

PHOTOVOLTAIC ROOF MOUNT SYSTEM

35 MODULES-ROOF MOUNTED - 13.825 KW DC, 10.000 KW AC, 604 7 OAKS ROAD, CITY OF ORANGE, NJ 07050

PHOTOVOLTAIC SYSTEM SPECIFICATIONS:

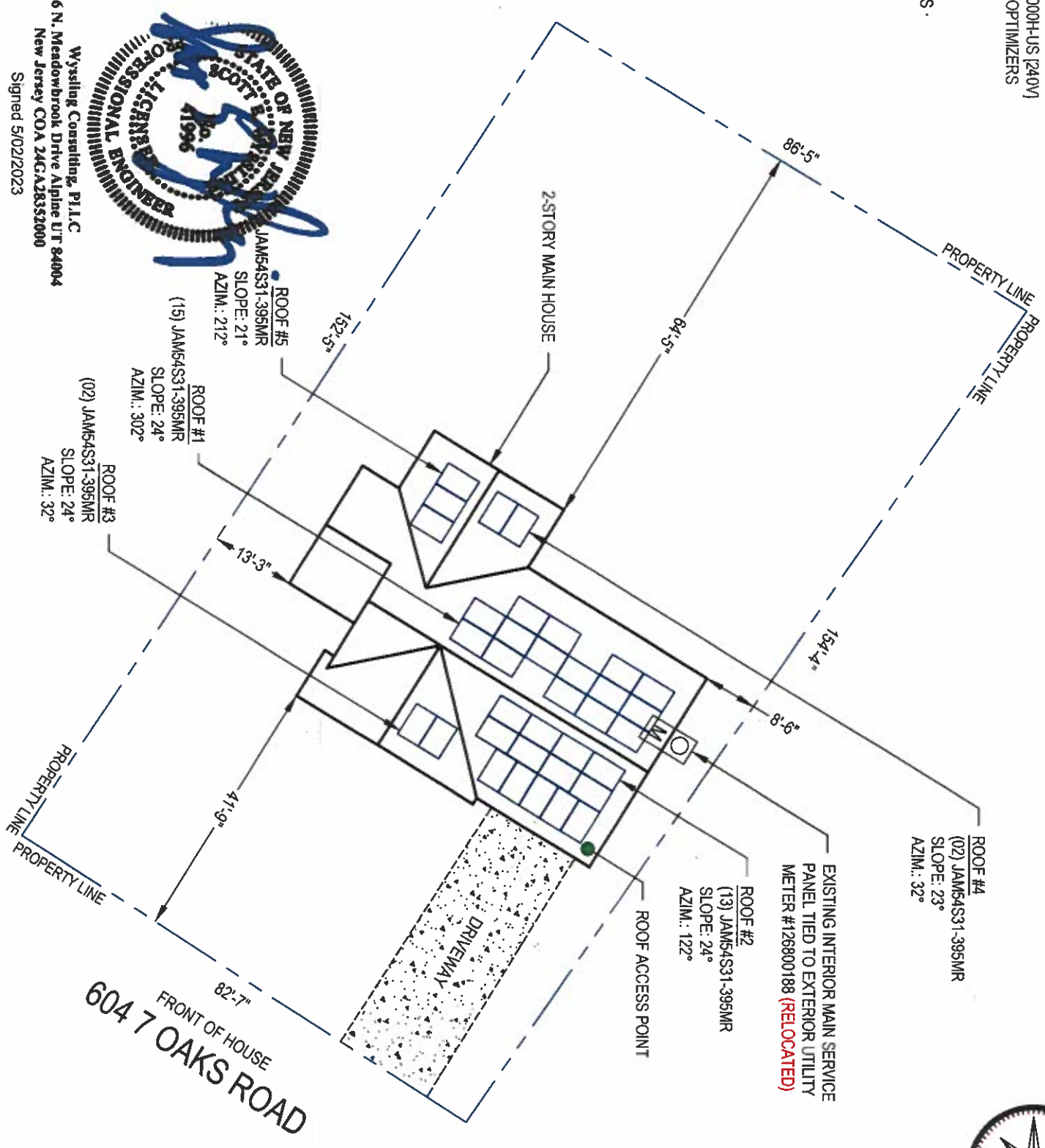
SYSTEM SIZE: 13.825 KW DC
10.000 KW AC
MODULE TYPE & AMOUNT: (35) JAM54S31-395MR
MODULE DIMENSIONS: (L/W/H) 67.79"/44.64"/1.18"
INVERTER: (01) SOLAREEDGE SE10000H-US (240V)
OPTIMIZER: (35) SOLAREEDGE S440 OPTIMIZERS
INTERCONNECTION METHOD: LINE SIDE TAP

GOVERNING CODES

- GOVERNING CODES ADOPTED CONSTRUCTION CODES:
 - 2020 NATIONAL ELECTRIC CODE
 - 2021 INTERNATIONAL RESIDENTIAL CODE NEW JERSEY EDITION
 - 2021 INTERNATIONAL BUILDING CODE
 - 2021 INTERNATIONAL FIRE CODE
 - NJ UCC REHABILITATION SUBCODE

GENERAL NOTES:

- INSTALLATION OF SOLAR PHOTOVOLTAIC SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 690, AND ALL OTHER APPLICABLE NEC CODES WHERE NOTED OR EXISTING.
- PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL COMPLY WITH NEC ARTICLE 110.
- ALL CONDUCTORS, INCLUDING THE GROUNDING ELECTRODE CONDUCTOR SHALL BE PROTECTED FROM PHYSICAL DAMAGE IN ACCORDANCE WITH NEC ARTICLE 250.
- THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE; THIS SYSTEM IS UTILITY INTERACTIVE PER UL 1741 AND ALSO INCLUDE STORAGE BATTERY. ALL DC WIRES SHALL BE SIZED ACCORDING TO (NEC 690.8)
- DC CONDUCTORS SHALL BE WITHIN PROTECTED RACEWAYS IN ACCORDANCE WITH (NEC 690.31)
- ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL JURISDICTIONAL BUILDING CODE.
- PV MODULES TO BE RATED UL 1703 CLASS C FIRE RATING OR BETTER.
- ALL EQUIPMENT TO BE CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.



Professional Engineer
 State of New Jersey
 License No. 41996
 JAMES B. SCOTT
 WYSYLLING CONSULTING, P.L.L.C.
 76 N. Meadowbrook Drive Alpine UT 84004
 New Jersey COA 24GCA28352000
 Signed 5/02/2023

SHEET INDEX:

PV 0.0:	COVER SHEET
PV 1.0:	SITE PLAN
S 1.1:	MOUNT DETAILS
S 1.2:	ROOF SECTION DETAIL
E 1.1:	3-LINE DIAGRAM
E 1.2:	NOTES
E 1.3:	WARNING LABELS
DS+:	EQUIPMENT SPEC SHEET

● ROOF ACCESS POINT
 ROOF ACCESS POINT SHALL NOT BE LOCATED IN AREAS THAT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES OR SIGNS.

2 SATELLITE VIEW



3 VICINITY MAP



SUNNYMAC
 SUNNYMAC SOLAR LLC
 P.O. BOX 30770
 WILMINGTON, DE 19805
 LIC# 15VR0576110
 ELEC LIC#34EB01477200
 DEBBIE@SUNNYMACSOLAR.COM
 (844) 786-6962 EXT. 11 OR 21

REVISIONS	
Description	Date
Initial Design	2/10/2023
Rev	00

Signature with Seal
 Project Name & Address
 604 7 OAKS ROAD,
 CITY OF ORANGE, NJ 07050

JASON GROVE RESIDENCE
 604 7 OAKS ROAD,
 CITY OF ORANGE, NJ 07050

Sheet Name
 COVER SHEET

Sheet Size
 ANSI B
 11" X 17"

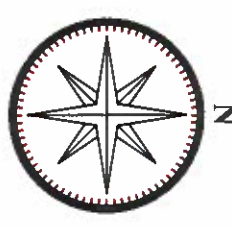
Sheet Number
 PV 0.0
 Drawn By
 PremiumCAD

1 PLOT PLAN

PV 0.0
 SCALE: 3/64" = 1'0"

PHOTOVOLTAIC SYSTEM SPECIFICATIONS:

SYSTEM SIZE: 13,825 KW DC
10,000 KW AC
MODULE TYPE & AMOUNT: (35) JAM54S31-395MR
MODULE DIMENSIONS: (L/W/H) 67.79"/44.64"/1.18"
INVERTERS: (01) SOLAREGE SE10000H-US (240V)
OPTIMIZER: (35) SOLAREGE S440 OPTIMIZER

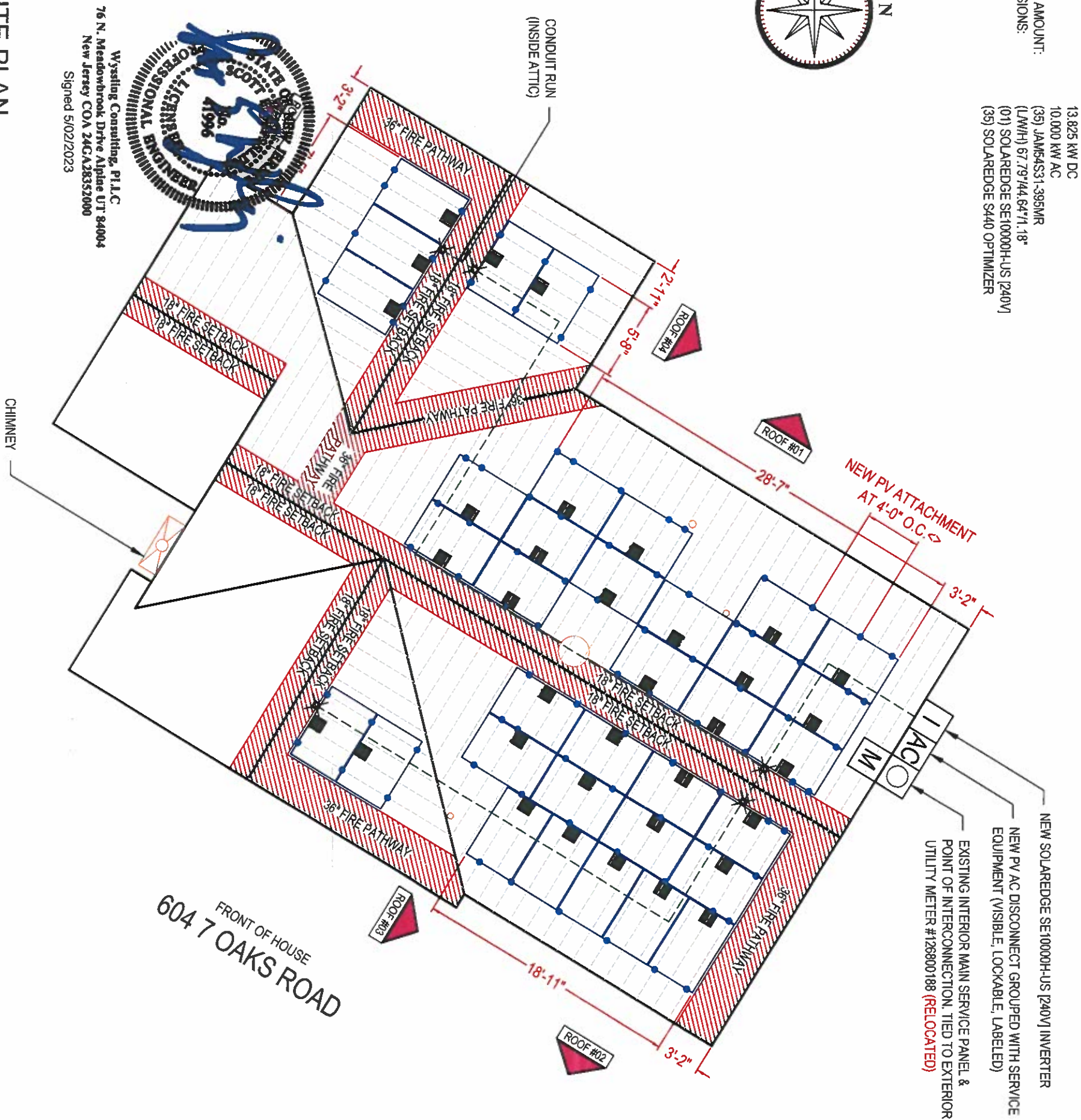


Wysstling Consulting, P.L.L.C.
76 N. Meadowbrook Drive Alpine UT 84004
New Jersey COA 24CA28352000
Signed 5/02/2023



