PV LETTERS

May 14, 2025

Subject: Megan George Solar Panel Installation
59 Judiciary Ct, Cameron, NC 28326

Contractor Name: Top Tier Solar Solutions
Contractor Address: 1530 Center Park Dr #2911, Charlotte, NC

To Whom It May Concern,

This letter is submitted on behalf of my client, EnergyScape Renewables.

I am a North Carolina registered Professional Engineer. A field inspection of the installation has been performed by a person under my direct supervisory control. I hereby affirm the following:

1. The PV equipment's structural installation has been designed and inspected,
2. The equipment will not create a negative impact on the building's structural design, including any additional loads imposed (dead, snow, wind), and
3. The installation is in compliance with the North Carolina Residential Code.

Limitations and Disclaimers

Electrical design is excluded from this analysis. Structural design and analysis of the adequacy of solar panels, racks, mounts, rails, and other components is performed by each component's respective manufacturer. This letter and the opinions expressed herein are rendered solely for the benefit of the permitting authority (city or county building department) and my client's office and may not be utilized or relied on by any other party.

Sincerely,

Trevor Jones, P.E.

May 14, 2025

PV LETTERS

Top Tier Solar Solutions
Contractor Address: 1530 Center Park Dr #2911, Charlotte, NC 28217

May 14, 2025

Subject: Proposed Solar Panel Installation
Megan George Residence, 59 Judiciary CT, Cameron, NC
DC System Size: 5.265 kW
PV Letters Job #004-19878

To Whom it May Concern,

We have reviewed information, provided by our client, related to the proposed solar panel installation at the above-referenced address. The purpose of the review was to determine if the existing roof is structurally adequate for the proposed installation. Based on our review and analysis of the given information, and in accordance with governing building codes, I certify that the capacity of the structural roof framing that directly supports the additional gravity loading due to the solar panel supports and modules had been reviewed and determined to meet or exceed the requirements in accordance with the Design Criteria.

Design Parameter Summary

Governing Building Code: 2018 North Carolina Residential Code
Risk Category: II
Wind Exposure: C
Design Wind Speed: 120 mph
Ground Snow Load: 10 psf

Roof Information

Roof Structure: 2x4 Manufactured Trusses @ 24" O.C. (assumed)
Roofing Material: Asphalt Shingles (1 layer)
Roof Slope: 32 degrees

Roof Connection Details

Framing Mount Wood Screws: (2) #14 Self-Drilling Screw with a minimum penetration depth of 1.75" into roof truss top chord only, at 72" O.C. max

Stagger attachments to avoid overloading any individual truss top chord.

Engineering Analysis

The proposed installation - including weight of panels, racking, mounts, and inverters where applicable - will be approximately 3 psf. In the areas where panels are installed, roof live loads will not be present. The reduction of roof live load is adequate to fully or partially compensate for the addition of the panel installation. Because the member forces in the area of the solar panels are not increased by more than 5%, and so per provisions in the adopted building codes, the structure need not be altered for gravity loading.

The proposed installation will be 6" max. above the roof surface (flush mounted) and parallel to the roof surface. Therefore, any increase in wind loading on the building structure from the solar panel installation is expected to be negligible. Wind is the governing lateral load case. Because the increase in lateral loading is not increased by more than 10%, per provisions in the adopted building codes, the structure need not be altered for lateral loading.

Wind uplift on the panels has been calculated in accordance with the relevant provisions of ASCE 7-16. This loading has been used to verify the adequacy of the connection specified above. Connection locations should be in accordance with design drawings.

IronRidge XR10 rails will support the modules and will fasten to the roof structure with IronRidge QuickMount Halo Ultragrip along the rail.

Conclusion

The roof structure need not be altered for either gravity loading (including snow) or lateral loading (including wind). Therefore, the existing structure is permitted to remain unaltered. Connections to the roof must be made per the "Roof Connection Details" section above. Copies of all relevant calculations are enclosed.

Limitations and Disclaimers

The opinion expressed in this letter is made in reliance on the following assumptions: the existing structure is in good condition; the existing structure is free from defects in design or workmanship; and the existing structure was code-compliant at the time of its design and construction. These assumptions have not been independently verified, and we have relied on representations made by our client with respect to the foregoing. The undersigned has not inspected the structure for defects, although we have reviewed the information provided by our client, including pictures where applicable.

Electrical design is excluded from this analysis. Waterproofing is the sole responsibility of the installer and is also excluded from this analysis. Solar panels must be installed per manufacturer specifications. Structural design and analysis of the adequacy of solar panels, racks, mounts, and other components is performed by each component's respective manufacturer; the undersigned makes no statement of opinion regarding such components. This letter and the opinions expressed herein are rendered solely for the benefit of the permitting authority (city or county building department) and your office, and may not be utilized or relied on by any other party.

If you have any questions or concerns, please contact us at (208)-994-1680, or by email at Projects@pvletters.com.

Sincerely,

Trevor A. Jones, P.E.
5/14/2025

PHOTOVOLTAIC ROOF MOUNT SYSTEM

13 MODULES-ROOF MOUNTED - 5.265 kW DC, 5.700 kW AC

59 JUDICIARY CT, CAMERON, NC 28326

PROJECT DATA

PROJECT ADDRESS: 59 JUDICIARY CT, CAMERON, NC 28326

OWNER: MEGAN GEORGE

DESIGNER: ESR

SCOPE: 5.265 kW DC ROOF MOUNT SOLAR PV SYSTEM WITH
13 JA SOLAR: JAM54S31-405/MR 405W PV MODULES WITH
13 SOLAREDGE: S440 POWER OPTIMIZERS AND
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

AUTHORITIES HAVING JURISDICTION:
BUILDING: HARNETT COUNTY
ZONING: HARNETT COUNTY
UTILITY: CENTRAL EMC

SHEET INDEX

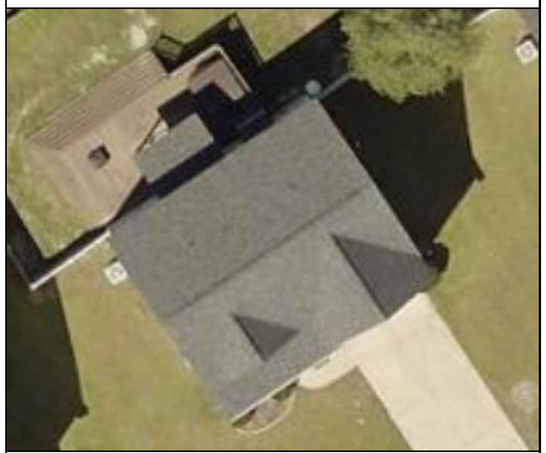
SIGNATURE

GENERAL NOTES

1. ALL COMPONENTS ARE UL LISTED AND CEC CERTIFIED, WHERE WARRANTED.
2. THE SOLAR PV SYSTEM WILL BE INSTALLED IN ACCORDANCE WITH ARTICLE 690 OF THE NEC 2017.
3. THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION.
4. ALL CONDUCTORS OF A CIRCUIT, INCLUDING THE EGC, MUST BE INSTALLED IN THE SAME RACEWAY, OR CABLE, OR OTHERWISE RUN WITH THE PV ARRAY CIRCUIT CONDUCTORS WHEN THEY LEAVE THE VICINITY OF THE PV ARRAY.
5. WHERE METALLIC CONDUIT CONTAINING DC CONDUCTORS IS USED INSIDE THE BUILDING, IT SHALL BE IDENTIFIED AS "CAUTION: SOLAR CIRCUIT" EVERY 10FT.
6. HEIGHT OF THE AC DISCONNECT SHALL NOT EXCEED 6'-7" PER NEC CODE 240.24.
7. A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH CEC 690.47 AND 250.50 THROUGH 60 AND 250-166 SHALL BE PROVIDED. PER NEC GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED AND BONDED TO THE SERVICE ENTRANCE. IF EXISTING SYSTEM IS INACCESSIBLE OR INADEQUATE A SUPPLEMENTAL GROUNDING ELECTRODE WILL BE USED AT THE INVERTER LOCATION CONSISTING OF A UL LISTED 8 FT. GROUND ROD WITH ACORN CLAMP. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO LARGER THAN #6 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE FOR A COMPLETE SYSTEM.
8. PHOTOVOLTAIC MODULES ARE TO BE CONSIDERED NON-COMBUSTIBLE.
9. PHOTOVOLTAIC INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING. MECHANICAL, OR BUILDING ROOF VENTS.
10. ALL WIRING MUST BE PROPERLY SUPPORTED BY DEVICES OR MECHANICAL MEANS DESIGNED AND LISTED FOR SUCH USE. WIRING MUST BE PERMANENTLY AND COMPLETELY HELD OFF THE ROOF SURFACE.
11. ALL SINAGE TO BE PLACED IN ACCORDANCE WITH THE LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SINAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.
12. INVERTER(S) USED IN UNGROUNDED SYSTEM SHALL BE UL 1741 LISTED.
13. THE INSTALLATION OF EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE PERFORMED ONLY BY QUALIFIED PERSONS [NEC 690.4(C)]
14. ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R RATED (OR BETTER), INCLUDING ALL ROOF MOUNTED TRANSITION BOXES AND SWITCHES.
15. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED IN ACCORDANCE WITH NEC ARTICLE 250.
16. SYSTEM GROUNDING SHALL BE IN ACCORDANCE WITH NEC 690.41.
17. PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION IN ACCORDANCE WITH NEC 690.12
18. DISCONNECTING MEANS SHALL BE LOCATED IN A VISIBLE, READILY ACCESSIBLE LOCATION WITHIN THE PV SYSTEM EQUIPMENT OR A MAXIMUM OF 10 FEET AWAY FROM THE SYSTEM [NEC 690.13(A)]
19. ALL WIRING METHODS SHALL BE IN ACCORDANCE WITH NEC 690.31
20. WORK CLEARANCES AROUND ELECTRICAL EQUIPMENT WILL BE MAINTAINED PER NEC 110.26(A)(1), 110.26(A)(2) AND 110.26(A)(3).
21. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED & IDENTIFIED IN ACCORDANCE WITH UL1703
22. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT EXPANSION JOINTS AND ANCHOR CONDUIT RUNS AS REQUIRED PER NEC.

VICINITY MAP

HOUSE PHOTO



CODE REFERENCES

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

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
05/29/2025
Harnett COUNTY NORTH CAROLINA

REV1

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056724 TREVOR JONES

STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT, CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
COVER SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

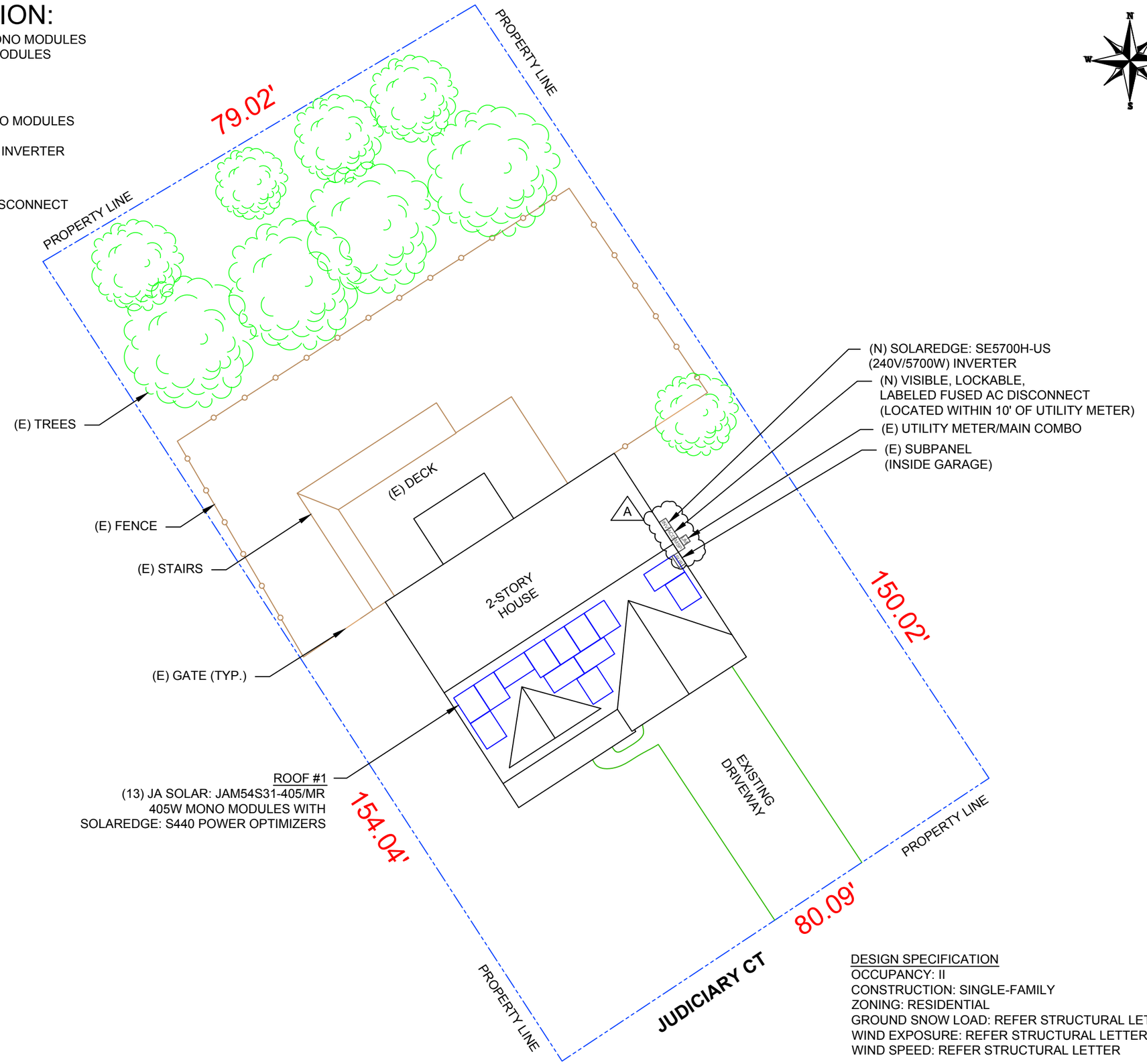
PROJECT DESCRIPTION:

13 X JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC

EQUIPMENT SUMMARY
13 JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
13 SOLAREDGE: S440 POWER OPTIMIZERS
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

ROOF ARRAY AREA #1:- 273.13 SQ FT.

NOTE: VISIBLE, LOCKABLE, LABELED AC DISCONNECT
LOCATED WITHIN 10' OF UTILITY METER



DESIGN SPECIFICATION
OCCUPANCY: II
CONSTRUCTION: SINGLE-FAMILY
ZONING: RESIDENTIAL
GROUND SNOW LOAD: REFER STRUCTURAL LETTER
WIND EXPOSURE: REFER STRUCTURAL LETTER
WIND SPEED: REFER STRUCTURAL LETTER

1 SITE PLAN
PV-2 SCALE: 1/16" = 1'-0"

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

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INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

NORTH CAROLINA PROFESSIONAL SEAL 056724 ENGINEER TREVOR JONES
STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE
59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

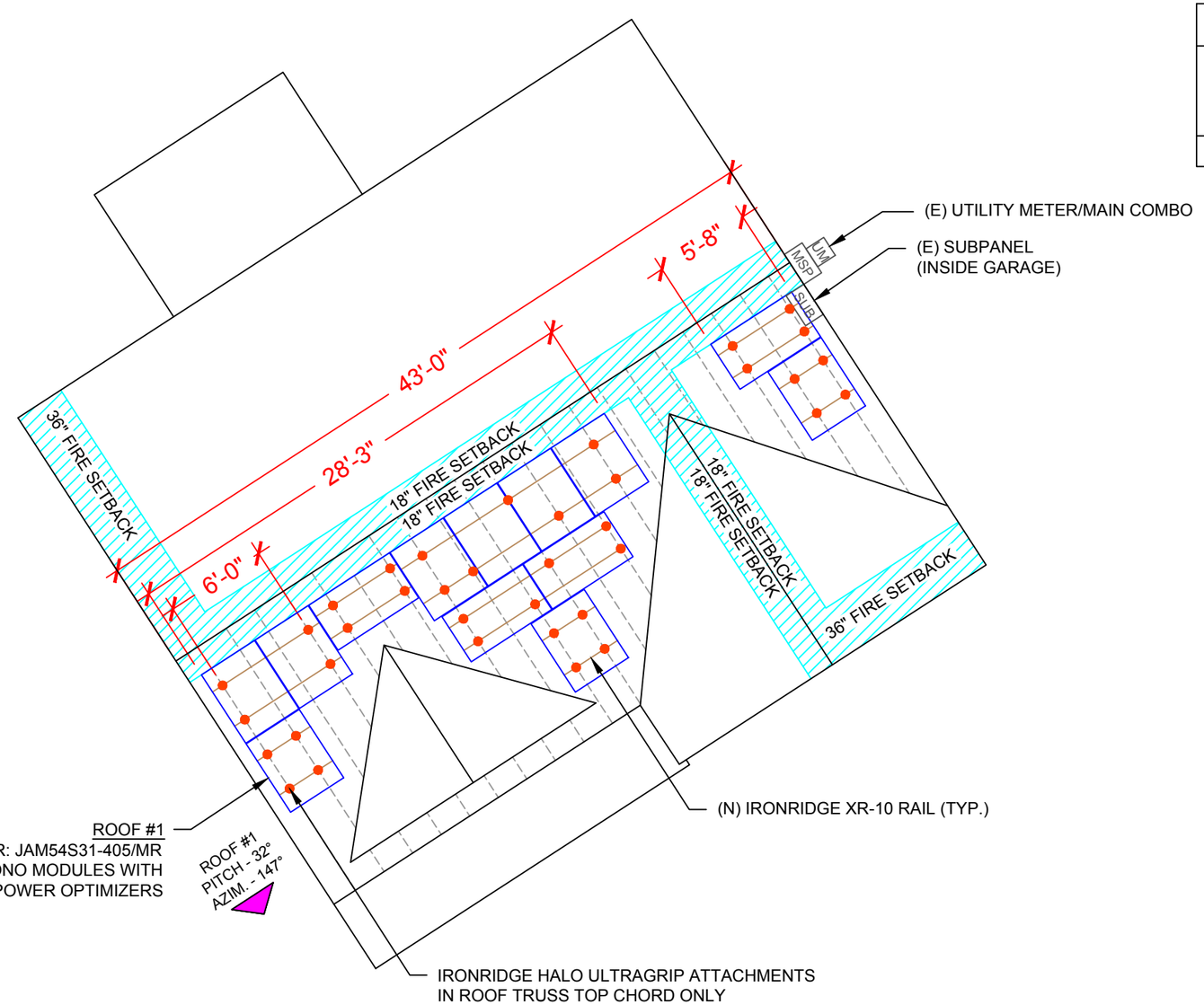
SHEET NAME
SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 13 MODULES
MODULE TYPE = JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
MODULE WEIGHT = 47.39 LBS / 21.5 kg.
MODULE DIMENSIONS = 67.79" x 44.65" = 21.01 SF

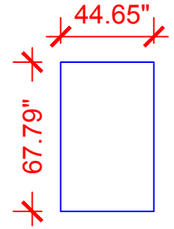


1 ROOF PLAN & MODULES

PV-3 SCALE: 1/8" = 1'-0"

ROOF DESCRIPTION					
ROOF TYPE				ASPHALT SHINGLE	
ROOF LAYER				1 LAYER	
ROOF	# OF MODULES	ROOF PITCH	AZIMUTH	TRUSS SIZE	TRUSS SPACING
#1	13	32°	147°	2"X4"	24"

ARRAY AREA & ROOF AREA CALC'S		
TOTAL PV ARRAY AREA (SQ. FT.)	TOTAL ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
273.13	1765.30	15



JA SOLAR:
JAM54S31-405/MR
405W MODULES

LEGEND

- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- SUB - SUB PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- TRUSS
- CONDUIT

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
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UNITED STATES

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05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE
59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ROOF PLAN & MODULES

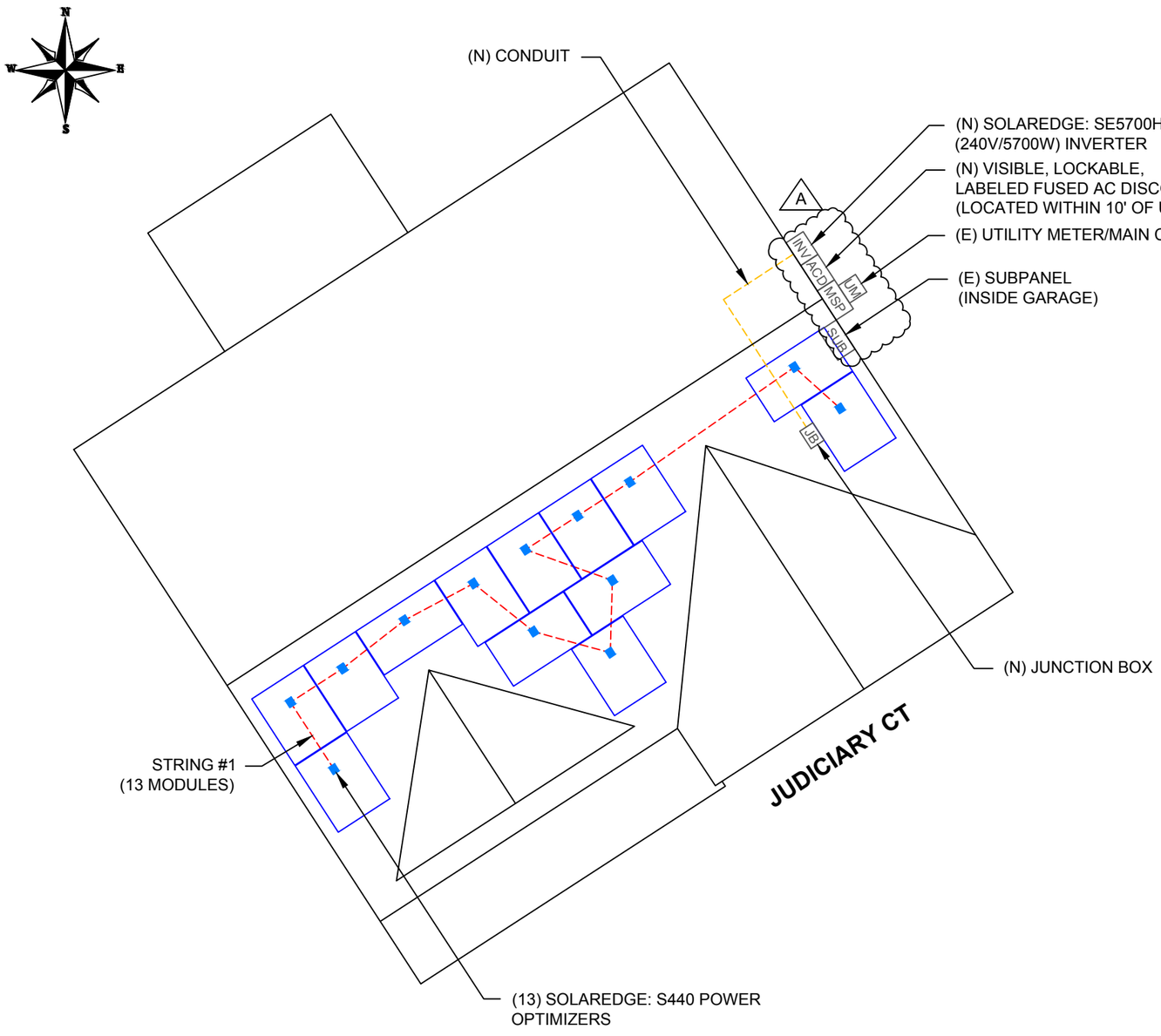
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3

DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC
(13) JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
WITH (13) SOLAREDGE: S440 POWER OPTIMIZERS
LOCATED UNDER EACH PANEL AND
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

