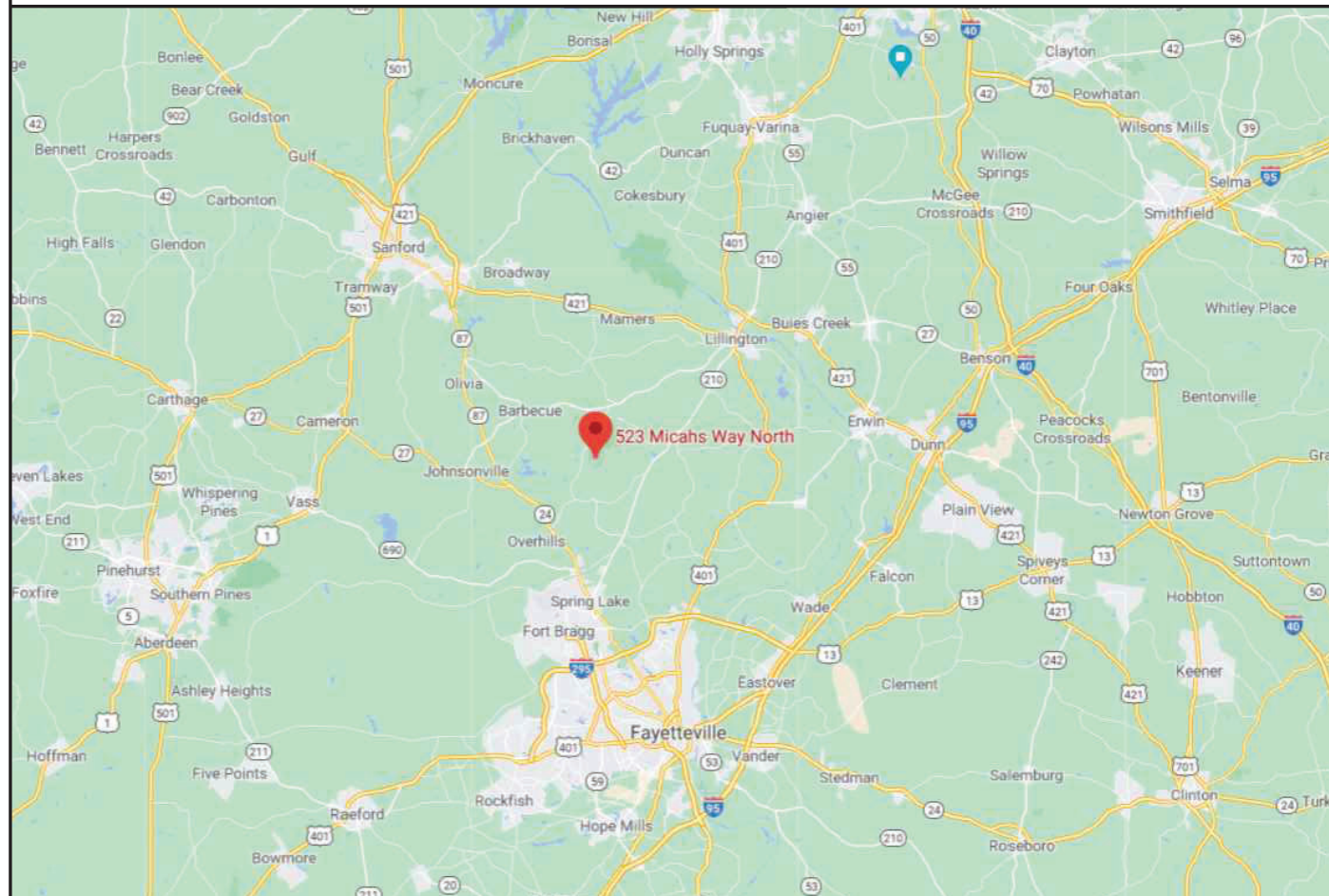
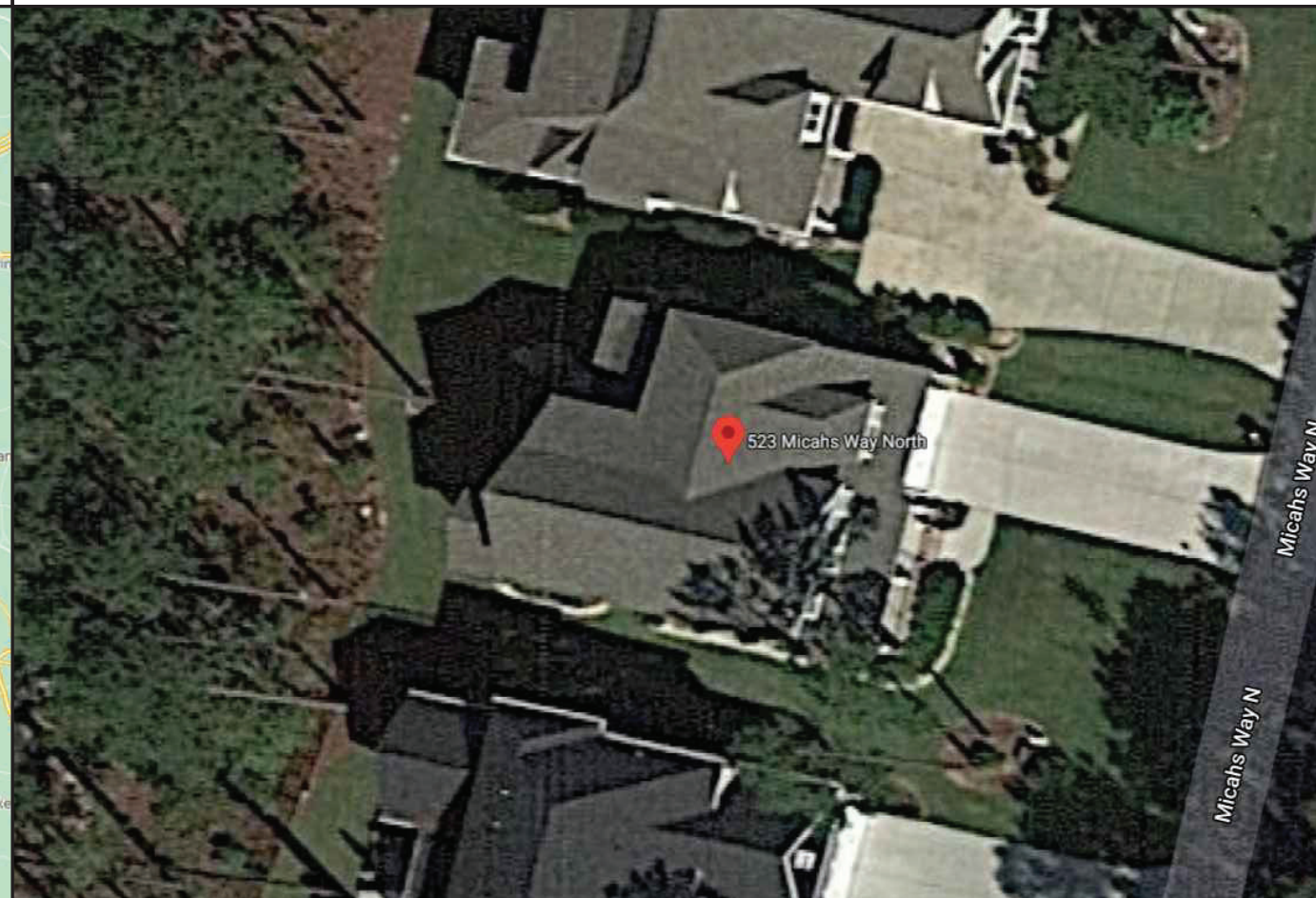


