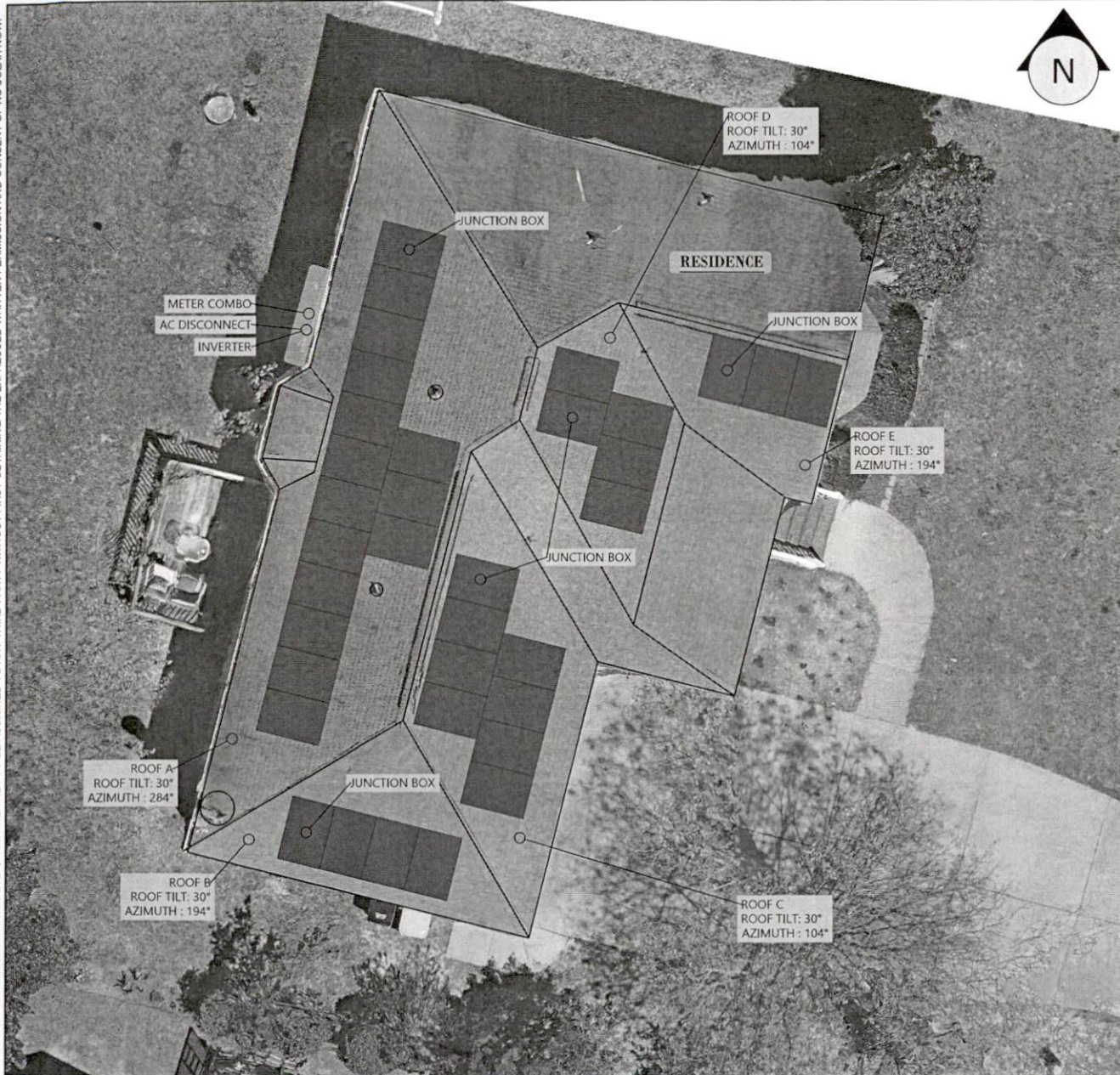


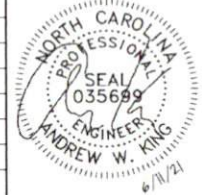
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PV MATERIAL SUMMARY: DISTRIBUTOR

Q.PEAK DUO BLK-G8+340	35
P401	35
SE10000H-US000BNU4	1
SE-ZBCW-B-S1-NA	1
XR-10-168B	18
XR-10-204B	1
XR10-BOSS-01-M1	4
UFO-CL-01-#1	86
UFO-STP-32MM-B1	32
XR-LUG-03-A1	8
4 IN QBI	85
GC66803 Geocel Sealant	6
SOLADECK 0799-5B	5

NC  
SOLAR  
NOW



CLIENT INFO

AMANDA SOTO  
407 CORKSBURY PARK LANE  
LUQUAY-VARINA, NC 27526

PROJECT INFO

DC INPUT: 11.90 kW  
AC EXPORT: 10.00 kW  
DOWNSPT. 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: 115 MPH  
RISK CATEGORY: B  
EXPOSURE: B  
SNOW: 15 PSF

SHEET INDEX

PV-1 COVER SHEET  
PV-2 PV STRUCTURAL  
PV-3 PV ELECTRICAL  
PV-4 PV EQUIPMENT LABELS  
PV-5 PV INSTALL GUIDE

DESIGNER INFO

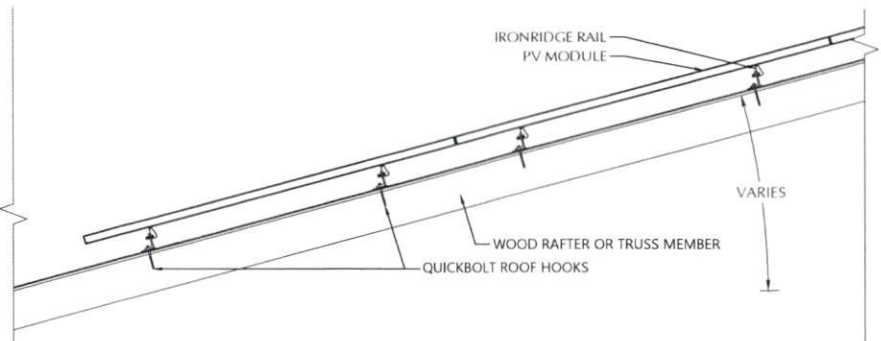
DESIGNER: CRM  
ENGINEER: ANK  
DATE: 6/10/2021  
VERSION: P1

PV SYSTEM COVER  
PAGE

PV-1.1



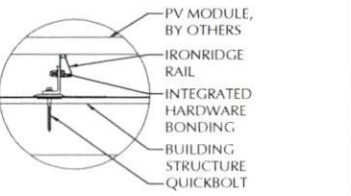
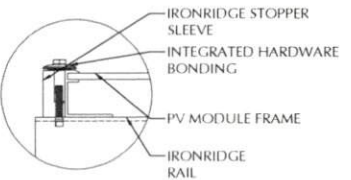
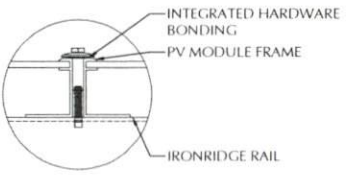
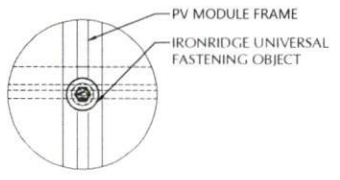
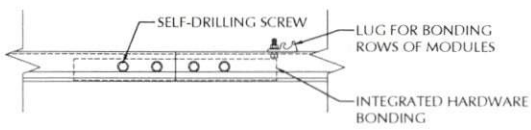
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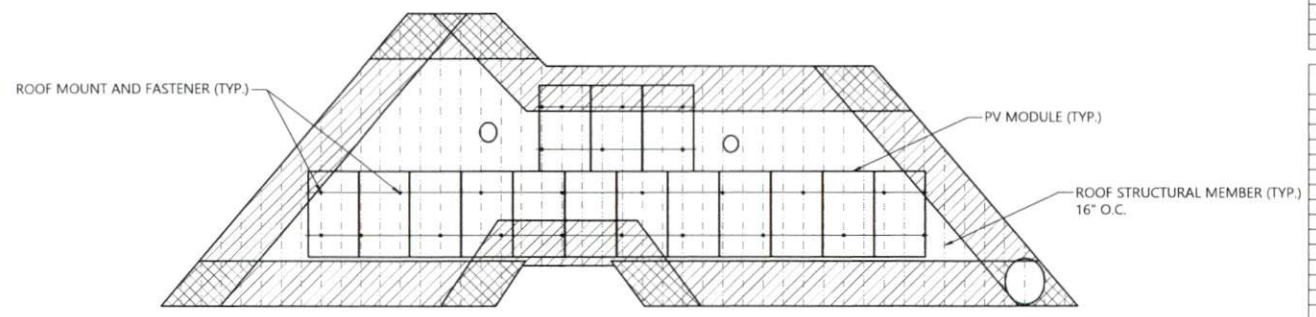
### STATEMENT OF STRUCTURAL COMPLIANCE