STRING LEGENDS

---------- STRING #1



1 ELECTRICAL PLAN
PV-4 SCALE: 1/8" = 1'-0"

BILL OF MATERIALS

EQUIPMENT DESCRIPTION	QTY
SOLAR PV MODULES: JA SOLAR: JAM54S31-405/MR 405W MODULE	13
OPTIMIZERS: SOLAREDGE: S440 POWER OPTIMIZERS	13
INVERTER: SOLAREDGE: SE5700H-US (240V/5700W) INVERTER	01
JUNCTION BOX: JUNCTION BOX UL 1741, NEMA 3R CSA C22.2 NO.290	1
AC DISCONNECT: FUSED AC DISCONNECT, 60A FUSED, (2) 30A FUSES 240V NEMA 3R, UL LISTED	1
IRONRIDGE XR10 RAIL (RAIL 168" (14 FEET) CLEAR) (XR-10-168A)	18
BONDED SPLICE, XR10 (XR10-BOSS-01-M1)	2
UNIVERSAL MODULE CLAMP, CLEAR (UFO-CL-01-A1)	10
END FASTENING OBJECT (END CLAMP, 30-40MM), MILL (UFO-END-01-A1)	32
GROUNDING LUG (XR-LUG-03-A1)	8
IRONRIDGE HALO ULTRAGRIP ATTACHMENTS (QM-HUG-01-M1)	42
RD STRUCTURAL SCREW,3.0L (HW-RD1430-01-M1)	84
T-BOLT BONDING HARDWARE (BHW-TB-02-A1) (PRODUCT CODE 590-0116)	42
OPTIMIZER BONDING HARDWARE T-BOLT (BHW-MI-01-A1) (PRODUCT CODE 270-0152)	13

LEGEND

- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- SUB - SUB PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- TRUSS
- CONDUIT

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

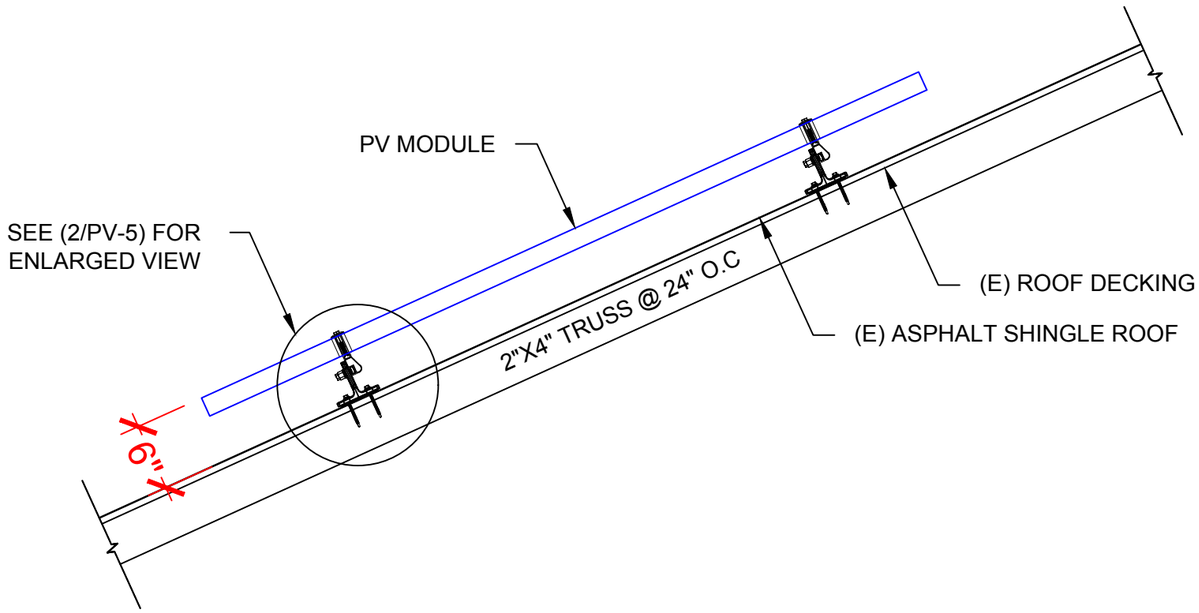
59 JUDICIARY CT, CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ELECTRICAL PLAN

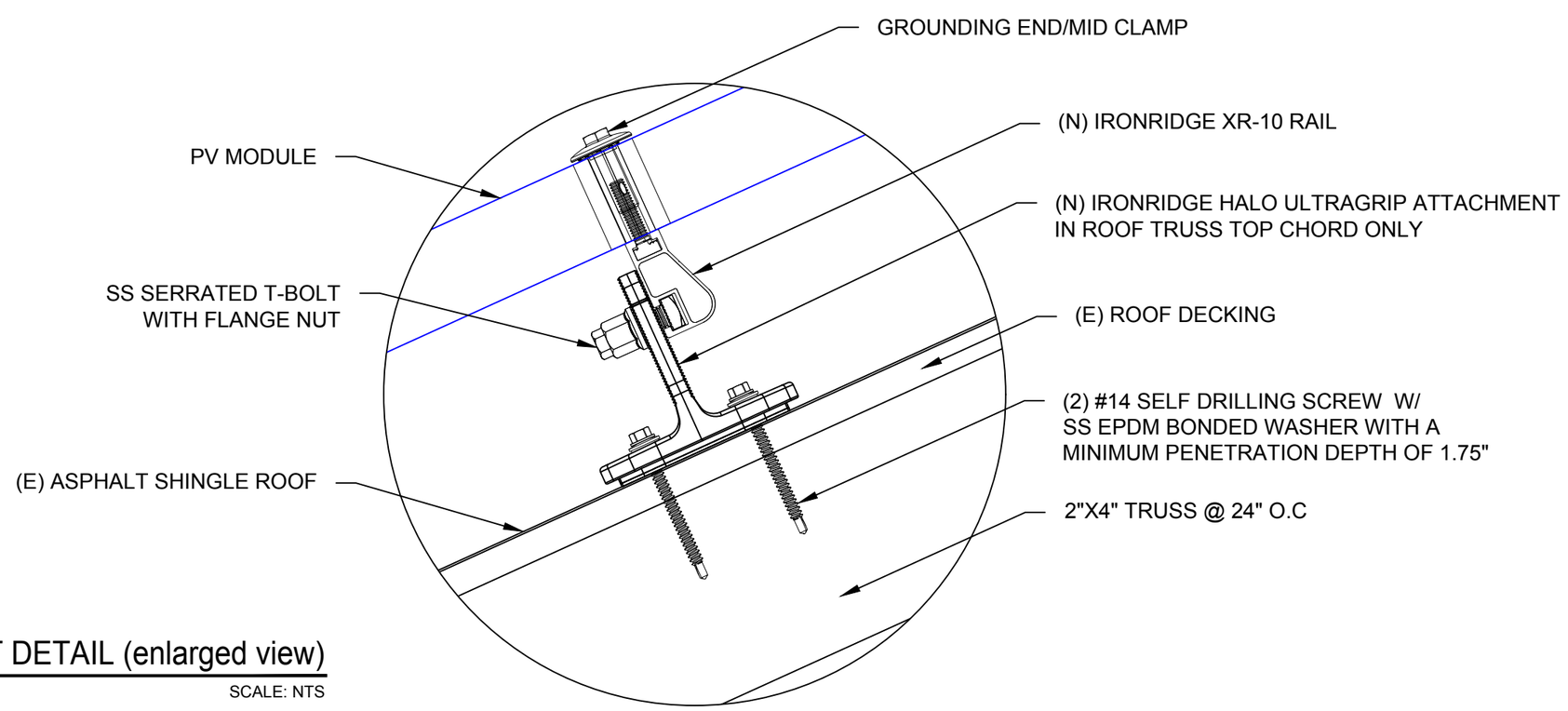
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4



1 | PV-5 STRUCTURAL ATTACHMENT (Side view)

SCALE: N.T.S



2 | PV-5 ATTACHMENT DETAIL (enlarged view)

SCALE: NTS

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

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NORTH CAROLINA PROFESSIONAL SEAL 056724 ENGINEER TREVOR JONES

STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
STRUCTURAL DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC

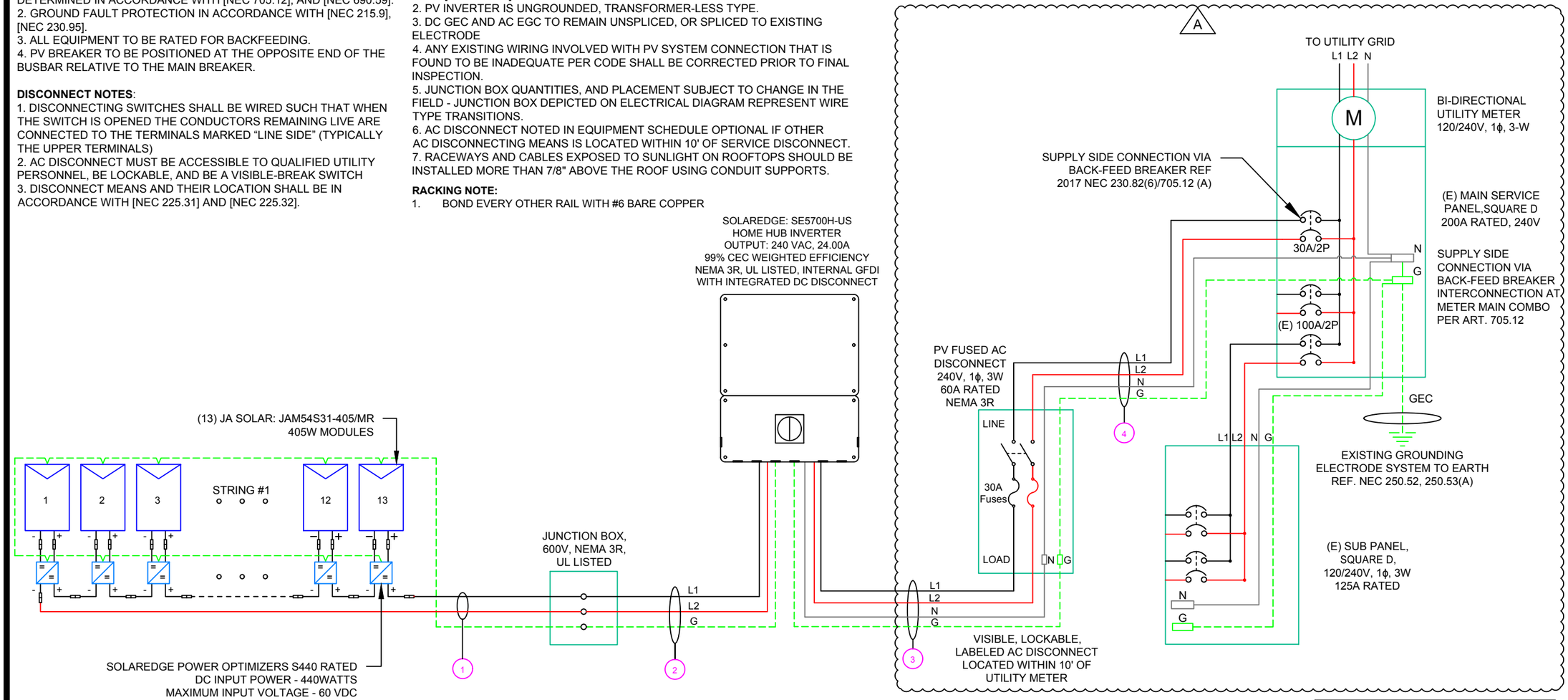
(13) JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
WITH (13) SOLAREDGE: S440 POWER OPTIMIZERS
LOCATED UNDER EACH PANEL (240V) AND
(01) SOLAREDGE: SE5700H-US (240V/5700W) INVERTER
(01) STRING OF 13 MODULES ARE CONNECTED IN SERIES

INTERCONNECTION NOTES:
1. INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.59].
2. GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95].
3. ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
4. PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATIVE TO THE MAIN BREAKER.

DISCONNECT NOTES:
1. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED “LINE SIDE” (TYPICALLY THE UPPER TERMINALS)
2. AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
3. DISCONNECT MEANS AND THEIR LOCATION SHALL BE IN ACCORDANCE WITH [NEC 225.31] AND [NEC 225.32].

GROUNDING & GENERAL NOTES:
1. PV GROUNDING ELECTRODE SYSTEM NEEDS TO BE INSTALLED IN ACCORDANCE WITH [NEC 690.43]
2. PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE.
3. DC GEC AND AC EGC TO REMAIN UNSPLICED, OR SPLICED TO EXISTING ELECTRODE
4. ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION.
5. JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - JUNCTION BOX DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE TYPE TRANSITIONS.
6. AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT.
7. RACEWAYS AND CABLES EXPOSED TO SUNLIGHT ON ROOFTOPS SHOULD BE INSTALLED MORE THAN 7/8" ABOVE THE ROOF USING CONDUIT SUPPORTS.

RACKING NOTE:
1. BOND EVERY OTHER RAIL WITH #6 BARE COPPER



NOTE: CONDUIT TO BE UL LISTED FOR WET LOCATIONS AND UV PROTECTED

	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(2)	#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	#6AWG -	BARE COPPER IN FREE AIR		
2	(2)	#10AWG -	CU,THWN-2	EMT OR LFMC IN ATTIC	3/4"
	(1)	#10AWG -	CU,THWN-2 GND		
A 3	(2)	#10AWG -	CU,THWN-2	EMT,LFMC OR PVC	3/4"
	(1)	#10AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		
A 4	(2)	#10AWG -	CU,THWN-2	EMT, LFMC OR PVC	3/4"
	(1)	#10AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		

1 ELECTRICAL LINE DIAGRAM
PV-6 SCALE: NTS

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
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INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	JA SOLAR: JAM54S31-405/MR 405W MODULE
VMP	31.21V
IMP	12.98A
VOC	37.23V
ISC	13.87A
TEMP. COEFF. VOC	-0.275%/°C
MODULE DIMENSION	67.79"L x 44.65"W x 1.18"D (In Inch)

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	SOLAREDGE: SE5700H-US (240V/5700W) INVERTER
NOMINAL AC POWER	5.700 kW
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	24.00A

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
.80	4-6
.70	7-9
.50	10-20

AMBIENT TEMPERATURE SPECS	
AMBIENT TEMP (HIGH TEMP 2%)	38°
RECORD LOW TEMPERATURE	-11°
MODULE TEMPERATURE COEFFICIENT OF Voc	-0.275%/°C

DC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
STRING 1	JUNCTION BOX	380	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.049	N/A	#N/A
JUNCTION BOX	INVERTER	380	15.00	18.75	20	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	30	1.24	0.294	3/4" EMT	11.87617
																	String 1 Voltage Drop		0.343		

AC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	NEUTRAL SIZE	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
INVERTER	AC DISCONNECT	240	24	30	30	CU #10 AWG	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.124	3/4" EMT	15.8349
AC DISCONNECT	METER MAIN COMBO	240	24	30	30	CU #10 AWG	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.124	3/4" EMT	15.8349
																		CUMULATIVE VOLTAGE DROP		0.248		

A

ELECTRICAL NOTES

1. ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2. ALL CONDUCTORS SHALL BE RATED UPTO 600V FOR RESIDENTIAL AND 1000V FOR COMMERCIAL AND 90 DEGREE C WET ENVIRONMENT.
3. WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
4. WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
6. WHERE SIZES OF JUNCTION BOX, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
7. ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
8. MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
9. MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
10. TEMPERATURE RATINGS OF ALL CONDUCTORS, TERMINATIONS, BREAKERS, OR OTHER DEVICES ASSOCIATED WITH THE SOLAR PV SYSTEM SHALL BE RATED FOR AT LEAST 75 DEGREE C.

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS

DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY

ESR

SHEET NAME

WIRING CALCULATIONS

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-7

PHOTOVOLTAIC POWER SOURCE

EVERY 10' ON CONDUIT & ENCLOSURES

LABEL- 1:
LABEL LOCATION:
DC/EMT CONDUIT RACEWAY
SOLADECK / JUNCTION BOX
CODE REF: NEC 690.31 (D)(2)

⚠ WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL- 2:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.13(B)

⚠ WARNING

DUAL POWER SUPPLY

SOURCE: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL- 3:
LABEL LOCATION:
MAIN SERVICE PANEL
CODE REF: NEC 705.12(C) & NEC 690.59

SOLAR PV BREAKER:

BREAKER IS BACKFED
DO NOT RELOCATE

LABEL-4:
LABEL LOCATION:
MAIN SERVICE PANEL
CODE REF: NEC 705.12(C) & NEC 690.59

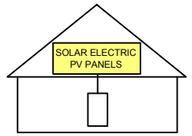
⚠ WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL- 5:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(B)(3)(2)

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



LABEL- 6:
LABEL LOCATION:
AC DISCONNECT
CODE REF: [NEC 690.56(C)(1)(A)]

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL- 7:
LABEL LOCATION:
AC DISCONNECT
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 690.56(C)(2)

DC DISCONNECT

LABEL- 8:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.13(B)

AC DISCONNECT
PHOTOVOLTAIC SYSTEM POWER SOURCE

NOMINAL OPERATING AC VOLATGE	240 V
RATED AC OUTPUT CURRENT	24.00 A

LABEL- 9:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.54

MAXIMUM VOLTAGE	480 V
MAXIMUM CIRCUIT CURRENT	30.50 A
MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)	

LABEL- 10:
LABEL LOCATION:
ON THE RIGHT SIDE OF THE INVERTER (PRE-EXISTING ON THE INVERTER)
CODE REF: NEC 690.53

TOP TIER SOLAR SOLUTIONS

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MEGAN GEORGE RESIDENCE

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CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
LABELS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

Introduction

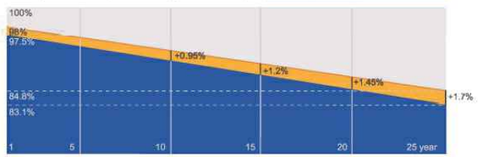
Assembled with 11BB PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.

- Higher output power
- Lower LCOE
- Less shading and lower resistive loss
- Better mechanical loading tolerance

Superior Warranty

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

0.55% Annual Degradation Over 25 years



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

JA SOLAR

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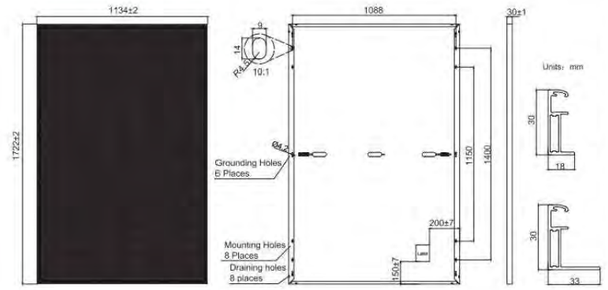
Specifications subject to technical changes and tests.
JA Solar reserves the right of final interpretation.

JA SOLAR

JAM54S31 380-405/MR Series

MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	21.5kg±3%
Dimensions	1722±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm² (IEC), 12 AWG(UL)
No. of cells	108(6x18)
Junction Box	IP68, 3 diodes
Connector	MC4-EVO2(1500V)
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1200mm(+)/1200mm(-)
Packaging Configuration	36pcs/Pallet, 864pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54S31 -380/MR	JAM54S31 -385/MR	JAM54S31 -390/MR	JAM54S31 -395/MR	JAM54S31 -400/MR	JAM54S31 -405/MR
Rated Maximum Power(Pmax) [W]	380	385	390	395	400	405
Open Circuit Voltage(Voc) [V]	36.58	36.71	36.85	36.98	37.07	37.23
Maximum Power Voltage(Vmp) [V]	30.28	30.46	30.64	30.84	31.01	31.21
Short Circuit Current(Isc) [A]	13.44	13.52	13.61	13.70	13.79	13.87
Maximum Power Current(Imp) [A]	12.55	12.64	12.73	12.81	12.90	12.98
Module Efficiency [%]	19.5	19.7	20.0	20.2	20.5	20.7
Power Tolerance	±2%					
Temperature Coefficient of Isc(α_Isc)	+0.045%/℃					
Temperature Coefficient of Voc(β_Voc)	-0.275%/℃					
Temperature Coefficient of Pmax(γ_Pmp)	-0.350%/℃					
STC	Irradiance 1000W/m², cell temperature 25℃, 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

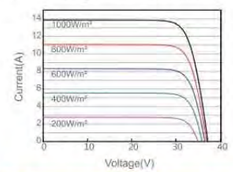
TYPE	JAM54S31 -380/MR	JAM54S31 -385/MR	JAM54S31 -390/MR	JAM54S31 -395/MR	JAM54S31 -400/MR	JAM54S31 -405/MR
Rated Max Power(Pmax) [W]	286	290	294	298	302	306
Open Circuit Voltage(Voc) [V]	34.36	34.49	34.62	34.75	34.88	35.12
Max Power Voltage(Vmp) [V]	28.51	28.68	28.87	29.08	29.26	29.47
Short Circuit Current(Isc) [A]	10.75	10.82	10.89	10.96	11.03	11.10
Max Power Current(Imp) [A]	10.03	10.11	10.18	10.25	10.32	10.38
NOCT	Irradiance 800W/m², ambient temperature 20℃,wind speed 1m/s, AM1.5G					

OPERATING CONDITIONS

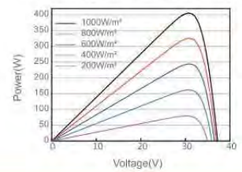
Maximum System Voltage	1000V/1500V DC
Operating Temperature	-40℃~+85℃
Maximum Series Fuse Rating	25A
Maximum Static Load,Front* Maximum Static Load,Back*	5400Pa(112lb/ft²) 2400Pa(50lb/ft²)
NOCT	45±2℃
Safety Class	Class Ⅱ
Fire Performance	UL Type 1

CHARACTERISTICS

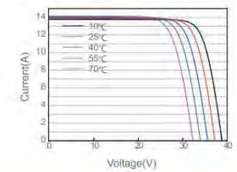
Current-Voltage Curve JAM54S31-405/MR



Power-Voltage Curve JAM54S31-405/MR



Current-Voltage Curve JAM54S31-405/MR



Premium Cells, Premium Modules

Version No.: Global_EN_20231130A

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
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DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

intertek
Total Quality. Assured.

