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January 4, 2023

Lumio Solar  
12600 Challenger Parkway, Suite 200  
Orlando, FL 32826

Scott  
Wyssling, PE

Digitally signed by Scott Wyssling, PE  
DN: C=US, S=Utah, L=Alpine, O=Wyssling  
Consulting, OU=Engineering, CN="Scott Wyssling,  
PE", E=swyssling@wysslingconsulting.com  
Reason: I am the author of this document  
Location: your signing location here  
Date: 2023.01.04 16:43:37-0700  
Foxit PDF Editor Version: 11.1.0

Re: Engineering Services  
Rourke Residence  
121 Southwest Nathan Court, Lake City FL  
6.800 kW System

To Whom It May Concern:

We have received information regarding solar panel installation on the roof of the above referenced structure. Our evaluation of the structure is to verify the existing capacity of the roof system and its ability to support the additional loads imposed by the proposed solar system.

#### A. Site Assessment Information

1. Site visit documentation identifying attic information including size and spacing of framing for the existing roof structure.
2. Design drawings of the proposed system including a site plan, roof plan and connection details for the solar panels. This information will be utilized for approval and construction of the proposed system.

#### B. Description of Structure:

**Roof Framing:** Prefabricated wood trusses at 24" on center. All truss members are constructed of 2 x 4 dimensional lumber.  
**Roof Material:** Metal Roofing  
**Roof Slopes:** 27 +/- degrees  
**Attic Access:** Accessible  
**Foundation:** Permanent

#### C. Loading Criteria Used

- **Dead Load**
  - Existing Roofing and framing = 7 psf
  - New Solar Panels and Racking = 3 psf
  - TOTAL = 10 PSF
- **Live Load** = 20 psf (reducible) – 0 psf at locations of solar panels
- **Ground Snow Load** = 0 psf
- **Wind Load** based on ASCE 7-16
  - Ultimate Wind Speed = 120 mph (based on Risk Category II)
  - Exposure Category B

*Analysis performed of the existing roof structure utilizing the above loading criteria is in accordance with the FBC 2020 7<sup>th</sup> Edition, including provisions allowing existing structures to not require strengthening if the new loads do not exceed existing design loads by 105% for gravity elements and 110% for seismic elements. This analysis indicates that the existing framing will support the additional panel loading without damage, if installed correctly.*

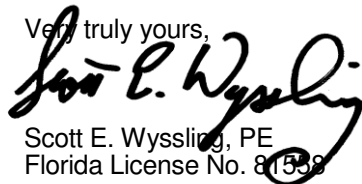
**D. Solar Panel Anchorage**

1. The solar panels shall be mounted in accordance with the most recent S-5! Installation manual. If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.
2. System will be attached to the metal roofing material utilizing the patented S-5! Connection. Installation of the connections shall be in accordance with the manufacturer's recommendations.
3. Considering the wind speed, roof slopes, size and spacing of framing members, and condition of the roof, the panel supports shall be placed no greater than 48" on center.
4. Panel supports connections shall be staggered to distribute load to adjacent framing members.

Based on the above evaluation, this office certifies that with the racking and mounting specified, the existing roof system will adequately support the additional loading imposed by the solar system. This evaluation is in conformance with the *FBC 2020 7<sup>th</sup> Edition*, current industry standards and practice, and is based on information supplied to us at the time of this report.

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Very truly yours,



Scott E. Wyssling, PE  
Florida License No. 81558

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Wyssling Consulting, PLLC  
76 N Meadowbrook Drive Alpine UT 84004  
Florida License # RY34912

Date Signed 1/4/2023



**SCOPE OF WORK:**  
 TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 121 SOUTHWEST NATHAN COURT, LAKE CITY, FL 32024.

SYSTEM DC RATING: 6.80 KWDC  
 SYSTEM AC RATING: 4.94 KWAC

- GENERAL NOTES:**
- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
  - CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
  - THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
  - THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(C), NEC 2017).
  - NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. CONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
  - ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
  - THE AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.

SHEET INDEX	
CS-0	COVER SHEET & BOM
E-1	STRING LAYOUT & SIGNAGE
E-2	ELECTRICAL DIAGRAM & CALCS.
E-3+	EQUIPMENT SPECIFICATIONS

GOVERNING CODES	
2018 NFPA 1 (FIRE CODE)	2020 FFPC (7TH EDITION)
2017 NATIONAL ELECTRICAL CODE	
2020 FLORIDA BUILDING CODE (7TH EDITION)	
AUTHORITY HAVING JURISDICTION (AHJ): COUNTY OF COLUMBIA	

BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	17	Q.PEAK DUO BLK ML-G10+ 400
MICROINVERTER	17	ENPHASE IQ8PLUS-72-2-US
JUNCTION BOX	1	JUNCTION BOX, NEMA 3R, UL LISTED
COMBINER BOX	1	ENPHASE IQ COMBINER 4/4C W/ IQ ENVOY (X-IQ-AM1-240-4)
AC DISCONNECT	1	60A NON-FUSED AC DISCONNECT, 240V, NEMA 3R, UL LISTED
POWER PERFECT BOX	1	(ES1PN), 120V/240V, NEMA 3X



