  
 NC RESIDENTIAL CODE v. 2018  
 ACSE v. 7-10

**SITE CONDITIONS**

WIND SPEED: 116 MPH  
 RISK CATEGORY: II  
 EXPOSURE: B  
 SNOW: 15 PSF

**SHEET INDEX**

PV-1: COVER SHEET  
 PV-2: PV STRUCTURAL  
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**DESIGN INFO**

DESIGNER: CRM  
 ENGINEER: AWK  
 DATE: 6-26-2020  
 VERSION: P1

PV SYSTEM COVER PAGE

**PV-1.1**



SALES FORCE

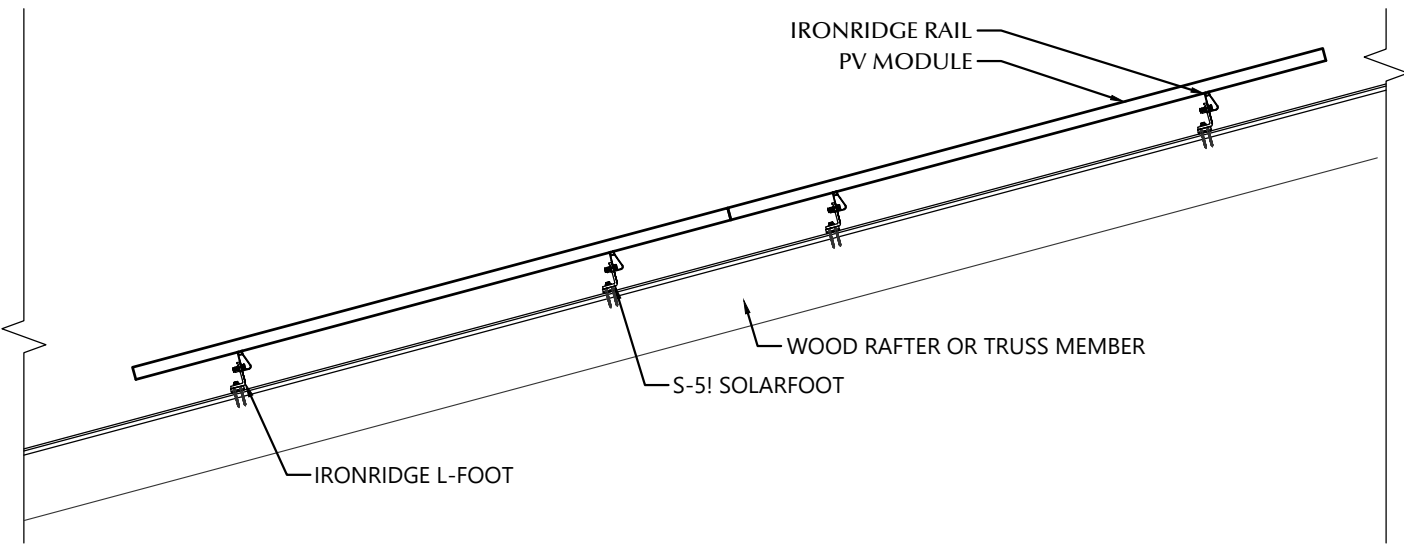


SITE VISIT



INSTALL

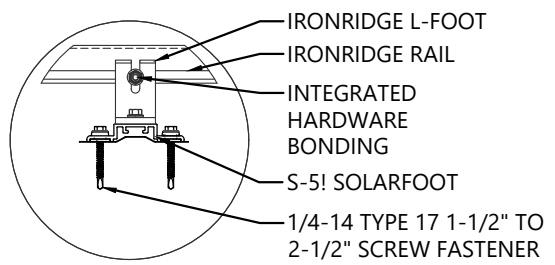
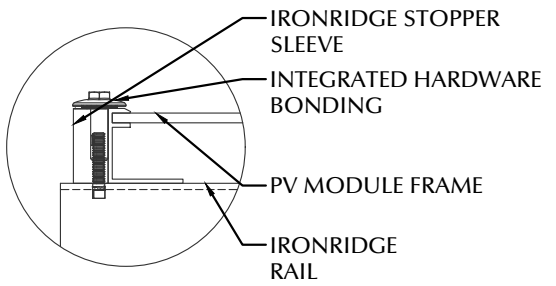
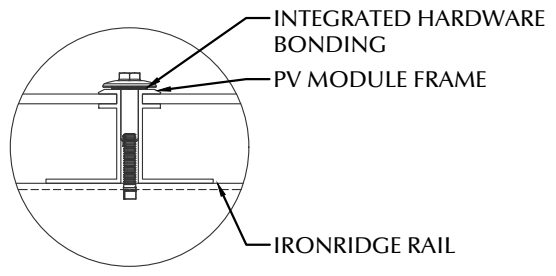
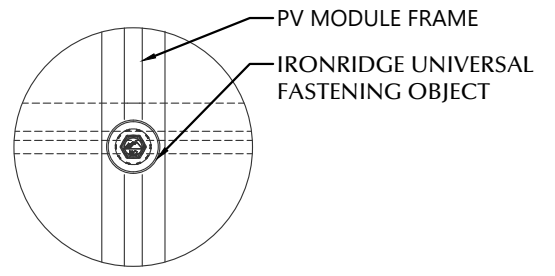