1 SITE PLAN

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



NEW SOLAREGE SE10000H-US (240V) INVERTER
NEW PV AC DISCONNECT GROUPED WITH SERVICE EQUIPMENT (VISIBLE, LOCKABLE, LABELED)
EXISTING INTERIOR MAIN SERVICE PANEL & POINT OF INTERCONNECTION, TIED TO EXTERIOR UTILITY METER #126800188 (RELOCATED)

SYSTEM LEGEND

- M** EXISTING INTERIOR MAIN SERVICE PANEL & POINT OF INTERCONNECTION TIED TO EXTERIOR UTILITY METER #126800188 (RELOCATED)
- AC** NEW VISIBLE, LOCKABLE, LABELED DISCONNECT LOCATED WITHIN 10' FROM THE UTILITY METER.
- I** NEW 01 - SOLAREGE SE10000H-US (240V) INVERTER.
- 35** NEW JAM54S31-395MR MODULES WITH SOLAREGE OPTIMIZER S440 MOUNTED ON THE BACK OF EACH MODULES.
- ▨** FIRE PATHWAY
- ROOF OBSTRUCTIONS
- ATTACHMENT POINTS
- - -** RAFTER
- - -** CONDUIT RUN
- ⊗** JUNCTION BOX

ROOF SECTIONS

- ROOF #01** MODULE - 15
SLOPE - 24°
AZIMUTH - 302°
MATERIAL - COMP SHINGLE
RAFTER SIZE & SPACING - 2"x6" @ 16" O.C.
- ROOF #02** MODULE - 13
SLOPE - 24°
AZIMUTH - 122°
MATERIAL - COMP SHINGLE
RAFTER SIZE & SPACING - 2"x6" @ 16" O.C.
- ROOF #03** MODULE - 02
SLOPE - 32°
AZIMUTH - 32°
MATERIAL - COMP SHINGLE
RAFTER SIZE & SPACING - 2"x6" @ 16" O.C.
- ROOF #04** MODULE - 02
SLOPE - 23°
AZIMUTH - 32°
MATERIAL - COMP SHINGLE
RAFTER SIZE & SPACING - 2"x6" @ 16" O.C.
- ROOF #05** MODULE - 03
SLOPE - 21°
AZIMUTH - 212°
MATERIAL - COMP SHINGLE
RAFTER SIZE & SPACING - 2"x6" @ 16" O.C.

MODULE, ARRAY & ATTACHMENT POINT WEIGHT

MODULE	QUANTITY	LBS./UNIT	LBS./SQ.TV.
ROCKIT MOUNT BLK	35	47.39	1658.65
ROCKIT COUPLING BLK	88	4.50	396.00
ROCKIT ARRAY SKIRT (79')	36	4.00	144.00
GREENFASTEN FLASHING	13	2.30	29.90
ROCKIT SLIDECOMP	88	1.00	88.00
ROCKIT CLIP SS	88	1.00	88.00
TOTAL POINT ATTACHMENT LOAD PER STANDOFF	35	1.00	35.00
TOTAL SYSTEM WEIGHT (LBS.)			2439.55
ATTACHMENT POINT WEIGHT (LBS.) PER SQ.FT.			3.32
ARRAY AREA			
MODULE AREA	MODULE DIM (67.79" X 44.64")	21.01 SQ. FT.	
AREA OF ARRAY		735.52 SQ. FT.	
ROOF AREA		2355 SQ. FT.	
ROOF COVERAGE (IN PERCENTAGE)			31.23%

SUNNYMAC
SUNNYMAC SOLAR LLC
P.O BOX 30770
WILMINGTON, DE 19805
LIC# 13VE0576110
ELEC LIC#34EB01477200
DEBBIE@SUNNYMACSOLAR.COM
(844) 786-6962 EXT. 11 OR 21

REVISIONS

Description	Date	Rev
Initial Design	2/10/2023	00

Signature with Seal

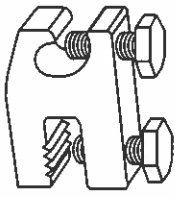
JASON GROVE RESIDENCE
604 7 OAKS ROAD,
CITY OF ORANGE, NJ 07050

Project Name & Address

Sheet Name
SITE PLAN
Sheet Size
**ANSI B
11" X 17"**
Sheet Number
PV 1.0
Drawn By
PremiumCAD

GENERAL STRUCTURAL NOTES:

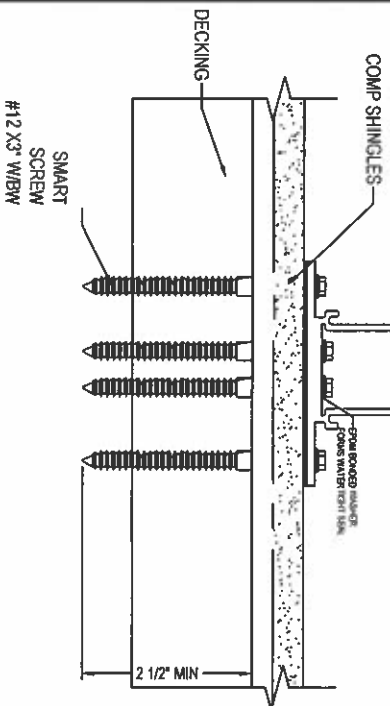
1. THE SOLAR PANELS ARE TO BE MOUNTED TO THE ROOF FRAMING USING THE ROCK-IT SMART SLIDE SYSTEM BY ECOFASTEN. THE MOUNTING FEET ARE TO BE SPACED AS SHOWN IN THE DETAILS, AND MUST BE STAGGERED TO ADJACENT FRAMING MEMBERS TO SPREAD OUT THE ADDITIONAL LOAD.
2. UNLESS NOTED OTHERWISE, MOUNTING ANCHORS SHALL BE #12, 3" SMART SCREWS
3. A MINIMUM OF 2 SCREWS TO BE USED WHEN MOUNTING TO RAFTERS AND 8 SCREWS TO BE USED WHEN MOUNTING TO DECKING.
4. THE PROPOSED PV SYSTEM ADDS 2.6 PSF TO THE ROOF FRAMING SYSTEM.
5. ROOF LIVE LOAD = 20 PSF TYPICAL, 0 PSF UNDER NEW PV SYSTEM.
6. GROUND SNOW LOAD = 30 PSF
7. WIND SPEED = 115 MPH
8. EXPOSURE CATEGORY = B



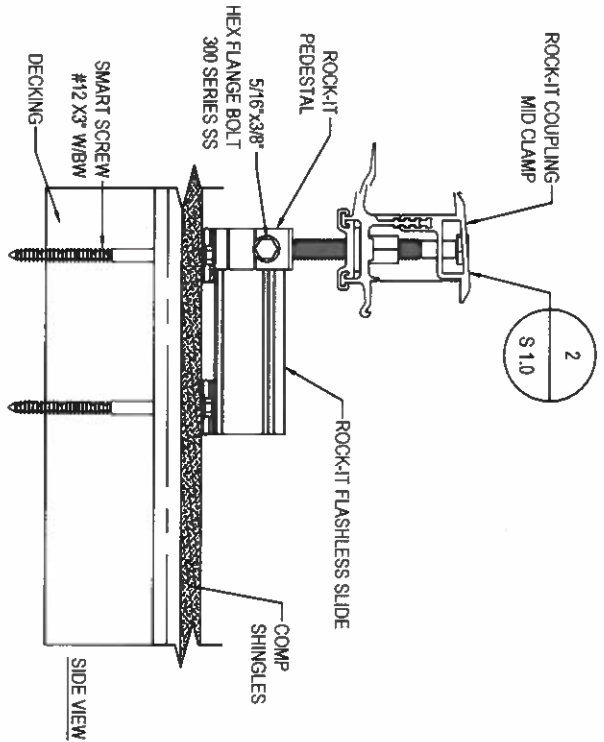
8 ILSCO SGB-4 GROUNDING LUGS
S 1.0 NOT TO SCALE

UL LISTING FOR ECOFASTEN: 2703
WEIGHT: 2.3 LB.

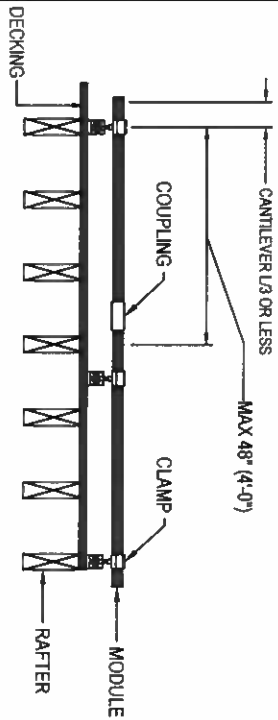
Wysling Consulting, P.L.L.C.
76 N. Meadowbrook Drive Alpine UT 84004
New Jersey COA 24GA28352000
Signed 5/02/2023