**ATLANTIC KEY ENERGY LLC**  
 12600 CHALLENGER PARKWAY  
 SUITE 200  
 ORLANDO, FL 32826  
 1 (407) 988-0273

**Lumio** <sup>ix</sup>  
 PROJECT NAME & ADDRESS

PATRICK ROURKE  
 RESIDENCE  
 PROJECT # 0  
 121 SOUTHWEST NATHAN COURT  
 LAKE CITY, FL 32024

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REVISIONS		
DESCRIPTION	DATE	REV

Drawn by: CM  
 Date: 1/3/2023

SHEET NAME  
**COVER SHEET & BOM**  
 SHEET NUMBER  
**CS-0**

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LEGEND	
X	- MODULE STRING ID
(E)	- EXISTING
(N)	- NEW
(M)	- UTILITY METER
(MSP)	- MAIN SERVICE PANEL
(ACD)	- AC DISCONNECT
(CB)	- COMBINER BOX
LC	- LOAD CENTER
SP	- SUBPANEL
JB	- JUNCTION BOX
SCT	- STRING CENTER TAP
---	- CONDUIT
BAT	- ENERGY STORAGE
ICD	- INTERCONNECTION DEVICE
BUL	- BACK UP LOADS PANEL

- ADHESIVE FASTENED SIGNS:**
- ANSI Z535.4-2011 PRODUCT SAFETY SIGNS AND LABELS, PROVIDES GUIDELINES FOR SUITABLE FONT SIZES, WORDS, COLORS, SYMBOLS, AND LOCATION REQUIREMENTS FOR LABELS. NEC 110.21(B)(1).
  - THE LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC 110.21(B)(3).
  - ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT.
  - ALL LABELS AND MARKINGS FOR PHOTOVOLTAIC SYSTEMS WILL BE REFLECTIVE AND MEET ALL REQUIREMENTS.

**WARNING**  
ELECTRIC SHOCK HAZARD  
DO NOT TOUCH TERMINALS  
TERMINALS ON BOTH THE LINE AND  
LOAD SIDES MAY BE ENERGIZED  
IN THE OPEN POSITION

LABEL LOCATION:  
COMBINER BOX/ EMT  
ENCLOSURES/ AC DISCONNECT/  
MAIN SERVICE PANEL  
PER CODE: NEC 2017, 690.13(B)

**EMERGENCY RESPONDER**  
SOLAR PV SYSTEM EQUIPPED  
WITH RAPID SHUTDOWN  
TURN RAPID SHUTDOWN  
SWITCH TO THE "OFF"  
POSITION TO SHUT  
DOWN THE ENTIRE PV  
SYSTEM

LABEL LOCATION:  
RAPID SHUTDOWN (AC DISCONNECT)  
PER CODE: NEC 690.56 (C)(1) &  
NFPA1 11.12.2.1.1.1.1, 11.12.2.1.4  
SHALL BE REFLECTIVE, WITH ALL  
LETTERS CAPITALIZED AND HAVING A  
MINIMUM HEIGHT OF 3/8 IN. (9.5 MM), IN  
WHITE ON RED BACKGROUND.

**WARNING: PHOTOVOLTAIC  
POWER SOURCE**

LABEL LOCATION:  
CONDUIT/ RACEWAY/ ENCLOSURES/  
COMBINER BOX/ AC DISCONNECT  
PER CODE: NEC2017, 690.31(G)(3)(4)

**PHOTOVOLTAIC  
AC DISCONNECT**

LABEL LOCATION:  
AC DISCONNECT/ BREAKER/  
POINTS OF CONNECTION  
PER CODE: NEC2017, 690.13(B)