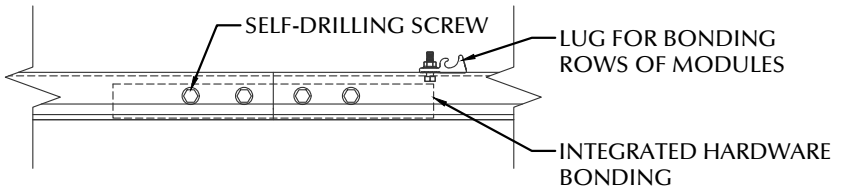
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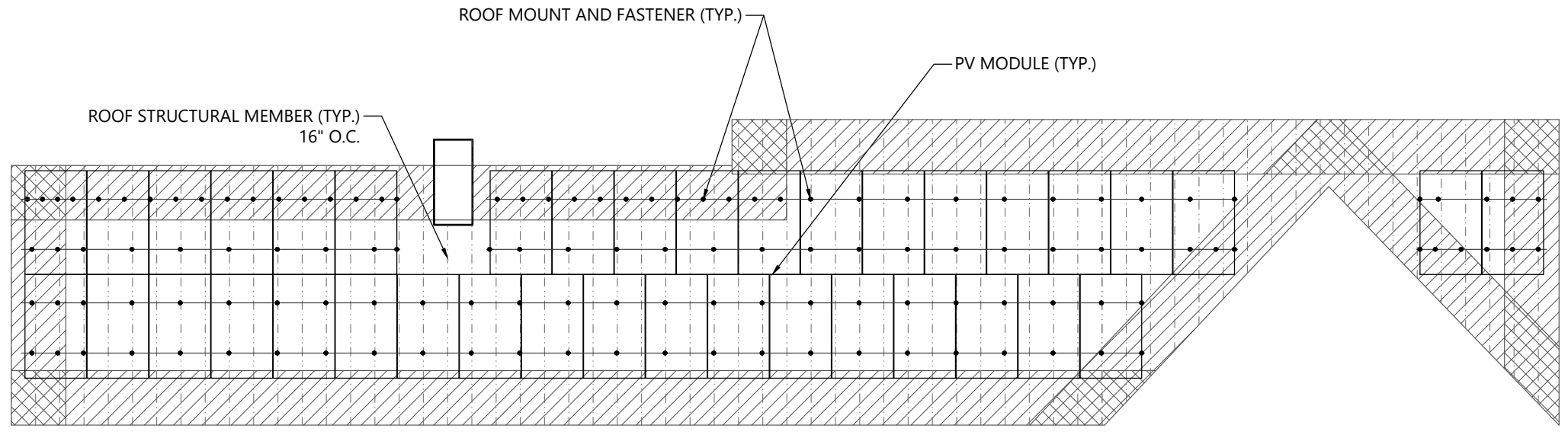
### STATEMENT OF STRUCTURAL COMPLIANCE

THE EXISTING ROOF STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF THE PROPOSED 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.

NAME: ANDREW W. KING, PE  
 SIGNED: *Andrew W. King*



1 ROOF FASTENER DETAIL  
NOT TO SCALE



2 ARRAY LAYOUT  
1/8" = 1'-0"

PV MODULES	
MAKE	HANWHA Q-CELL
MODEL	Q.PEAK DUO BLK-G6 330
WIDTH	40.6"
LENGTH	68.5"
THICKNESS	32 mm
WEIGHT	43.9 LBS.
ARRAY AREA	734 SQFT.
ARRAY WEIGHT	1835 LBS.