AUTHORIZATION TO MARK

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:	Shanghai JA Solar Technology Co., Ltd.	**Manufacturer:**	JA SOLAR VIET NAM COMPANY LIMITED.
Address:	No. 118, Lane 3111, West Huancheng Road, Fengxian District, 201401 Shanghai	**Address:**	Lot G, Quang Chau industrial park, Quang Chau Ward, Viet Yen Town, Bac Giang Province, 236110
Country:	P. R. China	**Country:**	Vietnam

Party Authorized To Apply Mark: Same as Manufacturer
Report Issuing Office: Intertek Testing Services Shanghai Limited

Control Number: *5020189* **Authorized by:** _____
for L. Matthew Snyder, Certification Manager

C ETL LISTED US
Intertek

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

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Standard(s):	Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 1: Test Requirements [UL 61215-1:2017 Ed.1] Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 1-1: Special Requirements For Testing Of Crystalline Silicon Photovoltaic (PV) Modules [UL 61215-1-1:2017 Ed.1] Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 2: Test Procedures [UL 61215-2:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements For Construction [UL 61730-1:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements For Testing [UL 61730-2:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction [CSA C22.2#61730-1:2019 Ed.2] Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing [CSA C22.2#61730-2:2019 Ed.2]

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AUTHORIZATION TO MARK

Product:	Crystalline Silicon Photovoltaic modules
Brand Name:	JA SOLAR 晶澳
Models:	JAM72S03-385/PR, JAP72S03-340/SC, JAM72S10- followed by 395, 400, 405, 410 or 415 followed by /MB, JAM60S10- followed by 330, 335, 340 or 345 followed by /MB, JAM72S10- followed by 395, 400, 405, 410 or 415 followed by /MR, JAM66S10- followed by 365, 365, 370, 375 or 380 followed by /MR, JAM60S10- followed by 330, 335, 340 or 345 followed by /MR, JAM72S09- followed by 370, 375, 380, 385, 390, 395 or 400 followed by /PR, JAM60S09- followed by 310, 315, 320 or 325 followed by /PR, JAM72S09- followed by 375, 380 or 385 followed by /BP, JAM60S09- followed by 315 or 320 followed by /BP, JAM72S10- followed by 385, 390, 395 or 400 followed by /BP, JAM60S10- followed by 320, 325 or 330 followed by /BP, JAM72S10- followed by 380, 385, 390, 395, 400 or 405 followed by /PR, JAM60S10- followed by 320, 325, 330 or 335 followed by /PR, JAM72S12- followed by 365, 370, 375, 380 or 385 followed by /PR, JAM60S12- followed by 305, 310, 315 or 320 followed by /PR, 1JAM78S10- followed by 435, 440, 445, 450 or 455 followed by /MR, 1JAM6(K)-72-335/4BB/1500V, JAM60S17- followed by 320, 325, or 330 followed by /MR, JAM72S20- followed by 430, 435, 440, 445, 450, 455, 460, 465 or 470 followed by /MR, JAM60S20- followed by 355, 360, 365, 370, 375, 380, 385 or 390 followed by /MR, JAM72S30- followed by 530, 535, 540, 545, 550 or 555 followed by /MR, JAM66S30- followed by 490, 495 or 500 followed by /MR, JAM68S11- followed by 355, 360 or 365 followed by /PR, JAM68S11- followed by 345, 350, 355, 360 or 365 followed by /PR(B), JAM76S11- followed by 395, 400, 405, 410 or 415 followed by /PR(B), JAM76S11- followed by 395, 400, 405, 410 or 415 followed by /PR(B)/1000V, JAM78S30-followed by 575, 580, 585, 590, 595, 600, 605 or 610 followed by /GR, JAM72S30-followed by 535, 540, 545, 550, 555 or 560 followed by /GR, JAM66S30-followed by 490, 495, 500 or 505 followed by /GR, JAM60S30-followed by 445, 450, 455 or 460 followed by /GR, JAM54S30-followed by 400, 405, 410, 415 or 420 followed by /GR, JAM78S31-followed by 570, 575, 580, 585 or 590 followed by /GR, JAM72S31-followed by 530, 535 or 540 followed by /GR, JAM66S31-followed by 485, 490 or 495 followed by /GR, JAM60S31-followed by 440, 445 or 450 followed by /GR, JAM54S31-followed by 395, 400 , 405, 410 or 415 followed by /GR, JAM60S31-followed by 430, 435, 440, 445 or 450 followed by /GR/1000V, JAM54S31-followed by 390, 395, 400, 405, 410 or 415 followed by /GR/1000V, JAM54S30-followed by 400, 405, 410, 415, 420 or 425 followed by /MR, JAM72S31-followed by 510, 515, 520, 525, 530, 535, 540 or 545 followed by /MR, JAM54S31-followed by 385, 390, 395, 400 or 405 followed by /MR, JAM54S30-followed by 400, 405, 410, 415, 420 or 425 followed by /MR/1000V, JAM72S31-followed by 510, 515, 520, 525, 530,535, 540 or 545 followed by /MR/1000V, JAM54S31-followed by 385, 390, 395, 400 or 405 followed by /MR/1000V, JAM72S17-followed by 390, 395, 400 or 405 followed by /MR, JAM72S17-followed by 390, 395, 400 or 405 followed by /MR/1000V, JAM78S30- followed by 580, 585, 590, 595, 600 or 605 followed by /MR,JAM72S30-followed by 555, 560, 565, 570, 575, 580 followed by /LR, JAM54S30-followed by 415, 420, 425, 430, 435 followed by /LR, JAM54S31-followed by 415, 420 followed by /LR, JAM54S30-followed by 385, 390, 395, 400, 405, 410 followed by /MB, JAM54S31-followed by 385, 390, 395, 400, 405 followed by /MB, JAM54S30-followed by 410, 415, 420, 425 followed by /LB, JAM54S31-followed by 410, 415 followed by /LB , JAM72S30-followed by 535, 540, 545, 550 followed by /MB, JAM72S31-followed by 525, 530, 535, 540 followed by /MB.

TOP TIER SOLAR SOLUTIONS

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SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
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11" X 17"

SHEET NUMBER
PV-10

Residential Power Optimizer

For North America

S440 / S500B / S650B

POWER OPTIMIZER

PV power optimization at the module level

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

solaredge.com

solaredge

Residential Power Optimizer

For North America

S440 / S500B / S650B

	S440	S500B	S650B	
INPUT				
Rated Input DC Power[1]	440[2]	500[3]	650	W
Absolute Maximum Input Voltage (Voc)	60	125	85	Vdc
MPPT Operating Range	8 – 60	12.5 – 105	12.5 – 85	Vdc
Maximum Input Current (Maximum Isc of Connected PV Module)[2]	14.5	15		Adc
Maximum Input Short Circuit Current[4]	18.75			Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)				
Maximum Output Current	15			Adc
Maximum Output Voltage	60	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR INVERTER OFF)				
Safety Output Voltage per Power Optimizer	1 ± 0.1			Vdc
STANDARD COMPLIANCE				
Photovoltaic Rapid Shutdown System	CSA C22.2#330, NEC 2014 – 2023			
EMC	FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3			
Safety	CSA C22.2#107.1; IEC 62109-1 (Class II Safety); UL 1741			
Material	UL 94 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 155 x 30 / 5.07 x 6.10 x 1.18	129 x 165 x 45 / 5.07 x 6.49 x 1.77		mm / in
Weight	720 / 1.6	790 / 1.74		gr / lb
Input Connector	MC4			
Input Wire Length	0.1 / 0.32			m / ft
Output Connector	MC4			
Output Wire Length	(+) 2.3, (-) 0.10 / (+) 7.54, (-) 0.32			m / ft
Operating Temperature Range[5]	-40 to +85			°C
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 – 100			%

(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 S440 with part number S440-1GM4MRMP, the Rated Input DC Power is 650W, and the Maximum Input Current is 15A.
(3) For installations after Aug 1st, 2024, the Rated Input DC Power for S500B is 650W.
(4) The Maximum Input Short Circuit Current is adjusted for worst case conditions of ambient temperature, irradiance, bifacial gain, and so on, in accordance with NEC and CSA.
(5) Power derating is applied for ambient temperatures above +85°C / +185°F for S440, and for ambient temperatures above +75°C / 167°F for S500B and S650B. Refer to the Power Optimizers Temperature Derating technical note for more details.

PV System Design Using a SolarEdge Inverter[6]		SolarEdge Home Wave/Hub Single Phase	Three Phase for 208V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440	8	10	18	
	S500B, S650B	6	8	14	
Maximum String Length (Power Optimizers)		25		50[7]	
Maximum Usable Power Delivered per String		5700	6000	12,750	W
Maximum Allowed Connected Power per String[8][9][10]	Inverters with Rated AC Power ≤ 5700W	Per the inverter's maximum input DC power[8]	One string: 7200 Two strings or more: 7800	15,000	W
	Inverters with Rated AC Power of 6000W	5700			
	Inverters with Rated AC Power ≥ 7600W	6800, only when connected to at least two strings			
Parallel Strings of Different Lengths or Orientations		Yes			

(6) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.
(7) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement.
(8) Refer to the Single String Design Guidelines application note for details.
(9) For the 208V grid, the maximum is permitted only when the difference in connected power between strings is 1,000W or less.
(10) For the 240V or 277/480V grids, the maximum is permitted only when the difference in connected power between strings 2,000W or less.

Intertek RoHS

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

SolarEdge Home Hub Inverter

Single Phase, for North America

For Inverters Assembled in the USA

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

HOME BACKUP

Single phase inverter for storage and backup applications

- The ultimate home energy manager in charge of PV production, battery storage, backup operation during a power outage*, EV Charging, and smart energy devices
- Record-breaking 99% weighted efficiency with up to 300% DC oversizing
- Supports LRA – can provide the required energy for HVAC systems starting during backup operation
- Integrates seamlessly with the complete SolarEdge Home Smart Energy Ecosystem, through SolarEdge Home Network
- Module-level monitoring and visibility of battery status, PV production, and self-consumption data
- Fast and easy installation – small and lightweight, with reduced commissioning time
- A scalable solution that supports future homeowner needs through easy connection to a growing ecosystem of products
- Advanced safety features with integrated arc fault protection and rapid shutdown for 690.11 and 690.12
- Advanced reliability with automotive-grade components
- Embedded revenue grade production data, ANSI C12.20 Class 0.5
- IP65-rated, for indoor and outdoor installations

*Requires additional hardware and firmware version upgrade.

solaredge.com

solaredge

SolarEdge Home Hub Inverter

Single Phase, for North America

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number[1][2]	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – AC ON GRID						
Rated AC Power	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	7600	10000	11,400 @ 240V 10,000 @ 208V	W
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	7600	10000	11,400 @ 240V 10,000 @ 208V	W
AC Output Voltage (Nominal)	208 / 240					Vac
AC Output Voltage (Range)	183 – 264					Vac
AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5[3]					Hz
Maximum Continuous Output Current	16	24	32	42	48	A
GFDI Threshold	1					A
Total Harmonic Distortion (THD)	< 3					%
Power Factor	1, adjustable -0.85 to 0.85					
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes					
Charge Battery from AC (if allowed)	Yes					
Typical Nighttime Power Consumption	< 2.5					W
OUTPUT – AC STAND-ALONE (BACKUP)[4][5]						
Rated AC Power in Stand-alone Operation	11,400[6]					W
Maximum Stand-alone Capacity	11,400					W
AC L-L Output Voltage Range in Stand-alone Operation	211 – 264					Vac
AC L-N Output Voltage Range in Stand-alone Operation	105 – 132					Vac
AC Frequency Range in Stand-alone (min - nom - max)	55 – 60 – 65					Hz
Maximum Continuous Output Current in Stand-alone Operation	48					A
GFDI	1					A
THD	< 5					%
OUTPUT – SOLAREDGE HOME EV CHARGER AC						
Rated AC Power	9600					W
AC Output Voltage Range	211 – 264					Vac
On-Grid AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5					Hz
Maximum Continuous Output Current @240V (grid, PV and battery)	40					Aac
INPUT – DC (PV AND BATTERY)						
Transformer-less, Ungrounded	Yes					
Max Input Voltage	480					Vdc
Nom DC Input Voltage	380					Vdc
Reverse-Polarity Protection	Yes					
Ground-Fault Isolation Detection	600kΩ Sensitivity					
INPUT – DC (PV)						
Maximum DC Power @ 240V	11,400	11,520	15,200	20,000	22,800	W
Maximum DC Power @ 208V	6600	10,000	-	-	20,000	W
Maximum Input Current[7] @ 240V	20	30.5	40	53	60	Adc
Maximum Input Current[7] @ 208V	17.5	27	-	-	53	Adc
Maximum Input Short Circuit Current	45					Adc
Maximum Inverter Efficiency	99.2					%
CEC Weighted Efficiency	98.5		99		99 @ 240V 98.5 @ 208V	%
2-pole Disconnection	Yes					

(1) These specifications apply to inverters with part numbers SExxxxH-USMNUxxx5 and SExxxxH-USMNFxxx5 and connection unit model number DCD-1PH-US-PxH-F-x.
(2) Inverters with part number SExxxxH-USMNFxxx5 are intended for upgrade installations only, as part of the "Re-Energize" program. Use on non-upgrade installations will revoke the product warranty.
(3) For other regional settings please refer to the SolarEdge Inverters, Power Control Options Application Note.
(4) Not designed for non-grid connected applications and requires AC for commissioning. Stand-alone (backup) functionality is only supported for the 240V grid.
(5) For LRA (Locked Rotor Amperage) values please refer to the LRA for NAM Application Note.
(6) For models SE7600H-US and below, the rated AC stand-alone power is configurable between 7600W or 11,400W from CPU version 4.20.xx.
(7) A higher current source may be used. The inverter will limit its input current to the values stated.

CE ETL Intertek 4004199

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
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UNITED STATES

REVISIONS

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INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12

SolarEdge Home Hub Inverter

Single Phase, for North America

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number[1][2]	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – DC (BATTERY)						
Supported Battery Types	SolarEdge Home Battery, LG RESU Prime					
Number of Batteries per Inverter	Up to 3 SolarEdge Home Battery, up to 2 LG RESU Prime					
Continuous Power[8]	11,400 @ 240V 3800 @ 208V	11,400 @ 240V 5000 @ 208V	11400 @240V		11,400 @ 240V 10,000 @ 208V	W
Peak Power[8]	11,400 @ 240V 3800 @ 208V	11,400 @ 240V 5000 @ 208V	11400 @240V		11,400 @ 240V 10,000 @ 208V	W
Maximum Input Current	30					Adc
2-pole Disconnection	Up to the inverter's rated stand-alone power					
SMART ENERGY CAPABILITIES						
Consumption Metering	Built-in[9]					
Stand-alone & Battery Storage	With Backup Interface (purchased separately) for service up to 200A; up to 3 inverters					
EV Charging	Direct connection to the SolarEdge Home EV Charger					
ADDITIONAL FEATURES						
Supported Communication Interfaces	RS485, Ethernet, Cellular[10], Wi-Fi (optional), SolarEdge Home Network (optional)					
Revenue Grade Metering, ANSI C12.20	Built-in[9]					
Integrated AC, DC and Communication Connection Unit	Yes					
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi Access Point for local connection					
DC Voltage Rapid Shutdown (PV and Battery)	Yes, NEC 690.12					
STANDARD COMPLIANCE						
Safety	UL 1741, UL 1741SA, UL 1741SB, UL 1699B, CSA 22.2#107.1, C22.2#330, C22.3#9, ANSI/CAN/UL 9540					
Grid Connection Standards	IEEE1547 and IEEE-1547.1, Rule 21, Rule 14H					
Emissions	FCC Part 15 Class B					
INSTALLATION SPECIFICATIONS						
AC Terminals	L1, L2, N terminal blocks, PE busbar for inverter connection L1, L2 terminal blocks, PE busbar for EV Charger AC connection					
DC Terminals	4 x terminal block pairs for PV input; 1 x terminal block pair for battery input					
AC Output and EV AC Output Conduit Size / AWG Range	1" maximum / 14-4 AWG					
DC Input (PV and Battery) Conduit Size / AWG Range	1" maximum / 14-6 AWG					
Dimensions with Connection Unit (H x W x D)	21.06 x 14.6 x 8.2 / 535 x 370 x 208					in / mm
Weight with Connection Unit	44.9 / 20.3					lb / kg
Noise	< 50					dBA
Cooling	Natural Convection					
Operating Temperature Range	-40 to +140 / -40 to +60[11]					°F / °C
Protection Rating	NEMA 4X					

(8) Discharge power is limited up to the inverter's rated AC power for on-grid and stand-alone applications, as well as up to the installed batteries' rating.
(9) For consumption metering current transformers should be ordered separately: SECT-SPL-225A-T-20 or SEACT1250-400NA-20. Revenue grade metering is only for production metering.
(10) Information concerning the data plan terms & conditions is available in SolarEdge Communication Plan Terms and Conditions.
(11) Full power up to at least 50°C / 122°F; for power derating information refer to the Temperature Derating Technical Note for North America.

CE

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59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13

Tech Brief

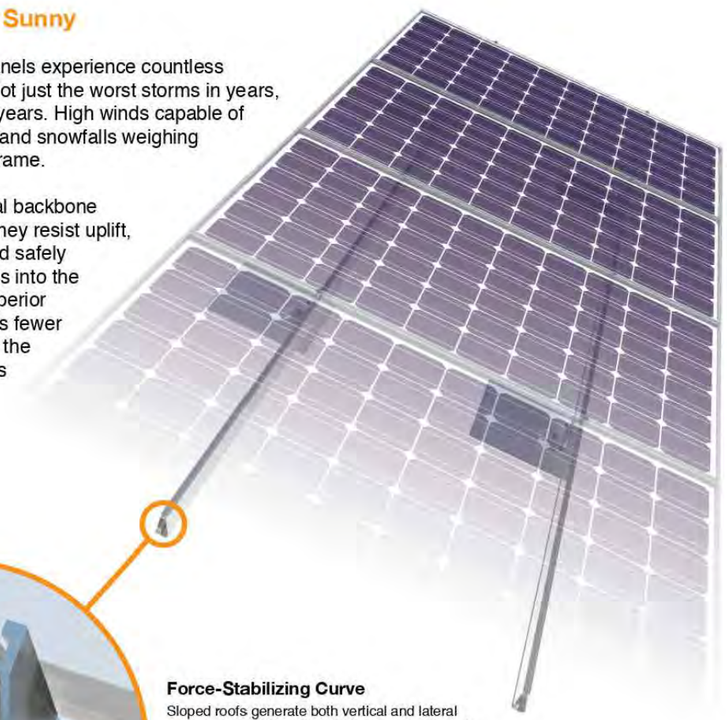
IRONRIDGE

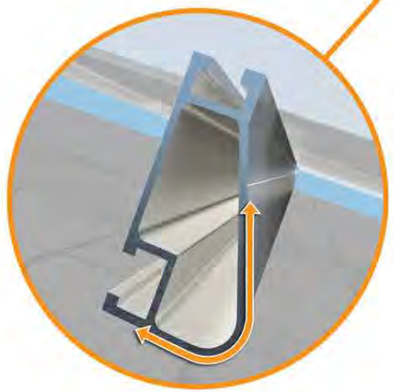
XR Rail® Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.





Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

Tech Brief

XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.

XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available

XR100

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available

XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90	XR10		XR100		XR1000	
	120						
	140						
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

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UNITED STATES

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MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
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SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

Tech Brief

IRONRIDGE

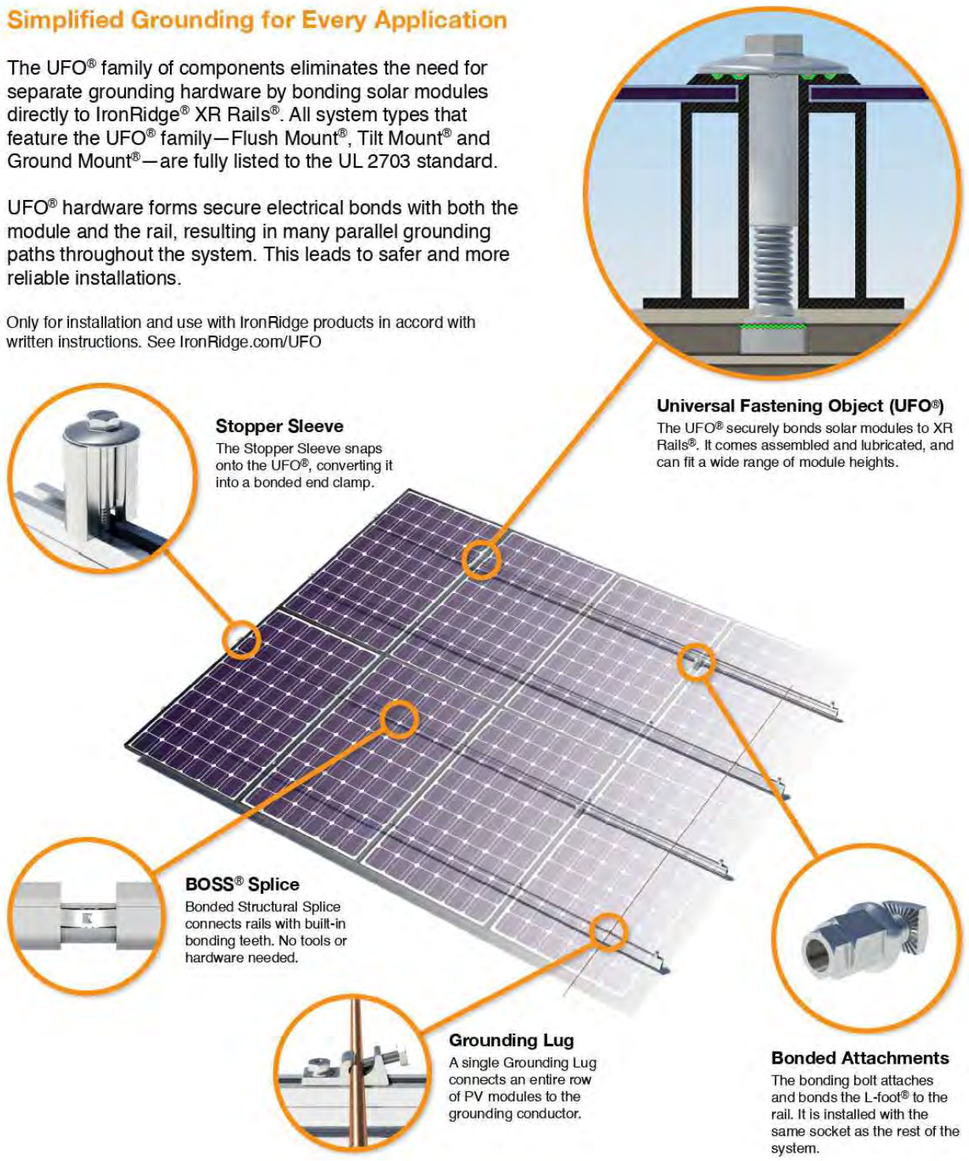
UFO® Family of Components

Simplified Grounding for Every Application

The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO



Universal Fastening Object (UFO®)
The UFO® securely bonds solar modules to XR Rails®. It comes assembled and lubricated, and can fit a wide range of module heights.

Stopper Sleeve
The Stopper Sleeve snaps onto the UFO®, converting it into a bonded end clamp.

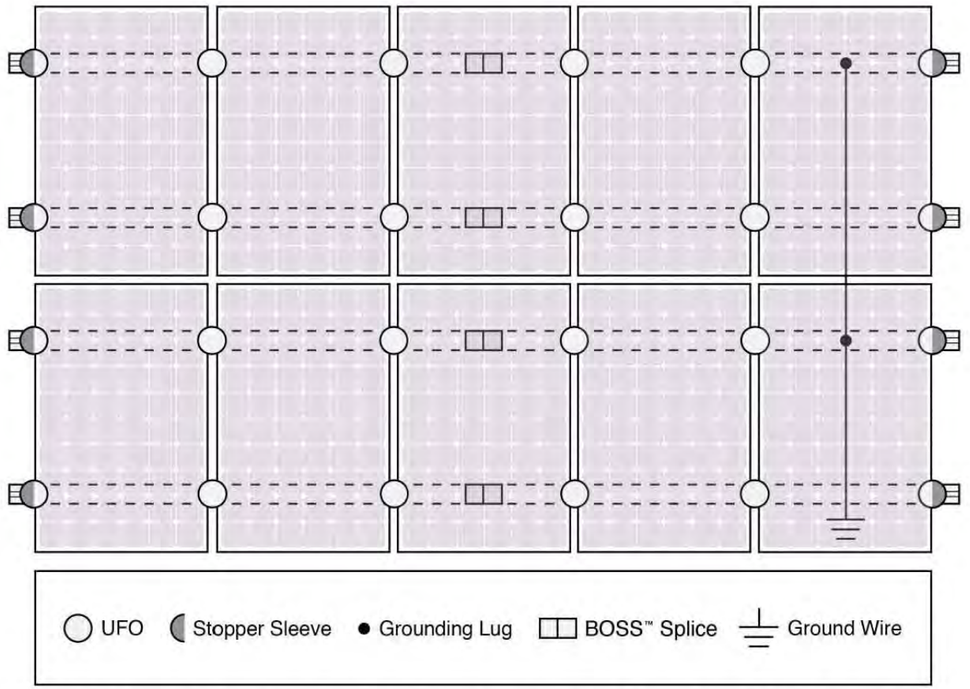
BOSS® Splice
Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments
The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.