**PHOTOVOLTAIC AC DISCONNECT**  
RATED AC OUTPUT CURRENT 60.8 A  
NOMINAL OPERATING AC VOLTAGE 240 V

LABEL LOCATION:  
AC DISCONNECT  
PER CODE: NEC2017, 690.54

**RAPID SHUTDOWN  
SWITCH FOR  
SOLAR PV SYSTEM**

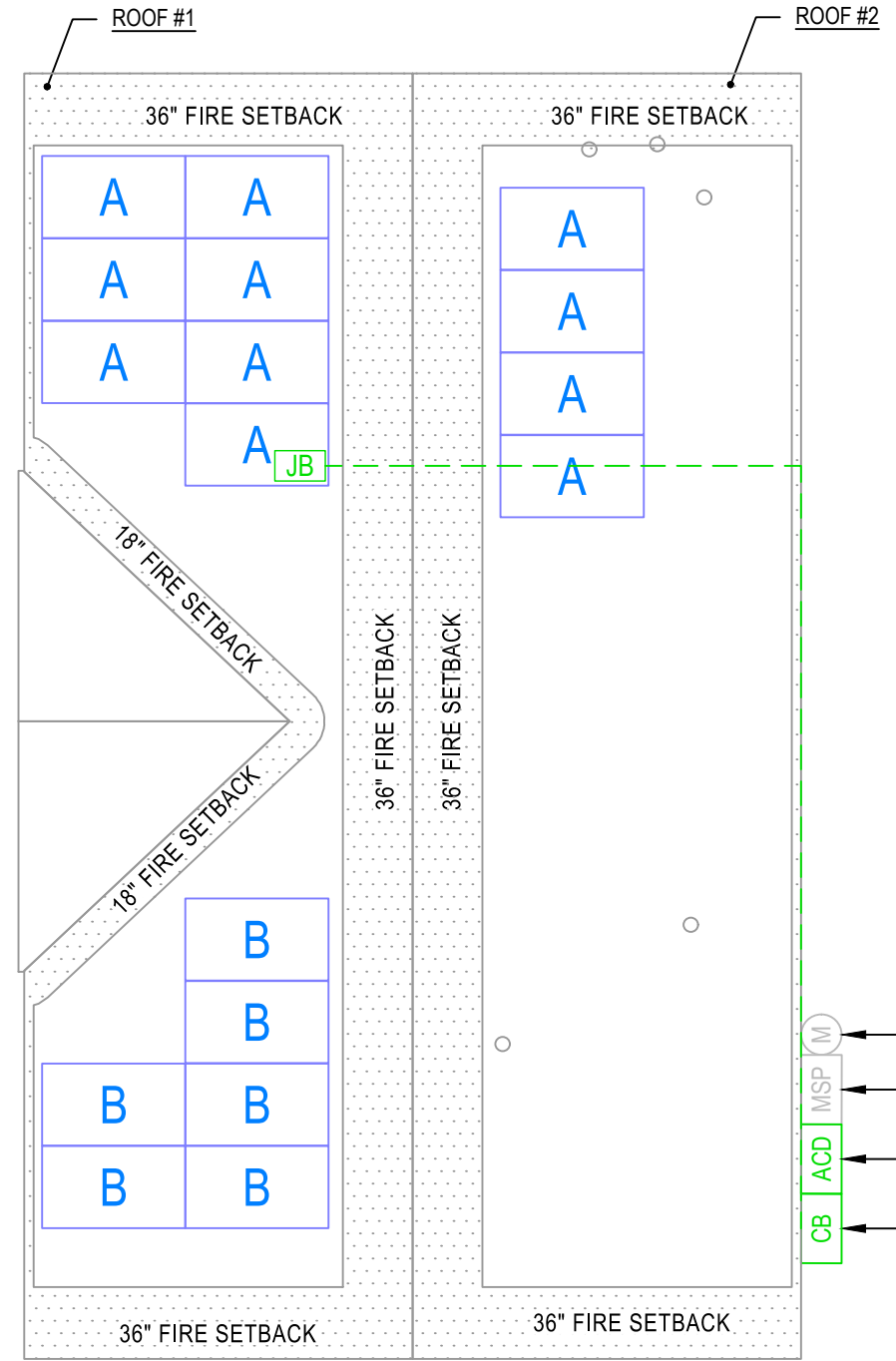
LABEL LOCATION:  
RAPID SHUTDOWN  
(AC DISCONNECT)  
PER CODE: NEC 690.58 (C)(3)

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

LABEL LOCATION:  
POINT OF INTERCONNECTION  
PER CODE: NEC 2017, 705.12(B)

**! WARNING !**  
INVERTER OUTPUT CONNECTION. DO NOT  
RELOCATE THIS OVERCURRENT DEVICE.

LABEL LOCATION:  
POINT-OF-INTERCONNECTION OR AT  
MAIN SERVICE DISCONNECT (MSP)  
PER CODE: NEC 705.12(B)(2)(3)(b)



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**AKE SOLAR**  
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SUITE 200  
ORLANDO, FL 32826  
1 (407) 988-0273

**Lumio**<sup>ix</sup>  
PROJECT NAME & ADDRESS

PATRICK ROURKE  
RESIDENCE  
PROJECT # 0  
121 SOUTHWEST NATHAN COURT  
LAKE CITY, FL 32024

SIGNATURE WITH SEAL

REVISIONS		
DESCRIPTION	DATE	REV

Drawn by: CM  
Date: 1/3/2023

SHEET NAME  
**STRING LAYOUT & SIGNAGE**  
SHEET NUMBER

E-1

ID	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	MIN. CONDUCTOR SIZE (AWG)		MIN. DIA CONDUIT SIZE (IN.)	# OF PARALLEL CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CONDUIT	OCPD (A)	MIN. EGC SIZE (AWG)		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT (A)	MAX. CURRENT (A)	BASE AMP. (A)	DERATED AMP. (A)	TERM. AMP. RATING (A)	LENGTH (FT)	VOLTAGE DROP (%)
1	STRING A	JUNCTION BOX	12	Q CABLE	N/A	1	2	N/A	6	BARE COPPER	0.76	55°C	N/A	13.31	16.64	30	N/A	N/A	53.00	0.47
2	STRING B	JUNCTION BOX	12	Q CABLE	N/A	1	2	N/A	6	BARE COPPER	0.76	55°C	N/A	7.26	9.08	30	N/A	N/A	39.00	0.47
3	JUNCTION BOX	COMBINER BOX	10	THWN-2 COPPER	0.75 LTNM	2	4	20	10	THWN-2 COPPER	0.76	55°C	0.8	13.31	16.64	40	24.3	35	67.00	0.92
4	COMBINER BOX	AC DISCONNECT	10	THWN-2 COPPER	0.75 LTNM	1	3	N/A	10	THWN-2 COPPER	0.96	34°C	1	20.57	25.71	40	38.4	35	5.00	0.11
5	AC DISCONNECT	MSP	10	THWN-2 COPPER	0.75 LTNM	1	3	30	10	THWN-2 COPPER	0.96	34°C	1	20.57	25.71	40	38.4	35	5.00	0.11