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

PV MODULES	
MAKE	HANWHA
MODEL	Q.PEAK DUO BLK-C84-340
WIDTH	40.40 IN
LENGTH	68.50 IN
THICKNESS	32 MM
WEIGHT	41.90 LBS
ARRAY AREA	290 SQFT
ARRAY WEIGHT	724 LBS

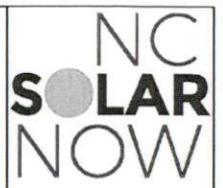
ROOF SUMMARY	
STRUCTURE TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2 X 8
SPACING	16 IN O.C.
EFFECTIVE SPAN	202 IN
PITCH	7/12
DENSITY	30 LBS./CU.FT.
DECKING TYPE	OSB
MATERIAL THICKNESS	7/16 IN
WEIGHT	1.60 LBS./SQ.FT.
ROOFING TYPE	ASPHALT SHINGLE
MATERIAL WEIGHT	2.30 LBS./SQ.FT.

ROOF MOUNT SUMMARY		
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	64 IN	26 IN
WIND ZONE 2	48 IN	26 IN
WIND ZONE 3	48 IN	23 IN

ROOF LOADING	
GROUND SNOW LOAD	15 LBS./SQ.FT.
DEAD LOAD	20 LBS./SQ.FT.
ROOFING	1.9 LBS./SQ.FT.
PV ARRAY	2.5 LBS./SQ.FT.
TOTAL	6.4 LBS./SQ.FT.
WIND LOAD	
UPLIFT ZONE 1	-24.6 LBS./SQ.FT.
UPLIFT ZONE 2	-29.0 LBS./SQ.FT.
UPLIFT ZONE 3	-29.0 LBS./SQ.FT.
DOWNWARD	23.0 LBS./SQ.FT.
FASTENER LOAD	
UPLIFT ZONE 1	-371 LBS.
UPLIFT ZONE 2	-328 LBS.
UPLIFT ZONE 3	-328 LBS.
DOWNWARD	347 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT MAKE	QUICKBOLT
MODEL	4 IN CQB
MATERIAL	STAINLESS / EPDM
FASTENER MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-18 X 5-1/4"
GENERAL WEIGHT	0.56 LBS.
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS.

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	SR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN



CLIENT INFO  
 AMANDA SOTO  
 407 CORNSBURY PARK LANE  
 FUQUAY-VARINA, NC 27526

PROJECT INFO  
 DC INPUT: 11.90 kW  
 AC EXPORT: 10.00 kW  
 DC INSP. 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: 115 MPH  
 RISK CATEGORY: II  
 EXPOSURE: B  
 SNOW: 15 PSI

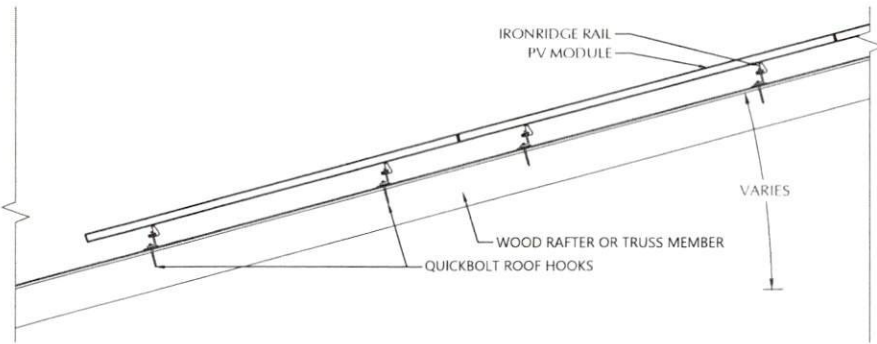
SHEET INDEX  
 PV-1 COVER SHEET  
 PV-2 PV STRUCTURAL  
 PV-3 PV ELECTRICAL  
 PV-4 PV EQUIPMENT LABELS  
 PV-5 PV INSTALL GUIDE

DESIGNER INFO  
 DESIGNER: CRBA  
 ENGINEER: AWK  
 DATE: 6/10/2021  
 VERSION: P1

PV SYSTEM STRUCTURAL

PV-2.1

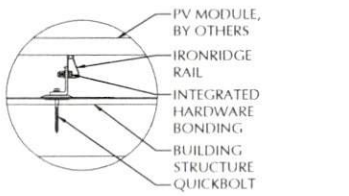
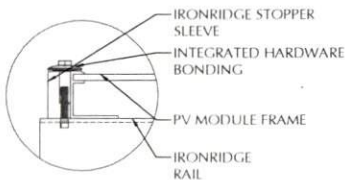
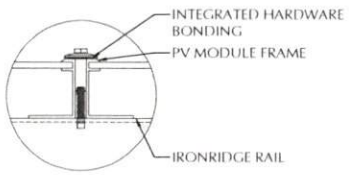
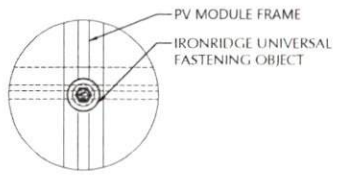
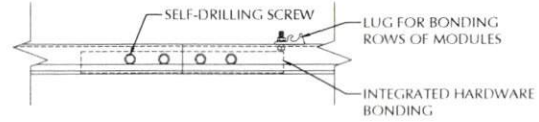
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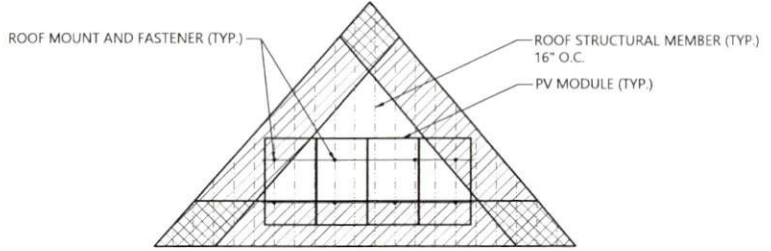
**STATEMENT OF STRUCTURAL COMPLIANCE**

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** ROOF B ARRAY LAYOUT  
1/8" = 1'-0"

PV MODULES	
MAKE	18ANWHV
MODEL	Q PEAK L100 REC-8+340
WIDTH	40.60 IN
LENGTH	68.50 IN
THICKNESS	12 MM
WEIGHT	43.90 LBS
ARRAY AREA	77.52 SQ FT
ARRAY WEIGHT	1911 LBS