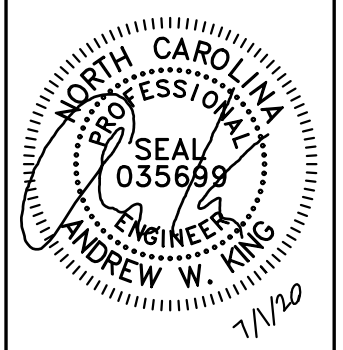
ROOF SUMMARY	
STRUCTURE:	
TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 6"
SPACING	16 IN O.C.
ALLOWABLE SPAN	162 IN
PITCH	4/12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	TONGUE & GROOVE
MATERIAL	SOUTHERN PINE #2
THICKNESS	1 IN
WEIGHT	2.50 LBS./SQFT
ROOFING:	
TYPE	EXPOSED FASTENER
MATERIAL	STEEL
WEIGHT	2.3 LBS./SQFT.

ROOF MOUNT SUMMARY		
MAXIMUM	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	32 IN	7 IN
WIND ZONE 2	17 IN	7 IN
WIND ZONE 3	10 IN	4 IN

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD	20 LBS./SQFT.
DEAD LOAD	
ROOFING	4.8 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	7.3 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-23.0 LBS./SQFT.
UPLIFT ZONE 2	-38.0 LBS./SQFT.
UPLIFT ZONE 3	-57.1 LBS./SQFT.
DOWNWARD	13.6 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-175 LBS.
UPLIFT ZONE 2	-154 LBS.
UPLIFT ZONE 3	-136 LBS.
DOWNWARD	104 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT:	
MAKE	S-5!
MODEL	SOLARFOOT
MATERIAL	ALUMINUM
FASTENER:	
MAKE	S-5!
MODEL	TYPE 17-AB MILLED
MATERIAL	ZINC/STEEL
SIZE	1/4"-14 X 1-1/2"
GENERAL:	
WEIGHT	0.5 LBS.
FASTENERS PER MOUNT	4 PER MOUNT
MAX. PULL-OUT FORCE	356 LBS. / MOUNT
SAFETY FACTOR	2.0
DESIGN PULL-OUT FORCE	178 LBS. / MOUNT

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XR10
MATERIAL	ALUMINUM
WEIGHT	.436 LBS./FT.
SPACING	34 IN.



**CLIENT INFO**  
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**DESIGN INFO**  
 DESIGNER: CRM  
 ENGINEER: AWK  
 DATE: 6-26-2020  
 VERSION: P1

**PV SYSTEM STRUCTURAL**

**PV-2.1**

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### CONDUCTOR SCHEDULE

TAG	CURRENT CARRYING CONDUCTORS			GROUNDING CONDUCTORS			CONDUIT/RACEWAY			NOTES
	QTY.	SIZE	INSULATION	QTY.	SIZE	INSULATION	QTY.	SIZE	LOCATION	
C1	6	10 AWG	PV WIRE	1	6 AWG	BARE	-	-	FREE AIR	1
C2	6	10 AWG	THWN	1	10 AWG	THWN	1	3/4"	EXT/INT	2,4
C3	3	6 AWG	THWN	1	10 AWG	THWN	1	3/4"	EXTERIOR	2,4
C4	3	3 AWG	THWN	1	8 AWG	THWN	1	1-1/4"	INTERIOR	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
5. PLEASE REFERENCE NOTES ON PV-4 FOR ADDITIONAL DETAIL

### PV MODULES

MAKE	HANWHA Q-CELL
MODEL	Q.PEAK DUO BLK-G6 330
TECHNOLOGY	MONO-CRYST.
NOM. POWER (PNOM)	335 WATTS
NOM. VOLT. (VMP)	33.29 VOLTS
O.C. VOLT. (VOC)	40.15 VOLTS
MAX. SYS. VOLT.	1000 V (UL)
TEMP. COEF. (VTC)	-0.27 %/°C
NOM. CURR. (IMP)	9.91 AMPS
S.C. CURR. (ISC)	10.41 AMPS
MAX. SERIES FUSE	20 AMPS

### MODULE OPTIMIZER

MAKE	SOLAREEDGE
MODEL	P400
DC INPUT:	
NOM. POWER	400 WATTS
VOLT. RANGE	8-80
MAX. CURR.	10.1 AMPS
DC OUTPUT:	
NOM. POWER	400 WATTS
MAX. VOLT.	60 VOLTS
MAX. CURR.	15 AMPS
MIN. STRING	8 OPTIMIZERS
MAX. STRING	25 OPTIMIZERS