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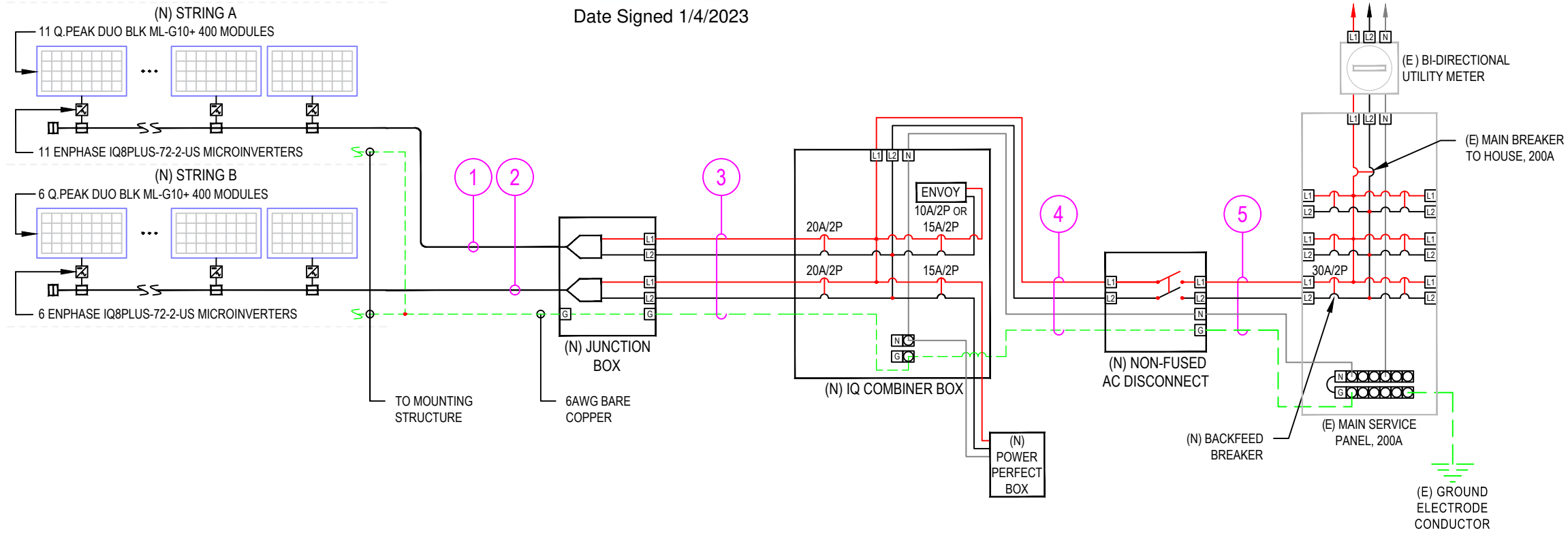
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 SHEET NAME  
**ELECTRICAL LINE DIAGRAM & CALCS.**  
 SHEET NUMBER  
**E-2**

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**LEGEND**  
 NOTE:  
 1. LTNM OR EQUIVALENT TYPE CONDUIT  
 (E) - EXISTING  
 (N) - NEW

DESIGN TEMPERATURE SPECIFICATIONS	
RECORD LOW TEMP	-5°C
AMBIENT TEMP. (HIGH TEMP. 2%)	34°C
CONDUIT HEIGHT	1.0"
CONDUCTOR TEMP. RATE (ROOF)	55°C

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1 | ELECTRICAL LINE DIAGRAM  
 E-2 | SCALE: NTS





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 LAKE CITY, FL 32024**

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REVISIONS

DESCRIPTION	DATE	REV

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SHEET NAME

**EQUIPMENT  
 SPECIFICATIONS**

SHEET NUMBER

**E-4**

## Enphase IQ Combiner 4/4C

### MODEL NUMBER

IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.

### ACCESSORIES AND REPLACEMENT PARTS (not included, order separately)

Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.

### ELECTRICAL SPECIFICATIONS

Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers

### MECHANICAL DATA

Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	- 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors - 60 A breaker branch input: 4 to 1/0 AWG copper conductors - Main lug combined output: 10 to 2/0 AWG copper conductors - Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)

### INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)

### COMPLIANCE

Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit [enphase.com](http://enphase.com)

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ARRAY DESCRIPTION					
ROOF	# OF MODULES	AZIMUTH	TRUSS SIZE	TRUSS SPACING	ROOF MATERIAL
#1	13	272	2X4	24"O.C.	METAL
#2	4	92	2X4	24"O.C.	METAL