Tech Brief

System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Cross-System Compatibility			
Feature	**Flush Mount**	**Tilt Mount**	**Ground Mount**
XR Rails®	✔	✔	XR100 & XR1000
UFO®/Stopper	✔	✔	✔
BOSS® Splice	✔	✔	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		

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59 JUDICIARY CT,
CAMERON, NC 28326

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ESR

SHEET NAME
EQUIPMENT SPECIFICATION

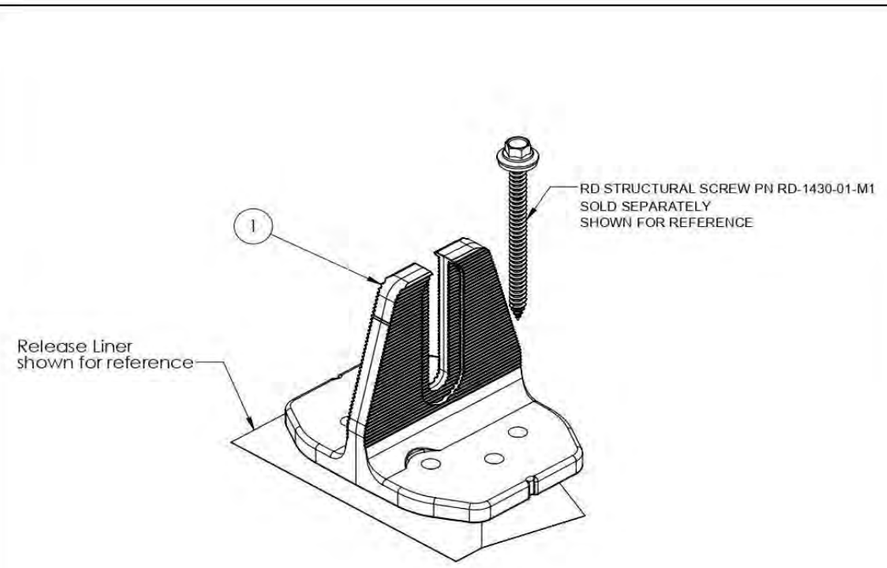
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-15

Cut Sheet

IRONRIDGE

QuickMount® Halo UltraGrip

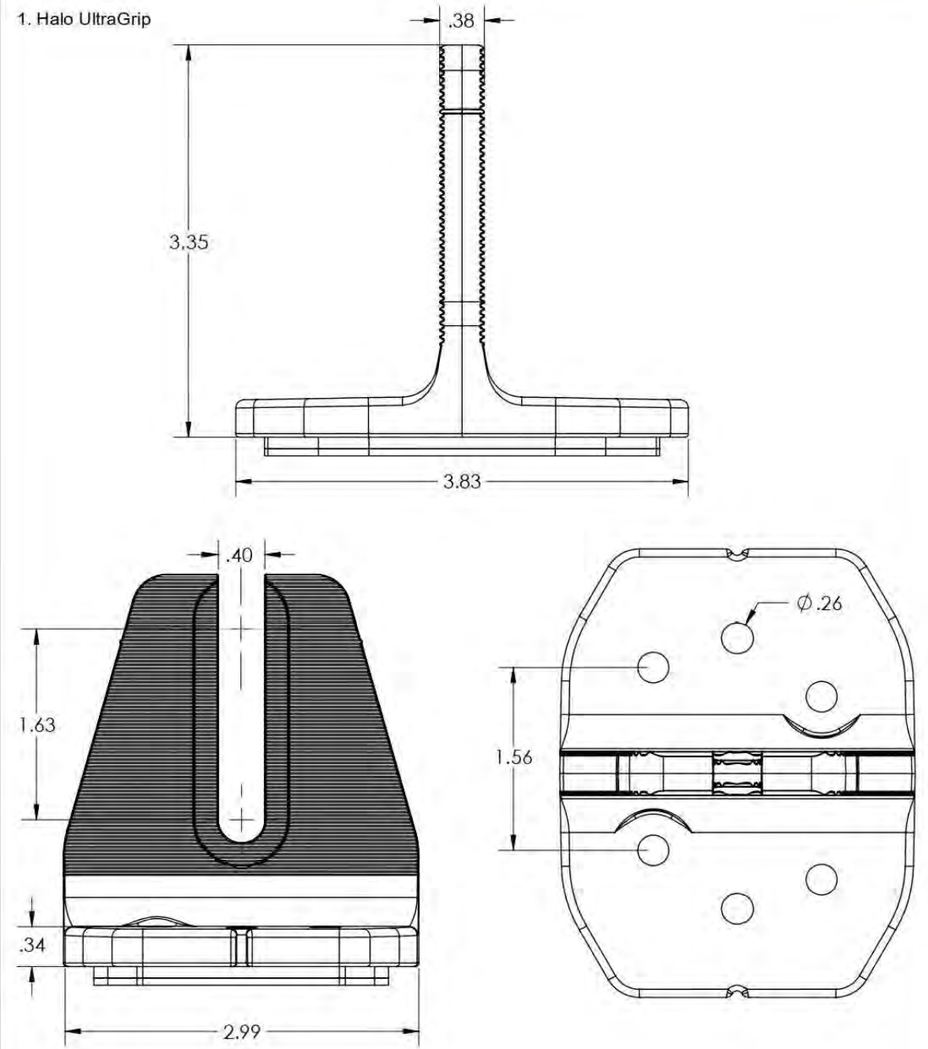


ITEM NO	DESCRIPTION	QTY IN KIT
1	QM Halo UltraGrip(Mill or Black)	1

PART NUMBER	DESCRIPTION
QM-HUG-01-M1	Halo UltraGrip - Mill
QM-HUG-01-B1	Halo UltraGrip - Black

Cut Sheet

1. Halo UltraGrip



Property	Value
Material	3000 Series Aluminium
Finish	Mill or Black

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QM-HUG-01-B1 or QM-HUG-01-M1 Cut Sheet Rev 1.0

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ESR

SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

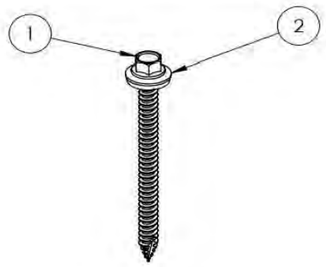
SHEET NUMBER

PV-16

Cut Sheet

IRONRIDGE

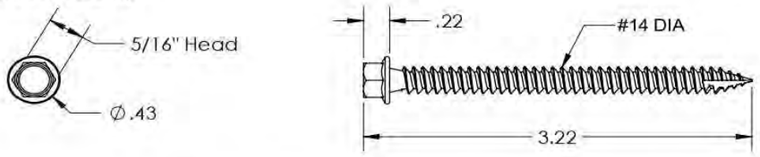
QuickMount® RD Structural Screw



ITEM NO	DESCRIPTION	QTY IN KIT
1	Self Drilling Screw, #14, Wood Tip	1
2	Washer, EPDM Backed	1

PART NUMBER	DESCRIPTION
RD-1430-01-M1	RD Structural Screw

1. Self Drilling Screw, #14, Wood Tip



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

2. Washer, EPDM Backed

Property	Value
Material	300 Series Stainless Steel
Finish	Clear

QM-RD-1430-01-M1 Cut Sheet Rev 1.0

TOP TIER SOLAR SOLUTIONS

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ESR

SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-17

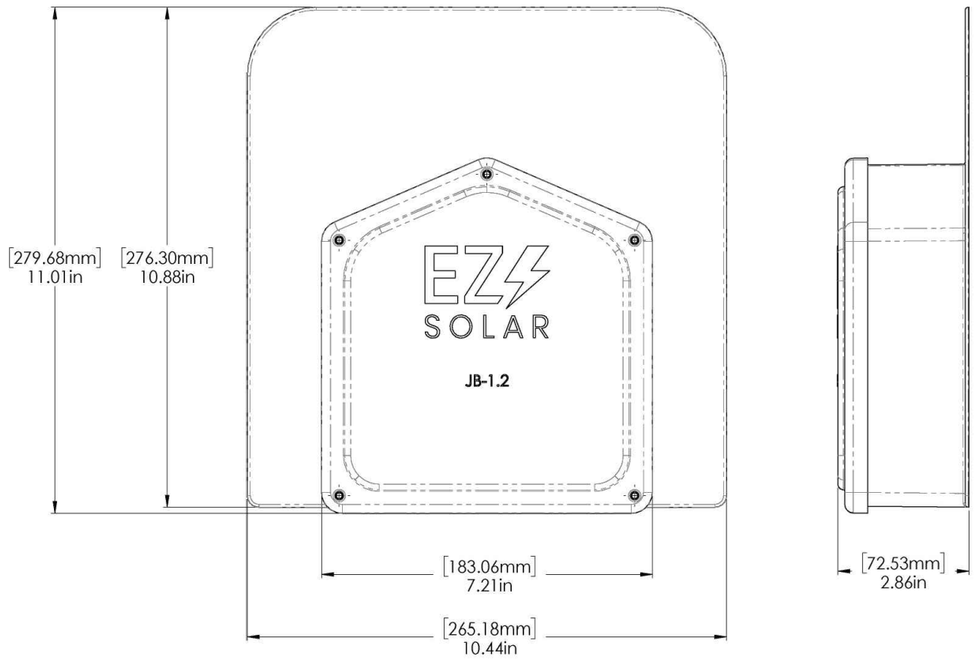
EZ SOLAR
making solar simple.

PHONE: 385-202-4150
WWW.EZSOLARPRODUCTS.COM

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	JB-1.2 BODY	POLYCARBONATE WITH UV INHIBITORS	1
2	JB-1.2 LID	POLYCARBONATE WITH UV INHIBITORS	1
3	#10 X 1-1/4" PHILLIPS PAN HEAD SCREW		6
4	#8 X 3/4" PHILLIPS PAN HEAD SCREW		6

SIZE	DWG. NO.	REV
B	JB-1.2	
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 1 OF 3

TORQUE SPECIFICATION:	15-20 LBS
CERTIFICATION:	UL 1741, NEMA 3R CSA C22.2 NO. 290
WEIGHT:	1.45 LBS



Intertek 5015705

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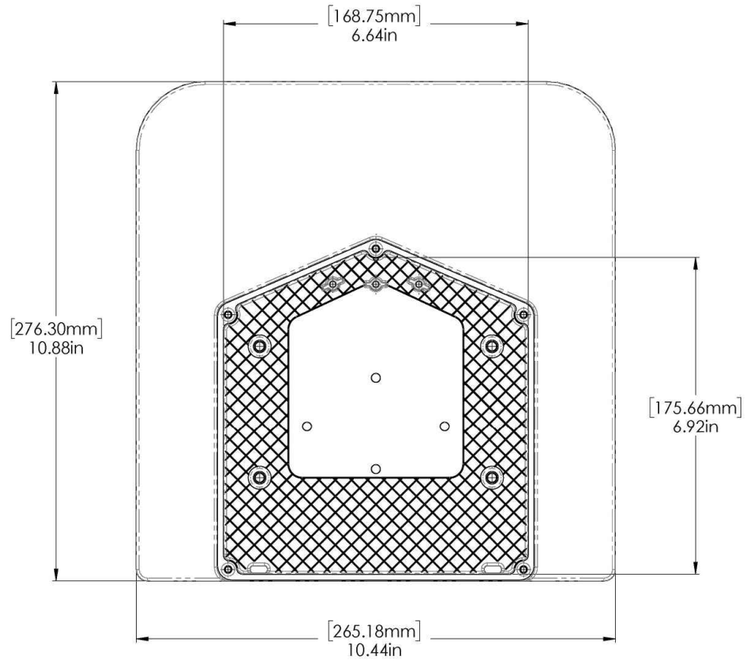
SIZE	DWG. NO.	REV
B	JB-1.2	
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 2 OF 3



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SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-18

PHOTOVOLTAIC ROOF MOUNT SYSTEM

13 MODULES-ROOF MOUNTED - 5.265 kW DC, 5.700 kW AC

59 JUDICIARY CT, CAMERON, NC 28326

PROJECT DATA

PROJECT ADDRESS: 59 JUDICIARY CT, CAMERON, NC 28326

OWNER: MEGAN GEORGE

DESIGNER: ESR

SCOPE: 5.265 kW DC ROOF MOUNT SOLAR PV SYSTEM WITH
13 JA SOLAR: JAM54S31-405/MR 405W PV MODULES WITH
13 SOLAREDGE: S440 POWER OPTIMIZERS AND
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

AUTHORITIES HAVING JURISDICTION:
BUILDING: HARNETT COUNTY
ZONING: HARNETT COUNTY
UTILITY: CENTRAL EMC

SHEET INDEX

SIGNATURE

GENERAL NOTES

1. ALL COMPONENTS ARE UL LISTED AND CEC CERTIFIED, WHERE WARRANTED.
2. THE SOLAR PV SYSTEM WILL BE INSTALLED IN ACCORDANCE WITH ARTICLE 690 OF THE NEC 2017.
3. THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION.
4. ALL CONDUCTORS OF A CIRCUIT, INCLUDING THE EGC, MUST BE INSTALLED IN THE SAME RACEWAY, OR CABLE, OR OTHERWISE RUN WITH THE PV ARRAY CIRCUIT CONDUCTORS WHEN THEY LEAVE THE VICINITY OF THE PV ARRAY.
5. WHERE METALLIC CONDUIT CONTAINING DC CONDUCTORS IS USED INSIDE THE BUILDING, IT SHALL BE IDENTIFIED AS "CAUTION: SOLAR CIRCUIT" EVERY 10FT.
6. HEIGHT OF THE AC DISCONNECT SHALL NOT EXCEED 6'-7" PER NEC CODE 240.24.
7. A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH CEC 690.47 AND 250.50 THROUGH 60 AND 250-166 SHALL BE PROVIDED. PER NEC GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED AND BONDED TO THE SERVICE ENTRANCE. IF EXISTING SYSTEM IS INACCESSIBLE OR INADEQUATE A SUPPLEMENTAL GROUNDING ELECTRODE WILL BE USED AT THE INVERTER LOCATION CONSISTING OF A UL LISTED 8 FT. GROUND ROD WITH ACORN CLAMP. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO LARGER THAN #6 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE FOR A COMPLETE SYSTEM.
8. PHOTOVOLTAIC MODULES ARE TO BE CONSIDERED NON-COMBUSTIBLE.
9. PHOTOVOLTAIC INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING. MECHANICAL, OR BUILDING ROOF VENTS.
10. ALL WIRING MUST BE PROPERLY SUPPORTED BY DEVICES OR MECHANICAL MEANS DESIGNED AND LISTED FOR SUCH USE. WIRING MUST BE PERMANENTLY AND COMPLETELY HELD OFF THE ROOF SURFACE.
11. ALL SINAGE TO BE PLACED IN ACCORDANCE WITH THE LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SINAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.
12. INVERTER(S) USED IN UNGROUNDED SYSTEM SHALL BE UL 1741 LISTED.
13. THE INSTALLATION OF EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE PERFORMED ONLY BY QUALIFIED PERSONS [NEC 690.4(C)]
14. ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R RATED (OR BETTER), INCLUDING ALL ROOF MOUNTED TRANSITION BOXES AND SWITCHES.
15. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED IN ACCORDANCE WITH NEC ARTICLE 250.
16. SYSTEM GROUNDING SHALL BE IN ACCORDANCE WITH NEC 690.41.
17. PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION IN ACCORDANCE WITH NEC 690.12
18. DISCONNECTING MEANS SHALL BE LOCATED IN A VISIBLE, READILY ACCESSIBLE LOCATION WITHIN THE PV SYSTEM EQUIPMENT OR A MAXIMUM OF 10 FEET AWAY FROM THE SYSTEM [NEC 690.13(A)]
19. ALL WIRING METHODS SHALL BE IN ACCORDANCE WITH NEC 690.31
20. WORK CLEARANCES AROUND ELECTRICAL EQUIPMENT WILL BE MAINTAINED PER NEC 110.26(A)(1), 110.26(A)(2) AND 110.26(A)(3).
21. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED & IDENTIFIED IN ACCORDANCE WITH UL1703
22. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT EXPANSION JOINTS AND ANCHOR CONDUIT RUNS AS REQUIRED PER NEC.

VICINITY MAP

HOUSE PHOTO

CODE REFERENCES

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

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056724 TREVOR JONES

STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
COVER SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

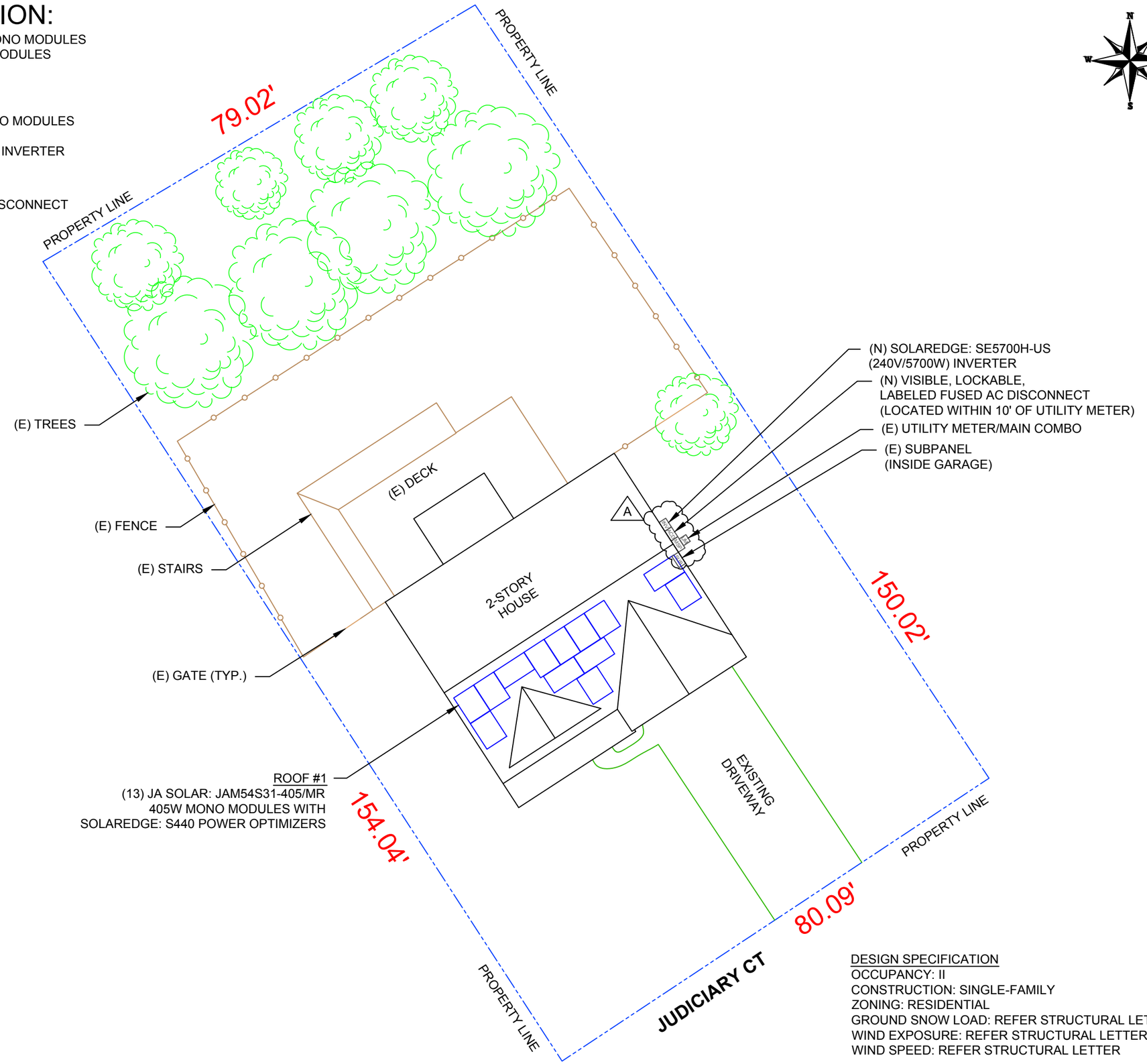
PROJECT DESCRIPTION:

13 X JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC

EQUIPMENT SUMMARY
13 JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
13 SOLAREDGE: S440 POWER OPTIMIZERS
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

ROOF ARRAY AREA #1:- 273.13 SQ FT.

NOTE: VISIBLE, LOCKABLE, LABELED AC DISCONNECT
LOCATED WITHIN 10' OF UTILITY METER



DESIGN SPECIFICATION
OCCUPANCY: II
CONSTRUCTION: SINGLE-FAMILY
ZONING: RESIDENTIAL
GROUND SNOW LOAD: REFER STRUCTURAL LETTER
WIND EXPOSURE: REFER STRUCTURAL LETTER
WIND SPEED: REFER STRUCTURAL LETTER

1 SITE PLAN
PV-2 SCALE: 1/16" = 1'-0"

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS
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UNITED STATES

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STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE
59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

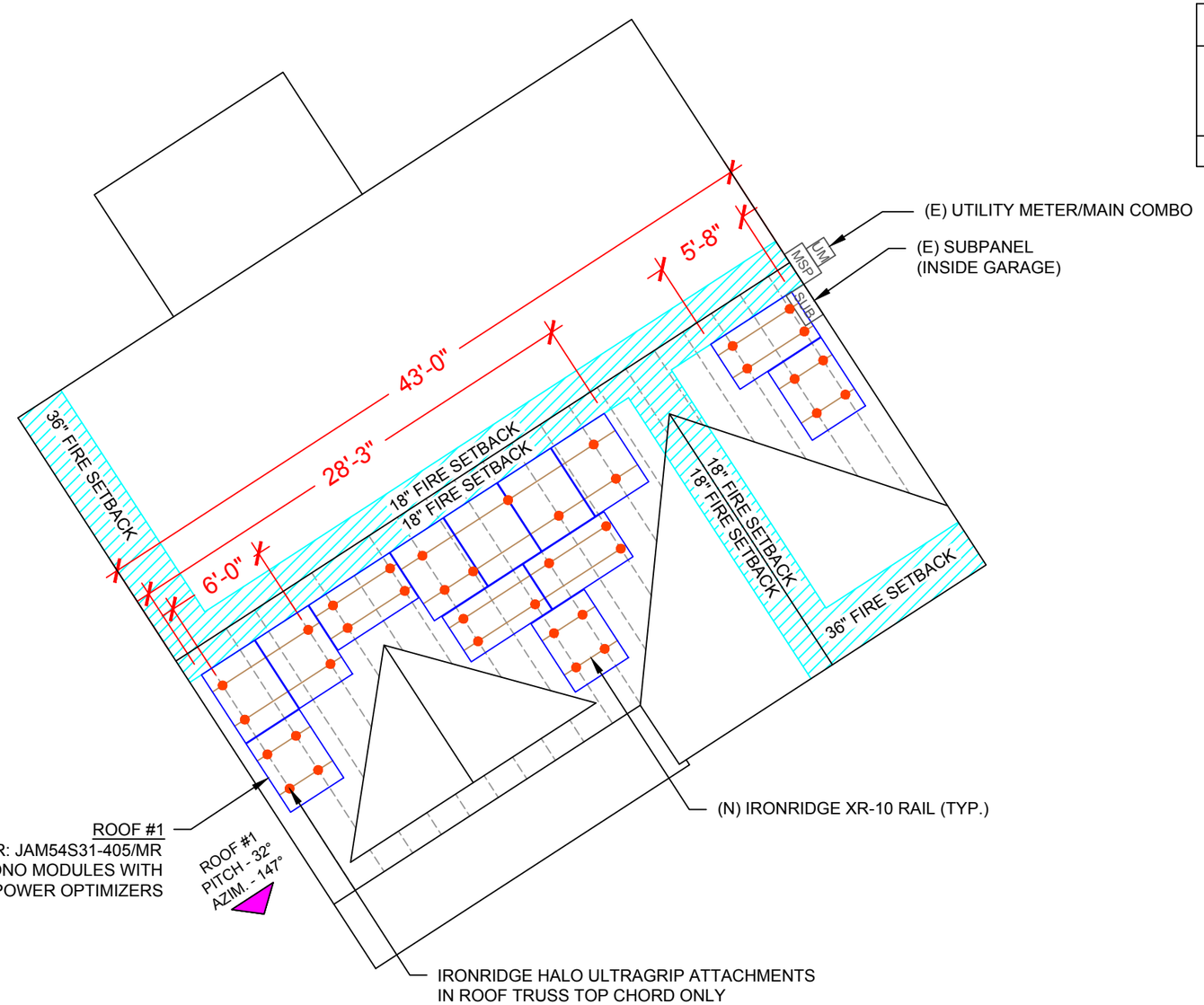
SHEET NAME
SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 13 MODULES
MODULE TYPE = JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
MODULE WEIGHT = 47.39 LBS / 21.5 kg.
MODULE DIMENSIONS = 67.79" x 44.65" = 21.01 SF

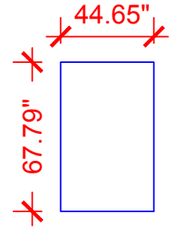


1 ROOF PLAN & MODULES

PV-3 SCALE: 1/8" = 1'-0"

ROOF DESCRIPTION					
ROOF TYPE				ASPHALT SHINGLE	
ROOF LAYER				1 LAYER	
ROOF	# OF MODULES	ROOF PITCH	AZIMUTH	TRUSS SIZE	TRUSS SPACING
#1	13	32°	147°	2"X4"	24"