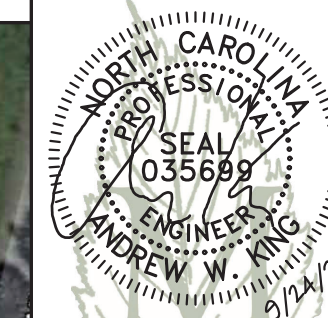
VICINITY MAP



PROPERTY MAP



ENGINEER:



MODEL ENERGY

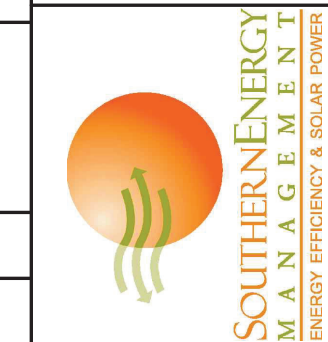
300 FAYETTEVILLE ST.
#1430
RALEIGH, NC 27602
919-274-9905
MODELENERGY.COM
P-1194

JOB TITLE:

NEW SOLAR PV SYSTEM
12.025 kW DC INPUT
10.000 kW AC EXPORT

Ian Frady
523 Micahs Way N
Spring Lake, NC 28390

CLIENT:



ISSUED FOR:	DATE:
CONSTRUCTION	09/25/20

PROJECT INFORMATION

PV1.1

CONSTRUCTION NOTES

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

ABBREVIATIONS

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



CODE REFERENCES

2017 NATIONAL ELECTRIC CODE
2018 NORTH CAROLINA BUILDING CODE
2018 NORTH CAROLINA RESIDENTIAL CODE
2018 NORTH CAROLINA FIRE CODE

SHEET INDEX

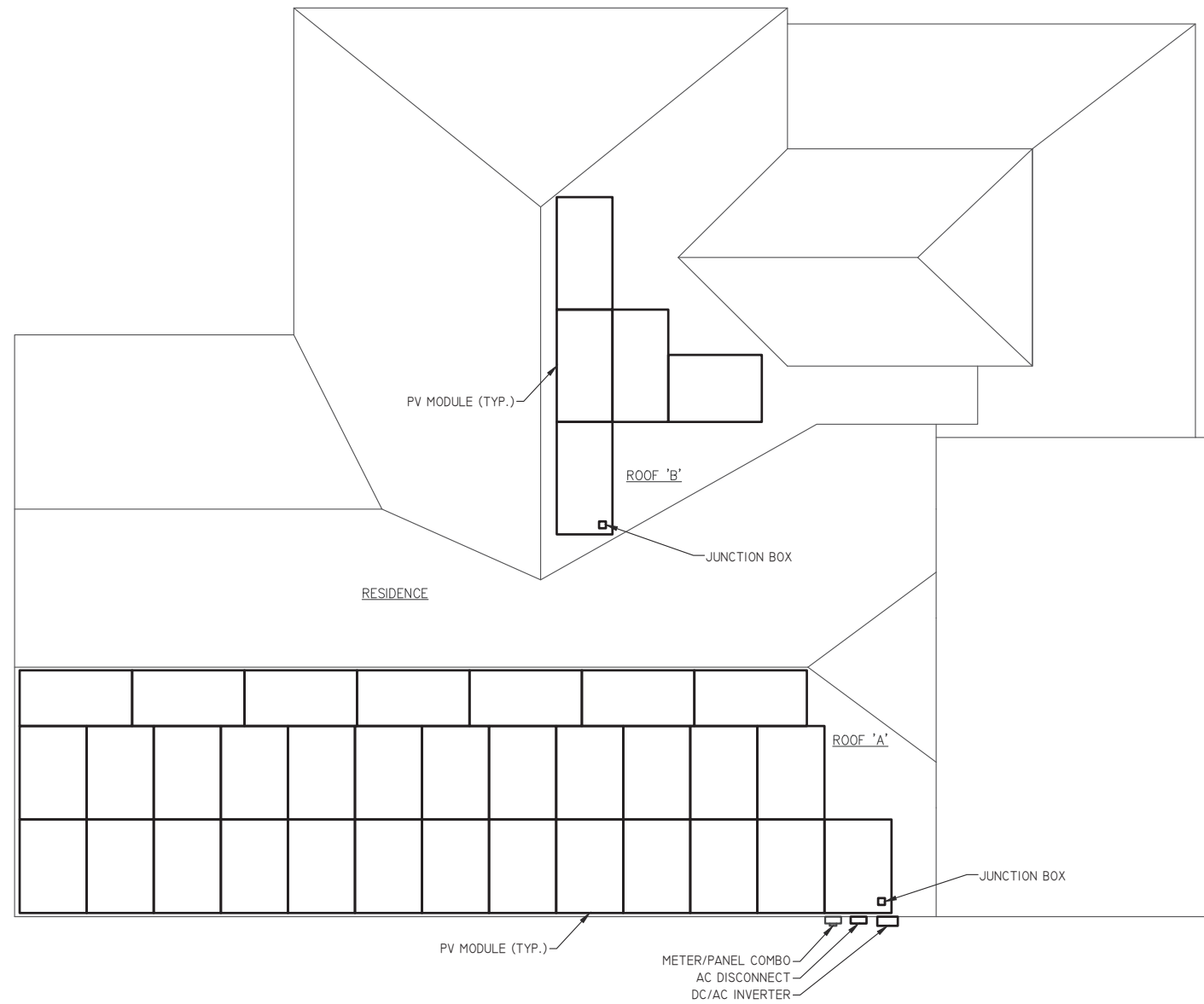
PV1.1 - PROJECT INFORMATION
PV2.1 - SITE INFORMATION
PV3.1 - STRUCTURAL INFORMATION
PV3.2 - STRUCTURAL INFORMATION
PV4.1 - ELECTRICAL INFORMATION
PV5.1 - EQUIPMENT LABELS

SITE CONDITIONS

ASCE 7-10 WIND SPEED - 118 MPH
EXPOSURE CATEGORY - B
RISK CATEGORY - II

LEGEND

	DISCONNECT SWITCH
	FUSE
	CIRCUIT BREAKER
	EQUIP. GROUND



1 | SITE PLAN

SCALE: 1/8" = 1'-0"

ENGINEER:

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

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Ian Frady
 523 Micahs Way N
 Spring Lake, NC 28390

CLIENT:

SOUTHERN ENERGY MANAGEMENT
 ENERGY EFFICIENCY & SOLAR POWER

ISSUED FOR:	DATE:
CONSTRUCTION	09/25/20

SITE INFORMATION

PV2.1

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ROOF MOUNT & FASTENERS	
ROOF MOUNT:	
MAKE	ECOLIBRIUM
TYPE	ECOX
MATERIAL	ALUMINUM
FASTENER:	
MAKE	GENERIC
MODEL	LAG BOLT
MATERIAL	304 SS
SIZE	5/16" X 4"
GENERAL:	
WEIGHT	0.1 LBS.
FASTENERS PER MOUNT	1
MAXIMUM PULL-OUT FORCE	800 LBS / MOUNT
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	400 LBS / MOUNT

- LAG BOLT EMBEDDED WITH 2.5" OF THREAD IN WOOD RAFTER OR TRUSSES MEMBER

ROOF LOADING (PORTRAIT MODULES)	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD:	20 LBS./SQFT.
DEAD LOAD:	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQFT.
UPLIFT ZONE 2	-29.0 LBS./SQFT.
UPLIFT ZONE 3	-29.0 LBS./SQFT.
DOWNWARD	23.0 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-356 LBS.
UPLIFT ZONE 2	-210 LBS.
UPLIFT ZONE 3	-210 LBS.
DOWNWARD	332 LBS.