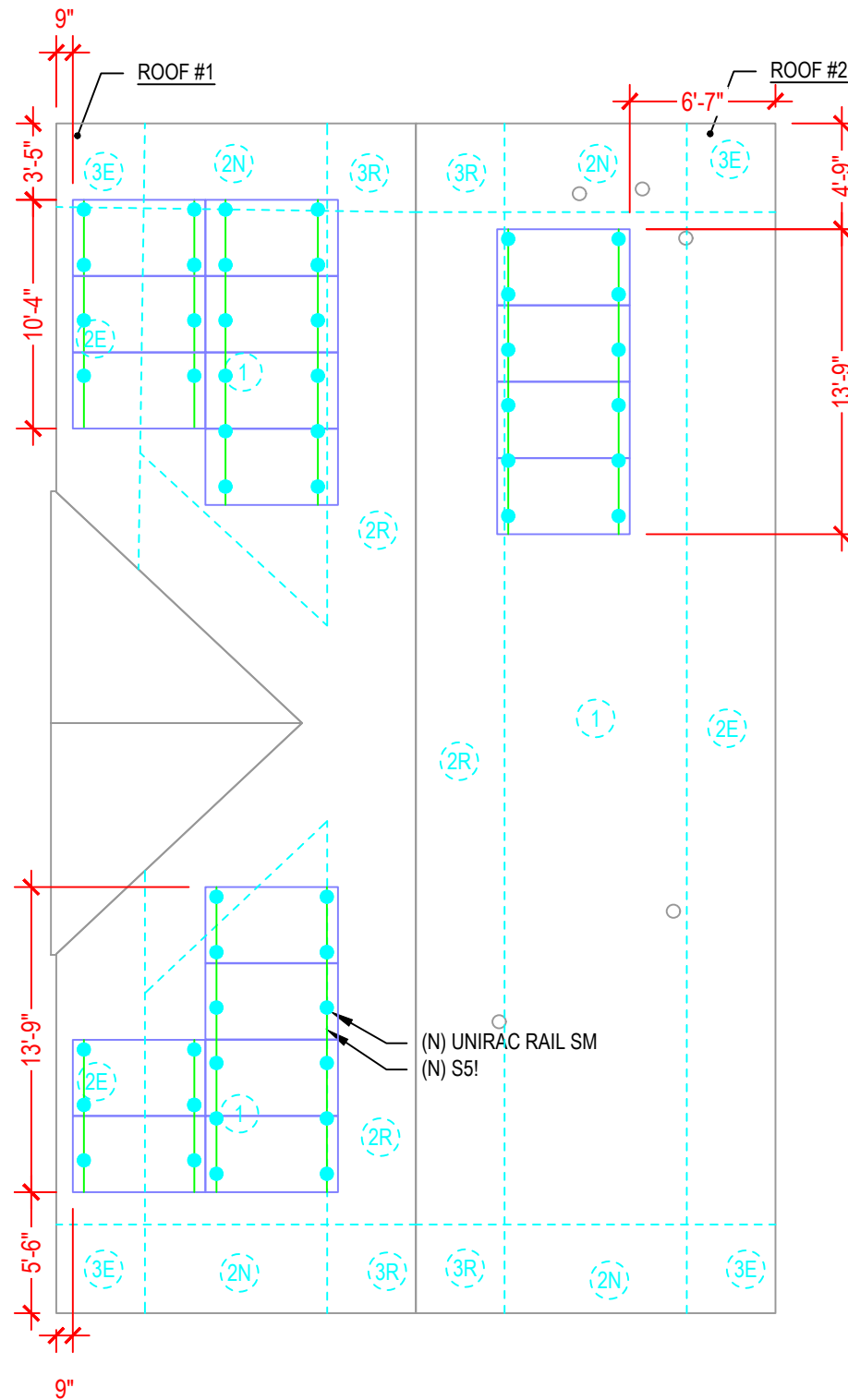
DESIGN SPECIFICATION	
RISK CATEGORY	II
CONSTRUCTION	SFD
ZONING	RESIDENTIAL
SNOW LOAD (ASCE 7-16)	0 PSF
EXPOSURE CATEGORY	B
WIND SPEED (ASCE 7-16)	120 MPH

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(N) UNIRAC RAIL SM  
(N) S5!

LEGEND	
(E)	- EXISTING
(N)	- NEW

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SUITE 200  
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SHEET NAME	
ROOF PLAN AND MODULES	
SHEET NUMBER	
S-0	



# S-5!<sup>®</sup>

## The Right Way!<sup>™</sup>

**NEW**

**NOW AVAILABLE  
IN ALUMINUM**

**ProteaBracket<sup>™</sup>**

### ProteaBracket<sup>™</sup>

A versatile bracket for mounting solar PV to trapezoidal roof profiles

ProteaBracket<sup>™</sup> is now made in aluminum. Still the most versatile trapezoidal metal roof attachment solution on the market, the S-5! ProteaBracket just got better!

The bracket features an adjustable attachment base and module attachment options to accommodate different roof profile dimensions and mounting options.

Our pre-applied EPDM gasket with peel and stick adhesive makes installation a snap, ensuring accurate and secure placement the first time.

With no messy sealants, faster installation, and a weather-proof fit, ProteaBracket offers you the most versatile solar attachment solution available.