ARRAY AREA & ROOF AREA CALC'S		
TOTAL PV ARRAY AREA (SQ. FT.)	TOTAL ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
273.13	1765.30	15



JA SOLAR:
JAM54S31-405/MR
405W MODULES

LEGEND

- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- SUB - SUB PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- TRUSS
- CONDUIT

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
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PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE
59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ROOF PLAN & MODULES

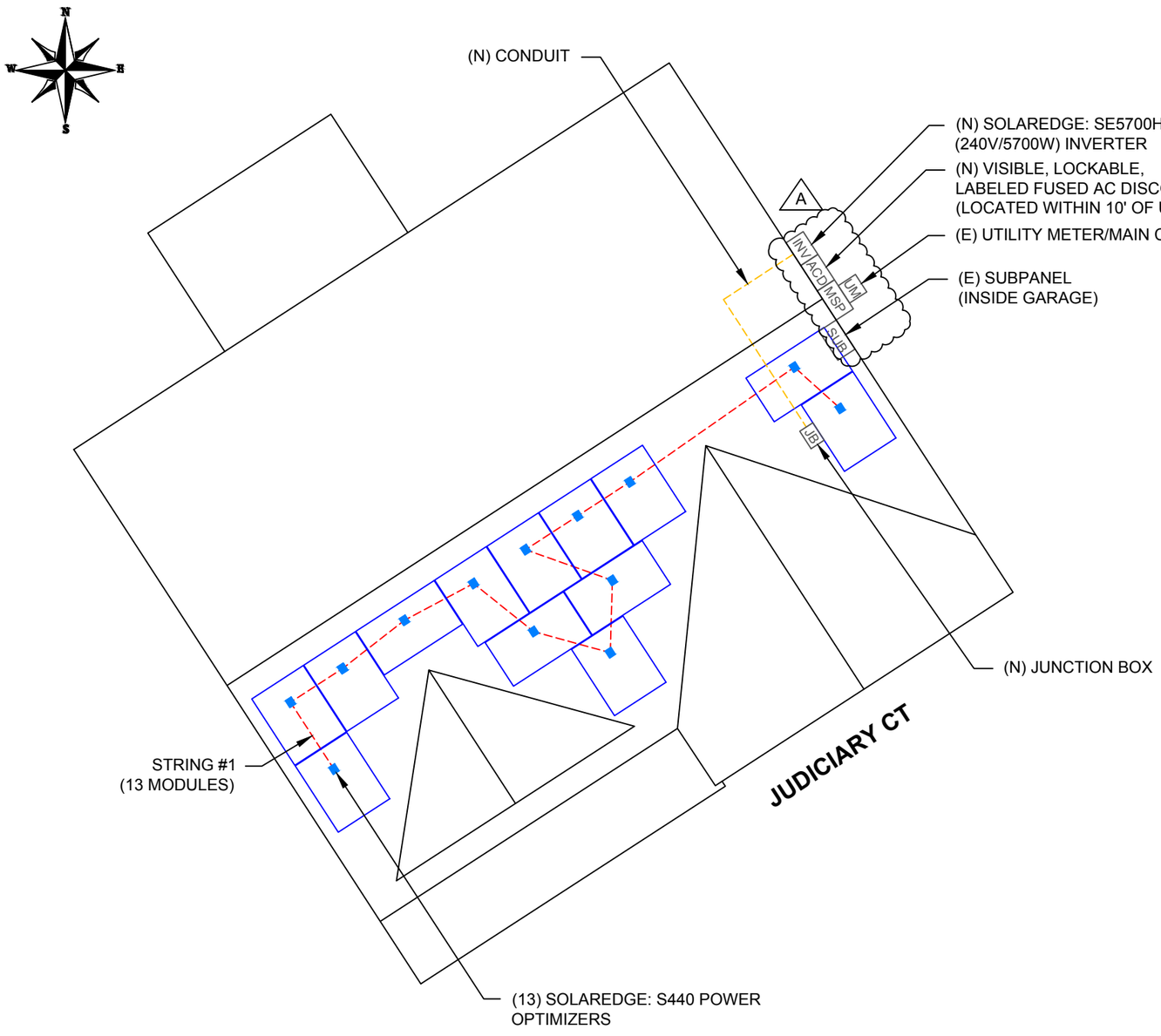
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3

DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC
(13) JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
WITH (13) SOLAREDGE: S440 POWER OPTIMIZERS
LOCATED UNDER EACH PANEL AND
01 SOLAREDGE: SE5700H-US (240V/5700W) INVERTER

STRING LEGENDS

---------- STRING #1



1 ELECTRICAL PLAN
PV-4 SCALE: 1/8" = 1'-0"

BILL OF MATERIALS

EQUIPMENT DESCRIPTION	QTY
SOLAR PV MODULES: JA SOLAR: JAM54S31-405/MR 405W MODULE	13
OPTIMIZERS: SOLAREDGE: S440 POWER OPTIMIZERS	13
INVERTER: SOLAREDGE: SE5700H-US (240V/5700W) INVERTER	01
JUNCTION BOX: JUNCTION BOX UL 1741, NEMA 3R CSA C22.2 NO.290	1
AC DISCONNECT: FUSED AC DISCONNECT, 60A FUSED, (2) 30A FUSES 240V NEMA 3R, UL LISTED	1
IRONRIDGE XR10 RAIL (RAIL 168" (14 FEET) CLEAR) (XR-10-168A)	18
BONDED SPLICE, XR10 (XR10-BOSS-01-M1)	2
UNIVERSAL MODULE CLAMP, CLEAR (UFO-CL-01-A1)	10
END FASTENING OBJECT (END CLAMP, 30-40MM), MILL (UFO-END-01-A1)	32
GROUNDING LUG (XR-LUG-03-A1)	8
IRONRIDGE HALO ULTRAGRIP ATTACHMENTS (QM-HUG-01-M1)	42
RD STRUCTURAL SCREW,3.0L (HW-RD1430-01-M1)	84
T-BOLT BONDING HARDWARE (BHW-TB-02-A1) (PRODUCT CODE 590-0116)	42
OPTIMIZER BONDING HARDWARE T-BOLT (BHW-MI-01-A1) (PRODUCT CODE 270-0152)	13

LEGEND

- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- SUB - SUB PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- TRUSS
- CONDUIT

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

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CHARLOTTE, NC 28217,
UNITED STATES

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INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

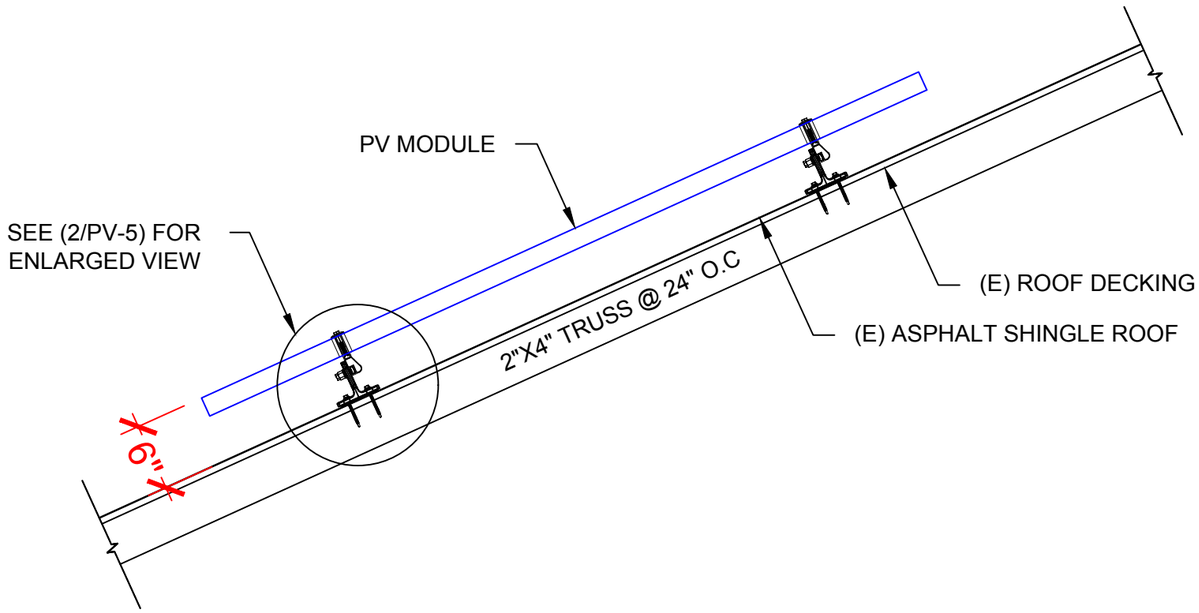
59 JUDICIARY CT, CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ELECTRICAL PLAN

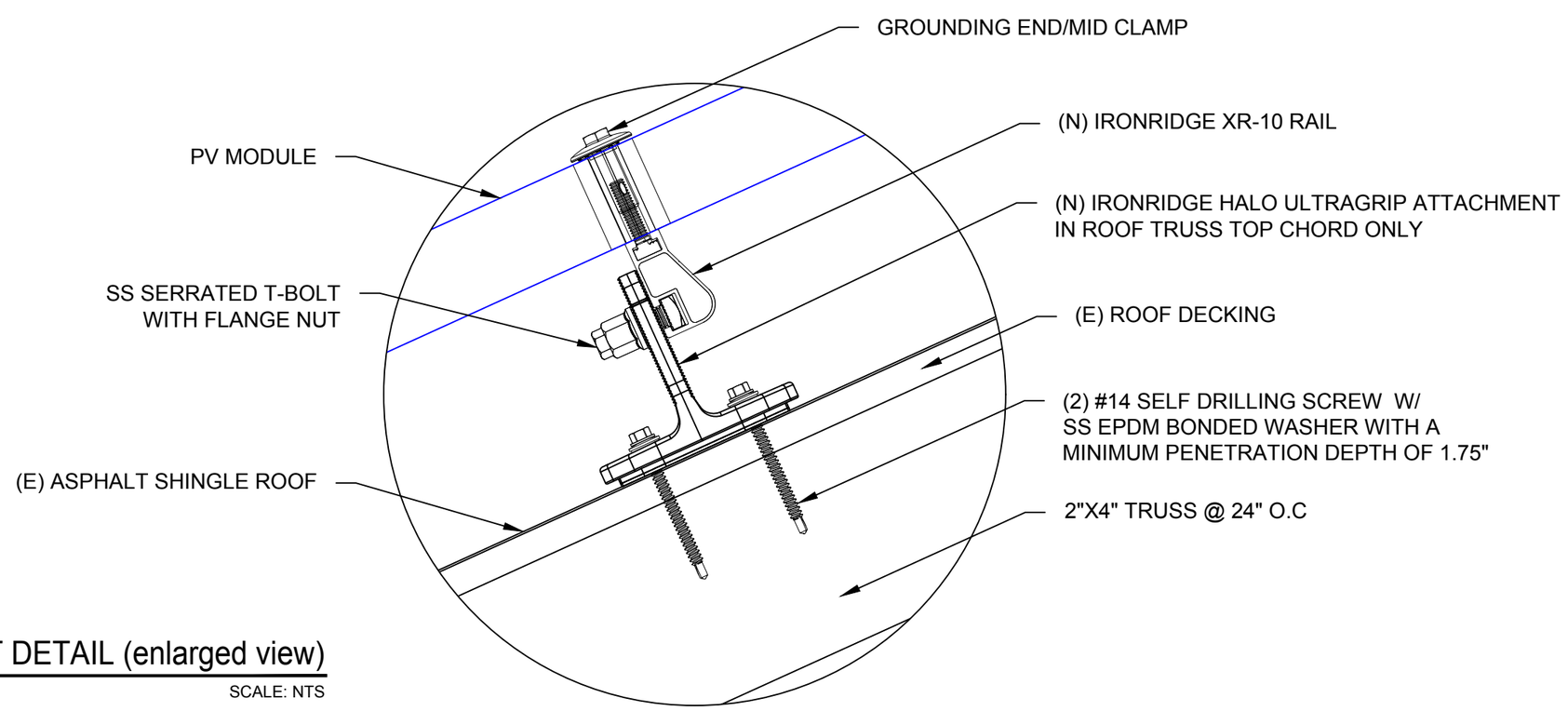
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4



1 | PV-5 STRUCTURAL ATTACHMENT (Side view)

SCALE: N.T.S



2 | PV-5 ATTACHMENT DETAIL (enlarged view)

SCALE: NTS

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
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NORTH CAROLINA PROFESSIONAL SEAL 056724 ENGINEER TREVOR JONES

STRUCTURAL ONLY
05/14/2025

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
STRUCTURAL DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

DC SYSTEM SIZE: 5.265 kW DC
AC SYSTEM SIZE: 5.700 kW AC

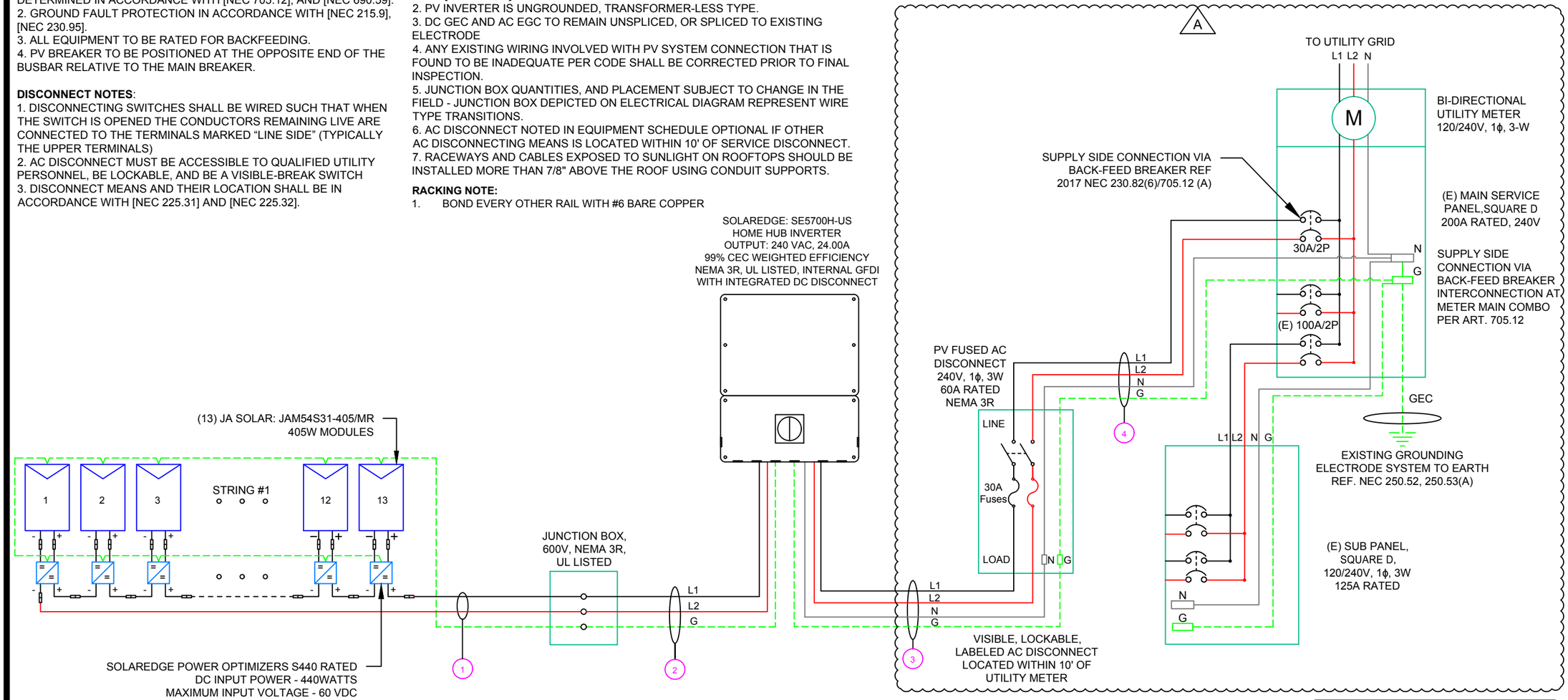
(13) JA SOLAR: JAM54S31-405/MR 405W MONO MODULES
WITH (13) SOLAREDGE: S440 POWER OPTIMIZERS
LOCATED UNDER EACH PANEL (240V) AND
(01) SOLAREDGE: SE5700H-US (240V/5700W) INVERTER
(01) STRING OF 13 MODULES ARE CONNECTED IN SERIES

INTERCONNECTION NOTES:
1. INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.59].
2. GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95].
3. ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
4. PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATIVE TO THE MAIN BREAKER.

DISCONNECT NOTES:
1. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED “LINE SIDE” (TYPICALLY THE UPPER TERMINALS)
2. AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
3. DISCONNECT MEANS AND THEIR LOCATION SHALL BE IN ACCORDANCE WITH [NEC 225.31] AND [NEC 225.32].

GROUNDING & GENERAL NOTES:
1. PV GROUNDING ELECTRODE SYSTEM NEEDS TO BE INSTALLED IN ACCORDANCE WITH [NEC 690.43]
2. PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE.
3. DC GEC AND AC EGC TO REMAIN UNSPLICED, OR SPLICED TO EXISTING ELECTRODE
4. ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION.
5. JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - JUNCTION BOX DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE TYPE TRANSITIONS.
6. AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT.
7. RACEWAYS AND CABLES EXPOSED TO SUNLIGHT ON ROOFTOPS SHOULD BE INSTALLED MORE THAN 7/8" ABOVE THE ROOF USING CONDUIT SUPPORTS.

RACKING NOTE:
1. BOND EVERY OTHER RAIL WITH #6 BARE COPPER



NOTE: CONDUIT TO BE UL LISTED FOR WET LOCATIONS AND UV PROTECTED

	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(2)	#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	#6AWG -	BARE COPPER IN FREE AIR		
2	(2)	#10AWG -	CU,THWN-2	EMT OR LFMC IN ATTIC	3/4"
	(1)	#10AWG -	CU,THWN-2 GND		
A 3	(2)	#10AWG -	CU,THWN-2	EMT,LFMC OR PVC	3/4"
	(1)	#10AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		
A 4	(2)	#10AWG -	CU,THWN-2	EMT, LFMC OR PVC	3/4"
	(1)	#10AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		

1 ELECTRICAL LINE DIAGRAM
PV-6 SCALE: NTS

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS		
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PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	JA SOLAR: JAM54S31-405/MR 405W MODULE
VMP	31.21V
IMP	12.98A
VOC	37.23V
ISC	13.87A
TEMP. COEFF. VOC	-0.275%/°C
MODULE DIMENSION	67.79"L x 44.65"W x 1.18"D (In Inch)

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	SOLAREDGE: SE5700H-US (240V/5700W) INVERTER
NOMINAL AC POWER	5.700 kW
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	24.00A

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
.80	4-6
.70	7-9
.50	10-20

AMBIENT TEMPERATURE SPECS	
AMBIENT TEMP (HIGH TEMP 2%)	38°
RECORD LOW TEMPERATURE	-11°
MODULE TEMPERATURE COEFFICIENT OF Voc	-0.275%/°C

DC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
STRING 1	JUNCTION BOX	380	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.049	N/A	#N/A
JUNCTION BOX	INVERTER	380	15.00	18.75	20	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	30	1.24	0.294	3/4" EMT	11.87617
																	String 1 Voltage Drop		0.343		

AC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	NEUTRAL SIZE	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
INVERTER	AC DISCONNECT	240	24	30	30	CU #10 AWG	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.124	3/4" EMT	15.8349
AC DISCONNECT	METER MAIN COMBO	240	24	30	30	CU #10 AWG	CU #10 AWG	CU #10 AWG	35	PASS	38	2	40	0.91	1	36.4	PASS	5	1.24	0.124	3/4" EMT	15.8349
																		CUMULATIVE VOLTAGE DROP		0.248		

A

ELECTRICAL NOTES

1. ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2. ALL CONDUCTORS SHALL BE RATED UPTO 600V FOR RESIDENTIAL AND 1000V FOR COMMERCIAL AND 90 DEGREE C WET ENVIRONMENT.
3. WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
4. WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
6. WHERE SIZES OF JUNCTION BOX, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
7. ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
8. MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
9. MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
10. TEMPERATURE RATINGS OF ALL CONDUCTORS, TERMINATIONS, BREAKERS, OR OTHER DEVICES ASSOCIATED WITH THE SOLAR PV SYSTEM SHALL BE RATED FOR AT LEAST 75 DEGREE C.

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

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PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY

ESR

SHEET NAME

WIRING CALCULATIONS

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-7

PHOTOVOLTAIC POWER SOURCE

EVERY 10' ON CONDUIT & ENCLOSURES

LABEL- 1:
LABEL LOCATION:
DC/EMT CONDUIT RACEWAY
SOLADECK / JUNCTION BOX
CODE REF: NEC 690.31 (D)(2)

⚠ WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL- 2:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.13(B)

⚠ WARNING

DUAL POWER SUPPLY

SOURCE: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL- 3:
LABEL LOCATION:
MAIN SERVICE PANEL
CODE REF: NEC 705.12(C) & NEC 690.59

SOLAR PV BREAKER:

BREAKER IS BACKFED
DO NOT RELOCATE

LABEL-4:
LABEL LOCATION:
MAIN SERVICE PANEL
CODE REF: NEC 705.12(C) & NEC 690.59

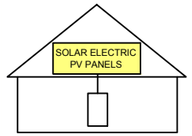
⚠ WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL- 5:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(B)(3)(2)

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



LABEL- 6:
LABEL LOCATION:
AC DISCONNECT
CODE REF: [NEC 690.56(C)(1)(A)]

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL- 7:
LABEL LOCATION:
AC DISCONNECT
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 690.56(C)(2)

DC DISCONNECT

LABEL- 8:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.13(B)

AC DISCONNECT
PHOTOVOLTAIC SYSTEM POWER SOURCE

NOMINAL OPERATING AC VOLATGE	240 V
RATED AC OUTPUT CURRENT	24.00 A

LABEL- 9:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.54

MAXIMUM VOLTAGE	480 V
MAXIMUM CIRCUIT CURRENT	30.50 A
MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)	

LABEL- 10:
LABEL LOCATION:
ON THE RIGHT SIDE OF THE INVERTER (PRE-EXISTING ON THE INVERTER)
CODE REF: NEC 690.53

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS

DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
LABELS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

Introduction

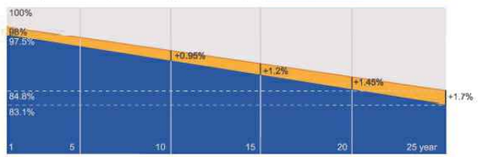
Assembled with 11BB PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.

- Higher output power
- Lower LCOE
- Less shading and lower resistive loss
- Better mechanical loading tolerance

Superior Warranty

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

0.55% Annual Degradation Over 25 years



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

JA SOLAR

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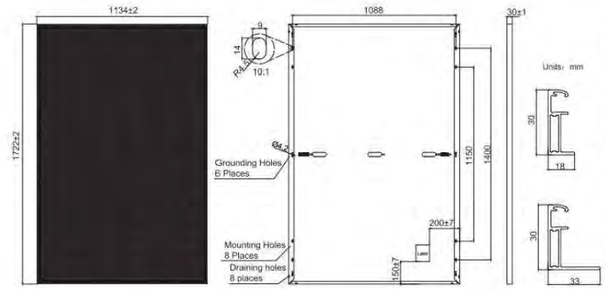
Specifications subject to technical changes and tests.
JA Solar reserves the right of final interpretation.