ROOF LOADING (LANDSCAPE MODULES)	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD:	20 LBS./SQFT.
DEAD LOAD:	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQFT.
UPLIFT ZONE 2	-29.0 LBS./SQFT.
UPLIFT ZONE 3	-29.0 LBS./SQFT.
DOWNWARD	23.0 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-161 LBS.
UPLIFT ZONE 2	-190 LBS.
UPLIFT ZONE 3	-95 LBS.
DOWNWARD	151 LBS.


ARRAY SUMMARY	
# MODULES	32
# ROOF MOUNTS	57
RAIL LENGTH	N/A
ARRAY AREA	589 SQFT.
ARRAY WEIGHT	1321 LBS.
AZIMUTH @ SN	191°
TILT ANGLE	33.75°

PV MODULES	
MAKE	REC
MODEL	REC325NP
WIDTH	39.3"
LENGTH	65.9"
THICKNESS	1.1"
WEIGHT	39.7 LBS

ROOF SUMMARY	
STRUCTURE:	
TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 6"
SPACING	24" o.c.
EFF. SPAN	10'-0"
PITCH	8 / 12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	WOOD COMPOSITE
THICKNESS	7/16"
WEIGHT	1.6 LBS./SQFT.
ROOFING:	
TYPE	ARCH SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.3 LBS./SQFT.

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

ROOF ZONES: PORTRAIT MODULES

ALL ZONES MAX. RAIL OVERHANG = 16"

ZONE 1 MAX. FASTENER SPAN ZONE 1 = 48"

ZONE 2 MAX. FASTENER SPAN ZONE 2 = 24"

ZONE 3 MAX. FASTENER SPAN ZONE 3 = 24"

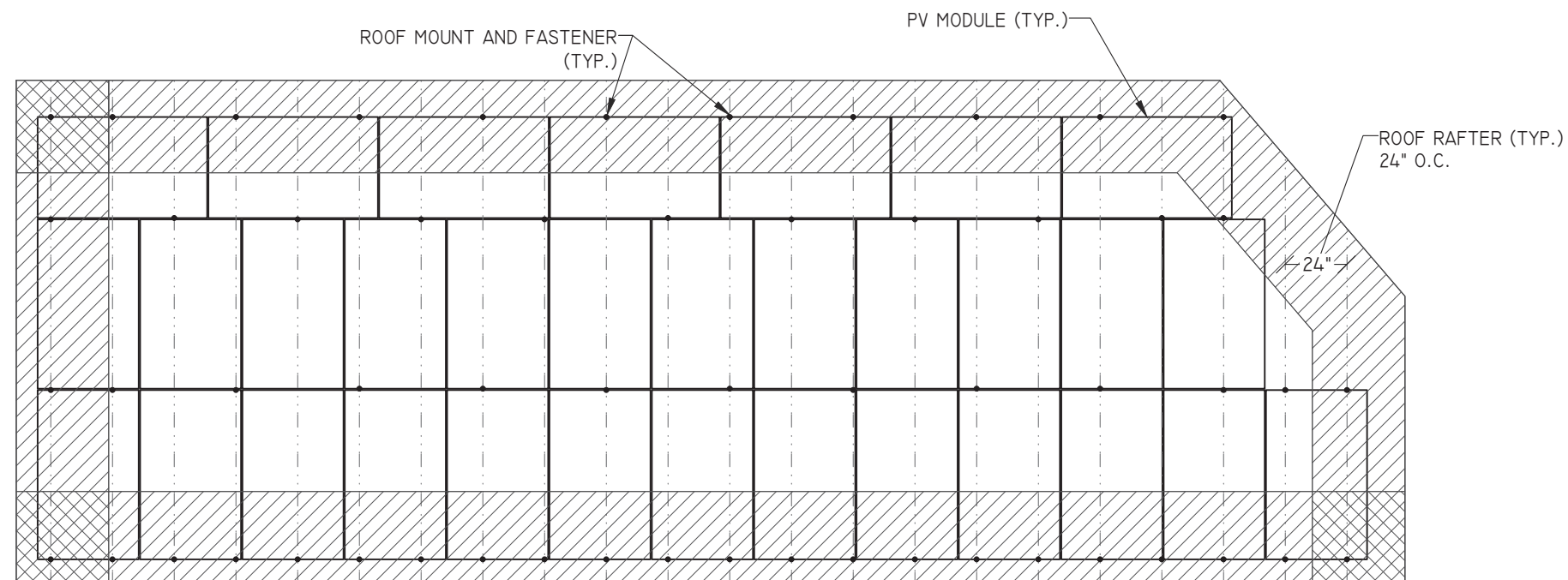
ROOF ZONES: LANDSCAPE MODULES

ALL ZONES MAX. RAIL OVERHANG = 16"


ZONE 1 MAX. FASTENER SPAN ZONE 1 = 48"

ZONE 2 MAX. FASTENER SPAN ZONE 2 = 48"

ZONE 3 MAX. FASTENER SPAN ZONE 3 = 24"



ENGINEER:



MODEL ENERGY


300 FAYETTEVILLE ST.
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Spring Lake, NC 28390

CLIENT:



SOUTHERN ENERGY MANAGEMENT
ENERGY EFFICIENCY & SOLAR POWER

ISSUED FOR:	DATE:
CONSTRUCTION	09/25/20

STRUCTURAL INFORMATION

PV3.1

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ROOF MOUNT & FASTENERS	
ROOF MOUNT:	
MAKE	ECOLIBRIUM
TYPE	ECOX
MATERIAL	ALUMINUM
FASTENER:	
MAKE	GENERIC
MODEL	LAG BOLT
MATERIAL	304 SS
SIZE	5/16" X 4"
GENERAL:	
WEIGHT	0.1 LBS.
FASTENERS PER MOUNT	1
MAXIMUM PULL-OUT FORCE	800 LBS / MOUNT
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	400 LBS / MOUNT

- LAG BOLT EMBEDDED WITH 2.5" OF THREAD IN WOOD RAFTER OR TRUSSES MEMBER

ROOF LOADING (PORTRAIT MODULES)	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD:	20 LBS./SQFT.
DEAD LOAD:	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQFT.
UPLIFT ZONE 2	-29.0 LBS./SQFT.
UPLIFT ZONE 3	-29.0 LBS./SQFT.
DOWNWARD	23.0 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-270 LBS.
UPLIFT ZONE 2	-319 LBS.
UPLIFT ZONE 3	-159 LBS.
DOWNWARD	253 LBS.

ROOF LOADING (LANDSCAPE MODULES)	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD:	20 LBS./SQFT.
DEAD LOAD:	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-24.6 LBS./SQFT.
UPLIFT ZONE 2	-29.0 LBS./SQFT.
UPLIFT ZONE 3	-29.0 LBS./SQFT.
DOWNWARD	23.0 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-184 LBS.
UPLIFT ZONE 2	-217 LBS.
UPLIFT ZONE 3	-109 LBS.
DOWNWARD	172 LBS.