ROOF SUMMARY	
STRUCTURE	RAFTERS
TYPE	SOUTHERN PINE #2
MATERIAL	2 X 8
SIZE	16 IN O.C.
SPACING	167 IN
EFFECTIVE SPAN	7/12
PITCH	30 LBS./CU FT
DENSITY	OSB
DECKING	COMPOSITE
TYPE	27/16 IN
MATERIAL	1.60 LBS./SQ FT
THICKNESS	ASPHALT SHINGLE
ROOFING	ASPHALT
TYPE	2.30 LBS./SQ FT
MATERIAL	
WEIGHT	

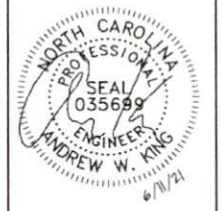
ROOF MOUNT SUMMARY		
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	64 IN	26 IN
WIND ZONE 2	48 IN	25 IN
WIND ZONE 3	48 IN	23 IN

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQ FT
UPF LOAD:	20 LBS./SQ FT
DEAD LOAD:	
ROOFING:	1.9 LBS./SQ FT
PV ARRAY:	2.5 LBS./SQ FT
TOTAL:	6.4 LBS./SQ FT
WIND LOAD:	
UPLIFT ZONE 1:	-24.6 LBS./SQ FT
UPLIFT ZONE 2:	-29.0 LBS./SQ FT
UPLIFT ZONE 3:	-29.0 LBS./SQ FT
DOWNWARD:	23.0 LBS./SQ FT
FASTENER LOAD:	
UPLIFT ZONE 1:	-372 LBS
UPLIFT ZONE 2:	-329 LBS
UPLIFT ZONE 3:	-329 LBS
DOWNWARD:	348 LBS

ROOF MOUNT & FASTENER	
ROOF MOUNT	QUICKBOLT
MAKE	4 IN QBT
MODEL	STAINLESS / EPDM
MATERIAL	
FASTENER:	
MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-18 X 5-1/4"
GENERAL:	
WEIGHT	0.56 LBS
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XRT0
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN

**NC SOLAR NOW**



**CLIENT INFO**  
 AMANDA SOTO  
 407 COMBSBURY PARK LANE  
 FUQUAY-VARRA, NC 27726

**PROJECT INFO**  
 DC INPUT: 11.90 kW  
 AC EXPORT: 10.00 kW  
 DC/INSP. 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: 115 MPH  
 RISK CATEGORY: II  
 EXPOSURE: B  
 SNOW: 15 PSF

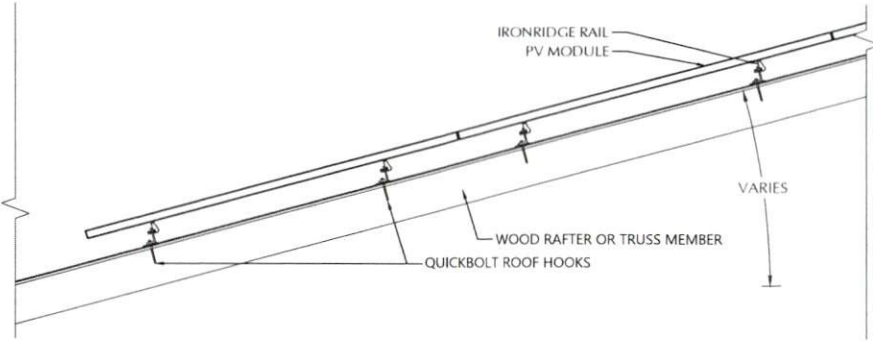
**SHEET INDEX**  
 PV-1 COVER SHEET  
 PV-2 PV STRUCTURAL  
 PV-3 PV ELECTRICAL  
 PV-4 PV EQUIPMENT LABELS  
 PV-5 PV INSTALL GUIDE

**DESIGNER INFO**  
 DESIGNER: CRM  
 ENGINEER: AVK  
 DATE: 4/18/2021  
 VERSION: P1

**PV SYSTEM STRUCTURAL**

**PV-2.2**

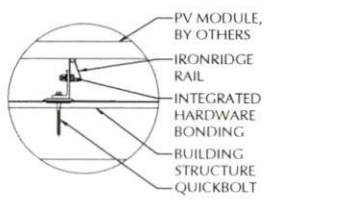
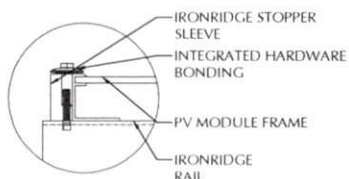
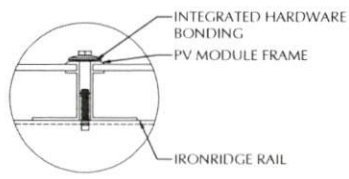
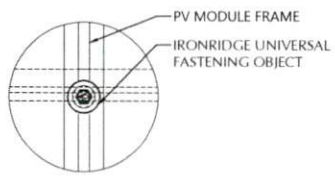
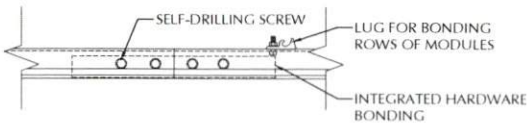
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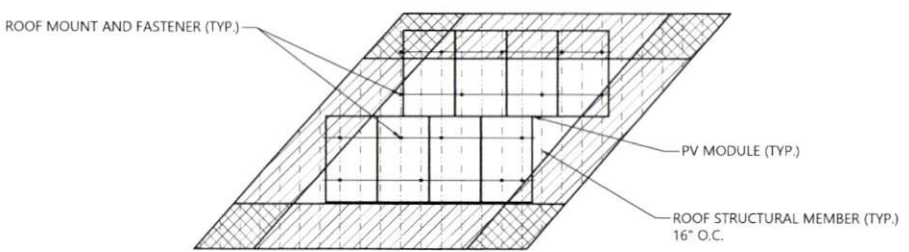
**STATEMENT OF STRUCTURAL COMPLIANCE**

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 ROOF C ARRAY LAYOUT  
1/8" = 1'-0"

PV MODULES	
MAKE	HANWHA
MODEL	Q PEAK DUO REC-G+340
WIDTH	40.60 IN
LENGTH	65.50 IN
THICKNESS	32 MM
WEIGHT	43.90 LBS
ARRAY AREA	155 SQFT
ARRAY WEIGHT	386 LBS

ROOF SUMMARY	
STRUCTURE	RAFTERS
TYPE	SOUTHERN PINE #2
MATERIAL	2 X 8
SIZE	16 IN O.C.
SPACING	163 IN
EFFECTIVE SPAN	7/12
PITCH	30 LBS./CU.FT
DENSITY	OSB
DECKING	COMPOSITE
TYPE	7/16 IN
MATERIAL	1.60 LBS./SQ.FT
THICKNESS	ASPHALT SHINGLE
WEIGHT	ASPHALT
ROOFING	2.30 LBS./SQ.FT
TYPE	
MATERIAL	
WEIGHT	

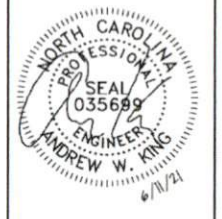
ROOF MOUNT SUMMARY		
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	64 IN	26 IN
WIND ZONE 2	48 IN	25 IN
WIND ZONE 3	48 IN	23 IN

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQ.FT
LIVE LOAD:	20 LBS./SQ.FT
DEAD LOAD:	
ROOFING:	1.9 LBS./SQ.FT
PV ARRAY:	2.5 LBS./SQ.FT
TOTAL:	6.4 LBS./SQ.FT
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQ.FT
UPLIFT ZONE 2	-29.0 LBS./SQ.FT
UPLIFT ZONE 3	-29.0 LBS./SQ.FT
DOWNWARD:	23.0 LBS./SQ.FT
FASTENER LOAD:	
UPLIFT ZONE 1	-372 LBS
UPLIFT ZONE 2	-329 LBS
UPLIFT ZONE 3	-329 LBS
DOWNWARD	348 LBS

ROOF MOUNT & FASTENER	
ROOF MOUNT:	QUICKBOLT
MAKE	4 IN QRB
MODEL	STAINLESS / EPDM
MATERIAL	
FASTENER:	SOLAR ROOF HOOK
MAKE	HANGER BOLT
MODEL	304 SS
MATERIAL	5/16-18 X 5-1/4"
SIZE	
GENERAL:	
WEIGHT	0.56 LBS.
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS.