### DC/AC INVERTER

MAKE	SOLAREEDGE
MODEL	SE11400H-US
TECHNOLOGY	TRANSFORMER-LESS
DC INPUT:	
MAX. POWER	17650 WATTS
VOLT. RANGE	350-480 VOLTS
NOM. VOLT.	400 VOLTS
MAX. CURRENT	30.5 AMPS
STRING INPUTS	3 STRINGS
AC OUTPUT:	
NOM. POWER	11400 WATTS
NOM. VOLT.	240 VOLTS
MAX. POWER	11400 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

### SUB PANEL (NEW)

MAKE	GENERIC
MODEL	N/A
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
BUS RATING	125 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	NO
MAIN BREAKER RATING	N/A

- RUN NEW CONDUCTORS FROM METER COMBO TO FEED NEW SUB PANEL THAT WILL REPLACE OLD FUSE BOX WITH NEW CIRCUITS
- AFCI BREAKERS REQUIRED FOR CIRCUITS IN LIVING AREAS

### JUNCTION BOX

MAKE	GENERIC
MODEL	NA
PRO. RATING	NEMA 3R
VOLT. RATING	600 VOLTS
AMP RATING	NA
UL LISTING	UL 50

### MD PANEL (EXISTING)

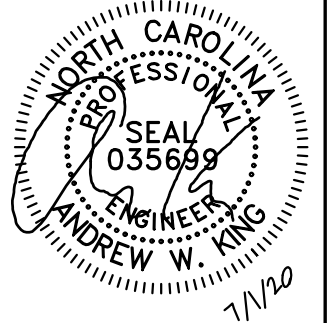
MAKE	GENERIC
MODEL	NA
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
BUS RATING	200 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	NO
MAIN BREAKER RATING	NA

- BACK-FEED SOLAR OUTPUT VIA 60A BREAKER AT THE OPPOSITE END OF THE BUS BAR FROM EXISTING POWER SOURCE
- EACH BREAKER SERVES AS SERVICE DISCONNECT SWITCH

### AC DISCONNECT

MAKE	GENERIC
MODEL	NA
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
AMP RATING	60 AMPS
UL LIST. (Y/N)	YES
FUSED (Y/N)	NO
FUSE RATING	N/A