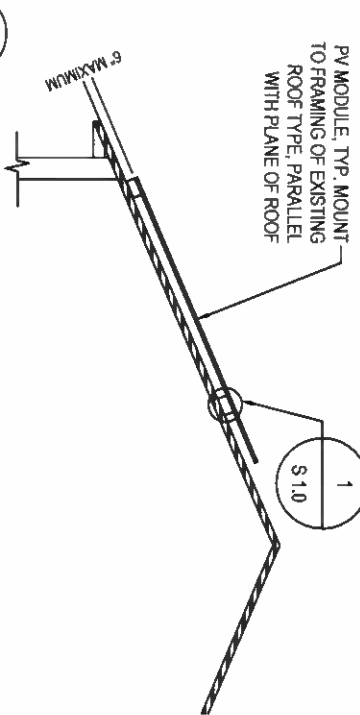
3 SECTION VIEW
S 1.0 NOT TO SCALE



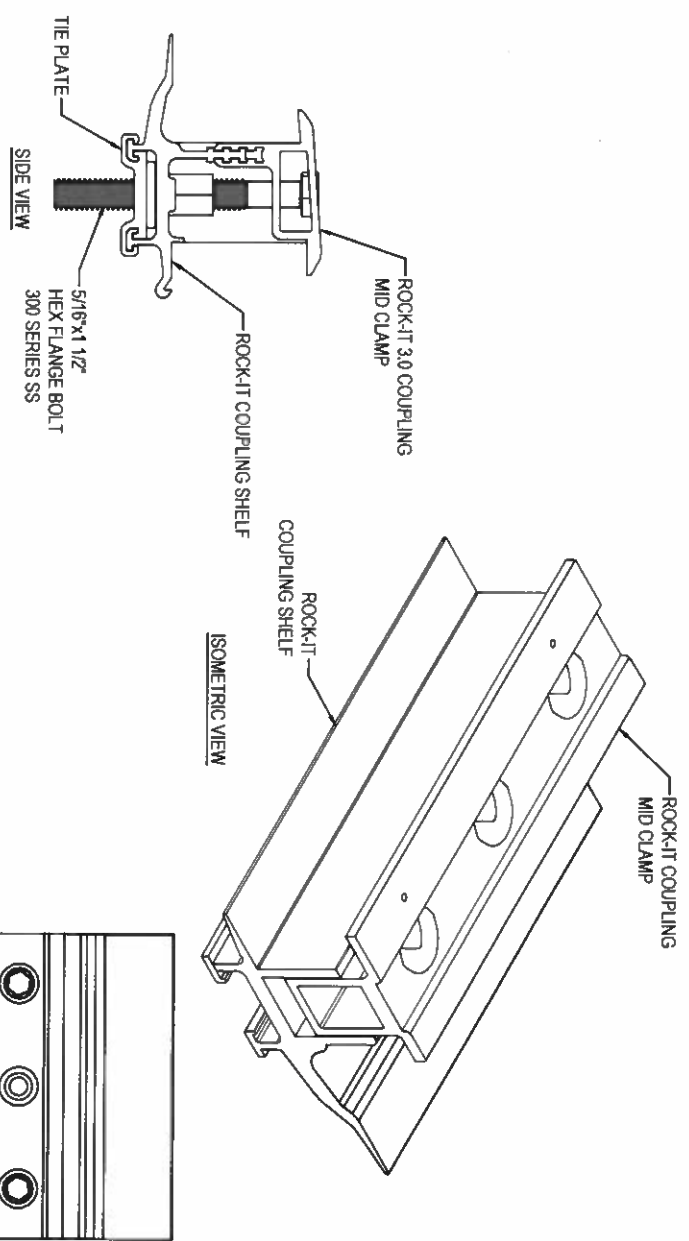
1 ROCK-IT DECK MOUNT DETAIL
S 1.0 NOT TO SCALE



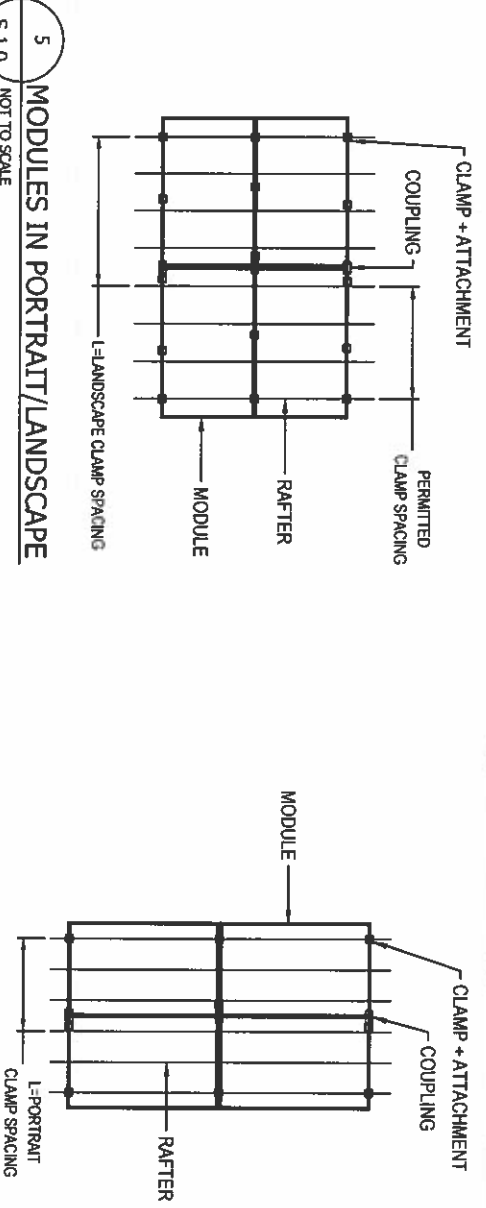
4 PV SYSTEM DECK MOUNTING DETAIL
S 1.0 NOT TO SCALE



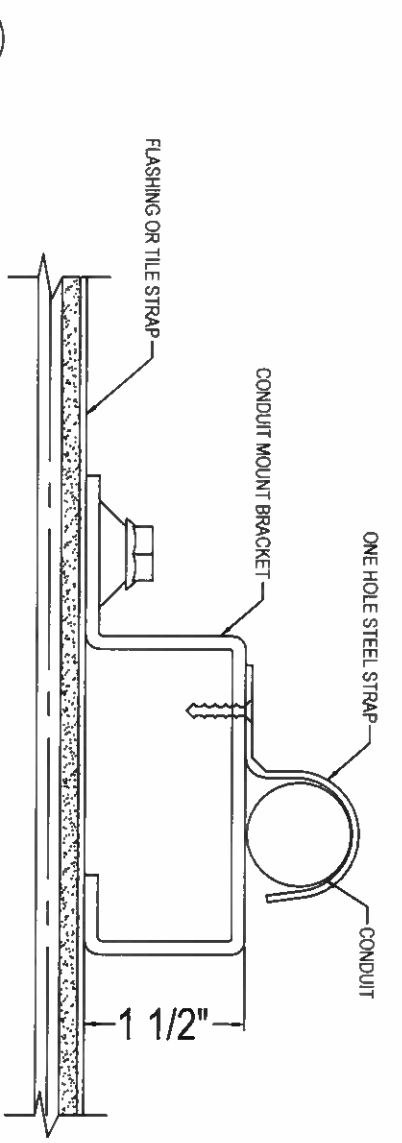
6 PV ARRAY TYP. ELEVATION
S 1.0 NOT TO SCALE



2 ROCK-IT COUPLING ASSEMBLY
S 1.0 NOT TO SCALE



5 MODULES IN PORTRAIT/LANDSCAPE
S 1.0 NOT TO SCALE



7 CONDUIT MOUNTING DETAIL
S 1.0 NOT TO SCALE

SUNNYMAC
SUNNYMAC SOLAR LLC
P.O. BOX 30770
WILMINGTON, DE 19805
LIC# 15VE0576110
ELEC LIC#34EB01477200
DEBRIEF@SUNNYMACSOLAR.COM
(844) 786-6962 EXT. 11 OR 21

REVISIONS		
Description	Date	Rev
Initial Design	2/10/2023	00

Project Name & Address

JASON GROVE RESIDENCE
604 7 OAKS ROAD,
CITY OF ORANGE, NJ 07050

Sheet Name
MOUNT DETAIL

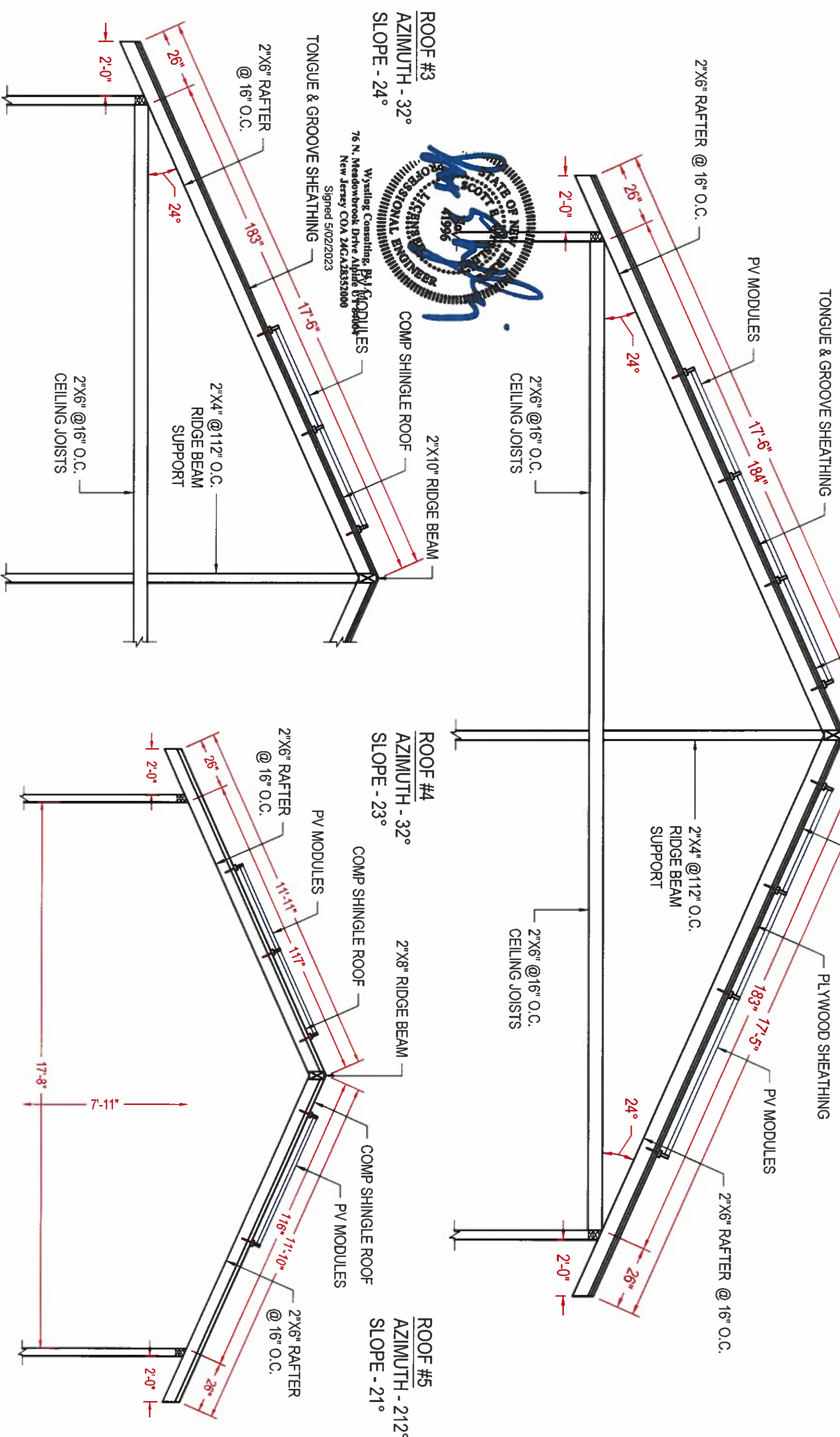
Sheet Size
ANSI B
11" X 17"