ARRAY SUMMARY	
# MODULES	5
# ROOF MOUNTS	16
RAIL LENGTH	N/A
ARRAY AREA	94 SQFT.
ARRAY WEIGHT	208 LBS.
AZIMUTH @ SN	101°
TILT ANGLE	33.75°

PV MODULES	
MAKE	REC
MODEL	REC325NP
WIDTH	39.3"
LENGTH	65.9"
THICKNESS	1.1"
WEIGHT	39.7 LBS

ROOF SUMMARY	
STRUCTURE:	
TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 6"
SPACING	24" O.C.
EFF. SPAN	10'-6"
PITCH	8 / 12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	WOOD COMPOSITE
THICKNESS	7/16"
WEIGHT	1.6 LBS./SQFT.
ROOFING:	
TYPE	ARCH SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.3 LBS./SQFT.

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.

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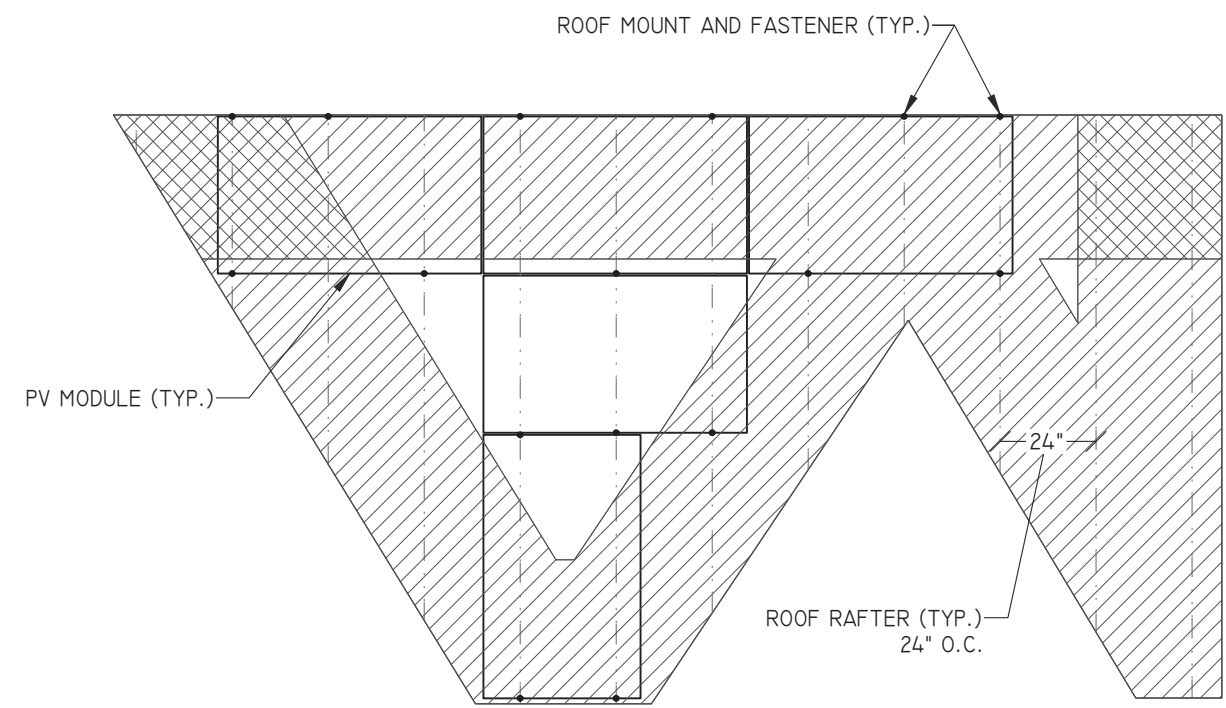
ROOF ZONES:

ALL ZONES MAX. RAIL OVERHANG = 16"


ZONE 1 MAX. FASTENER SPAN ZONE 1 = 48"

ZONE 2 MAX. FASTENER SPAN ZONE 2 = 48"

ZONE 3 MAX. FASTENER SPAN ZONE 3 = 24"



ENGINEER:



MODEL ENERGY


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CLIENT:



SOUTHERN ENERGY MANAGEMENT
ENERGY EFFICIENCY & SOLAR POWER

ISSUED FOR:	DATE:
CONSTRUCTION	09/25/20

STRUCTURAL INFORMATION

PV3.2

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PV MODULES (NEW)	
MAKE	REC
MODEL	REC325NP
TECHNOLOGY	MONO-CRYST.
NOM. POWER (P _{NOM})	325 WATTS
NOM. VOLT. (V _{MP})	34.4 VOLTS
O.C. VOLT. (V _{OC})	41.0 VOLTS
MAX. SYS. VOLT.	1000 V (UL)
TEMP. COEF. (V _{TC})	-0.27 %/°C
NOM. CURR. (I _{MP})	9.46 AMPS
S.C. CURR. (I _{SC})	10.27 AMPS
MAX. SERIES FUSE	25 AMPS

DC/AC INVERTER	
MAKE	SOLAREEDGE
MODEL	SEI0000H-US
TECHNOLOGY	TRANS-LESS
DC INPUT:	
MAX. POWER	15500 WATTS
MAX. VOLT	480 VOLTS
NOM. VOLT.	400 VOLTS
MAX. CURRENT	27 AMPS
MAX. SCC	45 AMPS
STRINGS INPUTS	3 STRINGS
AC OUTPUT:	
RATED POWER	10000 WATTS
MAX. POWER	10000 WATTS
NOM. VOLT.	240 VOLTS
MAX. CURR.	42 AMPS
GFP (Y/N)	YES
RPP (Y/N)	YES
GFCI (Y/N)	YES
AFCI (Y/N)	YES
DC DISC. (Y/N)	YES
RAPID SHUTDOWN	AUTOMATIC
FUSE RATING	15 AMPS
PROTECT. RATING	NEMA 4X

MODULE OPTIMIZER	
MAKE	SOLAREEDGE
MODEL	P340
DC INPUT:	
RATED POWER	340 WATTS
VOLT. RANGE	8-48
MAX. SCC	11.0 AMPS
MAX. DC INPUT CURRENT	13.75 AMPS
DC OUTPUT:	
MAX. CURRENT	15 AMPS
MAX. VOLT.	60 VOLTS
MAX. SYSTEM VOLT.	1000 VOLTS
MIN. STRING	8 OPTIMIZERS
MAX. STRING	25 OPTIMIZERS
MAX. POWER	
INVERTERS: SE3000H-SE6000H	5700 WATTS
INVERTERS: SE7600H-SE11400H	6000 WATTS

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

CONDUCTOR SCHEDULE													
TAG	CURRENT CARRYING CONDUCTORS				GROUNDING CONDUCTORS				CONDUIT/RACEWAY				NOTES
	QTY.	SIZE	MATERIAL	INSULATION	QTY.	SIZE	MATERIAL	INSULATION	QTY.	SIZE	MATERIAL	LOCATION	
C1	6	10 AWG	COPPER	PV WIRE	1	6 AWG	COPPER	PV WIRE	-	-	-	FREE AIR	1
C2	6	10 AWG	COPPER	THWN-2	1	10 AWG	COPPER	THWN-2	1	1/2"	FMC/EMT/MC	EXT/INT	2,4
C3	3	6 AWG	COPPER	THWN	1	10 AWG	COPPER	THWN	1	3/4"	NOTE 5	EXTERIOR	2,4,5
C4	3	14 AWG	COPPER	THWN	1	14 AWG	COPPER	THWN	1	1/2"	NOTE 5	EXTERIOR	2,4,5
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. PVC, EMT, ROMEX, LFNMIC & FMC ARE ACCEPTABLE WHEN USED IN ACCORDANCE WITH ARTICLES 330, 334, 348, 350, 352, 356, & 358 OF THE 2017 NEC