**ProteaBracket\* can be used for rail mounting or "direct-attach" with S-5! PVKIT<sup>™</sup>**

### Features and Benefits

- 34% lighter - saves on shipping
- Stronger L-Foot<sup>™</sup>
- Load-tested for engineered application
- Corrosion-resistant materials
- Adjustable - Fits rib profiles up to 3"
- Peel-and-Stick prevents accidental shifting during installation
- Fully pre-assembled
- 25-year warranty\*



888-825-3432 | www.S-5.com

\*When ProteaBracket is used in conjunction with the S-5! PVKIT, an additional nut is required during installation.

\*See www.S-5.com for details.

The right way to attach solar PV to trapezoidal roof profiles!

# S-5!<sup>®</sup>

## The Right Way!<sup>™</sup>

ProteaBracket<sup>™</sup> is the perfect solar attachment solution for most trapezoidal rib, exposed-fastened metal roof profiles!

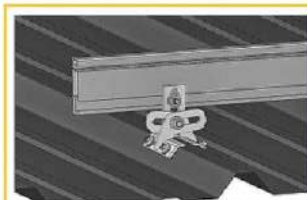
ProteaBracket<sup>™</sup> is compatible with common metal roofing materials and comes with a pre-applied EPDM gasket on the base.

**Note:** All four pre-punched holes must be used to achieve tested strength. Fasteners are provided.

For design assistance, ask your distributor, or visit [www.S-5.com](http://www.S-5.com) for the independent lab test data that can be used for load-critical designs and applications. Also, please visit our website for more information including metallurgical compatibilities and specifications.

S-5!<sup>®</sup> holding strength is unmatched in the industry.

### Multiple Attachment Options:



**Side  
Mount Rail**



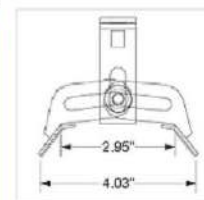
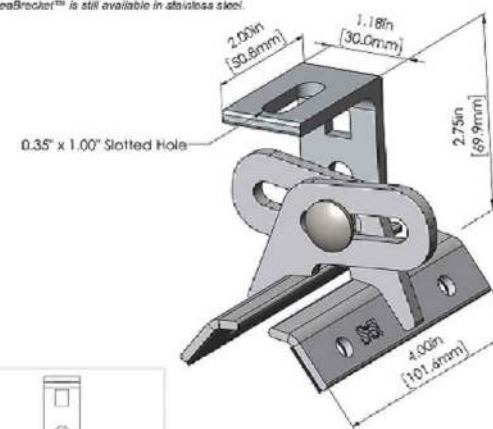
**Bottom  
Mount Rail**



**w/ S-5!  
PVKIT<sup>™</sup>  
(rail-less)**

### ProteaBracket<sup>™</sup>

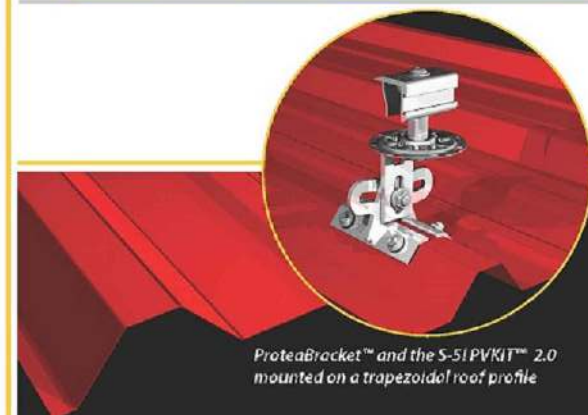
*ProteaBracket<sup>™</sup> is still available in stainless steel!*



**ProteaBracket fits profiles up to 3 inches**

**INSTALLATION:**

- No surface preparation needed. (1) Wipe away excess oil and debris. (2) Peel off adhesive release paper. (3) Align and mount bracket directly onto crown of panel. (4) Secure ProteaBracket through pre-punched holes, using piercing-point S-5! screws.



ProteaBracket<sup>™</sup> and the S-5! PVKIT<sup>™</sup> 2.0 mounted on a trapezoidal roof profile

**S-5!<sup>®</sup> Warning! Please use this product responsibly!**

Products are protected by multiple U.S. and foreign patents. For published data regarding holding strength, bolt torque, patents, and trademarks, visit the S-5! website at [www.S-5.com](http://www.S-5.com).

Copyright 2019, Metal Roof Innovations, Ltd. S-5! products are patent protected. S-5! aggressively protects its patents, trademarks, and copyrights. Version 07080.

Distributed by



ATLANTIC KEY ENERGY LLC  
12600 CHALLENGER PARKWAY  
SUITE 200  
ORLANDO, FL 32826  
1 (407) 988-0273

**Lumio<sup>ix</sup>**

PROJECT NAME & ADDRESS

PATRICK ROURKE  
RESIDENCE  
PROJECT # 0  
121 SOUTHWEST NATHAN COURT  
LAKE CITY, FL 32024

SIGNATURE WITH SEAL

#### REVISIONS

DESCRIPTION	DATE	REV

Drawn by: CM

Date: 1/3/2023

SHEET NAME

**EQUIPMENT  
SPECIFICATIONS**

SHEET NUMBER

**S-1**

# SOLARMOUNT



**SOLARMOUNT** defined the standard in solar racking. Features are designed to get installers off the roof faster. Our grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Systems can be configured with standard or light rail to meet your design requirements at the lowest cost possible. The superior aesthetics package provides a streamlined clean edge for enhanced curb appeal, with no special brackets required for installation.