JA SOLAR

JAM54S31 380-405/MR Series

MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	21.5kg±3%
Dimensions	1722±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm² (IEC), 12 AWG(UL)
No. of cells	108(6x18)
Junction Box	IP68, 3 diodes
Connector	MC4-EVO2(1500V)
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1200mm(+)/1200mm(-)
Packaging Configuration	36pcs/Pallet, 864pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54S31 -380/MR	JAM54S31 -385/MR	JAM54S31 -390/MR	JAM54S31 -395/MR	JAM54S31 -400/MR	JAM54S31 -405/MR
Rated Maximum Power(Pmax) [W]	380	385	390	395	400	405
Open Circuit Voltage(Voc) [V]	36.58	36.71	36.85	36.98	37.07	37.23
Maximum Power Voltage(Vmp) [V]	30.28	30.46	30.64	30.84	31.01	31.21
Short Circuit Current(Isc) [A]	13.44	13.52	13.61	13.70	13.79	13.87
Maximum Power Current(Imp) [A]	12.55	12.64	12.73	12.81	12.90	12.98
Module Efficiency [%]	19.5	19.7	20.0	20.2	20.5	20.7
Power Tolerance	±2%					
Temperature Coefficient of Isc(α_Isc)	+0.045%/℃					
Temperature Coefficient of Voc(β_Voc)	-0.275%/℃					
Temperature Coefficient of Pmax(γ_Pmp)	-0.350%/℃					
STC	Irradiance 1000W/m², cell temperature 25℃, 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

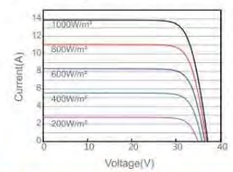
TYPE	JAM54S31 -380/MR	JAM54S31 -385/MR	JAM54S31 -390/MR	JAM54S31 -395/MR	JAM54S31 -400/MR	JAM54S31 -405/MR
Rated Max Power(Pmax) [W]	286	290	294	298	302	306
Open Circuit Voltage(Voc) [V]	34.36	34.49	34.62	34.75	34.88	35.12
Max Power Voltage(Vmp) [V]	28.51	28.68	28.87	29.08	29.26	29.47
Short Circuit Current(Isc) [A]	10.75	10.82	10.89	10.96	11.03	11.10
Max Power Current(Imp) [A]	10.03	10.11	10.18	10.25	10.32	10.38
NOCT	Irradiance 800W/m², ambient temperature 20℃,wind speed 1m/s, AM1.5G					

OPERATING CONDITIONS

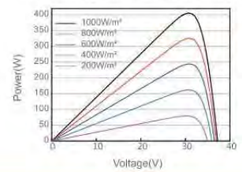
Maximum System Voltage	1000V/1500V DC
Operating Temperature	-40℃~+85℃
Maximum Series Fuse Rating	25A
Maximum Static Load,Front* Maximum Static Load,Back*	5400Pa(112lb/ft²) 2400Pa(50lb/ft²)
NOCT	45±2℃
Safety Class	Class Ⅱ
Fire Performance	UL Type 1

CHARACTERISTICS

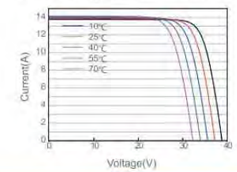
Current-Voltage Curve JAM54S31-405/MR



Power-Voltage Curve JAM54S31-405/MR



Current-Voltage Curve JAM54S31-405/MR



Premium Cells, Premium Modules

Version No.: Global_EN_20231130A

TOP TIER SOLAR SOLUTIONS

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DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

intertek
Total Quality. Assured.

AUTHORIZATION TO MARK

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:	Shanghai JA Solar Technology Co., Ltd.	**Manufacturer:**	JA SOLAR VIET NAM COMPANY LIMITED.
Address:	No. 118, Lane 3111, West Huancheng Road, Fengxian District, 201401 Shanghai	**Address:**	Lot G, Quang Chau industrial park, Quang Chau Ward, Viet Yen Town, Bac Giang Province, 236110
Country:	P. R. China	**Country:**	Vietnam

Party Authorized To Apply Mark: Same as Manufacturer
Report Issuing Office: Intertek Testing Services Shanghai Limited

Control Number: *5020189* **Authorized by:** _____
for L. Matthew Snyder, Certification Manager

C ETL LISTED US
Intertek

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

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Standard(s):	Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 1: Test Requirements [UL 61215-1:2017 Ed.1] Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 1-1: Special Requirements For Testing Of Crystalline Silicon Photovoltaic (PV) Modules [UL 61215-1-1:2017 Ed.1] Terrestrial Photovoltaic (PV) Modules - Design Qualification And Type Approval - Part 2: Test Procedures [UL 61215-2:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements For Construction [UL 61730-1:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements For Testing [UL 61730-2:2017 Ed.1] Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction [CSA C22.2#61730-1:2019 Ed.2] Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing [CSA C22.2#61730-2:2019 Ed.2]

intertek
Total Quality. Assured.

AUTHORIZATION TO MARK

Product:	Crystalline Silicon Photovoltaic modules
Brand Name:	JA SOLAR 晶澳
Models:	JAM72S03-385/PR, JAP72S03-340/SC, JAM72S10- followed by 395, 400, 405, 410 or 415 followed by /MB, JAM60S10- followed by 330, 335, 340 or 345 followed by /MB, JAM72S10- followed by 395, 400, 405, 410 or 415 followed by /MR, JAM66S10- followed by 365, 365, 370, 375 or 380 followed by /MR, JAM60S10- followed by 330, 335, 340 or 345 followed by /MR, JAM72S09- followed by 370, 375, 380, 385, 390, 395 or 400 followed by /PR, JAM60S09- followed by 310, 315, 320 or 325 followed by /PR, JAM72S09- followed by 375, 380 or 385 followed by /BP, JAM60S09- followed by 315 or 320 followed by /BP, JAM72S10- followed by 385, 390, 395 or 400 followed by /BP, JAM60S10- followed by 320, 325 or 330 followed by /BP, JAM72S10- followed by 380, 385, 390, 395, 400 or 405 followed by /PR, JAM60S10- followed by 320, 325, 330 or 335 followed by /PR, JAM72S12- followed by 365, 370, 375, 380 or 385 followed by /PR, JAM60S12- followed by 305, 310, 315 or 320 followed by /PR, 1JAM78S10- followed by 435, 440, 445, 450 or 455 followed by /MR, 1JAM6(K)-72-335/4BB/1500V, JAM60S17- followed by 320, 325, or 330 followed by /MR, JAM72S20- followed by 430, 435, 440, 445, 450, 455, 460, 465 or 470 followed by /MR, JAM60S20- followed by 355, 360, 365, 370, 375, 380, 385 or 390 followed by /MR, JAM72S30- followed by 530, 535, 540, 545, 550 or 555 followed by /MR, JAM66S30- followed by 490, 495 or 500 followed by /MR, JAM68S11- followed by 355, 360 or 365 followed by /PR, JAM68S11- followed by 345, 350, 355, 360 or 365 followed by /PR(B), JAM76S11- followed by 395, 400, 405, 410 or 415 followed by /PR(B), JAM76S11- followed by 395, 400, 405, 410 or 415 followed by /PR(B)/1000V, JAM78S30-followed by 575, 580, 585, 590, 595, 600, 605 or 610 followed by /GR, JAM72S30-followed by 535, 540, 545, 550, 555 or 560 followed by /GR, JAM66S30-followed by 490, 495, 500 or 505 followed by /GR, JAM60S30-followed by 445, 450, 455 or 460 followed by /GR, JAM54S30-followed by 400, 405, 410, 415 or 420 followed by /GR, JAM78S31-followed by 570, 575, 580, 585 or 590 followed by /GR, JAM72S31-followed by 530, 535 or 540 followed by /GR, JAM66S31-followed by 485, 490 or 495 followed by /GR, JAM60S31-followed by 440, 445 or 450 followed by /GR, JAM54S31-followed by 395, 400 , 405, 410 or 415 followed by /GR, JAM60S31-followed by 430, 435, 440, 445 or 450 followed by /GR/1000V, JAM54S31-followed by 390, 395, 400, 405, 410 or 415 followed by /GR/1000V, JAM54S30-followed by 400, 405, 410, 415, 420 or 425 followed by /MR, JAM72S31-followed by 510, 515, 520, 525, 530, 535, 540 or 545 followed by /MR, JAM54S31-followed by 385, 390, 395, 400 or 405 followed by /MR, JAM54S30-followed by 400, 405, 410, 415, 420 or 425 followed by /MR/1000V, JAM72S31-followed by 510, 515, 520, 525, 530,535, 540 or 545 followed by /MR/1000V, JAM54S31-followed by 385, 390, 395, 400 or 405 followed by /MR/1000V, JAM72S17-followed by 390, 395, 400 or 405 followed by /MR, JAM72S17-followed by 390, 395, 400 or 405 followed by /MR/1000V, JAM78S30- followed by 580, 585, 590, 595, 600 or 605 followed by /MR,JAM72S30-followed by 555, 560, 565, 570, 575, 580 followed by /LR, JAM54S30-followed by 415, 420, 425, 430, 435 followed by /LR, JAM54S31-followed by 415, 420 followed by /LR, JAM54S30-followed by 385, 390, 395, 400, 405, 410 followed by /MB, JAM54S31-followed by 385, 390, 395, 400, 405 followed by /MB, JAM54S30-followed by 410, 415, 420, 425 followed by /LB, JAM54S31-followed by 410, 415 followed by /LB , JAM72S30-followed by 535, 540, 545, 550 followed by /MB, JAM72S31-followed by 525, 530, 535, 540 followed by /MB.

TOP TIER SOLAR SOLUTIONS

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1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

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MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

Residential Power Optimizer

For North America

S440 / S500B / S650B

POWER OPTIMIZER

PV power optimization at the module level

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

solaredge.com

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Residential Power Optimizer

For North America

S440 / S500B / S650B

	S440	S500B	S650B	
INPUT				
Rated Input DC Power[1]	440[2]	500[3]	650	W
Absolute Maximum Input Voltage (Voc)	60	125	85	Vdc
MPPT Operating Range	8 – 60	12.5 – 105	12.5 – 85	Vdc
Maximum Input Current (Maximum Isc of Connected PV Module)[2]	14.5	15		Adc
Maximum Input Short Circuit Current[4]	18.75			Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)				
Maximum Output Current	15			Adc
Maximum Output Voltage	60	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR INVERTER OFF)				
Safety Output Voltage per Power Optimizer	1 ± 0.1			Vdc
STANDARD COMPLIANCE				
Photovoltaic Rapid Shutdown System	CSA C22.2#330, NEC 2014 – 2023			
EMC	FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3			
Safety	CSA C22.2#107.1; IEC 62109-1 (Class II Safety); UL 1741			
Material	UL 94 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 155 x 30 / 5.07 x 6.10 x 1.18	129 x 165 x 45 / 5.07 x 6.49 x 1.77		mm / in
Weight	720 / 1.6	790 / 1.74		gr / lb
Input Connector	MC4			
Input Wire Length	0.1 / 0.32			m / ft
Output Connector	MC4			
Output Wire Length	(+) 2.3, (-) 0.10 / (+) 7.54, (-) 0.32			m / ft
Operating Temperature Range[5]	-40 to +85			°C
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 – 100			%

(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 S440 with part number S440-1GM4MRMP, the Rated Input DC Power is 650W, and the Maximum Input Current is 15A.
(3) For installations after Aug 1st, 2024, the Rated Input DC Power for S500B is 650W.
(4) The Maximum Input Short Circuit Current is adjusted for worst case conditions of ambient temperature, irradiance, bifacial gain, and so on, in accordance with NEC and CSA.
(5) Power derating is applied for ambient temperatures above +85°C / +185°F for S440, and for ambient temperatures above +75°C / 167°F for S500B and S650B. Refer to the Power Optimizers Temperature Derating technical note for more details.

PV System Design Using a SolarEdge Inverter[6]		SolarEdge Home Wave/Hub Single Phase	Three Phase for 208V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440	8	10	18	
	S500B, S650B	6	8	14	
Maximum String Length (Power Optimizers)		25		50[7]	
Maximum Usable Power Delivered per String		5700	6000	12,750	W
Maximum Allowed Connected Power per String[8][9][10]	Inverters with Rated AC Power ≤ 5700W	Per the inverter's maximum input DC power[8]	One string: 7200 Two strings or more: 7800	15,000	W
	Inverters with Rated AC Power of 6000W	5700			
	Inverters with Rated AC Power ≥ 7600W	6800, only when connected to at least two strings			
Parallel Strings of Different Lengths or Orientations		Yes			

(6) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.
(7) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement.
(8) Refer to the Single String Design Guidelines application note for details.
(9) For the 208V grid, the maximum is permitted only when the difference in connected power between strings is 1,000W or less.
(10) For the 240V or 277/480V grids, the maximum is permitted only when the difference in connected power between strings 2,000W or less.

Intertek RoHS

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ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

SolarEdge Home Hub Inverter

Single Phase, for North America

For Inverters Assembled in the USA

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

HOME BACKUP

Single phase inverter for storage and backup applications

- The ultimate home energy manager in charge of PV production, battery storage, backup operation during a power outage*, EV Charging, and smart energy devices
- Record-breaking 99% weighted efficiency with up to 300% DC oversizing
- Supports LRA – can provide the required energy for HVAC systems starting during backup operation
- Integrates seamlessly with the complete SolarEdge Home Smart Energy Ecosystem, through SolarEdge Home Network
- Module-level monitoring and visibility of battery status, PV production, and self-consumption data
- Fast and easy installation – small and lightweight, with reduced commissioning time
- A scalable solution that supports future homeowner needs through easy connection to a growing ecosystem of products
- Advanced safety features with integrated arc fault protection and rapid shutdown for 690.11 and 690.12
- Advanced reliability with automotive-grade components
- Embedded revenue grade production data, ANSI C12.20 Class 0.5
- IP65-rated, for indoor and outdoor installations

*Requires additional hardware and firmware version upgrade.

solaredge.com

solaredge

SolarEdge Home Hub Inverter

Single Phase, for North America

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number[1][2]	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – AC ON GRID						
Rated AC Power	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	7600	10000	11,400 @ 240V 10,000 @ 208V	W
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	7600	10000	11,400 @ 240V 10,000 @ 208V	W
AC Output Voltage (Nominal)	208 / 240					Vac
AC Output Voltage (Range)	183 – 264					Vac
AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5[3]					Hz
Maximum Continuous Output Current	16	24	32	42	48	A
GFDI Threshold	1					A
Total Harmonic Distortion (THD)	< 3					%
Power Factor	1, adjustable -0.85 to 0.85					
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes					
Charge Battery from AC (if allowed)	Yes					
Typical Nighttime Power Consumption	< 2.5					W
OUTPUT – AC STAND-ALONE (BACKUP)[4][5]						
Rated AC Power in Stand-alone Operation	11,400[6]					W
Maximum Stand-alone Capacity	11,400					W
AC L-L Output Voltage Range in Stand-alone Operation	211 – 264					Vac
AC L-N Output Voltage Range in Stand-alone Operation	105 – 132					Vac
AC Frequency Range in Stand-alone (min - nom - max)	55 – 60 – 65					Hz
Maximum Continuous Output Current in Stand-alone Operation	48					A
GFDI	1					A
THD	< 5					%
OUTPUT – SOLAREDGE HOME EV CHARGER AC						
Rated AC Power	9600					W
AC Output Voltage Range	211 – 264					Vac
On-Grid AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5					Hz
Maximum Continuous Output Current @240V (grid, PV and battery)	40					Aac
INPUT – DC (PV AND BATTERY)						
Transformer-less, Ungrounded	Yes					
Max Input Voltage	480					Vdc
Nom DC Input Voltage	380					Vdc
Reverse-Polarity Protection	Yes					
Ground-Fault Isolation Detection	600kΩ Sensitivity					
INPUT – DC (PV)						
Maximum DC Power @ 240V	11,400	11,520	15,200	20,000	22,800	W
Maximum DC Power @ 208V	6600	10,000	-	-	20,000	W
Maximum Input Current[7] @ 240V	20	30.5	40	53	60	Adc
Maximum Input Current[7] @ 208V	17.5	27	-	-	53	Adc
Maximum Input Short Circuit Current	45					Adc
Maximum Inverter Efficiency	99.2					%
CEC Weighted Efficiency	98.5		99		99 @ 240V 98.5 @ 208V	%
2-pole Disconnection	Yes					

(1) These specifications apply to inverters with part numbers SExxxxH-USMNUxxx5 and SExxxxH-USMNFxxx5 and connection unit model number DCD-1PH-US-PxH-F-x.
(2) Inverters with part number SExxxxH-USMNFxxx5 are intended for upgrade installations only, as part of the "Re-Energize" program. Use on non-upgrade installations will revoke the product warranty.
(3) For other regional settings please refer to the SolarEdge Inverters, Power Control Options Application Note.
(4) Not designed for non-grid connected applications and requires AC for commissioning. Stand-alone (backup) functionality is only supported for the 240V grid.
(5) For LRA (Locked Rotor Amperage) values please refer to the LRA for NAM Application Note.
(6) For models SE7600H-US and below, the rated AC stand-alone power is configurable between 7600W or 11,400W from CPU version 4.20.xx.
(7) A higher current source may be used. The inverter will limit its input current to the values stated.

CE ETL Intertek 4004199

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ESR

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EQUIPMENT SPECIFICATION

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ANSI B
11" X 17"

SHEET NUMBER
PV-12

SolarEdge Home Hub Inverter

Single Phase, for North America

SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number[1][2]	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US	Units
OUTPUT – DC (BATTERY)						
Supported Battery Types	SolarEdge Home Battery, LG RESU Prime					
Number of Batteries per Inverter	Up to 3 SolarEdge Home Battery, up to 2 LG RESU Prime					
Continuous Power[8]	11,400 @ 240V 3800 @ 208V	11,400 @ 240V 5000 @ 208V	11400 @240V		11,400 @ 240V 10,000 @ 208V	W
Peak Power[8]	11,400 @ 240V 3800 @ 208V	11,400 @ 240V 5000 @ 208V	11400 @240V		11,400 @ 240V 10,000 @ 208V	W
Maximum Input Current	30					Adc
2-pole Disconnection	Up to the inverter's rated stand-alone power					
SMART ENERGY CAPABILITIES						
Consumption Metering	Built-in[9]					
Stand-alone & Battery Storage	With Backup Interface (purchased separately) for service up to 200A; up to 3 inverters					
EV Charging	Direct connection to the SolarEdge Home EV Charger					
ADDITIONAL FEATURES						
Supported Communication Interfaces	RS485, Ethernet, Cellular[10], Wi-Fi (optional), SolarEdge Home Network (optional)					
Revenue Grade Metering, ANSI C12.20	Built-in[9]					
Integrated AC, DC and Communication Connection Unit	Yes					
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi Access Point for local connection					
DC Voltage Rapid Shutdown (PV and Battery)	Yes, NEC 690.12					
STANDARD COMPLIANCE						
Safety	UL 1741, UL 1741SA, UL 1741SB, UL 1699B, CSA 22.2#107.1, C22.2#330, C22.3#9, ANSI/CAN/UL 9540					
Grid Connection Standards	IEEE1547 and IEEE-1547.1, Rule 21, Rule 14H					
Emissions	FCC Part 15 Class B					
INSTALLATION SPECIFICATIONS						
AC Terminals	L1, L2, N terminal blocks, PE busbar for inverter connection L1, L2 terminal blocks, PE busbar for EV Charger AC connection					
DC Terminals	4 x terminal block pairs for PV input; 1 x terminal block pair for battery input					
AC Output and EV AC Output Conduit Size / AWG Range	1" maximum / 14-4 AWG					
DC Input (PV and Battery) Conduit Size / AWG Range	1" maximum / 14-6 AWG					
Dimensions with Connection Unit (H x W x D)	21.06 x 14.6 x 8.2 / 535 x 370 x 208					in / mm
Weight with Connection Unit	44.9 / 20.3					lb / kg
Noise	< 50					dBA
Cooling	Natural Convection					
Operating Temperature Range	-40 to +140 / -40 to +60[11]					°F / °C
Protection Rating	NEMA 4X					

(8) Discharge power is limited up to the inverter's rated AC power for on-grid and stand-alone applications, as well as up to the installed batteries' rating.
(9) For consumption metering current transformers should be ordered separately: SECT-SPL-225A-T-20 or SEACT1250-400NA-20. Revenue grade metering is only for production metering.
(10) Information concerning the data plan terms & conditions is available in SolarEdge Communication Plan Terms and Conditions.
(11) Full power up to at least 50°C / 122°F; for power derating information refer to the Temperature Derating Technical Note for North America.

CE

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS

DESCRIPTION	DATE	REV
INITIAL DESIGN	03/07/2025	
REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13

Tech Brief

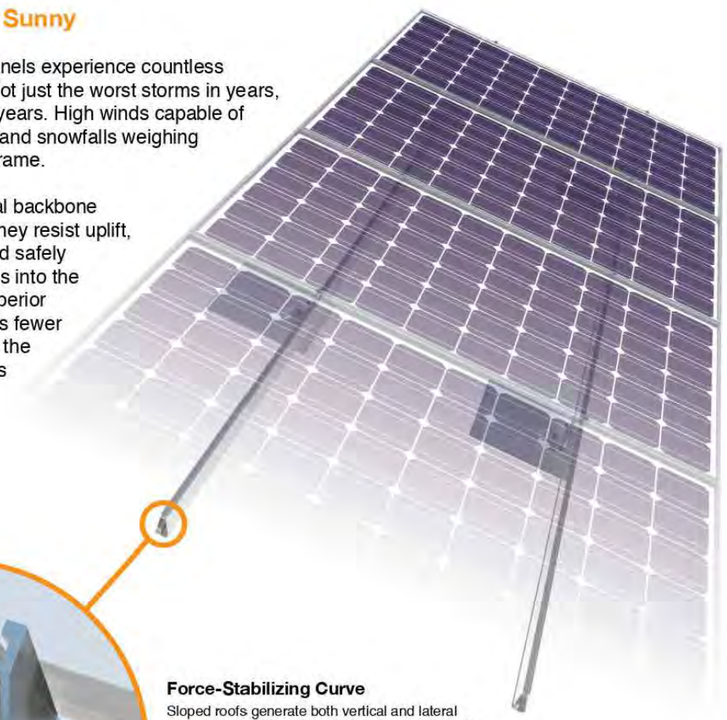
IRONRIDGE

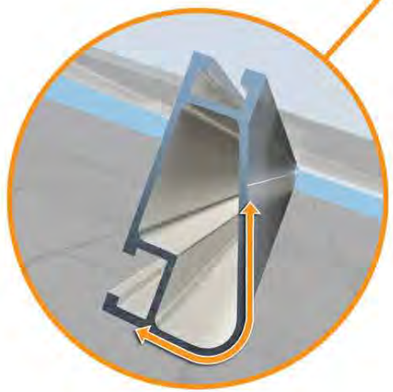
XR Rail® Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.





Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

Tech Brief

XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.

XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available

XR100

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available

XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90	XR10		XR100		XR1000	
	120						
	140						
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

TOP TIER SOLAR SOLUTIONS

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MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

Tech Brief

IRONRIDGE

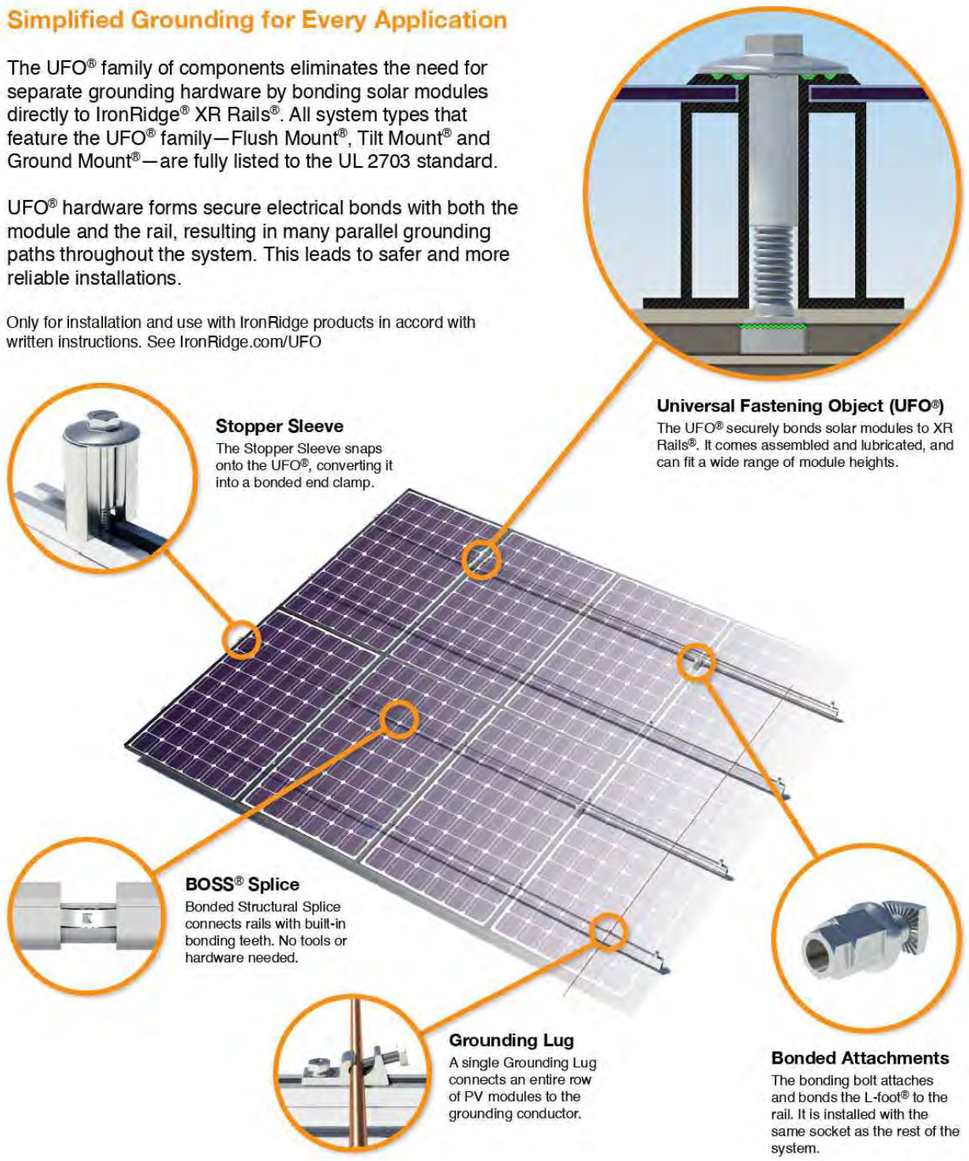
UFO® Family of Components

Simplified Grounding for Every Application

The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO



Universal Fastening Object (UFO®)
The UFO® securely bonds solar modules to XR Rails®. It comes assembled and lubricated, and can fit a wide range of module heights.