MONITORING SYSTEM	
MAKE	SOLAREEDGE
MODEL	SEI000-ZBGW-K5-NA
METER	SE-MTR240-2-200-SI
LINE TO LINE VOLTAGE	211-254 VAC
WIRING	L1/L2/N/PE
POWER CONSUMPTION	1.2W
COMM. INTERFACE	RS485
RATED RMS CURRENT	200 AMPS
SAFETY	UL1741
ENCLOSURE TYPE	ABS, ABS/PC
PROTECTION RATING	UL94V-0, IEC FV-0

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)	NO
FUSE RATING	N/A

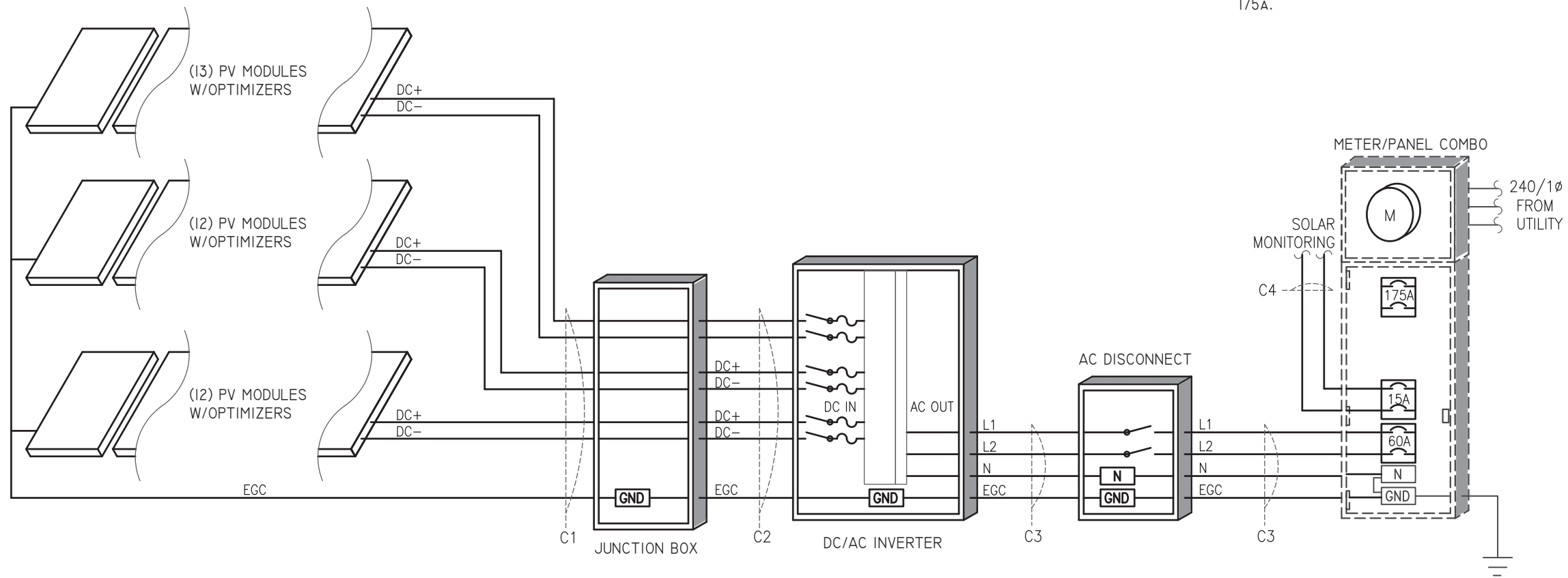
NOTES:

- 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

METER/PANEL COMBO (EXISTING)	
MAKE	N/A
MODEL	N/A
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 60A BREAKER AT THE OPPOSITE END OF THE BUS BAR FROM MAIN BREAKER.
- MAIN BREAKER SERVES AS SERVICE DISCONNECT SWITCH.
- PROVIDE 15A BREAKER FOR SOLAR MONITORING CIRCUIT.
- DEREGATE MAIN BREAKER FROM 200A TO 175A.



ENGINEER:

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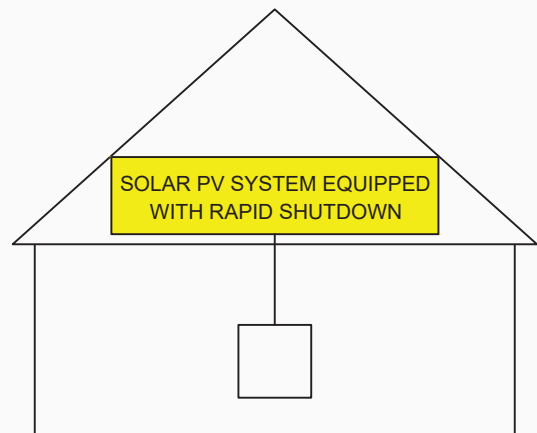
ELECTRICAL INFORMATION

PV4.1

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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)(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

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*

PV SYSTEM DISCONNECT

NEC 690.13 (B)

PLACE ON PV SYSTEM DISCONNECTING MEANS.

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

EQUIPMENT LABEL NOTES

1. LABELS SHOWN ARE THEIR ACTUAL REQUIRED SIZE.
2. LABEL MATERIAL SHALL BE SUITABLE FOR THE EQUIPMENT ENVIRONMENT.
3. CONDUIT SHALL BE MARKED WITH REQUIRED LABEL EVERY 10 FEET.

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

DIRECT CURRENT

PHOTOVOLTAIC POWER SOURCE

MAXIMUM VOLTAGE 600 VDC

MAX CIR. CURRENT 45.0 AMPS

NEC 690.53

PLACE ON ALL DC DISCONNECTING MEANS

PHOTOVOLTAIC POWER SOURCE

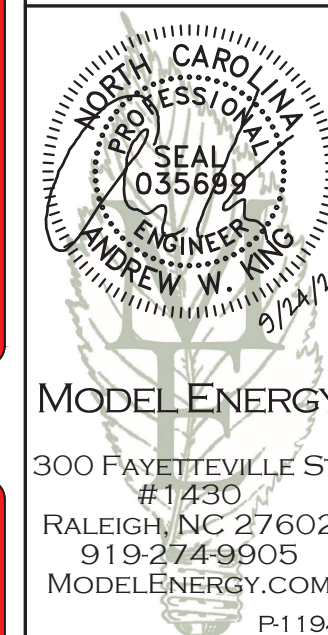
OPERATING AC VOLT. 240 VAC

MAXIMUM OPERATING AC OUTPUT CURRENT 42.0 AMPS

NEC 690.54

PLACE ON INTERCONNECTION DISCONNECTING MEANS

ENGINEER:



MODEL ENERGY

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

JOB TITLE:

NEW SOLAR PV SYSTEM
12.025 kW DC INPUT
10.000 kW AC EXPORT

Ian Frady
523 Micahs Way N
Spring Lake, NC 28390

CLIENT:



SOUTHERN ENERGY MANAGEMENT
ENERGY EFFICIENCY & SOLAR POWER

ISSUED FOR:	DATE:
CONSTRUCTION	09/25/20

EQUIPMENT LABELS

PV5.1

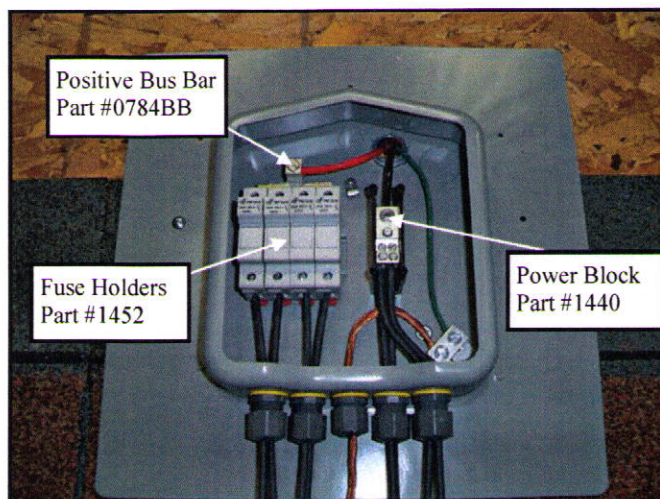
SolaDeck

FLASHED PV ROOF-MOUNT COMBINER/ENCLOSURE

SolaDeck Model 0783-41

ETL Listed UL STD 1741
Combiner/Enclosure

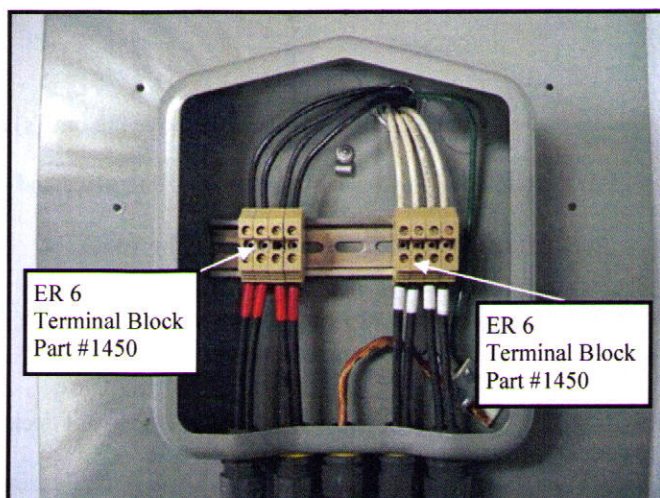
Shown 4 Strings with UL Recognized
Fuse Holders for PV Positive
Power Block for PV Negative
Fuses combined with positive Bus Bar
PV negative combined with power block



SolaDeck Model 0786

ETL Listed UL 50 Type 3R
Rain tight enclosure for outdoor use.

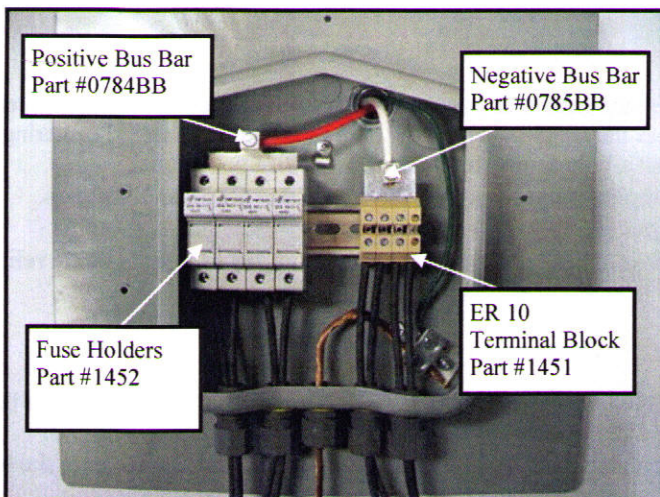
Shown with ER 6 Terminal blocks
Transition outdoor wire to THWN wire.
ER 6 Terminal block used for positive
And negative.



SolaDeck Model 0786-41

ETL Listed UL STD 1741
Combiner/Enclosure

Shown 4 Strings with UL Recognized
Fuse Holders for PV Positive
ER 10 Terminal blocks for PV negative
Fuses combined with positive Bus bar
ER 10 Terminal blocks combined using
Negative Bus Bar



For more information call (866) 367-7782
or simply request more info at sales@commdeck.com

www.COMMDECK.com

EcoX

The new EcoX is an innovative, rail-less racking system, proven to organize the installation process. The flexible design offers a clean aesthetic, simplified logistics, and delivers a higher quality installation at a lower cost per watt.



Fast.

Modules drop in from above and there is never a need to reach over or walk on modules. Pre-assembled components and quick connections make EcoX easy to install.

Simple.

Universal components mount to standard framed modules. With a single socket size and a wide range of adjustment, it is quick and easy to install any array with a clean, finished look.

Supported.

The Ecolibrium field support team offers on-site installation training and ongoing technical support. And from project planning to logistics to installation, we are dedicated to customer service.



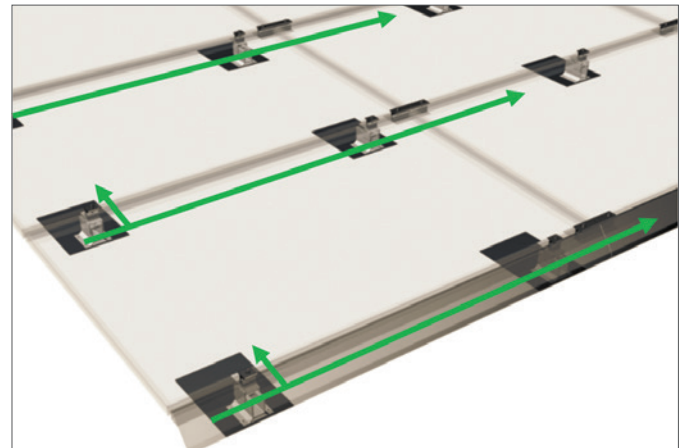
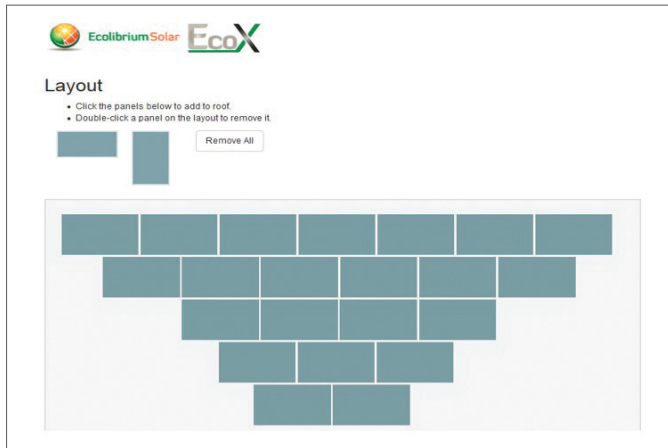


Aesthetic Design

A wide range of adjustment makes it easy to install a straight, level system. Components are designed to blend into the array, and the aesthetic skirt creates a finished look. Alternatively, a skirt free option is available to provide a more traditional look.

Cable Management

Whether installing with Microinverters, Power Optimizers, or String Inverters, EcoX provides wire management provisions to both prep the modules, and to route homerun or trunk cables throughout the array.



Flexible System Design

The EcoX Estimator is a powerful racking system design tool. The user inputs all site conditions and can layout multiple roof surfaces. The EcoX Estimator outputs a site specific design package with engineering specs and bill of materials.

Single Point Grounding

EcoX and approved modules create a continuously bonded system. The installer can connect a finished array to ground with a single bonding lug.