Sheet Number
S 1.1

Drawn By
PremiumCAD

ROOF #1
 AZIMUTH - 302°
 SLOPE - 24°

ROOF #2
 AZIMUTH - 122°
 SLOPE - 24°



Wystling Consulting, P.C.
 76 N. Meadowbrook Drive Alpine
 New Jersey COA 24CA28352000
 Signed 5/10/2023



1 ROOF SECTION DETAIL ROOF #1, ROOF #2, ROOF #3, ROOF #4 & ROOF #5

S 1.2

SCALE: NTS

SUNNYMAC
 SUNNYMAC SOLAR LLC
 P.O. BOX 30770
 WILMINGTON, DE 19805
 LIC# 13V20576110
 ELEC LIC#34EB01477200
 DEBRIEF@SUNNYMACSOLAR.COM
 (844) 786-6962 EXT. 11 OR 21

REVISIONS		
Description	Date	Rev
Initial Design	2/10/2023	00

Signature with Seal

Project Name & Address
JASON GROVE RESIDENCE
 604 7 OAKS ROAD,
 CITY OF ORANGE, NJ 07050

Sheet Name
ROOF SECTION

Sheet Size
**ANSI B
 11" X 17"**

Sheet Number
S 1.2

Drawn By
PremiumCAD

INVERTER CHARACTERISTICS - SOLAREEDGE SE 10000H-US [240V]	
MAX OUTPUT POWER	10000 W
SYSTEM OPERATING VOLTAGE	400 V
MAX CONTINUOUS OUTPUT CURRENT	42 A
MAX INPUT VOLTAGE	480 V
SYSTEM SHORT CIRCUIT CURRENT	15 A
MAX EFFICIENCY	99 %

OPTIMIZER SPECIFICATIONS	
MANUFACTURER	SOLAREEDGE S440
DC INPUT POWER	440 W
DC MAX INPUT VOLTAGE	60V
DC MAX OUTPUT CURRENT	15A
MAX SHORT CIRCUIT CURRENT	14.5A

PV MODULE RATING @ STC	
MANUFACTURER	JAM54S31-395MR
MAX POWER-POINT CURRENT (IMP)	12.81 AMPS
MAX POWER-POINT VOLTAGE (VMP)	30.84 VOLTS
OPEN-CIRCUIT VOLTAGE (VOC)	36.98 VOLTS
SHORT-CIRCUIT CURRENT (ISC)	13.70 AMPS
NOM. MAX. POWER AT STC (P _{MAX})	395 WATT
MAX SYSTEM VOLTAGE	1000V
VOC TEMPERATURE COEFFICIENT	-0.275 %/°C

MODULE: (35) JAM54S31-395MR
 INVERTER: (01) SOLAREEDGE SE10000H-US [240V]
 OPTIMIZER: (35) SOLAREEDGE S440 OPTIMIZERS

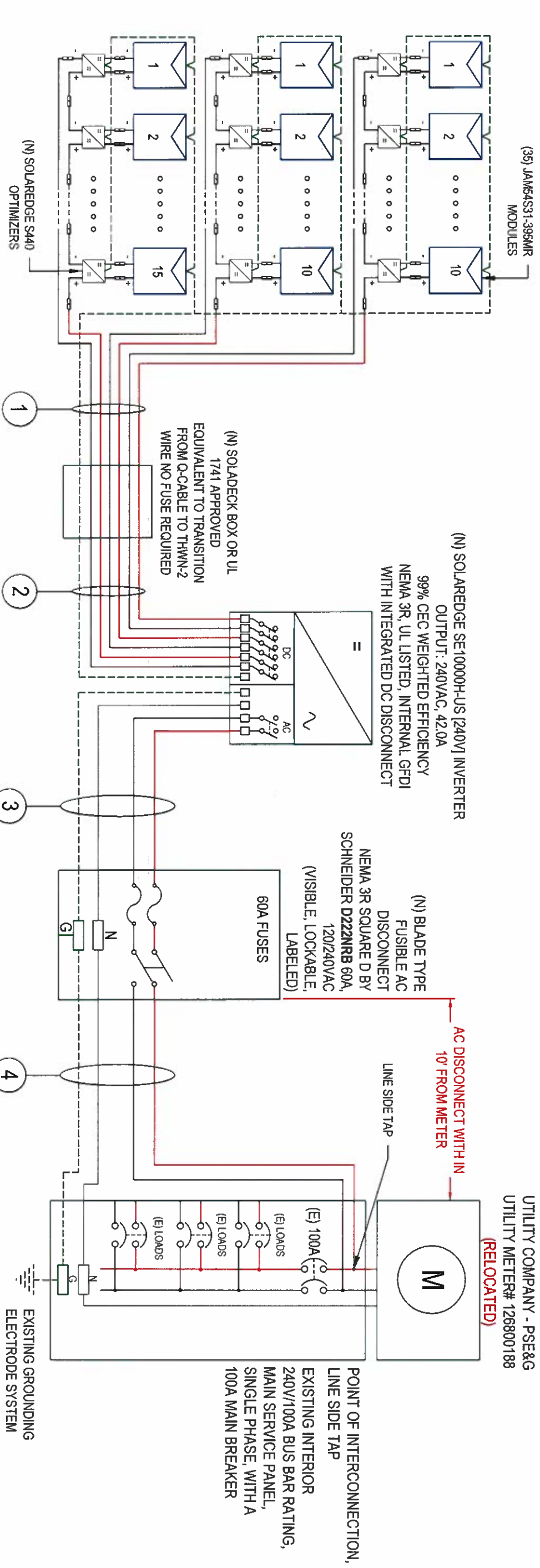
PHOTOVOLTAIC SYSTEM	
DC SYSTEM SIZE (WATTS)	13825W
AC SYSTEM SIZE (WATTS)	10000W
TOTAL NUMBER OF MODULES	35
NOMINAL AC VOLTAGE	240V

120% RULE

BUS BAR RATING X 120% - MAIN BREAKER RATING
 = MAX. PV OCPD
 (100A x 120%) - 100A = 20A

REVISIONS		
Description	Date	Rev
Initial Design	2/10/2023	00

Signature with Seal



WIRE TAG #	WIRE FROM --	CONDUIT	WIRE QTY	WIRE GAUGE:	WIRE RATING	TEMP RATING:	WIRE AMP	TEMP DE-RATE:	CONDUIT FILL:	WIRE OCP:	STRING WATTAGE	OPERATING VOLTAGE	STRING AMPS	NEC: = AMPS	MAX SYSTEM VOLTAGE	GRND SIZE	GRND WIRE TYPE
1	ARRAY TO JUNCTION BOX	PV WIRE IN AIR	6	#10	USE-2	90°	40A x 0.96	N/A	= 38.40A	5925W / 400V	14.81A x 1.25	= 18.52A	#6	SBC			
2	JUNCTION BOX TO INVERTER	3/4" OR 1" EMT OR FLEX	6	MIN.#10	THWN	75°	35A x 0.94	x 0.80	= 26.32A	5925W / 400V	14.81A x 1.25	= 18.52A	#10	THWN			
3	INVERTER TO ACD	1" EMT OR FLEX	3	MIN.#6	THWN	75°	65A x 0.94	x 1.00	= 61.10A		42.0A x 1.25	= 52.50A	#10	THWN			
4	ACD TO MSP	1" EMT OR FLEX	3	MIN.#6	THWN	75°	65A x 0.94	x 1.00	= 61.10A		42.0A x 1.25	= 52.50A	#8	THWN			

SUNNYMAC
 SUNNYMAC SOLAR LLC
 P.O. BOX 30770
 WILMINGTON, DE 19805
 LIC# 15VBE0576110
 ELEC LIC#34EB01477200
 DEBBIE@SUNNYMACSOLAR.COM
 (844) 786-6962 EXT. 11 OR 21

Project Name & Address
JASON GROVE RESIDENCE
 604 7 OAKS ROAD,
 CITY OF ORANGE, NJ 07050

Sheet Name & Diagram
3-LINE DIAGRAM

Sheet Size
ANSI B 11" X 17"

Sheet Number
E 1.1

Drawn By
PremiumCAD

SITE NOTES:

1. A LADDER WILL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2. THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.
3. THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
4. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26.
5. ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE.

EQUIPMENT LOCATIONS:

1. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.
2. WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31 (A),(C) AND NEC TABLES 310.15 (B)(2)(A) AND 310.15 (B)(3)(C).
3. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
4. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT. 2.2.6 ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
5. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

STRUCTURAL NOTES:

1. RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.
2. JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.
3. ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED W/ APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.
4. ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER. 2.3.6 WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.

WIRING & CONDUIT NOTES:

1. ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
2. CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
3. VOLTAGE DROP LIMITED TO 1.5%.
4. DC WIRING LIMITED TO MODULE FOOTPRINT. MICROINVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY W/ SUITABLE WIRING CLIPS.
5. AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE PHASE C OR L3- BLUE, YELLOW, ORANGE**, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].

GROUNDING NOTES:

1. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
2. PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.
3. METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).
4. EQUIPMENT GROUNDED CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45 AND MICROINVERTER MANUFACTURER'S INSTRUCTIONS.
5. EACH MODULE WILL BE GROUNDED USING WEBB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEBBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.
6. THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.
7. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119].
8. THE GROUNDING ELECTRODE SYSTEM COMPLEES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 AND AHJ.
9. GROUND-FAULT DETECTION SHALL COMPLY WITH NEC 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS

DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:

1. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE RECONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
2. DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
3. PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12(A) THROUGH (D).
4. ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9, AND 240.
5. MICROINVERTER BRANCHES CONNECTED TO A SINGLE BREAKER OR GROUPED FUSES IN ACCORDANCE WITH NEC 110.3(B).
6. IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL 1699B.

INTERCONNECTION NOTES:

1. LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12 (B)]
2. THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY NOT EXCEED 120% OF BUSBAR RATING [NEC 705.12(D)(2)(3)].
3. THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR. PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC 705.12(B)(2)(3)].
4. AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12 (B)(2)(3)(C).
5. FEEDER TAP INTERCONNECTION (LOADSIDE) ACCORDING TO NEC 705.12 (B)(2)(1) SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12 (A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42 2.7. BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12 (B)(5)].