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	AR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN

**NC SOLAR NOW**



**CLIENT INFO**  
AMANDA SOTO  
407 COKESBURY PARK LANE  
FUQUAY-VARINA, NC 27526

**PROJECT INFO**  
DC INPUT: 11.90 kW  
AC EXPORT: 10.00 kW  
DC INSP. 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: 115 MPH  
RISK CATEGORY: B  
EXPOSURE: B  
SNOW: 15 PSF

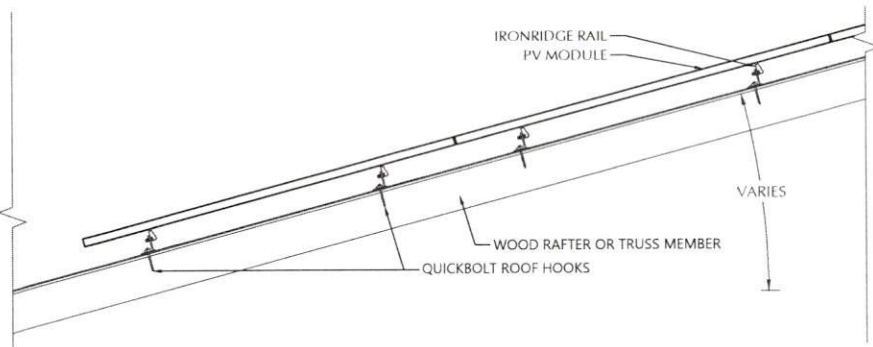
**SHEET INDEX**  
PV-1 COVER SHEET  
PV-2 PV STRUCTURAL  
PV-3 PV ELECTRICAL  
PV-4 PV EQUIPMENT LABELS  
PV-5 PV INSTALL GUIDE

**DESIGNER INFO**  
DESIGNER: CRM  
ENGINEER: AIVK  
DATE: 6/10/2021  
VERSION: P1

**PV SYSTEM STRUCTURAL**

**PV-2.3**

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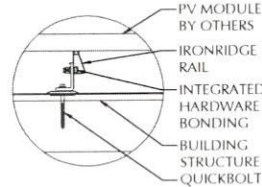
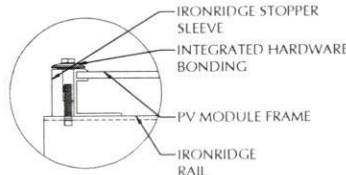
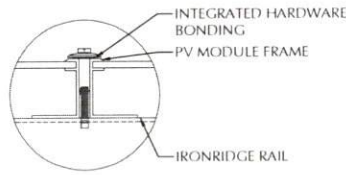
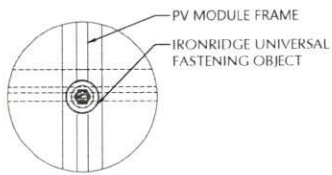
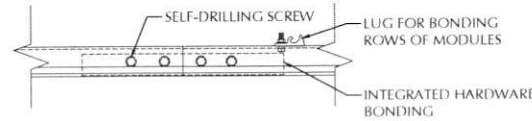


### STATEMENT OF STRUCTURAL COMPLIANCE

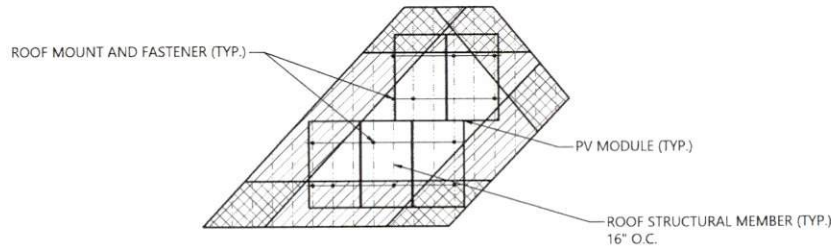
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NAME: ANDREW W. KING, PE

SIGNED: *Andrew W. King*



1 ROOF FASTENER DETAIL  
NOT TO SCALE



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

PV MODULES	
MAKE	HANWHA
MODEL	Q.PEAK DUO BLK-G64-340
WIDTH	40.60 IN
LENGTH	68.50 IN
THICKNESS	32MM
WEIGHT	43.90 LBS
ARRAY AREA	97 SQFT
ARRAY WEIGHT	241 LBS

ROOF SUMMARY	
STRUCTURE	RAFTERS
TYPE	SOUTHERN PINE #2
MATERIAL	2 X 8
SIZE	16 IN O.C.
SPACING	1.50 IN
EFFECTIVE SPAN	7/12
PITCH	30 LBS./CU.FT.
DENSITY	OSB
DECKING	COMPOSITE
TYPE	7/16 IN
MATERIAL	1.60 LBS./SQ.FT.
THICKNESS	ASPHALT SHINGLE
WEIGHT	ASPHALT
ROOFING	2.30 LBS./SQ.FT.
TYPE	
MATERIAL	
WEIGHT	

ROOF MOUNT SUMMARY			
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG	
WIND ZONE 1	64 IN	26 IN	
WIND ZONE 2	48 IN	25 IN	
WIND ZONE 3	48 IN	23 IN	

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQ.FT.
LIVE LOAD:	20 LBS./SQ.FT.
DEAD LOAD:	
ROOFING:	3.9 LBS./SQ.FT.
PV ARRAY:	2.5 LBS./SQ.FT.
TOTAL:	6.4 LBS./SQ.FT.
WIND LOAD:	
UPLIFT ZONE 1:	-24.6 LBS./SQ.FT.
UPLIFT ZONE 2:	-29.0 LBS./SQ.FT.
UPLIFT ZONE 3:	-29.0 LBS./SQ.FT.
DOWNWARD:	23.0 LBS./SQ.FT.
FASTENER LOAD:	
UPLIFT ZONE 1:	-372 LBS.
UPLIFT ZONE 2:	-329 LBS.
UPLIFT ZONE 3:	-329 LBS.
DOWNWARD:	348 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT:	QUICKBOLT
MAKE	4 IN Q/BT
MODEL	STAINLESS / EPDM
MATERIAL	
FASTENER:	
MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-1/8 X 5-1/4"
GENERAL:	
WEIGHT	0.56 LBS
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN

# NC SOLAR NOW



**CLIENT INFO**  
AMANDA SOLO  
407 CORNBERY PARK LANE  
FUQUAY-VARINA, NC 27526

**PROJECT INFO**  
DC INPUT: 11.90 kW  
AC EXPORT: 10.00 kW  
DC/INSP. METHOD: OPTION 2

**CODE REFERENCES**  
NATIONAL 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: 115 MPH  
RISK CATEGORY: B  
EXPOSURE: B  
SNOW: 15 PSF