Technical Specifications	
Materials	Racking components: Aluminum, stainless hardware, dark bronze anodized upper surface, mill finish lower surfaces Flashings: Aluminum, black powder coated finish
Grounding/Bonding Validation	UL2703 - <i>see installation manual for specific module approvals</i>
Fire Resistance Validation	UL2703 - Class A, Type 1 and Type 2 modules
Mechanical Load Validation	UL2703 - <i>see installation manual for specific module approvals</i>
Flashing Validation	ICC-ES AC286/UL441 Rain Test for Roof Flashing
Adjustability	1" vertical range, 3.5" North/South range, connect anywhere in East/West direction
Warranty	15 years

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

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
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 ⁽¹⁾							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							
INPUT								
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 ⁽²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ⁽²⁾	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k Ω Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

⁽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

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

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

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

ADDITIONAL FEATURES

Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)
Revenue Grade Data, ANSI C12.20	Optional ⁽³⁾
Inverter Commissioning	with the SetApp mobile application using built-in Wi-Fi station for local connection
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect

STANDARD COMPLIANCE

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

INSTALLATION SPECIFICATIONS

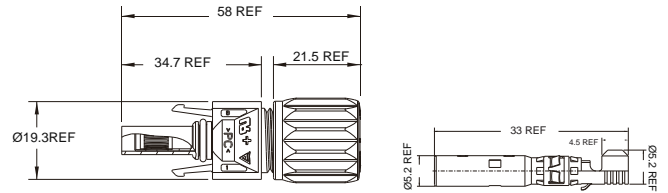
AC Output Conduit Size / AWG Range	3/4" minimum / 14-6 AWG			3/4" minimum /14-4 AWG	
DC Input Conduit Size / # of Strings / AWG Range	3/4" minimum / 1-2 strings / 14-6 AWG			3/4" minimum / 1-3 strings / 14-6 AWG	
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174			21.3 x 14.6 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 ⁽⁴⁾				
Protection Rating	NEMA 4X (Inverter with Safety Switch)				

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

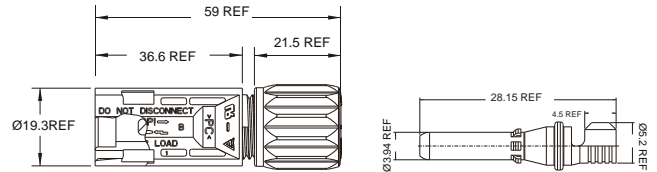
⁽⁴⁾ Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

H4 series PV Cable Connector

Part Number: H4CF.....



Part Number: H4CM.....



Technical Data

Rated voltage	1500V DC per UL 6703 1000V DC per TÜV IEC62852	Cable OD range	Ø5.3mm – 7.65mm
Rated current (per IEC 62852, 85°C)	25A (2.5mm ² /14AWG) 35A (4.0mm ² /12AWG) 45A (6.0mm ² /10AWG)	Unlock options	Tool unlock type(TÜV/UL) or Manually unlock type(TÜV only)
Rated current (per UL 6703)	15A (2.5mm ² /14AWG) 20A (4.0mm ² /12AWG) 30A (6.0mm ² /10AWG)	Ingress protection rating	IP68, mated (1 m, 1 h) & IP2X touch-proof, unmated
Rated impulse voltage	12kV(1000V DC per TÜV)	Ambient temperature range	-40°C to +85°C (TÜV) -40°C to +90°C (UL)
Typical contact resistance	≤0.3mΩ	Upper limiting temperature	+120°C
Contact material	Tin-plated Copper Alloy	Flame class	UL 94 V-0
Contact system options	Cold Formed (CF) or Stamped & Formed (S&F)*1	Overvoltage category/Pollution degree	CAT III/2
Insulation material	PC/PA	Material safety	RoHS, REACH compliant
Type of termination	Crimping	Approvals:	
		TÜV certified to IEC 62852 UL certified to UL6703 CSA certified to UL 6703	 R50388083 E339277

How to Order a Connector (please choose one code per position, below)

Part Number Coding: **H4 C F C 4 D M S**

Product Line	Product Type	Gender	Connector Type	Cable Size		Certifications	Packaging	Contact Type		
H4 (H4 series)	C (Connector)	F Female	C Cable gland Tool unlock	0	Without Contact	D Dual UL/TÜV Certified	I	1 pc/bag	S S&F	
				2	2.5mm ² / 14AWG		C	100 pcs/bag		
			M Male	D Cable gland Manually unlock	4*2			4.0mm ² /12 AWG & 6.0mm ² /10AWG(S&F)	T*3 Only TÜV Certified	M
					4.0mm ² /12AWG(CF)					
		6			6.0mm ² / 10AWG(CF)					

*2, When ordering a S&F contact, please use cable size order code "4" for both 4.0mm²/ 12AWG & 6.0mm²/ 10AWG.

*3, When ordering cable connectors, please use certifications order code "T" for Manually unlock type cable gland connectors.

REC TWINPEAK 3 MONO BLACK SERIES

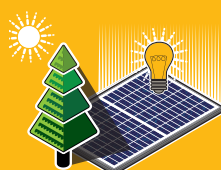
PREMIUM SOLAR PANELS WITH SUPERIOR PERFORMANCE

REC TwinPeak 3 Mono Black Series solar panels feature an innovative design with high panel efficiency and power output, enabling customers to get the most out of the space used for the installation.

Combined with industry-leading product quality and the reliability of a strong and established European brand, REC TwinPeak 3 Mono Black panels are ideal for residential and commercial rooftops worldwide.



**MORE POWER
OUTPUT PER M²**



**IMPROVED PERFORMANCE
IN SHADED CONDITIONS**



**100%
PID FREE**

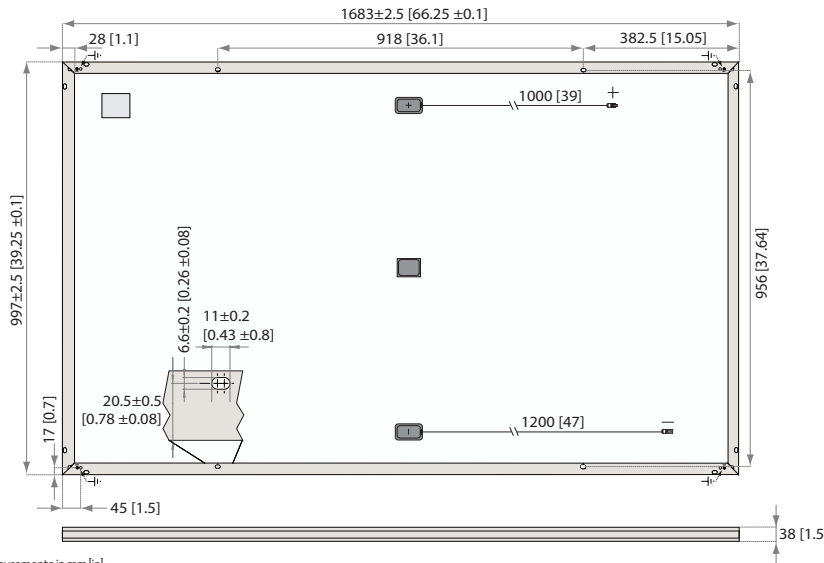


**REDUCES BALANCE OF
SYSTEM COSTS**



ELIGIBLE FOR

REC TWINPEAK 3 MONO BLACK SERIES



Measurements in mm [in]

ELECTRICAL DATA @ STC

Product code*: RECxxxTP3M Black

	315	320	325	330	335
Power Output - P _{MAX} (Wp)	315	320	325	330	335
Watt Class Sorting - (W)	-0/+5	-0/+5	-0/+5	-0/+5	-0/+5
Nominal Power Voltage - V _{MPP} (V)	33.6	33.8	34.1	34.3	34.6
Nominal Power Current - I _{MPP} (A)	9.40	9.50	9.54	9.62	9.69
Open Circuit Voltage - V _{OC} (V)	38.7	39.1	39.5	39.9	40.2
Short Circuit Current - I _{SC} (A)	10.30	10.30	10.36	10.39	10.42
Panel Efficiency (%)	18.8	19.1	19.4	19.7	20.0

Values at standard test conditions (STC: air mass AM1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. At a low irradiance of 200 W/m² at least 95% of the STC module efficiency will be achieved.