Stopper Sleeve
The Stopper Sleeve snaps onto the UFO®, converting it into a bonded end clamp.

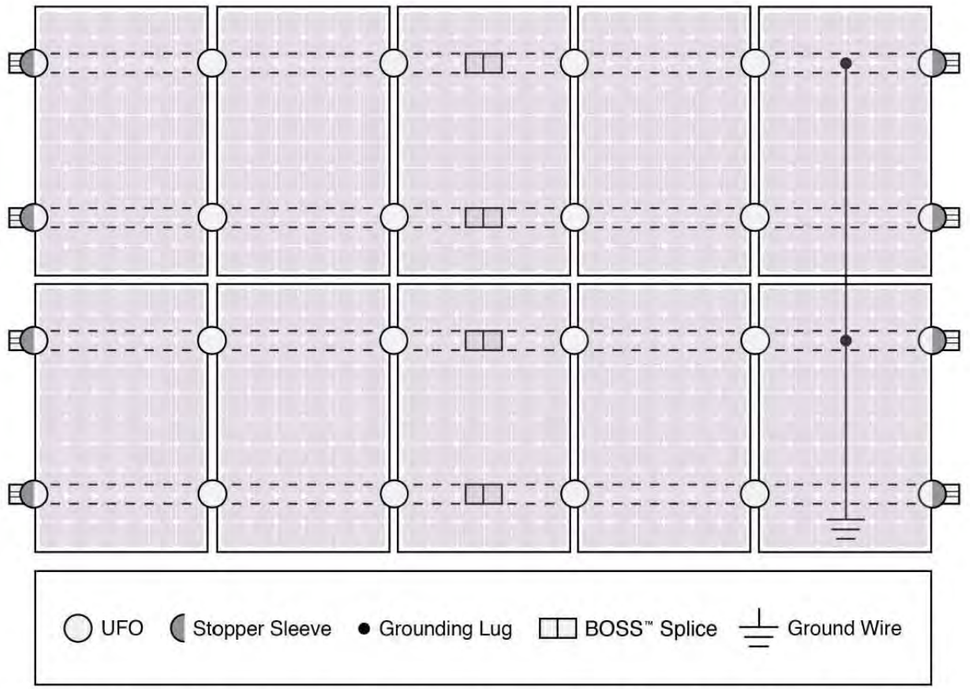
BOSS® Splice
Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments
The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.

Tech Brief

System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Cross-System Compatibility			
Feature	**Flush Mount**	**Tilt Mount**	**Ground Mount**
XR Rails®	✔	✔	XR100 & XR1000
UFO®/Stopper	✔	✔	✔
BOSS® Splice	✔	✔	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		

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CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

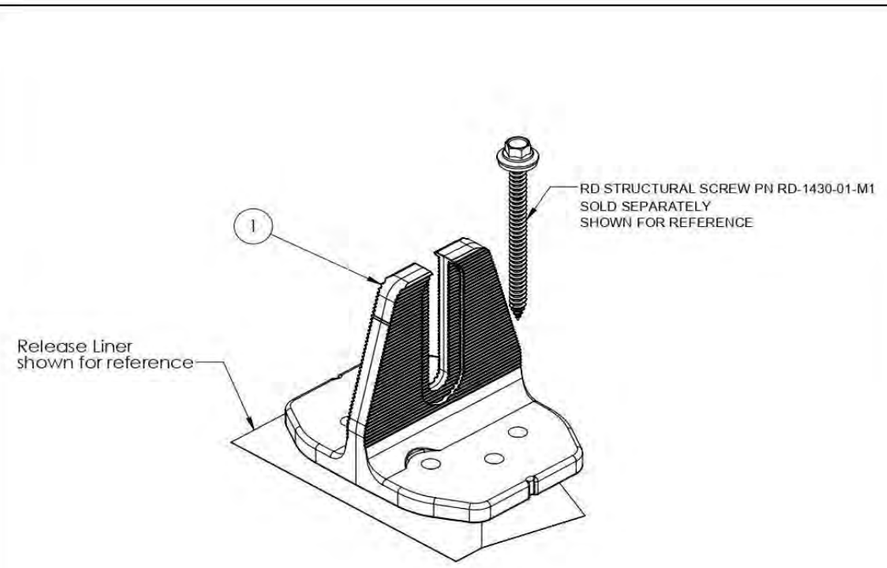
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-15

Cut Sheet

IRONRIDGE

QuickMount® Halo UltraGrip

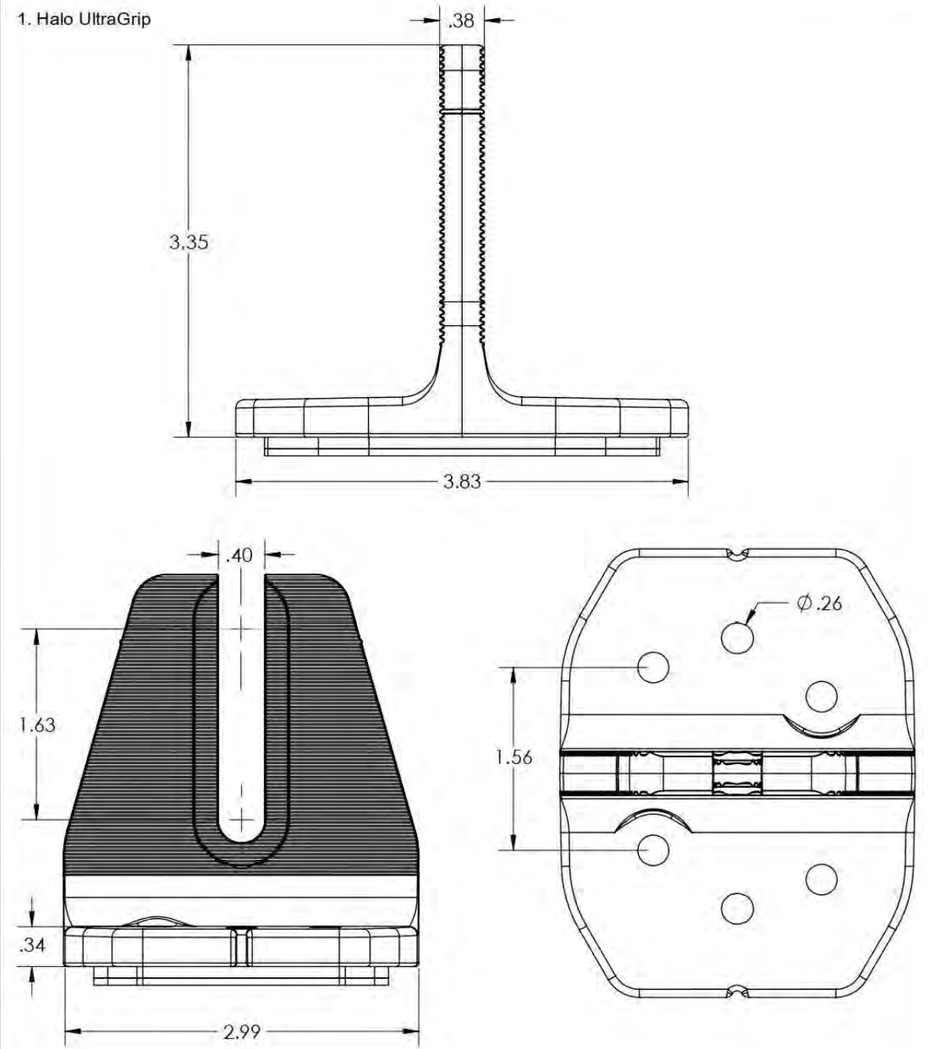


ITEM NO	DESCRIPTION	QTY IN KIT
1	QM Halo UltraGrip(Mill or Black)	1

PART NUMBER	DESCRIPTION
QM-HUG-01-M1	Halo UltraGrip - Mill
QM-HUG-01-B1	Halo UltraGrip - Black

Cut Sheet

1. Halo UltraGrip



Property	Value
Material	3000 Series Aluminium
Finish	Mill or Black

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QM-HUG-01-B1 or QM-HUG-01-M1 Cut Sheet Rev 1.0

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS

1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

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59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY

ESR

SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

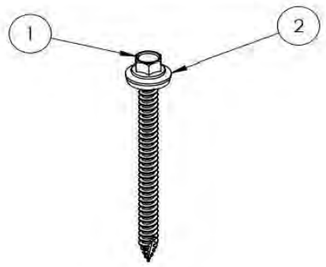
SHEET NUMBER

PV-16

Cut Sheet

IRONRIDGE

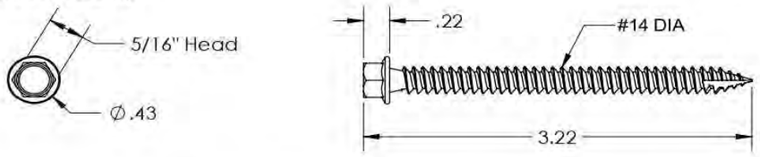
QuickMount® RD Structural Screw



ITEM NO	DESCRIPTION	QTY IN KIT
1	Self Drilling Screw, #14, Wood Tip	1
2	Washer, EPDM Backed	1

PART NUMBER	DESCRIPTION
RD-1430-01-M1	RD Structural Screw

1. Self Drilling Screw, #14, Wood Tip



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

2. Washer, EPDM Backed

Property	Value
Material	300 Series Stainless Steel
Finish	Clear

QM-RD-1430-01-M1 Cut Sheet Rev 1.0

TOP TIER SOLAR SOLUTIONS

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ESR

SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-17

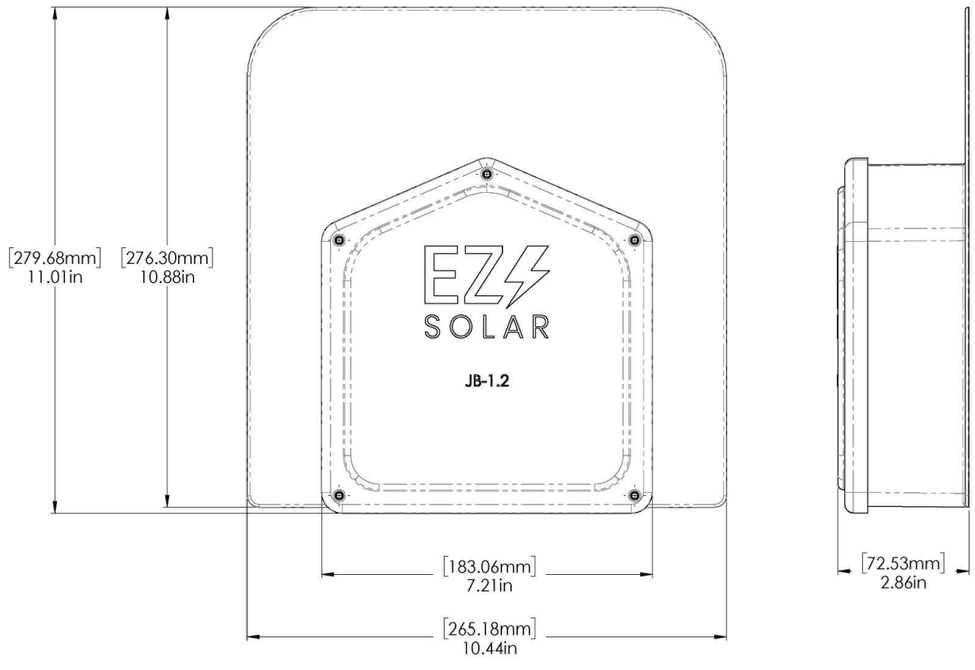
EZ SOLAR
making solar simple.

PHONE: 385-202-4150
WWW.EZSOLARPRODUCTS.COM

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	JB-1.2 BODY	POLYCARBONATE WITH UV INHIBITORS	1
2	JB-1.2 LID	POLYCARBONATE WITH UV INHIBITORS	1
3	#10 X 1-1/4" PHILLIPS PAN HEAD SCREW		6
4	#8 X 3/4" PHILLIPS PAN HEAD SCREW		6

SIZE	DWG. NO.	REV
B	JB-1.2	
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 1 OF 3

TORQUE SPECIFICATION:	15-20 LBS
CERTIFICATION:	UL 1741, NEMA 3R CSA C22.2 NO. 290
WEIGHT:	1.45 LBS

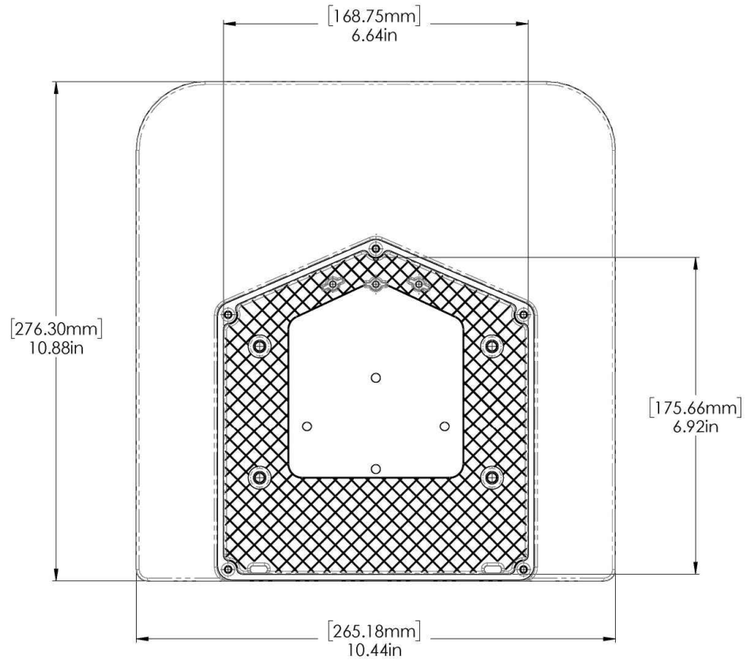


Intertek 5015705

EZ SOLAR
making solar simple.

PHONE: 385-202-4150
WWW.EZSOLARPRODUCTS.COM

SIZE	DWG. NO.	REV
B	JB-1.2	
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 2 OF 3



PROPRIETARY AND CONFIDENTIAL: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF EZ SOLAR. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF EZ SOLAR IS PROHIBITED.

Intertek 5015705

TOP TIER SOLAR SOLUTIONS

TOP TIER SOLAR SOLUTIONS
1530 CENTER PARK DR #2911,
CHARLOTTE, NC 28217,
UNITED STATES

REVISIONS

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REVISION	05/13/2025	A

PROJECT NAME & ADDRESS

MEGAN GEORGE RESIDENCE

59 JUDICIARY CT,
CAMERON, NC 28326

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

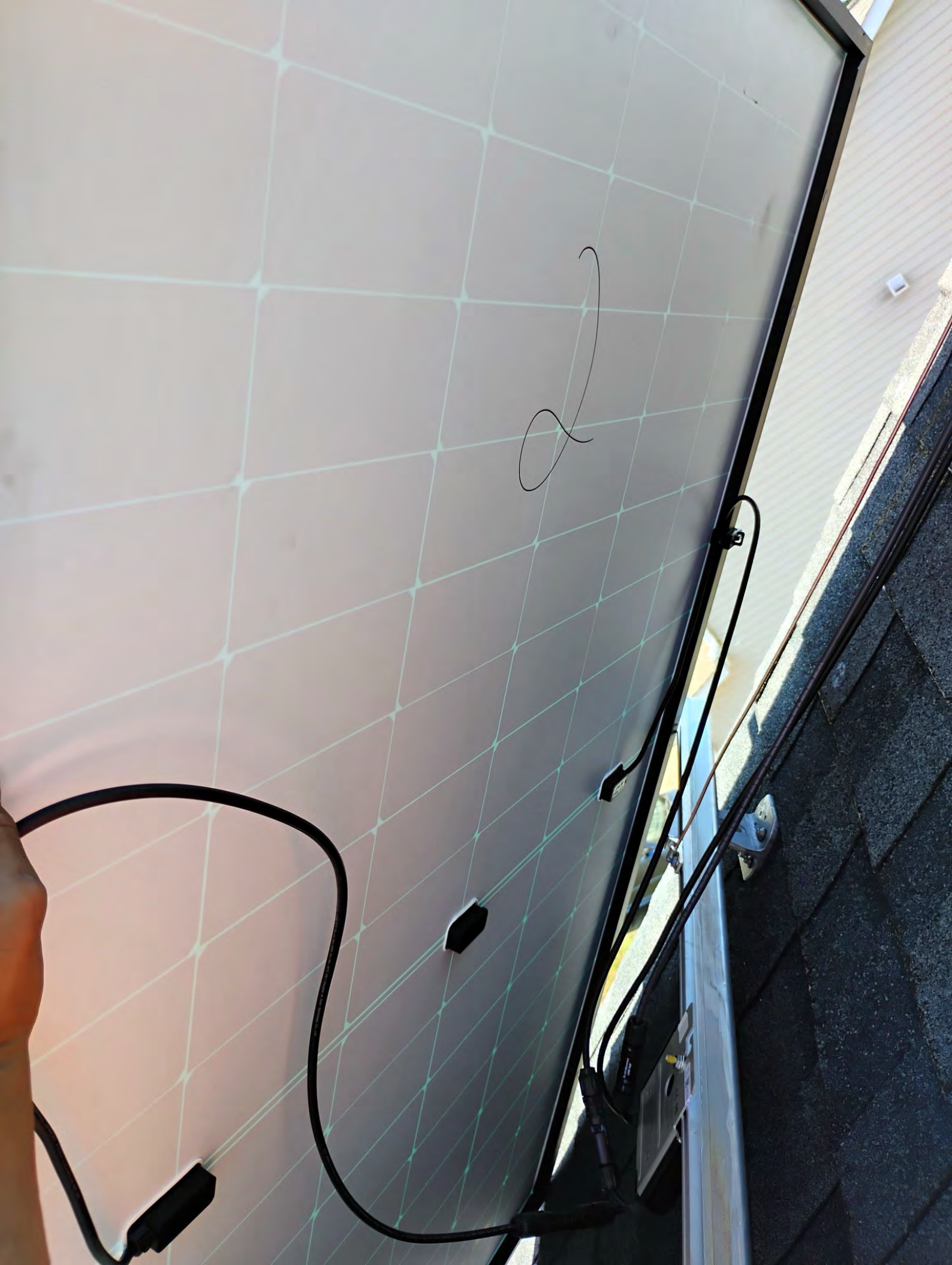
SHEET NUMBER
PV-18


S440
DO NOT
REMOVE
0192AC22A-2F
Made in USA
from imported parts
CE
FC
SolarEdge Technologies Ltd.
Power Optimizer
Solaredge Technologies GmbH/
Werner-Eckert-Straße 6/81829
Munich/Germany
CAUTION
HOT SURFACES-TO REDUCE THE
RISK OF BURNS-DO NOT TOUCH.
RISK OF ELECTRIC SHOCK-WHEN THE
PHOTOVOLTAIC ARRAY IS EXPOSED TO
LIGHT, IT SUPPLIES A DC VOLTAGE TO
EQUIPMENT. COVER PV MODULE WITH
OPAQUE MATERIAL BEFORE CONNECTING OR DISCONNECTING THIS OPTIMIZER.
DURING FAULT, ZERO CURRENT IS SOURCED INTO DC ARRAY BY CONVERTER.
WARNING ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS PHOTOVOLTAIC
SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED.
AVERTISSEMENT
RISQUE DE CHOC ELECTRIQUE: QUAND LE CHAMP
PHOTOVOTAIQUE EST EXPOSE A LA LUMIERE, UNE
TENSION CC EST FOURNIE A CET EQUIPEMENT.
SURFACES CHAUDES: NE PAS TOUCHER, AFIN DE
REDUIRE LES RISQUES DE BRULURES LE COURANT
DE RETOUR INJECTE PAR LE CONVERTISSEUR EN
CAS DE DEFAILLANCE DANS LE MODULE PV EST
TOUJOURS NUL.
STOP!
STRING
MODULE