- 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



### CLIENT INFO

KEVIN BRYANT  
14 JAMES W DAVIS LANE  
SANFORD, NC 27332

### PROJECT INFO

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### SITE CONDITIONS

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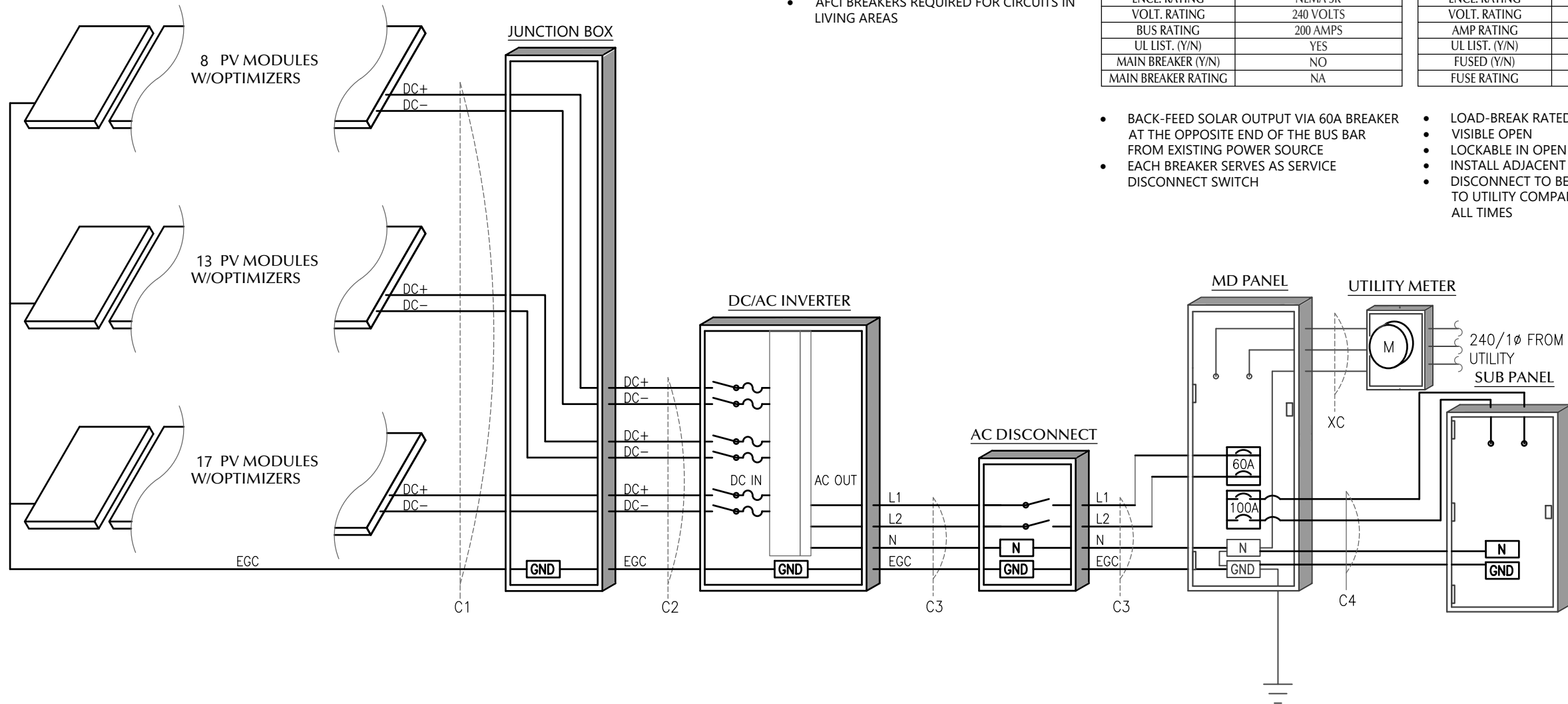
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### DESIGN INFO

DESIGNER: CRM  
ENGINEER: AWK  
DATE: 6-26-2020  
VERSION: P1

PV SYSTEM  
ELECTRICAL

PV-3.1



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**⚠ WARNING**  
**ELECTRIC SHOCK HAZARD**  
 TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 690.13 (B)  
 PLACE ON PV SYSTEM DISCONNECTING MEANS.

**⚠ WARNING**  
**POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE**

NEC 705.12 (B)(2)(3)(b)  
 PLACE ADJACENT TO BACK-FED BREAKER

**⚠ WARNING**  
**DUAL POWER SUPPLY**  
 SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

NEC 705.12 (B)(3)  
 PLACE ON ALL EQUIPMENT THAT IS SUPPLIED BY BOTH POWER SOURCES

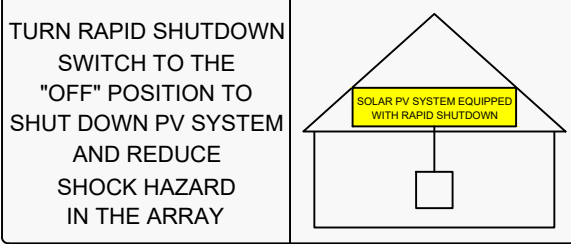
**WARNING: PHOTOVOLTAIC POWER SOURCE**

NEC 690.31 (G)(3)&(4)  
 PLACE ON ALL JUNCTION BOXES, EXPOSED RACEWAYS, AND OTHER WIRING METHODS EVERY 10' AND ON EVERY SECTION SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

NEC 690.56 (C)(3)  
 PLACE ON RAPID SHUTDOWN SWITCH OR EQUIPMENT WITH INTEGRATED RAPID SHUTDOWN \*REFLECTIVE\*

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**



NEC 690.56 (C)(1)(a)  
 PLACE WITHIN 3FT OF SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL INDICATE THE LOCATIONS OF RAPID SHUTDOWN SWITCHES

**PV SYSTEM DISCONNECT**

NEC 690.13 (B)  
 PLACE ON PV SYSTEM DISCONNECTING MEANS.