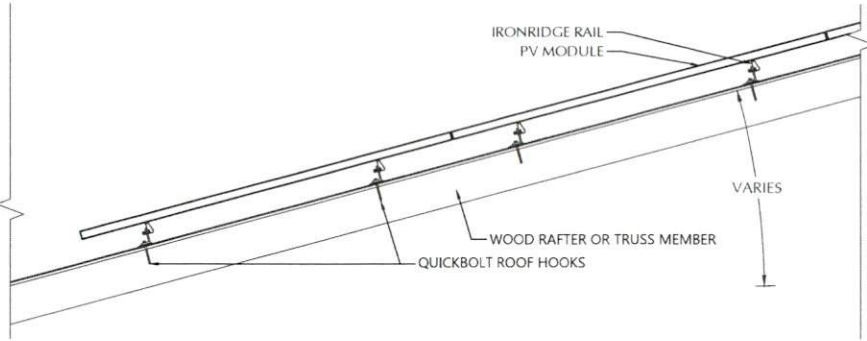
**SHEET INDEX**  
PV-1 COVER SHEET  
PV-2 PV STRUCTURAL  
PV-3 PV ELECTRICAL  
PV-4 PV EQUIPMENT LABELS  
PV-5 PV INSTALL GUIDE

**DESIGNER INFO**  
DESIGNER: CRM  
ENGINEER: AWK  
DATE: 6/18/2021  
VERSION: P1

PV SYSTEM  
STRUCTURAL

# PV-2.4

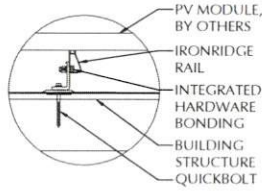
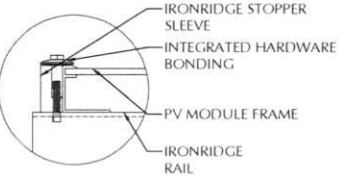
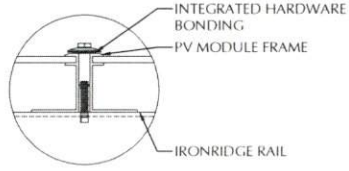
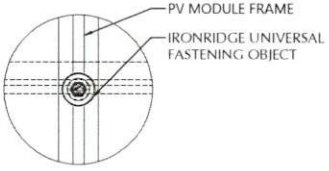
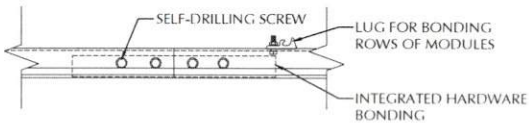
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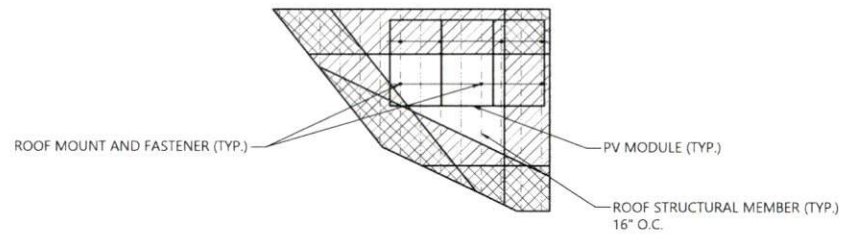
**STATEMENT OF STRUCTURAL COMPLIANCE**

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 ROOF ARRAY LAYOUT**  
1/8" = 1'-0"

PV MODULES	
MAKE	HANNIFIA
MODEL	Q PEAK DUVO BLY-G06-340
WIDTH	40.60 IN
LENGTH	48.50 IN
THICKNESS	32 MM
WEIGHT	41.90 LBS
ARRAY AREA	58 SQ.FT.
ARRAY WEIGHT	145 LBS

ROOF SUMMARY	
STRUCTURE TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2 X 8
SPACING	16 IN O.C.
EFFECTIVE SPAN	139 IN
PITCH	7/12
DENSITY	30 LBS./CU.FT.
DECKING TYPE	OSB
MATERIAL	COMPOSITE
THICKNESS	7/16 IN
WEIGHT	1.60 LBS./SQ.FT.
ROOFING TYPE	ASPHALT SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.30 LBS./SQ.FT.

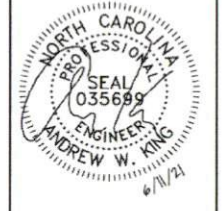
ROOF MOUNT SUMMARY		
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	64 IN	26 IN
WIND ZONE 2	48 IN	25 IN
WIND ZONE 3	48 IN	23 IN

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQ.FT.
LIVE LOAD:	20 LBS./SQ.FT.
DEAD LOAD:	
ROOFING:	3.9 LBS./SQ.FT.
PV ARRAY:	2.5 LBS./SQ.FT.
TOTAL:	6.4 LBS./SQ.FT.
WIND LOAD:	
UPLIFT ZONE 1:	-24.6 LBS./SQ.FT.
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FASTENER LOAD:	
UPLIFT ZONE 1:	-372 LBS.
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UPLIFT ZONE 3:	-329 LBS.
DOWNWARD:	348 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT:	
MAKE	QUICKBOLT
MODEL	4 IN QB1
MATERIAL	STAINLESS / EPDM
FASTENER:	
MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-18 X 5-1/4"
GENERAL:	
WEIGHT	0.56 LBS.
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS.

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/LIN
SPACING	34 IN

**NC SOLAR NOW**



**CLIENT INFO**  
AMANDA SOTO  
407 CORESBURY PARK LANE  
FUQUAY-VARINA, NC 27526

**PROJECT INFO**  
DC INPUT: 11.90 kW  
AC EXPORT: 10.00 kW  
DOI INSP. METHOD: OPTION 2

**CODE REFERENCES**  
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ACSE v. 7-10

**SITE CONDITIONS**  
WIND SPEED: 115 MPH  
RISK CATEGORY: II  
EXPOSURE: B  
SNOW: 15 PSF

**SHEET INDEX**  
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PV-5 PV INSTALL GUIDE

**DESIGNER INFO**  
DESIGNER: CRM  
ENGINEER: AWK  
DATE: 6/10/2021  
VERSION: PT

**PV SYSTEM STRUCTURAL**

**PV-2.5**

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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	THWN	1	6 AWG	THWN	-	-	FRET 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	6 AWG	THWN	-	-	-	1	3/4"	EXTERIOR	2,4
XC	-	-	-	-	-	-	-	-	-	3

PV MODULE	
MAKE	HANWHA
MODEL	Q.PEAK TWO BRK-L84-140
NOM. POWER (P <sub>NOM</sub> )	340 WATTS
NOM. VOLT. (V <sub>MPP</sub> )	34.3 VOLTS
O.C. VOLT. (V <sub>OC</sub> )	40.7 VOLTS
MAX. SYS. VOLT.	1000 VOLTS
NOM. CURR. (I <sub>MPP</sub> )	9.9 AMPS
S.C. CURR. (I <sub>SC</sub> )	10.4 AMPS
TEMP. COEFF. (P <sub>MPP</sub> )	-0.15 %/°C
TEMP. COEFF. (V <sub>OC</sub> )	-0.27 %/°C
MAX. SERIES FUSE	20 AMPS
UL LIST. (V/N)	YES

MODULE OPTIMIZER	
MAKE	SOLAREDGE
MODEL	P401
DC INPUT:	
NOM. POWER	400 WATTS
VOLT. RANGE	8 to 60
MAX. CURR.	11.8 AMPS
DC OUTPUT:	
NOM. POWER	400 WATTS
MAX. VOLT.	60 VOLTS
MAX. CURR.	15 AMPS
MIN-MAX STRING	8-15 OPTIMIZERS
UL LIST. (V/N)	YES

DC / AC INVERTER	
MAKE	SOLAREDGE
MODEL	SE10000H-US0006N14
DC INPUT:	
MAX. POWER	15500 WATTS
VOLT. RANGE	400-480
NOM. VOLT.	400 VOLTS
MAX. CURRENT	27 AMPS
STRING INPUTS	3 STRINGS
AC OUTPUT:	
MAX. POWER	10000 WATTS
NOM. POWER	10000 WATTS
NOM. VOLT.	211-240-264
MAX. CURR.	42.00 AMPS
DC DISC. (V/N)	YES
RAPID SHUTDOWN (V/N)	YES
PROTECT. RATING	NEMA TYP. 4X
UL LIST. (V/N)	YES
CONSUMPTION MONITOR	No