SUNNYMAC
 SUNNYMAC SOLAR LLC
 P.O. BOX 30770
 WILMINGTON, DE 19805
 LIC# 13V2E0576110
 ELEC LIC#34EB01477200
 DEBBIE@SUNNYMACSOLAR.COM
 (844) 766-6962 EXT. 11 OR 21

REVISIONS		
Description	Date	Rev
Initial Design	2/10/2023	00

Signature with Seal

Project Name & Address

JASON GROVE RESIDENCE
 604 7 OAKS ROAD,
 CITY OF ORANGE, NJ 07050

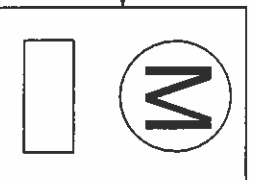
Sheet Name
 NOTES

Sheet Size
 ANSIB
 11" X 17"

Sheet Number
 E1.2

Drawn By
PremiumCAD

WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS.
TERMINALS ON LINE AND LOAD
SIDES MAY BE ENERGIZED IN
THE OPEN POSITION
PER CODE(S): NEC 2017: 690.13(B)



WARNING
INVERTER OUTPUT CONNECTION
DO NOT RELOCATE THIS
OVERCURRENT DEVICE
PER CODE(S): NEC 2011: 705.12(B)(2)(3)(b), NEC 2017



PHOTOVOLTAIC
AC DISCONNECT
(PER CODE: NEC 690.14 (C) (1))

SOLAR PHOTOVOLTAIC
SYSTEMS
(PER CODE: NEC 690)

PHOTOVOLTAIC DC DISCONNECT
MAXIMUM SYSTEM VOLTAGE: 480 VDC
MAXIMUM CIRCUIT CURRENT: 34.6 ADC
MAX RATED OUTPUT CURRENT OF THE CHARGE
CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED): 15 ADC

LABEL LOCATION:
INVERTER(S), DC DISCONNECT(S).
PER CODE(S): CEC 2016: 690.53, NEC 2017: 690.53, NEC 2014: 690.53,
NEC 2011: 690.53

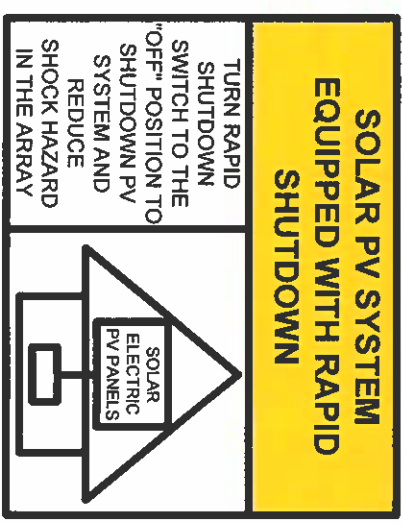
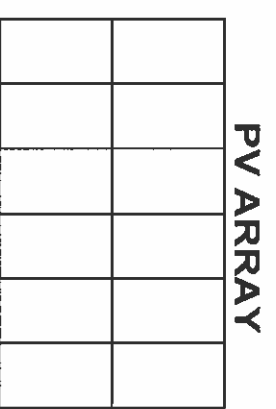


WARNING
THIS EQUIPMENT IS FED BY
MULTIPLE SOURCES. TOTAL RATING
OF ALL OVERCURRENT DEVICES,
EXCLUDING MAIN SUPPLY
OVERCURRENT DEVICE, SHALL NOT
EXCEED AMPACITY OF BUSBAR
PER NEC 705.12(B)(2)(3)(c)

SOLAR PHOTOVOLTAIC
SYSTEMS
(PER CODE: NEC 690)

**PHOTOVOLTAIC SYSTEM
EQUIPPED WITH
RAPID SHUTDOWN**

LABEL LOCATION:
UTILITY SERVICE ENTRANCE/METER, INVERTER/DC DISCONNECT
IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS
REQUIRED BY LOCAL AHJ.
PER CODE(S): NEC 2011: ARTICLE 690.56(C); NEC 2017



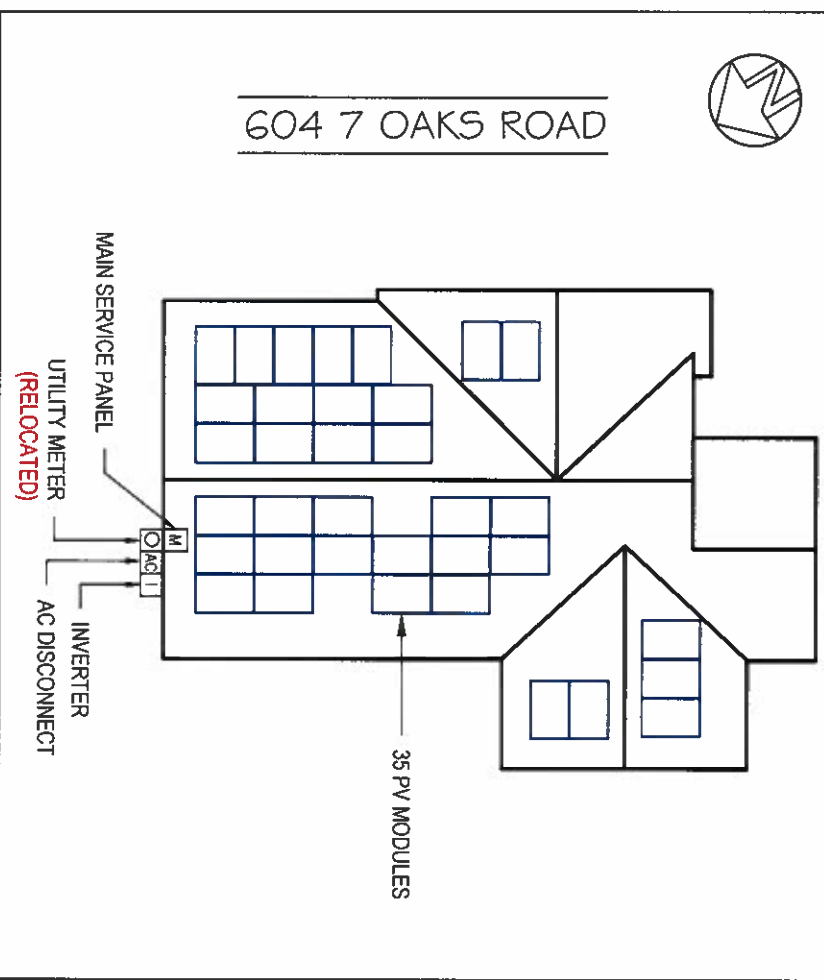
SOLAR PHOTOVOLTAIC
SYSTEMS
(PER CODE: NEC 690)

**WARNING: PHOTOVOLTAIC
POWER SOURCE**
(PER CODE: NEC 690.31(G)(3)(4) & NEC 690.13(G)(4))

INVERTER (SOLAREEDGE SE10000H-US [240V])
PHOTOVOLTAIC SYSTEM AC DISCONNECT
RATED AC OPERATING CURRENT 42.0 AMPS
AC NOMINAL OPERATING VOLTAGE 240 VOLTS
LABEL LOCATION:
AC DISCONNECT POINT OF INTERCONNECTION
(PER CODE: NEC690.54)

CAUTION:

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE
FOLLOWING SOURCES WITH DISCONNECT(S) LOCATED AS
SHOWN.
DANGEROUS VOLTAGE MAY BE PRESENT AT ALL TIMES



SUNNYMAC
SUNNYMAC SOLAR LLC
P.O. BOX 30770
WILMINGTON, DE 19805
LIC# 13VE0576110
ELEC LIC#34EB01477200
DEBBIE@SUNNYMACSOLAR.COM
(844) 786-6962 EXT. 11 OR 21

REVISIONS		
Description	Date	Rev
Initial Design	2/10/2023	00

Project Name & Address
Signature with Seal

JASON GROVE RESIDENCE
604 7 OAKS ROAD,
CITY OF ORANGE, NJ 07050

Sheet Name
WARNING LABELS
Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.3

Drawn By
PremiumCAD

Harvest the Sunshine



Mono

415W MBB
Half-cell Black Module
JAM54S31 380-405/MR Series

Introduction

As a solar panel with 110% PERC cells, the rational configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the output, resistance to PID, and its excellent mechanical tolerance for mechanical loading.

Higher output power



Less shading and lower resistive loss



Lower LCOE



Better mechanical loading tolerance



Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation
Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

Comprehensive Certificates

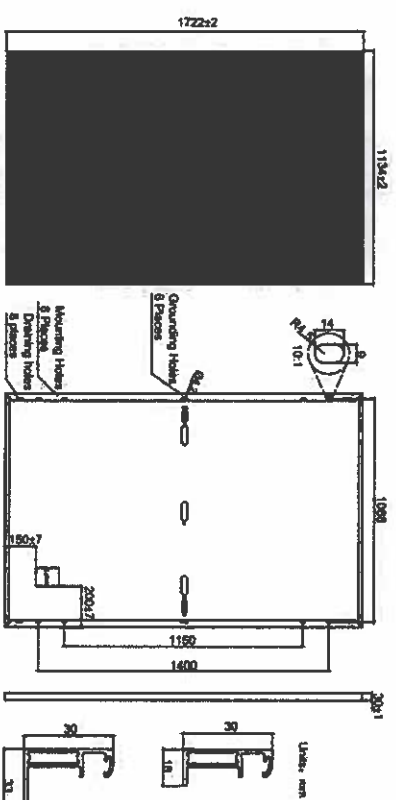
- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules - Guidelines for increased confidence in PV module design qualification and type approval



JJA SOLAR

JAM54S31 380-405/MR

MECHANICAL DIAGRAMS



SPECIFICATIONS

Cell	Mono
Weight	21.5kg±3%
Dimensions	1722±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm ² (IEC) , 12 AWG(U.L)
No. of cells	108(6x18)
Junction Box	IP68, 3 diodes
Connector	MCA(1000V) MCA-EV02(1500V)
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-) Landscape: 1200mm(+)/1200mm(-)
Packaging Configuration	36pcs/Pallet 936pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54S31 -380MMR	JAM54S31 -395MMR	JAM54S31 -390MMR	JAM54S31 -405MMR
Rated Maximum Power(P _{max}) [W]	390	395	390	405
Open Circuit Voltage(V _{oc}) [V]	38.58	38.71	38.65	38.88
Maximum Power Voltage(V _{mp}) [V]	30.28	30.46	30.84	31.21
Short Circuit Current(I _{sc}) [A]	13.44	13.52	13.61	13.87
Maximum Power Current(I _{mp}) [A]	12.55	12.64	12.73	12.81
Module Efficiency [%]	19.5	19.7	20.0	20.7
Power Tolerance	0~+5W			
Temperature Coefficient of Isc(α _{Isc})	+0.045%/°C			
Temperature Coefficient of Voc(α _{Voc})	-0.275%/°C			
Temperature Coefficient of P _{max} (α _{P_{max}})	-0.350%/°C			
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G			

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

ELECTRICAL PARAMETERS AT NOCT

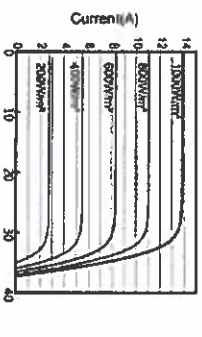
TYPE	JAM54S31 -380MMR	JAM54S31 -395MMR	JAM54S31 -390MMR	JAM54S31 -405MMR
Rated Max Power(P _{max}) [W]	286	290	289	306
Open Circuit Voltage(V _{oc}) [V]	34.38	34.49	34.75	34.88
Max Power Voltage(V _{mp}) [V]	28.51	28.68	29.08	29.47
Short Circuit Current(I _{sc}) [A]	10.75	10.82	10.96	11.03
Max Power Current(I _{mp}) [A]	10.03	10.11	10.18	10.38
NOCT	Irradiance 800W/m ² , ambient temperature 20°C, wind speed 1m/s, AM1.5G			