**PHOTOVOLTAIC POWER SOURCE**  
 OPERATING AC VOLTAGE 240 V  
 MAXIMUM OPERATING AC OUTPUT CURRENT 47.5 A

NEC 690.54  
 PLACE ON INTERCONNECTION DISCONNECTING MEANS

**DIRECT CURRENT PHOTOVOLTAIC POWER SOURCE**  
 MAXIMUM VOLTAGE 600 VDC  
 MAX CIRCUIT CURRENT 45.0 AMPS

NEC 690.53  
 PLACE ON ALL DC DISCONNECTING MEANS

**LABEL NOTES**

1. LABELS SHOWN ARE HALF THEIR ACTUAL REQUIRED SIZE.
2. LABEL MATERIAL SHALL BE SUITABLE FOR THE EQUIPMENT ENVIRONMENT.
3. DC CONDUIT SHALL BE MARKED WITH REQUIRED LABEL EVERY 10 FEET.
4. LABELS WILL BE APPLIED IN ACCORDANCE WITH THE NEC. SOME LABELS MAY NOT BE NECESSARY.

**DC WIRING NOTES**

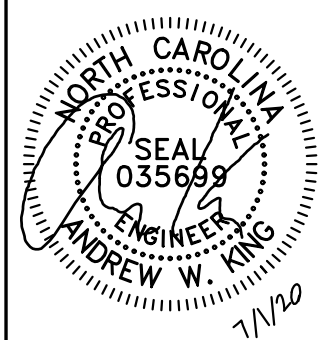
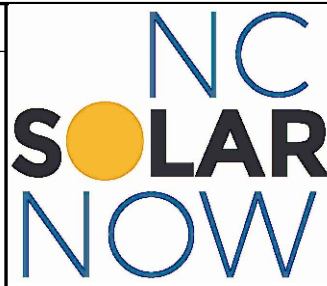
1. CONDUCTORS SHALL BE COPPER, RATED AT NOT LESS THAN 600 VOLTS FOR RESIDENTIAL CONSTRUCTION AND NOT LESS THAN 1000 VOLTS FOR COMMERCIAL CONSTRUCTION.
2. MINIMUM SIZE SHALL BE #10 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. EXPOSED WIRING CONDUCTOR INSULATION SHALL BE TYPE PV WIRE, USE-2, OR RHW-2 WHERE THE OUTER LAYER OF THE INSULATION IS UV, SUNLIGHT, AND MOISTURE RESISTANT.
6. EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT) OR RIGID POLYVINYL CHLORIDE CONDUIT(PVC). ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED AS WELL WHEN RATED FOR USE IN WET LOCATIONS.
7. INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), OR METAL CLAD CABLE(MC).
6. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
7. MINIMUM CONDUIT SIZE TO BE 1/2".
8. WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**AC WIRING NOTES**

1. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.
2. MINIMUM SIZE SHALL BE #14 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), RIGID POLYVINYL CHLORIDE CONDUIT(PVC), LIQUID-TIGHT FLEXIBLE METAL CONDUIT(LFMC), OR LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT(LFNC) . ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED AS WELL WHEN RATED FOR USE IN WET LOCATIONS.
4. INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), METAL CLAD CABLE(MC), OR ROMEX.
5. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
6. MINIMUM CONDUIT SIZE TO BE 1/2".
7. WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**CONSTRUCTION NOTES**

1. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE NEC, STATE, AND LOCAL APPLICABLE CODES.
2. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS.
3. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED.
4. WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.
5. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
6. ALL TERMINALS/LUGS SHALL BE 75° RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
7. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
8. ALL PENETRATIONS THROUGH EXTERIOR ROOFS SHALL BE FLASHED IN A WATERPROOF MANNER.
9. SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
10. METAL CONDUIT COUPLINGS CAN BE COMPRESSION TYPE, THREADED, OR BE SET-SCREW TYPE. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
11. A COMPLETE GROUNDING SYSTEM SHALL BE PRESENT OR PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
12. 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.
13. WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE.
14. PHOTOVOLTAIC SYSTEMS SHALL BE PERMANENTLY MARKED AT VARIOUS EQUIPMENT LOCATIONS TO IDENTIFY THAT A PHOTOVOLTAIC SYSTEM IS INSTALLED AND THAT VARIOUS DANGERS ARE PRESENT.
15. EACH PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A PHOTOVOLTAIC SYSTEM DISCONNECT.
16. 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.
17. A PERMANENT LABEL FOR THE DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE SHALL BE PROVIDED AT THE DC DISCONNECT MEANS.
18. 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.
19. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)
20. A NORTH CAROLINA REGISTERED DESIGN PROFESSIONAL WILL BE REQUIRED TO SEAL THE STRUCTURAL DESIGN AT THE TIME OF PERMIT APPLICATION IF ANY OF THE FOLLOWING EXIST AND ARE ATTESTED TO BY THE APPLICANT:
  - I. THE WEIGHT OF THE PV SYSTEM EXCEEDS THREE (3) POUNDS PER SQUARE FOOT(PSF)
  - II. THE ROOF POSSESSES MORE THAN ONE (1) LAYER OF ASPHALT SHINGLES
  - III. THE ROOFING MATERIAL CONSISTS OF A TYPE OTHER THAN ASPHALT SHINGLES OR METAL
  - IV. THE ROOF IS LOCATED IN A 140 MPH OR GREATER WIND ZONE