*Where xxx indicates the nominal power class (P_{MAX}) at STC indicated above.

ELECTRICAL DATA @ NMOT

Product code*: RECxxxTP3M Black

	235	238	242	246	250
Power Output - P _{MAX} (Wp)	235	238	242	246	250
Nominal Power Voltage - V _{MPP} (V)	31.3	31.5	31.7	31.9	32.2
Nominal Power Current - I _{MPP} (A)	7.51	7.57	7.63	7.70	7.75
Open Circuit Voltage - V _{OC} (V)	36.1	36.4	36.8	37.1	37.5
Short Circuit Current - I _{SC} (A)	8.23	8.26	8.29	8.31	8.34

Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s).

*Where xxx indicates the nominal power class (P_{MAX}) at STC indicated above.

CERTIFICATIONS



UL 1703, Fire classification: Type 2; IEC 61215, IEC 61730; ISO 9001: 2015, ISO 14001: 2004, OHSAS 18001: 2007

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	Any	≤25 kW 25-50 kW	
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	97.5%	97.5%	97.5%
Annual Degradation	0.7%	0.7%	0.7%
Power in Year 25	80.7%	80.7%	80.7%

See warranty documents for details. Some conditions apply.

20.0% EFFICIENCY

20 YEAR PRODUCT WARRANTY

25 YEAR LINEAR POWER OUTPUT WARRANTY

TEMPERATURE RATINGS

Nominal Module Operating Temperature:	44.6°C (±2°C)
Temperature coefficient of P _{MAX} :	-0.37 %/°C
Temperature coefficient of V _{OC} :	-0.28 %/°C
Temperature coefficient of I _{SC} :	0.04 %/°C

GENERAL DATA

Cells:	120 half-cut mono-Si p-type PERC cells 6 strings of 20 cells in series
Glass:	0.13" (3.2 mm) solar glass with anti-reflective surface treatment
Back sheet:	Highly resistant polyester polyolefin construction (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part with 3 bypass diodes, IP67 rated 12 AWG (4 mm ²) PV wire, 39" + 47" (1.0 m + 1.2 m)
Connectors:	Stäubli MC4 PV-KBT4/PV-KST4, 12 AWG (4 mm ²)

MAXIMUM RATINGS

Operational temperature:	-40 ... +185°F (-40 ... +85°C)
Maximum system voltage:	1000 V
Design load (+): snow	3600 Pa (75.2 lbs/ft ²)*
Maximum test load (+):	5400 Pa (112.8 lbs/ft ²)*
Design load (-): wind	1600 Pa (33.4 lbs/ft ²)*
Maximum test load (-):	2400 Pa (50 lbs/ft ²)*
Max series fuse rating:	20 A
Max reverse current:	20 A

* Calculated using a safety factor of 1.5
* See installation manual for mounting instructions

MECHANICAL DATA

Dimensions:	66.3 x 39.25 x 1.5 (1683 x 997 x 38 mm)
Area:	17.98 ft ² (1.68 m ²)
Weight:	41.7 lbs (18.9 kg)

Note! Specifications subject to change without notice.

REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power in order to facilitate global energy transitions. Committed to quality and innovation, REC offers photovoltaic modules with leading high quality, backed by an exceptional low warranty claims rate of less than 100ppm. Founded in Norway in 1996, REC employs 2,000 people and has an annual solar panel capacity of 1.8 GW. With over 10 GW installed worldwide, REC is empowering more than 16 million people with clean solar energy. REC Group is a Bluestar Elkem company with headquarters in Norway, operational headquarters in Singapore, and regional bases in North America, Europe, and Asia-Pacific.



www.recgroup.com

Specifications subject to change without notice.

Ref: PM-DS-07-16 Rev. A 05.20

TYPE SGB

Features

- Manufactured from high strength 6061-T6 aluminum alloy
- Electro-tin plated
- Lay-in feature
- Stainless steel hardware
- Serrations in conductor wire way
- Unique clamp design
- 1/4" max frame thickness
- Meets ASTM B117-09

Benefits

- Suitable for use with copper or aluminum conductors
- Provides low contact resistance
- Provides ease of installation
- For corrosion resistance, greater torque and ease of installation
- Cuts oxidation
- No mounting hardware required, reusable
- Mount to solar panel frames
- Resistance to outdoor salt spray

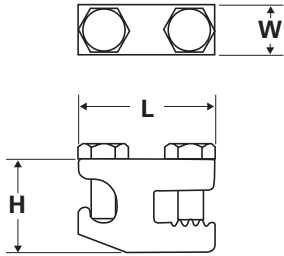


Fig. 1



Fig. 2

Catalog Number	Figure Number	Ground Wire Range	Dimensions		
			L	W	H
SGB-4	1	4-14	1.375	.500	.940
SGB-5	2	4-14	1.375	.500	1.440

All wire sizes, unless noted otherwise, are American Wire Gauge (AWG) UL 467 for grounding and bonding. UL File E34440
UL2703 Recognized E354420 Vol. 1
DE-OX® oxide inhibitor is recommended for all aluminum terminations
Patent pending

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / 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

/ Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power ⁽¹⁾	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125 ⁽²⁾		Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	12.5 - 105		Vdc
Maximum Short Circuit Current (Isc)	11			10.1		14	Adc
Maximum DC Input Current	13.75			12.63		17.5	Adc
Maximum Efficiency	99.5						%
Weighted Efficiency	98.8					98.6	%
Oversoltage Category	II						
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)							
Maximum Output Current	15						Adc
Maximum Output Voltage	60			85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer	1 ± 0.1						Vdc
STANDARD COMPLIANCE							
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3						
Safety	IEC62109-1 (class II safety), UL1741						
RoHS	Yes						
INSTALLATION SPECIFICATIONS							
Maximum Allowed System Voltage	1000						Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters						
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4 ⁽³⁾						
Output Wire Type / Connector	Double Insulated; MC4						
Output Wire Length	0.95 / 3.0		1.2 / 3.9				m / ft
Input Wire Length	0.16 / 0.52						m / ft
Operating Temperature Range	-40 - +85 / -40 - +185						°C / °F
Protection Rating	IP68 / NEMA6P						
Relative Humidity	0 - 100						%

⁽¹⁾ Rated STC power of the module. Module of up to +5% power tolerance allowed

⁽²⁾ NEC 2017 requires max input voltage be not more than 80V

⁽³⁾ For other connector types please contact SolarEdge

PV System Design Using a SolarEdge Inverter ⁽⁴⁾⁽⁵⁾	Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8	10	18	
	P405 / P505	6	8	14	
Maximum String Length (Power Optimizers)		25	25	50 ⁽⁶⁾	
Maximum Power per String	5700 (6000 with SE7600-US - SE11400-US)	5250	6000 ⁽⁷⁾	12750 ⁽⁸⁾	W
Parallel Strings of Different Lengths or Orientations	Yes				

⁽⁴⁾ For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf

⁽⁵⁾ It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string

⁽⁶⁾ A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

⁽⁷⁾ For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W

⁽⁸⁾ For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W