OPERATING CONDITIONS

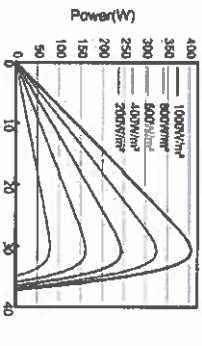
Maximum System Voltage	1000V/1500V/DC
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	25A
Maximum Static Load Front*	5400Pa(1128psf)
Maximum Static Load Back*	2400Pa(5010psf)
NOCT	45±2°C
Safety Class	Class II
Fire Performance	UL Type 1

CHARACTERISTICS

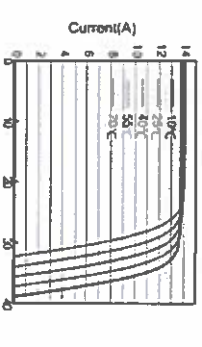
Current-Voltage Curve JAM54S31-405MMR



Power-Voltage Curve JAM54S31-405MMR



Current-Voltage Curve JAM54S31-405MMR



JJA SOLAR

Standard users should consult the distributor for details.
JA Solar reserves the right of final interpretation.

www.jasolar.com



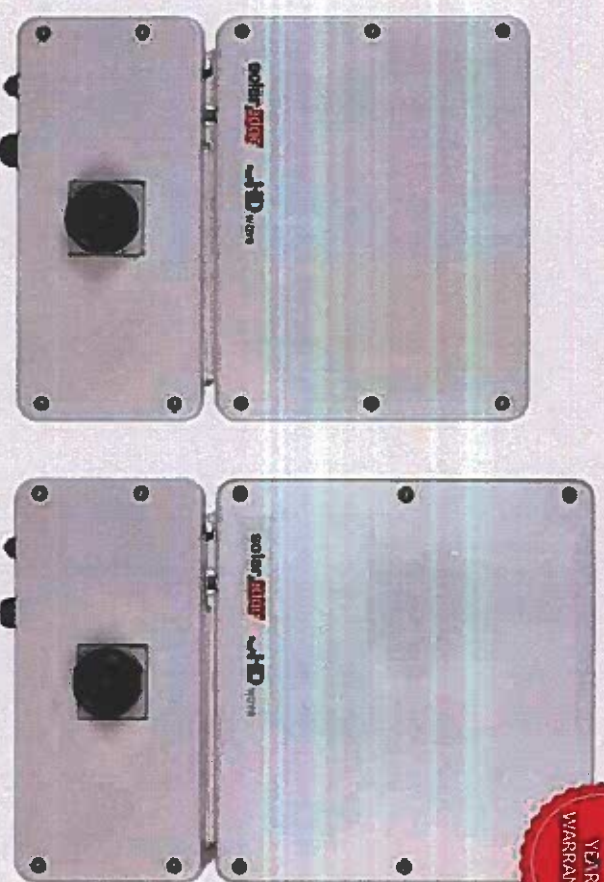
Premium Cells, Premium Modules

Version: Ed. Global - EN 2021-01-19

Single Phase Inverter with HD-Wave Technology for North America

INVERTERS

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 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)
- Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020 per article 690.11 and 690.12

solaredge.com



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-XXXXXXBXX:						

OUTPUT		3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA	
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*				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		4650	5900	7750	9100	11800	15500	1765.0	W	
Maximum DC Power @240V		4650	5900	7750	9100	11800	15500	1765.0	W	
Maximum DC Power @208V		-	5100	-	7750	-	-	15500	W	
Transformer-less, Ungrounded		Yes								
Maximum Input Voltage		480							Vdc	
Nominal DC Input Voltage		380							Vdc	
Maximum Input Current @240V ⁽¹⁾	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		600V _{dc} Sensitivity								
Maximum Inverter Efficiency	99	99.2							%	
CEC Weighted Efficiency		99							%	
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

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

ADDITIONAL FEATURES

Supported Communication Interfaces	RS-485, Ethernet, ZigBee (optional), Cellular (optional)
Revenue Grade Metering	ANSI C12.20
Consumption metering	Optional*
Inverter Commissioning	With the SolarEdge mobile application using Built-in Wi-Fi Access Point for Local Connection
Rapid Shutdown - NEC 2014, NEC 2017 and NEC 2020, 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect

STANDARD COMPLIANCE

Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to TLL M-07
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (H)
Emissions	FCC Part 15 Class B

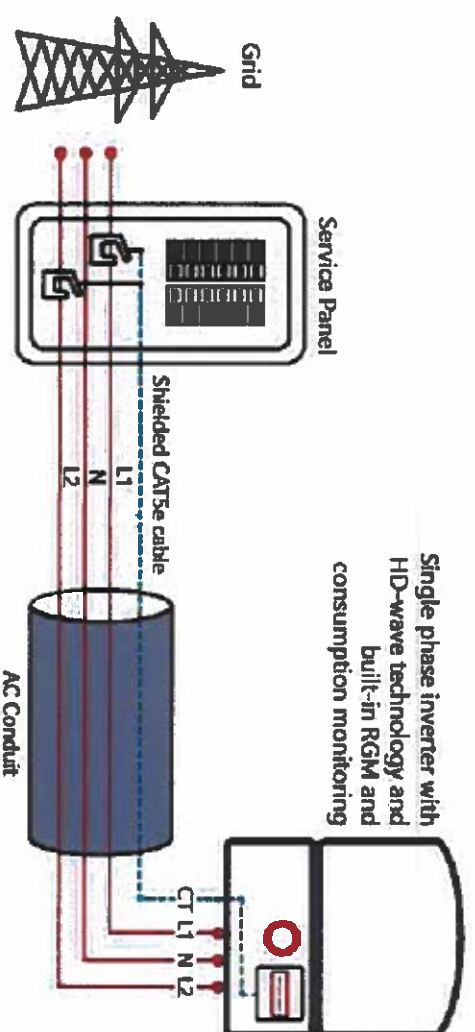
INSTALLATION SPECIFICATIONS

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 / 4.50 x 3.70 x 1.74	21.3 x 14.6 x 7.3 / 5.40 x 3.70 x 1.85
Weight with Safety Switch	22 / 10	26.2 / 11.9
Noise	< 25	< 50
Cooling	Natural Convection	
Operating Temperature Range	-40 to +140 / -40 to +60*	
Protection Rating	NEMA 4X (Inverter with Safety Switch)	

(3) Inverter with Revenue Grade Meter P/N: SE3000H-US0008NC-A, Inverter with Revenue Grade Production and Consumption Meter P/N: SE3000H-US0008N14. For consumption metering, current transformers should be ordered separately. SE-CT0750-200MA, 20 or SE-CT0750-400MA, 20, 20 units per box
 (4) Full power up to at least 50°C / 122°F; for power derating information refer to: <https://www.solaredge.com/sites/default/files/temperature-derating-note-na.pdf>

How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills



© SolarEdge Technology, Inc. All rights reserved. SOLAREDGE, the SolarEdge logo, OPTIMIZED BY SOLAREDGE are trademarks or registered trademarks of SolarEdge Technology, Inc. All other trademarks mentioned herein are trademarks of their respective owners. Date: 12/20/2019/ENGLISH Subject to change without notice.

Power Optimizer

S440, S500



POWER OPTIMIZER

Power Optimizer

S440, S500

	S440	S500	UNIT
INPUT			
Rated Input DC Power ⁽¹⁾	440	500	W
Absolute Maximum Input Voltage (Voc)		60	Vdc
MPPPT Operating Range		8 - 60	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module		14.5	Adc
Maximum Efficiency		99.5	%
Weighted Efficiency		98.6	%
Overvoltage Category		II	
OUTPUT DURING OPERATION			
Maximum Output Current		15	Adc
Maximum Output Voltage		60	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer		1	Vdc
STANDARD COMPLIANCE			
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011		
Safety	IEC 62109-1 (Class II safety), UL1741		
Material	UL94 V-0, UV Resistant		
RoHS	Yes		
Fire Safety	VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Maximum Allowed System Voltage		1000	Vdc
Dimensions (W x L x H)		129 x 153 x 30	mm
Weight (including cables)		65.7/15	gr / lb
Input Connector		MC4 ^(a)	m
Input Wire Length		0.1	m
Output Connector		MC4	m
Output Wire Length		(+) 2.3 (-) 0.10	m
Operating Temperature Range ⁽¹⁾		-40 to +85	°C
Protection Rating		IP68 / NEMA4P	
Relative Humidity		0 - 100	%
<small>(1) Rated power of the module at STC will not exceed the power optimizer. Rated Input DC Power. Modules with up to -5% power tolerance are allowed. (2) For other connector types please contact SolarEdge. (3) For ambient temperature above +70°C / +158°F power derating is applied. Refer to Power Optimizers Temperature Derating Technical Note for more details.</small>			

PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules

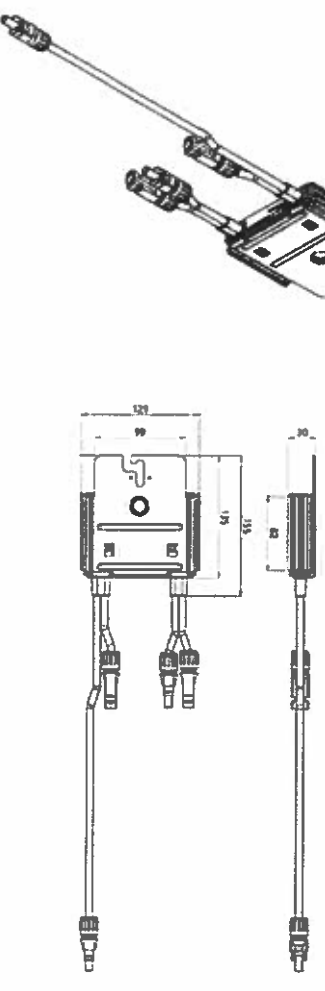
* Functionality subject to inverter model and firmware version

solaredge.com

solaredge

PV System Design Using a SolarEdge Inverter	Single Phase HD-Wave		Single Phase		Three Phase		Three Phase for 277/480V grid	
	Minimum String Length (Power Optimizers)	S440, S500	8	25	16	50	18	
Maximum String Length (Power Optimizers)		5700	5250	11250 ^(a)	12750 ^(a)			W
Maximum Nominal Power per String ^(a)					Yes			
Parallel Strings of Different Lengths or Orientations								

(a) If the inverters rated AC power < maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to: <https://www.solaredge.com/sites/default/files/power-optimizer-single-string-design-application-note.pdf>
 (b) For the 277/480V grid, it is allowed to install up to 13,500W per string when the maximum power difference between each string is 2,000W
 (c) For the 277/480V grid, it is allowed to install up to 85,000W per string when the maximum power difference between each string is 2,000W
 (7) It is not allowed to mix S-series and P-series power optimizers in new installations.



© SolarEdge Technologies, Inc. All rights reserved. SOLAREDGE, the SolarEdge logo, OPTIMIZER, PV SOLAR, HD-WAVE and the SolarEdge logo are trademarks or registered trademarks of SolarEdge Technologies, Inc. All other trademarks mentioned herein are trademarks of their respective owners. © Rev. 06/2021 05-000020-1.5 Rev. 4/1. Subject to change without notice.