JUNCTION BOX	
MAKE	SOLADECK
PROTECT. RATING	NEMA TYP. 3R
UL LIST. (V/N)	YES

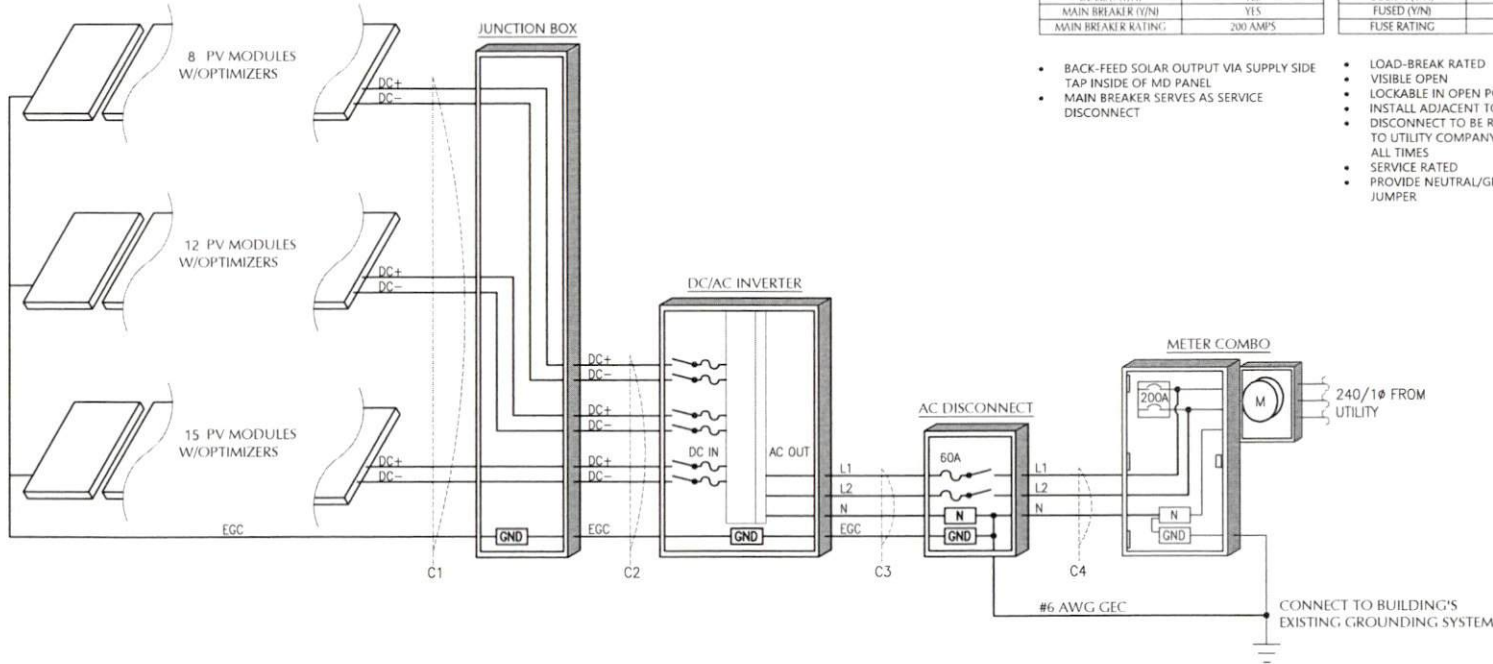
METER COMBO (EXISTING)	
MAKE	EATON-CUTLER HAMMER
MODEL	NA
ENCL. RATING	NEMA 3R
VOLT. RATING	240
BUS RATING	200 AMPS
UL LIST. (V/N)	YES
MAIN BREAKER (V/N)	YES
MAIN BREAKER RATING	200 AMPS

AC DISCONNECT	
MAKE	GENERIC
MODEL	NA
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
AMP RATING	60 AMPS
UL LIST. (V/N)	YES
FUSED (V/N)	YES
FUSE RATING	60 A

- 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

- BACK-FEED SOLAR OUTPUT VIA SUPPLY SIDE TAP INSIDE OF MD PANEL
- MAIN BREAKER SERVES AS SERVICE DISCONNECT

- 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



1 ELECTRICAL SCHEMATIC  
NTS

NC  
SOLAR  
NOW



CLIENT INFO

AMANDA SOTO  
407 COKESBURY PARK LANE  
FLOQUA, VARIOVA, NC 27526

PROJECT INFO

DC INPUT: 11.90 kW  
AC INPUT: 10.00 kW  
DOI INSP. METHOD: OPTION 2

CODE REFERENCES

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

SITE CONDITIONS

WIND SPEED: 115 MPH  
RISK CATEGORY: II  
EXPOSURE: B  
SNOW: 15 PSI

SHEET INDEX

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PV-3 PV ELECTRICAL  
PV-4 PV EQUIPMENT LABELS  
PV-5 PV INSTALL GUIDE

DESIGNER INFO

DESIGNER: CRM  
ENGINEER: AWK  
DATE: 6/19/2021  
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 (D)(2)(3)(b)  
 PLACE ADJACENT TO BACK-PED BREAKER

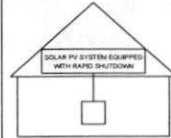
**⚠ WARNING**  
**DUAL POWER SUPPLY**  
 SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM  
 NEC 705.12 (D)(3)  
 PLACE ON ALL EQUIPMENT THAT IS SUPPLIED BY BOTH POWER SOURCES

**WARNING: PHOTOVOLTAIC POWER SOURCE**  
 NEC 690.51 (C)(3)(b)(4)  
 PLACE ON ALL JUNCTION BOXES, EXPOSED BACKWAYS, 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 SHUTDOWNS \*REFLECTIVE\*

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY



NEC 690.56 (C)(3)(b)  
 PLACE WITHIN 5 FT 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 42.0 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 690.55  
 PLACE ON ALL DC DISCONNECTING MEANS

SERVICE DISCONNECT LOCATED: EXTERIOR WEST WALL OF HOME

PV DISCONNECT LOCATED: EXTERIOR WEST WALL OF HOME

NEC 705.10  
 PLACE AT SERVICE EQUIPMENT AND PV SYSTEM DISCONNECTING MEANS

**LABEL NOTES**

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

**DC WIRING NOTES**

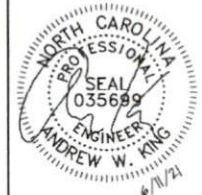
- CONDUCTORS SHALL BE COPPER, RATED AT NOT LESS THAN 600 VOLTS FOR RESIDENTIAL CONSTRUCTION AND NOT LESS THAN 1000 VOLTS FOR COMMERCIAL CONSTRUCTION.
- MINIMUM SIZE SHALL BE #10 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- EXPOSED WIRING CONDUCTOR INSULATION SHALL BE TYPE PV WIRE, USE-2, OR RHW-2 WHERE THE OUTER LAYER OF THE INSULATION IS UV, SUNLIGHT, AND MOISTURE RESISTANT.
- 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.
- 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).
- USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMAGE
- MINIMUM CONDUIT SIZE TO BE 1/2".
- WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**AC WIRING NOTES**

- CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.
- MINIMUM SIZE SHALL BE #14 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 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.
- 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.
- USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMAGE
- MINIMUM CONDUIT SIZE TO BE 1/2".
- WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**CONSTRUCTION NOTES**

- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE NEC, STATE, AND LOCAL APPLICABLE CODES.
- FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS.
- ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED.
- WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.
- 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.
- 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.
- PROVIDE A PULLWIRE IN ALL EXTERIOR CONDUITS.
- ALL PENETRATIONS THROUGH EXTERIOR ROOFS SHALL BE FLASHED IN A WATERPROOF MANNER.
- ALL PENETRATIONS THROUGH ATTIC FIRE BARRIERS SHALL BE SEALED WITH FIRE-BARRIER SEALANT CAULK.
- SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
- METAL CONDUIT COUPLINGS CAN BE COMPRESSION TYPE, THREADED, OR BE SET-SCREW TYPE. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
- 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.
- 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.
- 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 AT THE DC DISCONNECT MEANS.
- A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRICAL POWER SOURCES SERVING THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL POWER PRODUCTION SOURCES.
- ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)
- 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:
  - THE WEIGHT OF THE PV SYSTEM EXCEEDS THREE (3) POUNDS PER SQUARE FOOT(PSF)
  - THE ROOF POSSESSES MORE THAN ONE (1) LAYER OF ASPHALT SHINGLES
  - THE ROOFING MATERIAL CONSISTS OF A TYPE OTHER THAN ASPHALT SHINGLES OR METAL
  - THE ROOF IS LOCATED IN A 140 MPH OR GREATER WIND ZONE



**CLIENT INFO**

ASHANDA SOTO  
 407 CONKSBURY PARK LANE  
 FLOQUAY-VARINA, NC 27526

**PROJECT INFO**

DC INPUT: 11.90 kW  
 AC EXPORT: 10.00 kW  
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**SITE CONDITIONS**

WIND SPEED: 115 MPH  
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**DESIGNER INFO**

DESIGNER: CRM  
 ENGINEER: AVK  
 DATE: 6/10/2021  
 VERSION: P1

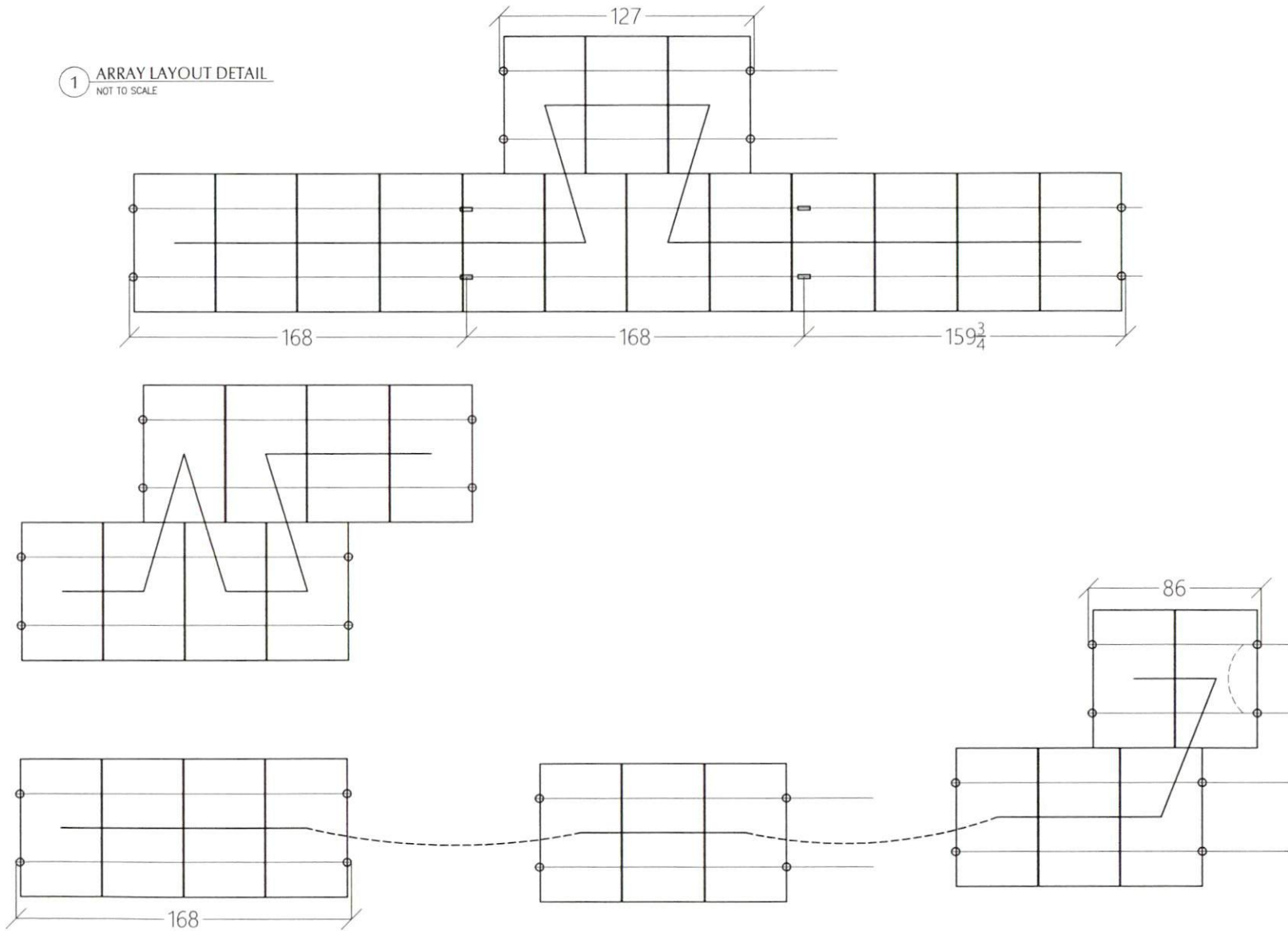
**PV SYSTEM EQUIPMENT LABELS**

**PV-4.1**



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1 ARRAY LAYOUT DETAIL  
NOT TO SCALE



NC  
**SOLAR**  
NOW



**CLIENT INFO**

AMANDA SOTO  
407 CORNSBURY PARK LANE  
FUQUAY-VARINA, NC 27526

**PROJECT INFO**

DC INPUT: 11.90 kW  
AC EXPORT: 10.00 kW  
DOWNSPT. 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: 115 MPH  
RISK CATEGORY: II  
EXPOSURE: B  
SNOW: 15 PSF

**SHEET INDEX**

PV-1: COVER SHEET  
PV-2: PV STRUCTURAL  
PV-3: PV ELECTRICAL  
PV-4: PV EQUIPMENT LABELS  
PV-5: PV INSTALL GUIDE

**DESIGNER INFO**

DESIGNER: CRM  
ENGINEER: AWK  
DATE: 6/10/2021  
VERSION: P1

**PV SYSTEM INSTALL  
GUIDE**

**PV-5.1**

powered by

**Q.ANTUM DUO**

# Q.PEAK DUO BLK-G6

## 330-345

ENDURING HIGH PERFORMANCE



www.VDEInfo.com  
ID: 40032587



**Q.ANTUM TECHNOLOGY: LOW LEVELISED COST OF ELECTRICITY**  
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.5%.



**INNOVATIVE ALL-WEATHER TECHNOLOGY**  
Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



**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 aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



**A RELIABLE INVESTMENT**  
Inclusive 12-year product warranty and 25-year linear performance warranty<sup>2</sup>.



**STATE OF THE ART MODULE TECHNOLOGY**  
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

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

### THE IDEAL SOLUTION FOR:



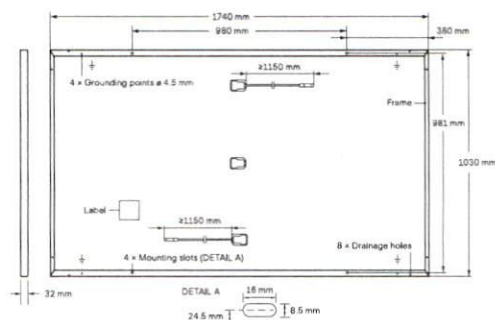
Rooftop arrays on residential buildings

Engineered in Germany

# Q CELLS

## MECHANICAL SPECIFICATION

Format	1740 mm × 1030 mm × 32 mm (including frame)
Weight	19.9 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 monocrystalline Q ANTUM solar half cells
Junction box	53-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm <sup>2</sup> Solar cable; (+) ≥1150 mm, (-) ≥1150 mm
Connector	Stäubli MC4, Hanwha Q CELLS HQC4; IP68