Now Featuring:  
**THE NEW FACE OF SOLAR RACKING**  
Superior Aesthetics Package



**LOSE ALL OF THE COPPER & LUGS**  
System grounding through Enphase microinverters and trunk cables



**SMALL IS THE NEXT NEW BIG THING**  
Light Rail is Fully Compatible with all SM Components



**ENHANCED DESIGN & LAYOUT TOOLS**  
Featuring Google Map Capabilities within U-Builder

## FAST INSTALLATION. SUPERIOR AESTHETICS

OPTIMIZED COMPONENTS • VERSATILITY • DESIGN TOOLS • QUALITY PROVIDER

# SOLARMOUNT



## OPTIMIZED COMPONENTS

### INTEGRATED BONDING & PRE-ASSEMBLED PARTS

Components are pre-assembled and optimized to reduce installation steps and save labor time. Our new grounding & bonding process eliminates copper wire and grounding straps or bonding jumpers to reduce costs. Utilize the microinverter mount with a wire management clip for an easier installation.

## VERSATILITY

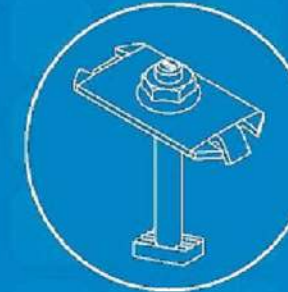
### ONE PRODUCT - MANY APPLICATIONS

Quickly set modules flush to the roof or at a desired tilt angle. Change module orientation to portrait or landscape while securing a large variety of framed modules on flat, low slope or steep pitched roofs. Available in mill, clear and dark anodized finishes to outperform your projects financial and aesthetic aspirations.

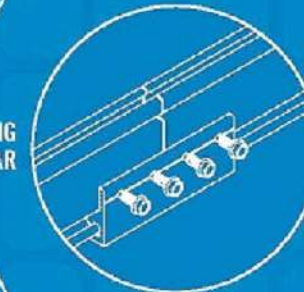
## AUTOMATED DESIGN TOOL

### DESIGN PLATFORM AT YOUR SERVICE

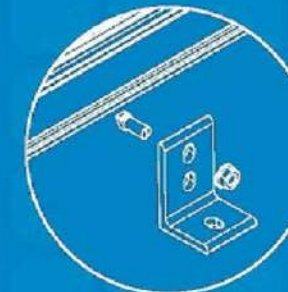
Creating a bill of materials is just a few clicks away with U-Builder, a powerful online tool that streamlines the process of designing a code compliant solar mounting system. Save time by creating a user profile, and recall preferences and projects automatically when you log in. You will enjoy the ability to share projects with customers, there's no need to print results and send to a distributor, just click and share.



INTEGRATED BONDING MIDCLAMP



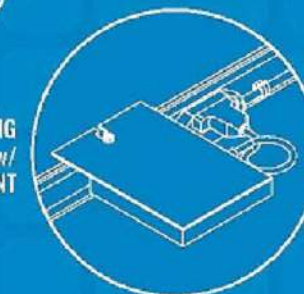
INTEGRATED BONDING SPLICE BAR



INTEGRATED BONDING L-FOOT w/ T-BOLT



INTEGRATED BONDING MICROINVERTER MOUNT w/ WIRE MANAGEMENT



## UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT

- UNMATCHED EXPERIENCE
- CERTIFIED QUALITY
- ENGINEERING EXCELLENCE
- BANKABLE WARRANTY
- DESIGN TOOLS
- PERMIT DOCUMENTATION

### TECHNICAL SUPPORT

Unirac's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.

### CERTIFIED QUALITY PROVIDER

Unirac is the only PV mounting vendor with ISO certifications for 9001:2015, 14001:2015 and OHSAS 18001:2007, which means we deliver the highest standards for fit, form, and function. These certifications demonstrate our excellence and commitment to first class business practices.

### BANKABLE WARRANTY

Don't leave your project to chance. Unirac has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are receiving products of exceptional quality. SOLARMOUNT is covered by a twenty five (25) year limited product warranty and a five (5) year limited finish warranty.

PROTECT YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

PLEB001FE228 - PRINTED



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### REVISIONS

DESCRIPTION	DATE	REV

Drawn by: CM

Date: 1/3/2023

SHEET NAME

EQUIPMENT SPECIFICATIONS

SHEET NUMBER

S-2

SAFETY PLAN CHECKLIST		ABBR.
Inspect entire job site for hazards		H
Indicate parking location for company vehicles		CV
Indicate location of safety documents		SD
Fire extinguisher location		FE
First aid kit location		FA
Eye wash location		EW
Drinking water location		DW
Identify hard hat zone		HHZ
Draw fall protection anchor locations		X
Draw ladder & roof access points		L
Draw ladder anchor location		LA
Identify electrical hazard areas		EH
Indicate other hazard locations and specify (e.g. water, tripping, animals, insects, etc.)		