CE **RoHS**



Main	
Product or component type	Single Throw Safety Switch
Line Rated Current	60 A
Product certifications	UL listed
NEMA degree of protection	NEMA 3R
Disconnecter device type	Fusible disconnect
Device composition	Neutral (factory installed)
Short-circuit current	100 kA maximum depending on fuse H, K or R
Device mounting	Surface
Number of poles	2
Electrical connection	Lugs
Series name	General duty

Complementary

Environment

Offer Sustainability

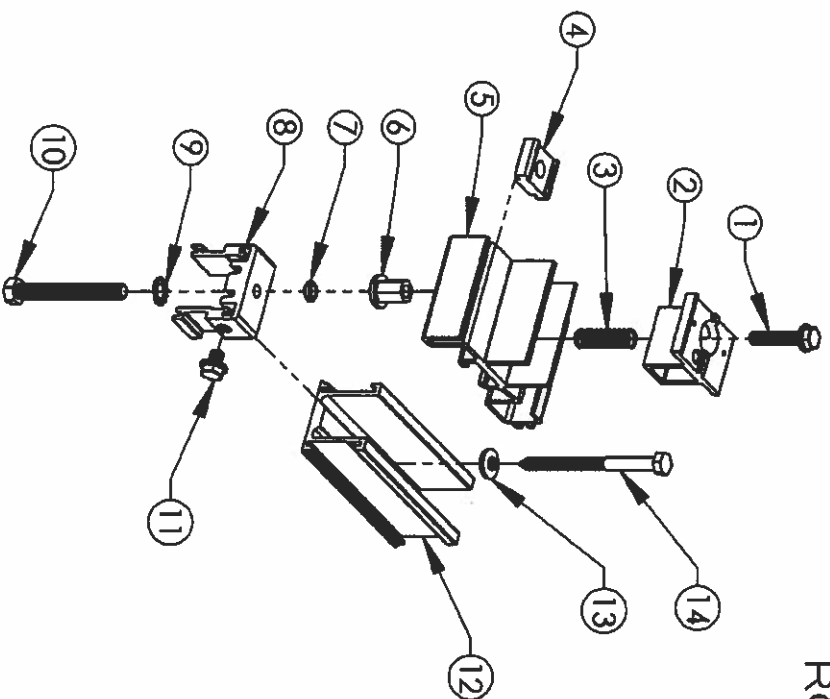
WARNING: This product can expose you to chemicals including: **WARNING:** This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.p65warnings.ca.gov For more information go to www.p65warnings.ca.gov

Contractual warranty	
Warranty period	18 months

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

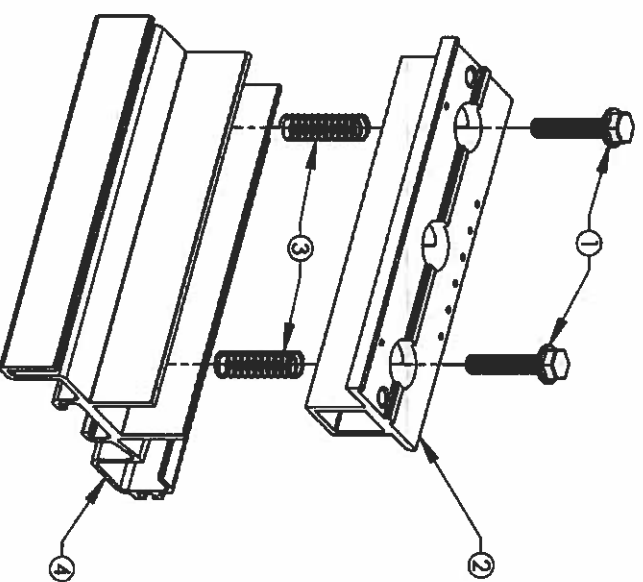
ROCK-IT MOUNT ASSEMBLY



NOTE: ITEMS 1-11 SHIP ASSEMBLED

- 1 5/16"-18 x 1.5" Hex Flange Bolt 300 Series SS
- 2 Rock-It Mid-Clamp 6005A-T5
- 3 Compression Spring 300 Series SS
- 4 Tie Plate 6005A-T5 AL
- 5 Rock-It Shelf 6005A-T5 AL
- 6 Flange Level Nut 300 Series SS
- 7 Packaging O-Ring (Remove Prior to Installation)
- 8 Rock-It Pedestal 6005A-T5 AL
- 9 3/8" ID Star Lock Washer 300 Series SS
- 10 3/8"-16 Hex Tap Bolt 300 Series SS
- 11 5/16"-18 x .375" Hex Flange Bolt 300 Series SS
- 12 Rock-It-Slide 6005A-T5 AL
- 13 5/16" ID EPDM Bonded Washer 300 Series SS
- 14 5/16" x 4" Hex Lag Screw or 5/16"-18 X 1.50" Hex Bolt 300 Series SS

ROCK-IT COUPLING ASSEMBLY



NOTE: ITEMS 1-4 SHIP ASSEMBLED

- 1 5/16"-18 x 1.5" Hex Flange Bolt 300 Series SS
- 2 Rock-It Coupling Mid Clamp 6005A-T5 AL
- 3 Compression Spring 300 Series SS
- 4 Rock-It Coupling Shelf 6005A-T5 AL

ROCK-IT SYSTEM

- Fastest, easiest to level system on the market
- ETL listed to UL SUB 2703
- Class A Fire rating with Type 1 modules
- Integrated electrical bonding
- SIMPLE - only 3 components
- Fixed wire management tray
- North-South adjustability of up to 4"
- Only one tool required (1/2" deep well socket)

Max No. of Panels	300 Modules per ground lug	Materials	300 Series Stainless, 6000 Series Aluminum
Max System Voltage	1000VDC	Coating	Black Anodization/Mill Finish
Class A Fire Rating	With UL1703 Type 1 Rated Modules	Lug Specifications	Burndy CL50-1TN Ground Lug (UL Listing #KDER E9999)
Leveling Range	3-4"	Ground Wire Per above Lug spec.	14 AWG- 4 AWG Copper Ground Wire
Rock-It Slide Range	4"	Max Module Size	64.96"(1650mm) x 39.05"(992mm) x 2"(50mm)
Min/Max Roof Slope	1/2:12/12:12	Max Downforce/Uplift Rating	45 PSF
Max Anchor Spacing	72"	Rock-It Mount Load Rating	547lbs with Single 5/16" Lag 3.0 Safety Factor
Skirt Box QTY	6 units	Slide Fastening Hole	5/16" diameter
Mount Box QTY	12 units	Module Cantilever	Lesser of 25% Width, or Module Installation Manual
Rock-It Slide Box QTY	50 units	Warranty	10 Year Material and Workman-Ship
Coupling Box QTY	12 units		

Codes: National Electric Code, ANSI/NFPA 70, NEC 250, NEC 690, IRC, IBC

Standards: UL 2703, UL 1703



www.ecofastensolar.com


info@ecofastensolar.com

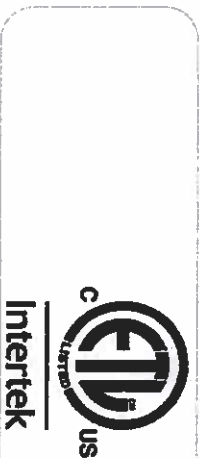


877-859-3947

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant: SolarEdge Technologies Ltd 1 Hamada Street Herzeliya 4873335	Manufacturer: Jabli Circuit (Guangzhou) LTD DEV EAST DISTRICT 128 JUN CHENG RD GUANGZHOU, GUANGDONG 510630
Country: Israel Contact: Mr. Oren Bachar or Mr. Meir Adest	Country: China Contact: Elaine Ouyang
Phone: +972 9 957 6620 #293 or +972 9 957 6620 #131	Phone: 020-2805-4026/ 135-7023-6852
FAX: 972 9 957 6591	FAX: N/A
Email: OREB.B@SOLAREEDGE.COM MEIR.A@SOLAREEDGE.COM	Email: Elaine.ouyang@jabli.com
Party Authorized To Apply Mark: Same as Manufacturer Report Issuing Office: Cortland NY 13045	
Control Number: 4004590	Authorized by:  Ulla-Pia Johansson-Nilsson for Dean Davidson, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

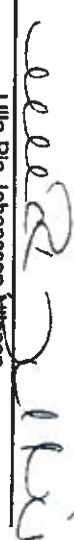
This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of the Authorization to Mark. Only the Client is authorized to permit copying or distribution of the Authorization to Mark, and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in the Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the listed material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of ensuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purpose of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5687 Fax 312-283-1672

Standard(s): Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2(Supplement SA)+R:07Sep2016]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4]
UL SUBJECT 1699B Issued: 2013/01/14 Ed: 2 Outline of Investigation for Photovoltaic (PV) DC ARC-Fault Circuit Protection
Product: Grid support Utility Interactive Inverter - Non Isolated Photovoltaic Inverter with MPPPT function and Rapid
Brand Name: SolarEdge
Models: SE3000H-US, SE3800H-US, SE5000H-US, SE6000H-US, SE7600H-US, SE10000H-US and SE11400H-US

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant: SolarEdge Technologies Ltd 1 Hamada Street Herzeliya 4673335	Manufacturer: Celestica Romania 88 Soseaua Borsului, Bors, Bihor county, 417075
Country: Israel Contact: Mr. Oren Bachar or Mr. Meir Adest	Country: Romania Contact: Renata Bodan
Phone: +972 9 957 6620 #293 or +972 9 957 6620 #131	Phone: +40-359-403-861
FAX: 972 9 957 6591	FAX: +40-722-964-215
Email: OREB.B@SOLAREEDGE.COM MEIR.A@SOLAREEDGE.COM	Email: rnodan@celestica.com
Party Authorized To Apply Mark: Same as Manufacturer Report Issuing Office: Cortland NY 13045	
Control Number: 4004590	Authorized by:  Ulla-Pia Johansson-Nilsson for Dean Davidson, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of the Authorization to Mark. Only the Client is authorized to permit copying or distribution of the Authorization to Mark, and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in the Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the listed material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of ensuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purpose of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5687 Fax 312-283-1672

Standard(s): Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2(Supplement SA)+R:07Sep2016]
Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4]
UL SUBJECT 1699B Issued: 2013/01/14 Ed: 2 Outline of Investigation for Photovoltaic (PV) DC ARC-Fault Circuit Protection
Product: Grid support Utility Interactive Inverter - Non Isolated Photovoltaic Inverter with MPPPT function and Rapid
Brand Name: SolarEdge
Models: SE3000H-US, SE3800H-US, SE5000H-US, SE6000H-US, SE7600H-US, SE10000H-US and SE11400H-US

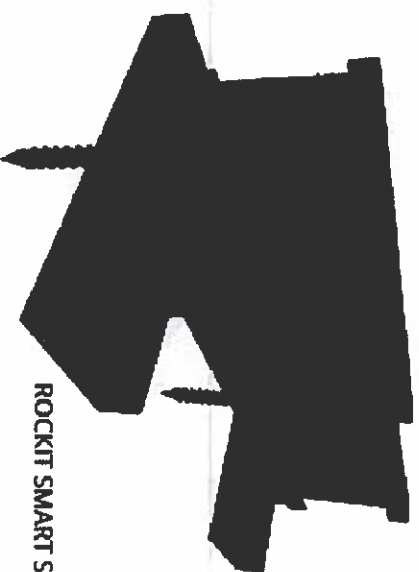
ROCKIT.