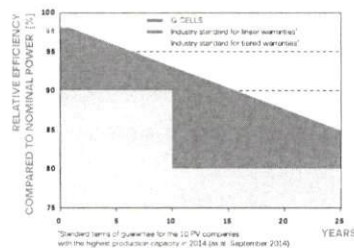


## ELECTRICAL CHARACTERISTICS

POWER CLASS		330	335	340	345	
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]	330	335	340	345
	Short Circuit Current <sup>1</sup>	$I_{SC}$ [A]	10.41	10.47	10.52	10.58
	Open Circuit Voltage <sup>1</sup>	$V_{OC}$ [V]	40.15	40.41	40.66	40.92
	Current at MPP	$I_{MPP}$ [A]	9.91	9.97	10.02	10.07
	Voltage at MPP	$V_{MPP}$ [V]	33.29	33.62	33.94	34.25
	Efficiency <sup>1</sup>	$\eta$ [%]	≥18.4	≥18.7	≥19.0	≥19.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>						
Minimum	Power at MPP	$P_{MPP}$ [W]	247.0	250.7	254.5	258.2
	Short Circuit Current	$I_{SC}$ [A]	8.39	8.43	8.48	8.52
	Open Circuit Voltage	$V_{OC}$ [V]	37.86	38.10	38.34	38.59
	Current at MPP	$I_{MPP}$ [A]	7.80	7.84	7.89	7.93
	Voltage at MPP	$V_{MPP}$ [V]	31.66	31.97	32.27	32.57

<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 according to IEC 60904-3 • 7800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

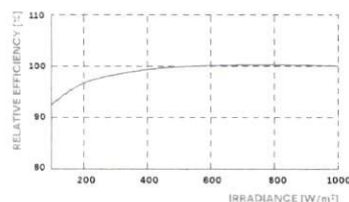
### Q CELLS PERFORMANCE WARRANTY



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 organisation 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]	-0.27
Temperature Coefficient of $P_{MPP}$	$\gamma$ [%/K]	-0.36	Nominal Module Operating Temperature	NMOT [°C]	43 ± 3

### PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{SYS}$ [V]	1000	PV module classification	Class II
Maximum Reverse Current	$I_{SR}$ [A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 2
Max. Design Load, Push / Pull	[Pa]	3600 / 2667	Permitted Module Temperature on Continuous Duty	-40 °C - +85 °C
Max. Test Load, Push / Pull	[Pa]	5400 / 4000		

### QUALIFICATIONS AND CERTIFICATES

VDE Quality Tested,  
IEC 61215:2016,  
IEC 61730:2016  
This data sheet complies  
with DIN EN 50380.



### PACKAGING INFORMATION

	1780 mm	1080 mm	1208 mm	673.8 kg	28 pallets	26 pallets	32 modules
Horizontal packaging							
Vertical packaging	1815 mm	1150 mm	1220 mm	683 kg	28 pallets	24 pallets	32 modules

**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. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document "Packaging and Transport Information", available from Q CELLS.

### Hanwha Q CELLS GmbH

Sonnenallee 17-21, 06766 Bitterfeld-Wolfen, Germany | TEL +49 (0)3494 66 99-23444 | FAX +49 (0)3494 66 99-23000 | EMAIL sales@q-cells.com | WEB www.q-cells.com

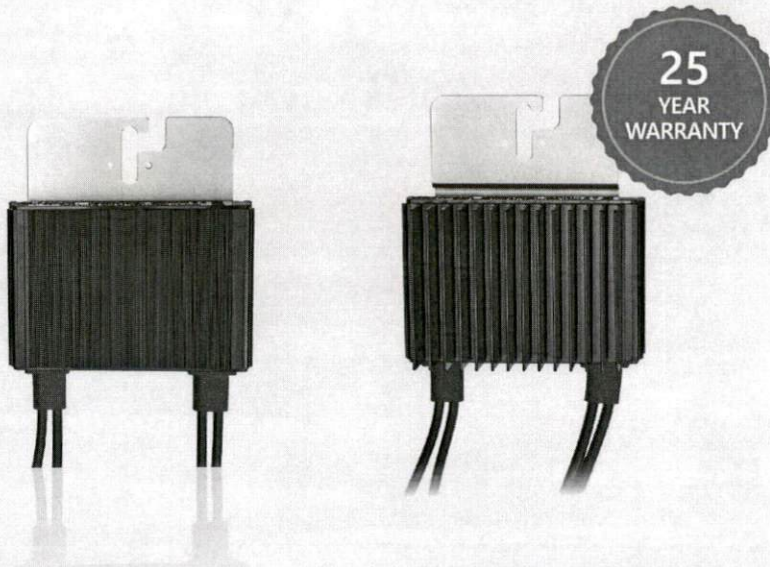
Specifications subject to technical changes © Q CELLS Q PEAK DUO BLK-G6\_330-345\_2020-04\_Rev02\_EN

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# Power Optimizer

For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505



POWER OPTIMIZER

## PV power optimization at the module-level

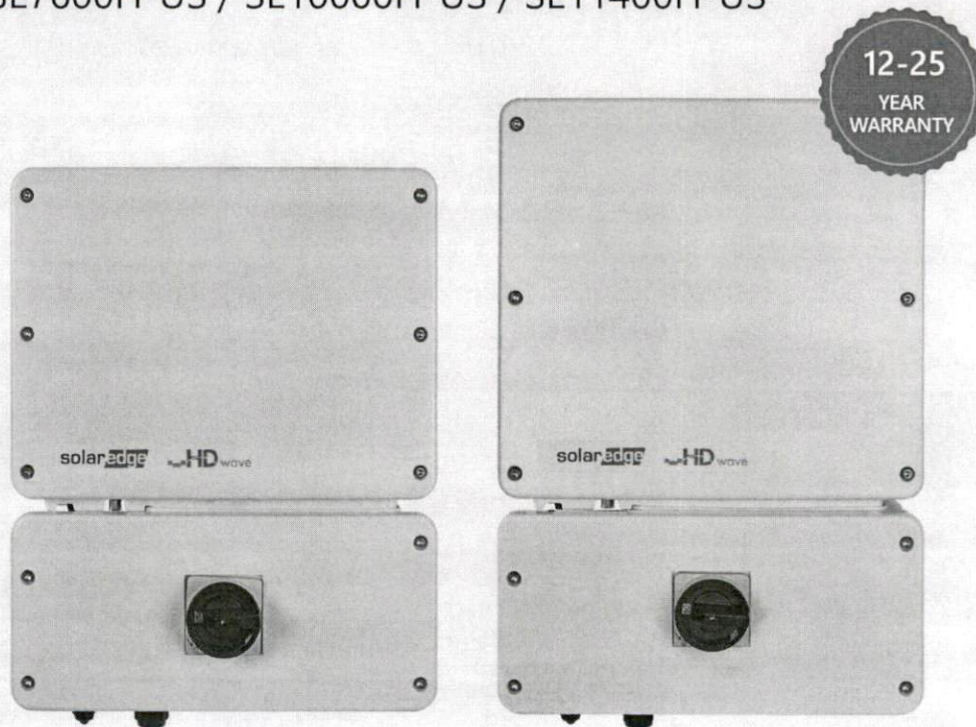
- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety



# Single Phase Inverter with HD-Wave Technology

for North America

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



INVERTERS

## 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	SEXXXH-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

# / 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	
<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				dB(A)
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(4)</sup>							°F / °C
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>