**CLIENT INFO**

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 14 JAMES W DAVIS LANE  
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**PV SYSTEM EQUIPMENT LABELS**

**PV-4.1**

# Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /  
SE7600H-US / SE10000H-US / SE11400H-US



## Optimized installation with HD-Wave technology

- / Specifically designed to work with power optimizers
- / Record-breaking efficiency
- / Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- / Fixed voltage inverter for longer strings
- / Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- / UL1741 SA certified, for CPUC Rule 21 grid compliance
- / Extremely small
- / Built-in module-level monitoring
- / Outdoor and indoor installation
- / Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

# / Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/  
SE7600H-US / SE10000H-US / SE11400H-US

Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
<b>OUTPUT</b>								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 <sup>(1)</sup>							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, adjustable -0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
<b>INPUT</b>								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V <sup>(2)</sup>	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V <sup>(2)</sup>	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k $\Omega$ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

<sup>(1)</sup> For other regional settings please contact SolarEdge support

<sup>(2)</sup> A higher current source may be used; the inverter will limit its input current to the values stated

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Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
<b>ADDITIONAL FEATURES</b>							
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)						
Revenue Grade Data, ANSI C12.20	Optional <sup>(3)</sup>						
Inverter Commissioning	with the SetApp mobile application using built-in Wi-Fi Access Point for local connection						
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect						
<b>STANDARD COMPLIANCE</b>							
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07						
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)						
Emissions	FCC Part 15 Class B						
<b>INSTALLATION SPECIFICATIONS</b>							
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG			1" Maximum /14-4 AWG			
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG			1" Maximum / 1-3 strings / 14-6 AWG			
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174			21.3 x 14.6 x 7.3 / 540 x 370 x 185			in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4	26.2 / 11.9	38.8 / 17.6			lb / kg
Noise	< 25			<50			dBA
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(4)</sup>						
Protection Rating	NEMA 4X (Inverter with Safety Switch)						

<sup>(3)</sup> Revenue grade inverter P/N: SExxxxH-US000BNC4

<sup>(4)</sup> Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

# Q.PEAK DUO BLK-G5 300-320

## Q.ANTUM SOLAR MODULE

The new **Q.PEAK DUO BLK-G5** solar module from Q CELLS impresses with its outstanding visual appearance and particularly high performance on a small surface thanks to the innovative **Q.ANTUM DUO** Technology. Q.ANTUM's world-record-holding cell concept has now been combined with state-of-the-art circuitry half cells and a six-busbar design, thus achieving outstanding performance under real conditions — both with low-intensity solar radiation as well as on hot, clear summer days.



### Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.3%.



### INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



### EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa) regarding IEC.



### A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee<sup>2</sup>.

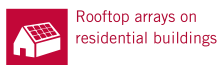


### STATE OF THE ART MODULE TECHNOLOGY

Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.



### THE IDEAL SOLUTION FOR:

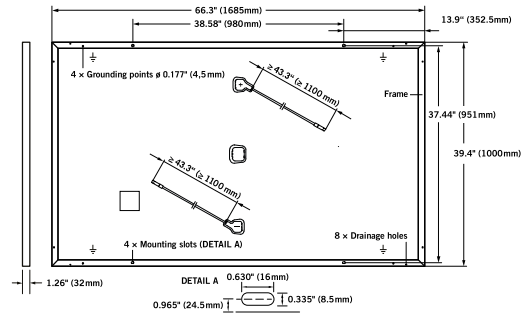


<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015, method B (-1500V, 168 h)  
<sup>2</sup> See data sheet on rear for further information.