INTRODUCING ROCKIT SMART SLIDE!

Introducing EcoFaster's patent pending Rockit Smart Slide, our simple solution for quickly installing the popular Rockit rail-less racking system to composition shingle roofs.

Features & Benefits

- Eliminates the need to pry up shingle courses and install a metal flashing
- Multiple opportunities to find the rafter
- Eliminates the need to drill pilot holes
- No need for additional material when architectural shingles are not level
- Longer 6.75" slide avoids overlaps in shingle courses
- Integrated flashing utilizes UltraGrip Technology™ to create



ROCKIT SMART SLIDE

Required Components:

Part Number:	Description:
2011024	RI SMART SLIDE BLK 6.75"
2011025	RI SMART SCRW #12X3" W/BW

ECOFASTENSOLAR.COM

ROCKIT SMART SLIDE

Integrated UltraGrip Technology™

Pre-installed sealing pads are compatible with all composition shingle roofs and can be installed in ambient temperatures as low as 5 degrees. The compression achieved when fastened to the roof creates a super strong watertight seal. In most cases, Smart Slide can be installed to the roof without the need for sealant. A layer of flexible foam provides cushioning, which allows the super-sticky waterproofing sealant to embed deep into the granules of the shingle as well as to flexibly conform over the steps found on architectural-style shingles.



A layer of flexible foam pushes the sealant deep into the shingle granules and around shingle steps



Rockit Smart Slide can be installed on top of architectural shingles steps

Testing & Documentation

- [UL441 Rain Report](#)
- [TAS 100 \(A\)-95 Wind and Wind Driven Rain Resistance](#)
- [Mechanical Load Test/Structural Capacity Certification](#)
- [Florida Product Approval](#)
- [Rockit Installation Manual](#)
- [Rockit CutSheets](#)



VERSION 1.2



4141 W. VAN BUREN ST, SUITE 2, PHOENIX AZ 85009
1-877-859-3947 | INFO@ECOFASTENSOLAR.COM

SMART SLIDE INSTALLATION

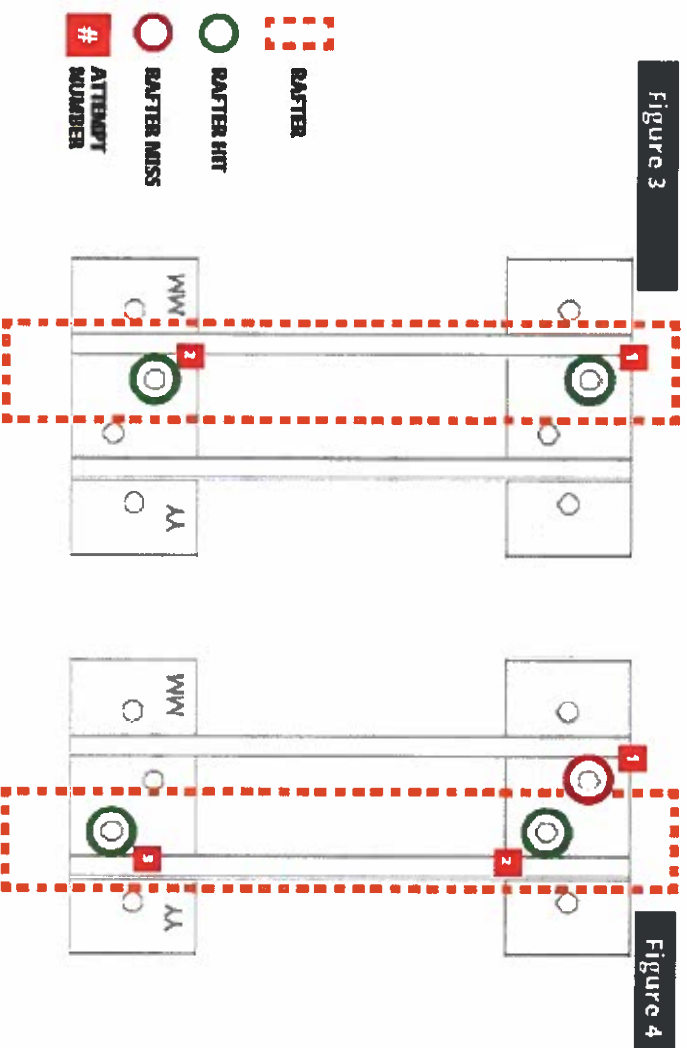
SCREW PLACEMENT

A. PERFECT INSTALLATION - Starting at the north end of the slide, ideally from left to right in the center 2 holes, drive the first screw down until the washer is correctly compressed to the base (as shown in figure 2). If a rafter is hit with the first screw, the second screw can immediately be driven directly below in the south end of the slide making sure the bonding washer is again, correctly compressed. No additional screws are needed if the first 2 screws hit the rafter (see figure 3)

B. IDEAL INSTALLATION - If the rafter is missed with the first screw as shown in figure 4 by the red circle, drive a second screw through the adjacent center north hole. If the rafter is hit with the second screw, the third screw can immediately be driven directly below in the south end of the slide making sure the bonded washer is again, correctly compressed. No additional screws are needed if the 2nd and 3rd screw hit the rafter. NOTE: Do not remove any screws that did not hit the rafter.

C. ACCEPTABLE INSTALLATION - In all installations when the rafter is hit on either end of the slide, all 8 screws must be installed. (See figure 5)

D. MISSED RAFTER - If a rafter is missed completely within the slide, you must add another slide to the previous rafter. You may then continue with your job specific attachment spans (See figure 6).

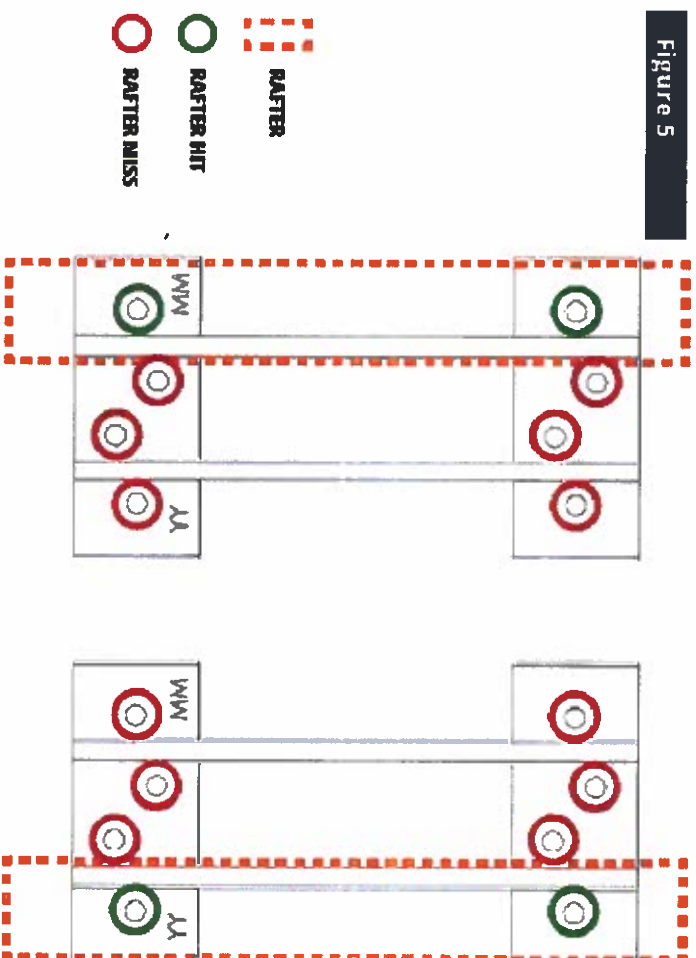


- RAFTER
- RAFTER HIT
- RAFTER MISS
- ATTEMPT NUMBER

INSTALLATION

SMART SLIDE INSTALLATION

ACCEPTABLE INSTALLATION



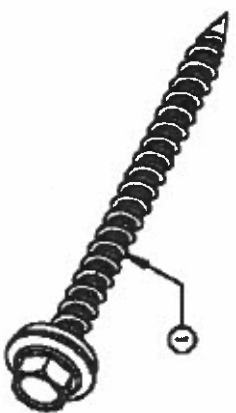
- RAFTER
- RAFTER HIT
- RAFTER MISS

NOTE: DO NOT REMOVE ANY SCREWS THAT HAVE MISSED THE RAFTER. ROCKKIT FLASHLESS IS DESIGNED TO GIVE THE INSTALLER MULTIPLE OPPORTUNITIES TO FIND THE RAFTER MAKING INSTALLATION QUICK AND THOUGHTLESS.

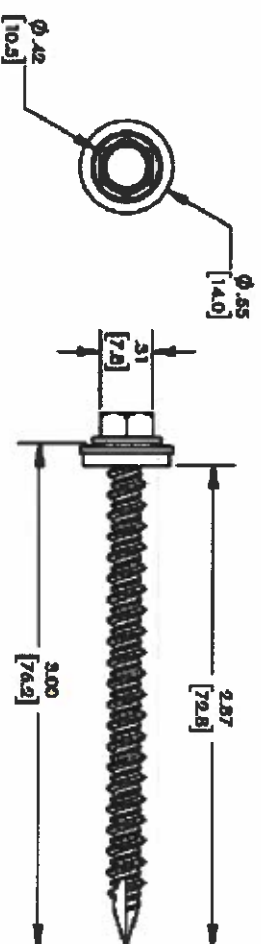
INSTALLATION

RI SMART SCREW #12X3" W/BW

PART NUMBER	DESCRIPTION
2011025	RI SMART SCREW #12X3" W/BW



ITEM NO.	DESCRIPTION
1	SELF TAPPING SCREW #12 WITH SEALING WASHER ASSEMBLY

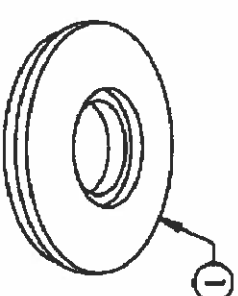


MATERIAL	FINISH
STAINLESS STEEL, EPDM RUBBER	MILL, BLACK

Rev: CS-2

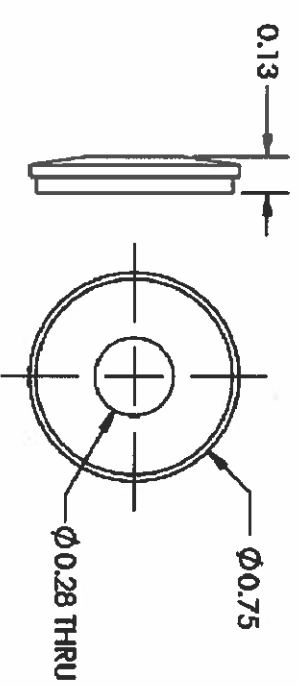
EPDM BOND WASHER SS .313" (51)

PART NUMBER	DESCRIPTION
3016014	EPDM BOND WASHER SS .313" (51)



ITEM NO.	DESCRIPTION
1	5/16 STAINLESS STEEL AND EPDM BONDED SEALING WASHER

1) 5/16 STAINLESS STEEL AND EPDM BONDED SEALING WASHER



Material	Finish
Stainless Steel/EPDM	MILL

REV.-CS1