WEATHER FORECAST		
Hourly heat index	HIPP measures	
7 am		
8 am		
9 am		
10 am		
11 am		
12 am	Other weather related hazards & measures	
1 pm	Wet or icy surfaces	
2 pm	High winds	
3 pm	Thunderstoms	
4 pm	Wildfire smoke	
5 pm	Other	

**ADDRESS & PHONE NUMBER OF CLOSEST URGENT CARE FACILITY**

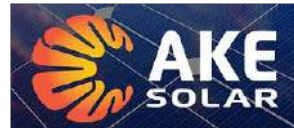
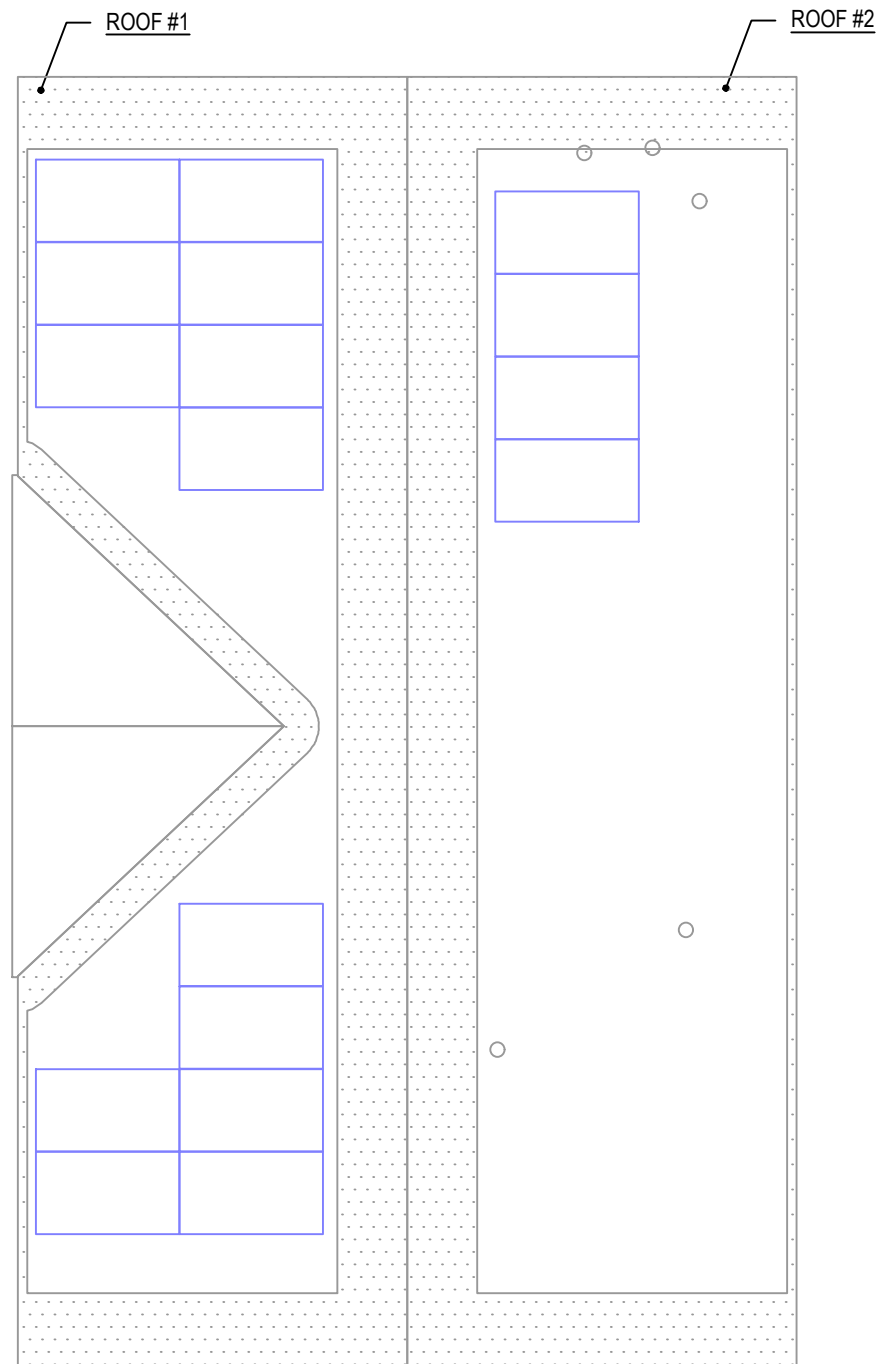
**CREW LEAD SIGNATURE & DATE(S)**

**NOTE:** Crew Lead must conduct a daily meeting to review all safety items.

**CREW SIGNATURES & DATE(S)**

1	
2	
3	
4	
5	
6	

**NOTE:** For multiple day jobs, safety meetings must be conducted each day. Indicate by initialing next to your signature for each additional day.



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 LAKE CITY, FL 32024**

SIGNATURE WITH SEAL

REVISIONS

DESCRIPTION	DATE	REV

Drawn by: CM

Date: 1/3/2023

SHEET NAME

**SAFETY PLAN**

SHEET NUMBER

**NOT FOR PERMIT**