## MECHANICAL SPECIFICATION

<b>Format</b>	66.3 in × 39.4 in × 1.26 in (including frame) (1685 mm × 1000 mm × 32 mm)
<b>Weight</b>	41.2 lbs (18.7 kg)
<b>Front Cover</b>	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
<b>Back Cover</b>	Composite film
<b>Frame</b>	Black anodized aluminum
<b>Cell</b>	6 × 20 monocrystalline Q.ANTUM solar half-cells
<b>Junction box</b>	2.76-3.35 in × 1.97-2.76 in × 0.51-0.83 in (70-85 mm × 50-70 mm × 13-21 mm), decentralized, IP67
<b>Cable</b>	4 mm <sup>2</sup> Solar cable; (+) ≥ 43.3 in (1100 mm), (-) ≥ 43.3 in (1100 mm)
<b>Connector</b>	Multi-Contact MC4, IP68

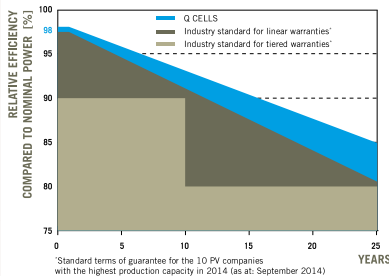


## ELECTRICAL CHARACTERISTICS

POWER CLASS			300	305	310	315	320
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP <sup>1</sup>	$P_{MPP}$ [W]	300	305	310	315	320
	Short Circuit Current <sup>1</sup>	$I_{SC}$ [A]	9.72	9.78	9.83	9.89	9.94
	Open Circuit Voltage <sup>1</sup>	$V_{OC}$ [V]	39.48	39.75	40.02	40.29	40.56
	Current at MPP	$I_{MPP}$ [A]	9.25	9.31	9.36	9.41	9.47
	Voltage at MPP	$V_{MPP}$ [V]	32.43	32.78	33.12	33.46	33.80
	Efficiency <sup>1</sup>	$\eta$ [%]	≥ 17.8	≥ 18.1	≥ 18.4	≥ 18.7	≥ 19.0
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>							
Minimum	Power at MPP	$P_{MPP}$ [W]	224.1	227.8	231.6	235.3	239.1
	Short Circuit Current	$I_{SC}$ [A]	7.83	7.88	7.92	7.97	8.01
	Open Circuit Voltage	$V_{OC}$ [V]	37.15	37.40	37.66	37.91	38.17
	Current at MPP	$I_{MPP}$ [A]	7.28	7.32	7.37	7.41	7.45
	Voltage at MPP	$V_{MPP}$ [V]	30.78	31.11	31.44	31.76	32.08

<sup>1</sup>Measurement tolerances  $P_{MPP} \pm 3\%$ ;  $I_{SC}, V_{OC} \pm 5\%$  at STC: 1000 W/m<sup>2</sup>, 25 ± 2 °C, AM 1.5 G according to IEC 60904-3 - <sup>2</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5 G

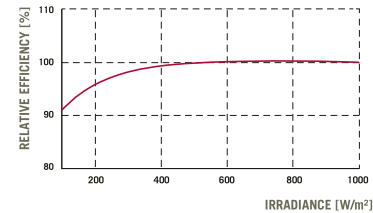
## Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year.  
At least 93.1% of nominal power up to 10 years.  
At least 85% of nominal power up to 25 years.

All data within measurement tolerances.  
Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

Temperature Coefficient of $I_{SC}$	$\alpha$	[%/K]	+0.04	Temperature Coefficient of $V_{OC}$	$\beta$	[%/K]	-0.28
Temperature Coefficient of $P_{MPP}$	$\gamma$	[%/K]	-0.37	Normal Operating Module Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage $V_{SYS}$	[V]	1000 (IEC) / 1000 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Max. Design Load, Push / Pull (UL) <sup>2</sup>	[lbs/ft <sup>2</sup> ]	75 (3600 Pa) / 55 (2667 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push / Pull (UL) <sup>2</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)	<sup>2</sup> see installation manual	

## QUALIFICATIONS AND CERTIFICATES

UL 1703; VDE Quality Tested; CE-compliant;  
IEC 61215:2016; IEC 61730:2016, Application class A



## PACKAGING INFORMATION

Number of Modules per Pallet	32
Number of Pallets per 53' Trailer	30
Number of Pallets per 40' High Cube Container	26
Pallet Dimensions (L × W × H)	69.3 in × 45.3 in × 46.9 in (1760 mm × 1150 mm × 1190 mm)
Pallet Weight	1415 lbs (642 kg)

**NOTE:** Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.

300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us