Megan George
59 Judiciary CT.
Cameron, NC 28326
Intertek
5018942
NEMA 3R

Cameron, NC 28326

NEMA 3R



EZ SOLAR

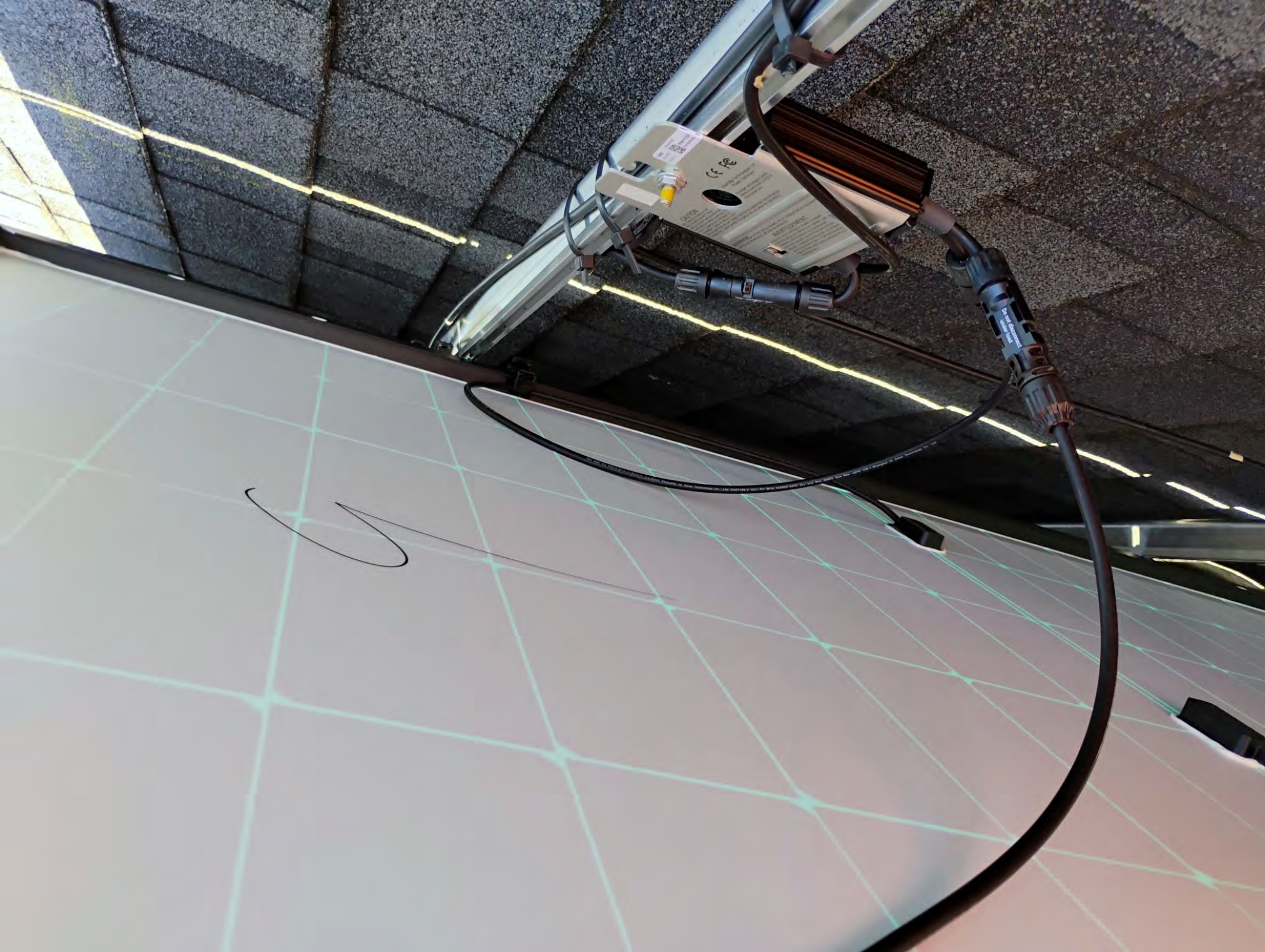
JB-1 XL

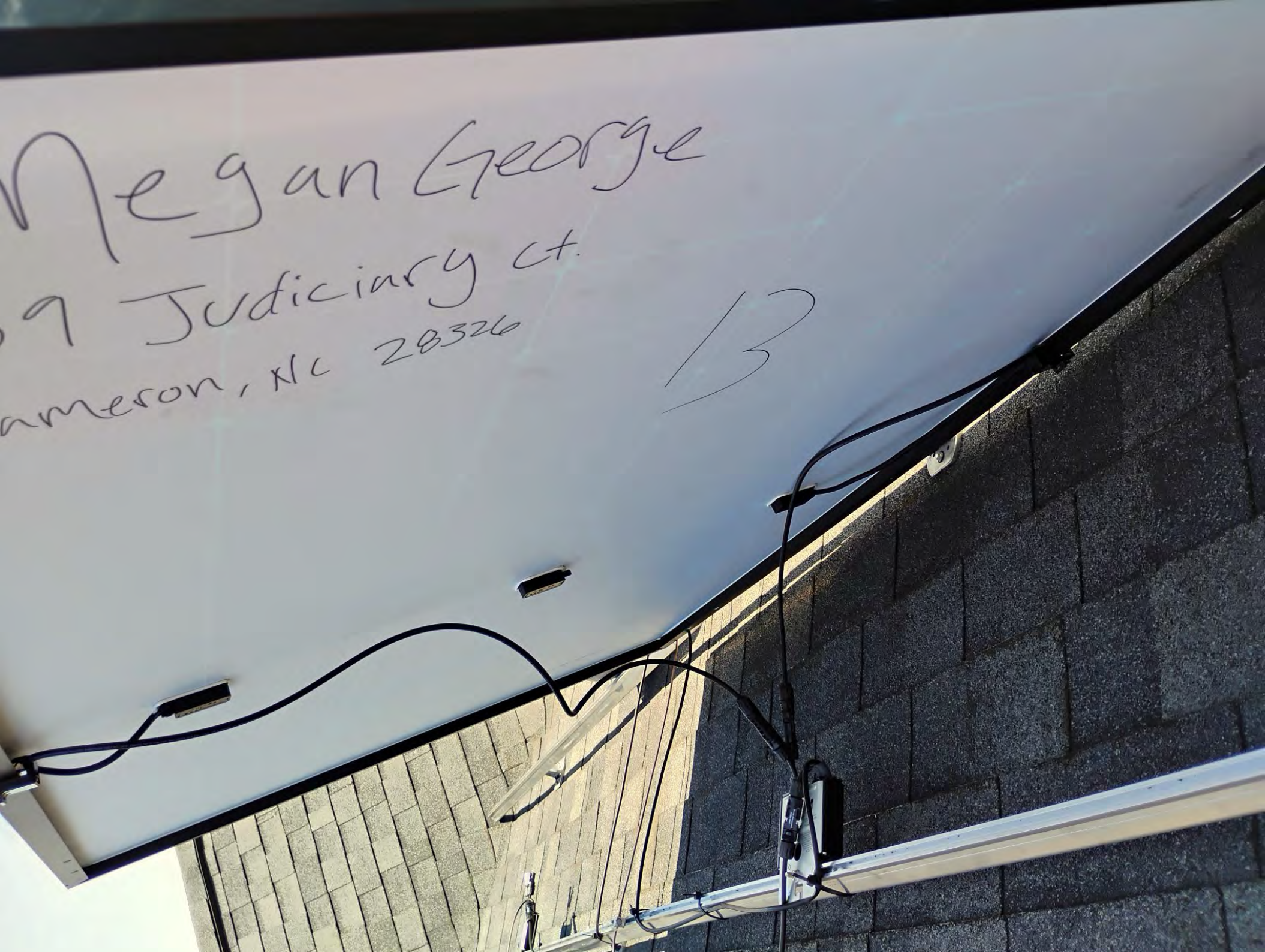
PHOTOVOLTAIC POWER SOURCE

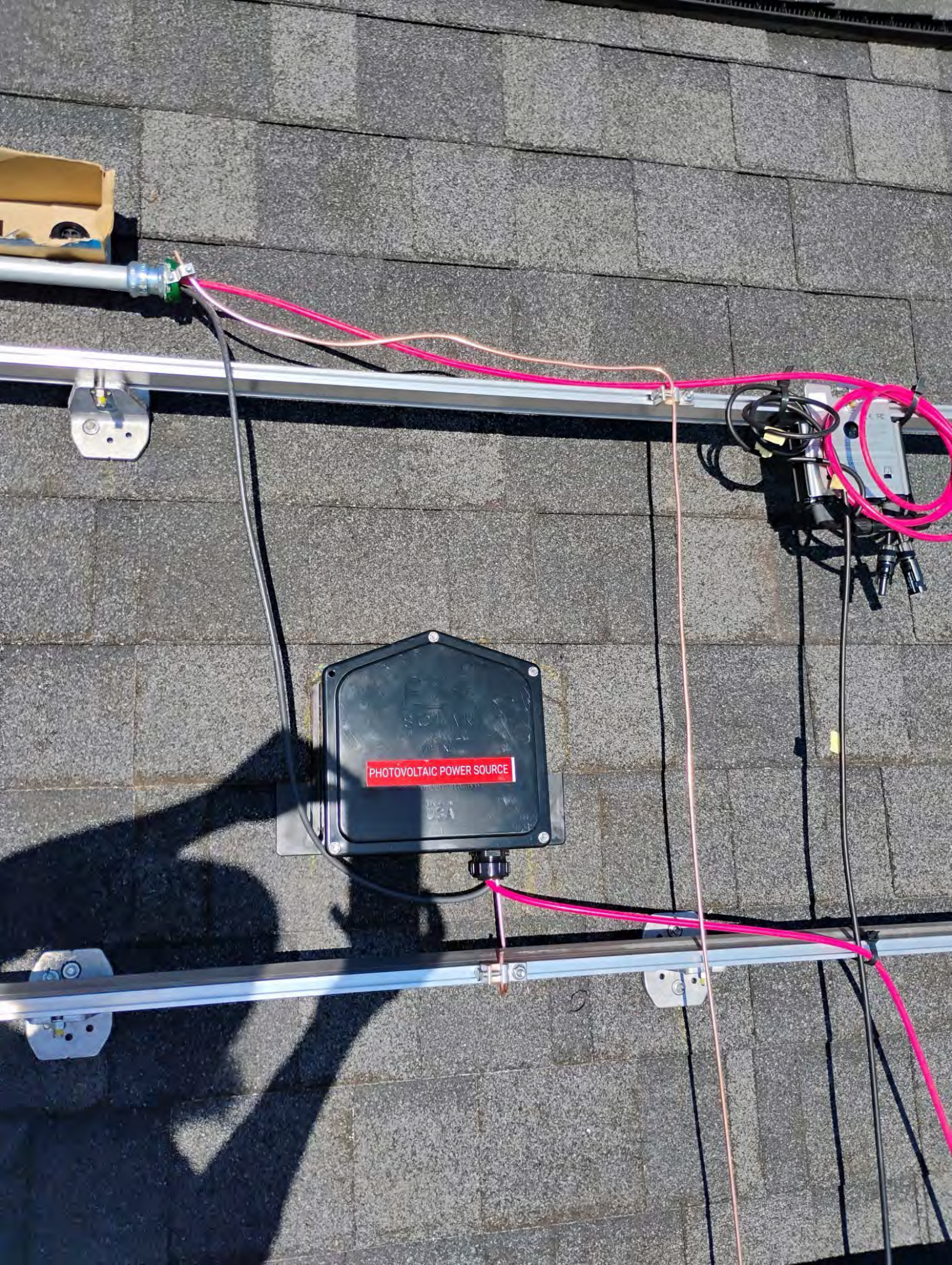
Patents:

MADE IN USA

Megan George
59 Judiciary CT.
Cameron, NC 28326


Do not disconnect
under load


Megan George
9 Judiciary ct.
ameron, NC 28326
13


PHOTOVOLTAIC POWER SOURCE


3
Do not disconnect under load


UC

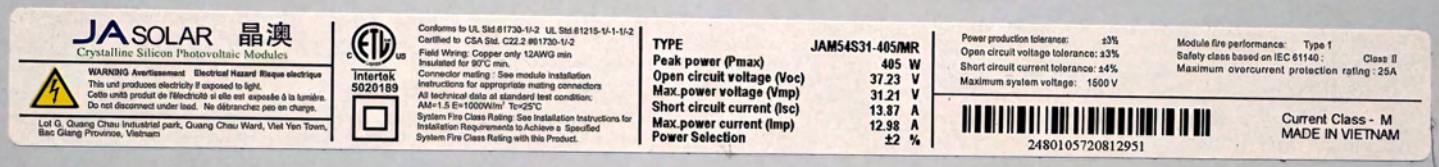

PHOTOVOLTAIC POWER SOURCE


CU (UL) PV WIRE 2000V 90°C DRY OR WET (-40°C) XLPE SUN RES DIRECT BURIAL RHH/RHW-2 2000V ROHS


WARNING
AVERTISSEMENT
PV Wire 12AWG 105°C Dry and 90°C Wet 1000V or 2000V Sun
Wire 12AW


59
Megan George
59 Judiciary Ct
Cameron, NC 28326
13


TRUE RMS
°C°F
NCV
MODE
RANGE
REL
HOLD
MAX MIN
AC/DC CLAMP METER
21550T
13.21
AUTO
Southwire
AC21 10A
IP20
ECI-SW-DQ64S
ON
OFF
LOCK


JA SOLAR 晶澳
Crystalline Silicon Photovoltaic Modules
WARNING Avertissement Electrical Hazard Risque électrique
This unit produces electricity if exposed to light.
Cette unité produit de l'électricité si elle est exposée à la lumière.
Do not disconnect under load. Ne débranchez pas en en charge.
Lot G, Quang Chau Industrial park, Quang Chau Ward, Viet Yen Town, Bac Giang Province, Vietnam
Intertek 5020189
Conforms to UL Std.61730-1/-2 UL Std.61215-1/-1-1/-2
Certified to CSA Std. C22.2 #61730-1/-2
Field Wiring: Copper only 12AWG min
Insulated for 90°C min.
Connector mating : See module installation instructions for appropriate mating connectors
All technical data at standard test condition; AM=1.5 E=1000W/m² Tc=25°C
System Fire Class Rating: See Installation Instructions for Installation Requirements to Achieve a Specified System Fire Class Rating with this Product.
TYPE JAM54S31-405/MR
Peak power (Pmax) 405 W
Open circuit voltage (Voc) 37.23 V
Max.power voltage (Vmp) 31.21 V
Short circuit current (Isc) 13.87 A
Max.power current (Imp) 12.98 A
Power Selection ±2 %
Power production tolerance: ±3%
Open circuit voltage tolerance: ±3%
Short circuit current tolerance: ±4%
Maximum system voltage: 1500 V
Module fire performance: Type 1
Safety class based on IEC 61140 : Class II
Maximum overcurrent protection rating : 25A
2480105720812951
Current Class - M
MADE IN VIETNAM


PHOTO

PHOTOVOLTAIC POWER SOURCE

Southwire
3/4" CHINA
COVER

c UL us
LISTED
5FK5


WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM
CAUTION:
MULTIPLE SOURCES OF POWER
THE PV DISCONNECT IS LOCATED BESIDE THE SERVICE METER
APPENDIX E-1 ENERGY EFFICIENCY CERTIFICATE
N1101.9 or NCECC 401.3
This home has been independently verified to meet the energy efficiency requirements of the 2012 NC ENERGY CONSERVATION CODE.
PROPERTY ADDRESS 59 Judiciary Ct.
BUILDER NAME H&H
BUILDER SIGNATURE
DATE 2-17-14
INSULATION RATING
R-VALUE*
CEILING/ROOF 38
WALL 19
FLOOR —
CLOSED CRAWL WALL (IF APPLICABLE) —
CLOSED CRAWL FLOOR (IF APPLICABLE) —
SLAB (IF APPLICABLE) —
BASEMENT WALL (IF APPLICABLE) —
Visually inspected tub, shower, fireplace units, stairs §N1102.2.12 or §NCECC 402.2.12
Home meets the Simulated Performance Alternative (PERFORMANCE OPTION) (IF APPLICABLE)
FENESTRATION*
U-FACTOR .32
SOLAR HEAT GAIN (SHGC) .22
ELECTRICAL & LIGHTING SYSTEMS
Visually inspected according to §N1104 or §NCECC 404 (75%+ high-efficiency lighting)
BUILDING AIR LEAKAGE
Visually inspected according to §N1102.4.2.1 or §NCECC 402.4.2.1
AND / OR
Building Air Leakage Test Results (§N1102.4.2.2) (TARGET: ≤ 5 ACH50) 4.3 ACH50
HVAC DUCTS
R-VALUE*
INSULATION (Cond.) 8
INSULATION (Uncond.) 8
DUCT LEAKAGE
CFM25/100SF
1 (§NCECC 403.2.2) 2.8
SYSTEM 2 (§NCECC 403.2.2) (IF APPLICABLE) —
SYSTEM 3 (§NCECC 403.2.2) (IF APPLICABLE) —
TOTAL DUCT LEAKAGE 2.8
TESTER Tony Foote
TESTING COMPANY SOUTHERN ENERGY MANAGEMENT
PHONE (919) 836-0330
TESTING DATE 2-17-14
Values listed indicate predominant rating found in home.
© 2013 Southern Energy Management, Inc. Rev 6


59
CAUTION
WALL RECYCLING
(910) 960-0032


solaredge
Made in USA
from imported parts
ON
OFF
DC DISCONNECT
solaredge

POWER SOURCE

EATON

General Duty Safety Switch
Interrupteur de sécurité à usage général
Interruptor de seguridad de servicio general

60 A, 240 V~, 60 Hz

Complete ratings inside
Valeurs nominales complètes à l'intérieur
Información completa de capacidades en el interior

Further instructions inside
Autres instructions à l'intérieur
Instrucciones adicionales en el interior

Made in U.S.A. / Fabriqué aux É.-U. / Hecho en E.U.A.

⚠ DANGER

HAZARDOUS VOLTAGE. WILL CAUSE SEVERE INJURY OR DEATH.

- Never operate switch with cover open.
- Turn OFF power ahead of switch before doing any work inside. Replace all parts. Close cover before turning power ON.

TENSION DANGEREUSE. PEUT CAUSER DES BLESSURES GRAVES OU LA MORT.

- Ne jamais manœuvrer l'interrupteur lorsque le couvercle est ouvert.
- Couper l'alimentation en amont de l'interrupteur avant toute intervention. Remplacer les pièces. Fermer le couvercle avant de remettre sous tension.

⚠ PELIGRO

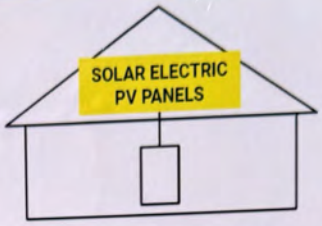
VOLTAJE PELIGROSO. PUEDE CAUSAR HERIDAS SEVERAS O LA MUERTE.

- Nunca opere el interruptor con la cubierta abierta.
- Desconectar la alimentación del interruptor antes de trabajar dentro del mismo. Reemplazar todas las partes. Cerrar la cubierta antes de energizar el interruptor.

30-43080

MADE IN U.S.A.

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

AC DISCONNECT

PHOTOVOLTAIC SYSTEM POWER SOURCE

RATED AC OUTPUT CURRENT	24	AMPS
NOMINAL OPERATING AC VOLTAGE	240	VOLTS

⚠ WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

ON
I

OFF
O


SOLAR PV BREAKER
BREAKER IS BACKFED
DO NOT RELOCATE
30
60
O/OFF
10 kA
120/240V~

DIRECTORY / DIREC

1	SPA	2	MAIN
3	SPA	4	
5	A/C	6	HEAT
7		8	
9		10	
11		12	
13		14	
15		16	
17		16	
19		20	

SQUARE D COMPANY

40271-821-01

SOLAR PV BREAKER

BREAKER IS BACKFED
DO NOT RELOCATE

DANGER / PELIGRO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

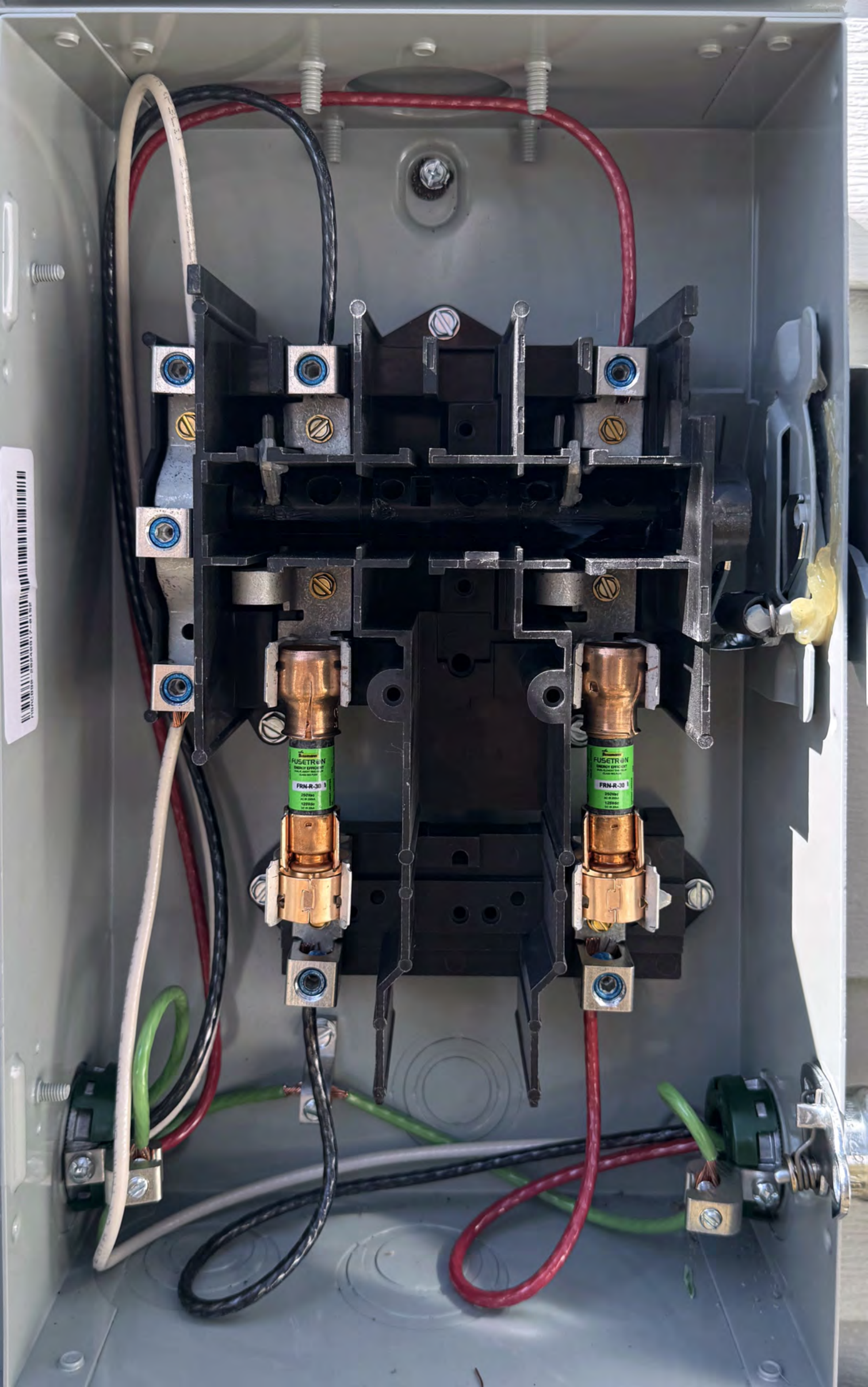
PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARQUEO

- Utilice equipo de protección personal (EPP) apropiado y siga las prácticas de seguridad eléctrica establecidas por su Compañía (consulte la norma NFPA 70E).
- Solamente el personal eléctrico especializado deberá instalar y prestar servicio de mantenimiento a este equipo.
- Desenergice el equipo antes de realizar cualquier trabajo en él.
- Siempre utilice un dispositivo detector de tensión de valor nominal adecuado para confirmar la desenergización del equipo.
- Antes de energizar el equipo, vuelva a colocar todos los dispositivos, las puertas y los frentes.

El incumplimiento de estas precauciones podrá causar la muerte o lesiones serias.

40273-709-02


Bussmann
FUSETRON
ENERGY EFFICIENT
DUAL-ELEMENT TIME-DELAY
CLASS RK5 FUSE
FRN-R-30
250Vac
AC IR 200kA
125Vdc
DC IR 20kA


FUSETRON
FRN-R-30
FUSETRON
FRN-R-30

DANGER	PELIGRO	DANGER
HAZARDOUS VOLTAGE. WILL CAUSE SEVERE INJURY OR DEATH.	VOLTAJE PELIGROSO. PUEDE CAUSAR HERIDAS SEVERAS O LA MUERTE.	TENSION DANGEREUSE. PEUT CAUSER DES BLESSURES GRAVES OU LA MORT.
Never operate switch with cover open.	Nunca opere el interruptor con la cubierta abierta.	Ne jamais manoeuvrer l'interrupteur lorsque le couvercle est ouvert.
If fused, turn OFF switch before removing or installing fuse.	Si el interruptor usa fusible, baje su palanca a la posición fuere "OFF" antes de retirar o instalar fusibles.	S?l est muni d'un fusible, mettre l'interrupteur hors circuit (OFF) avant d'enlever ou d'installer un fusible.
Always use a properly rated voltage sensing device at all line and load side fuse clips (if fused) or load side terminals (if non-fused) to confirm switch is OFF.	Mida el voltaje con un dispositivo de medición adecuado en lado de carga de los clips de fusibles (si los usa) o en las terminales de carga (cuando no usa fusibles) para comprobar que el interruptor está desenergizado.	Toujours utiliser un dispositif dè détection de la tension dont les valeurs nominales sont apropriées, et le côté charge du porte-fusible (muni d'un fusible) ou les bornes côté charge (sans fusible) pour confirmer que l'interrupteur est hors circuit (OFF).
Turn OFF power ahead of switch before doing any work inside. Replace all parts. Close cover before turning power ON.	Desconectar la alimentación del interruptor antes de trabajar dentro del mismo. Reemplazar todas las partes. Cerrar la cubierta antes de energizar el interruptor.	Couper l'alimentation en amont de l'interrupteur avant toute intervention. Remplacer les pièces. Fermer le couvercle avant de remettre sous tension.

DG222NRB

EATON®

Series B
GENERAL DUTY SAFETY SWITCH
Type 3R Enclosure - Rainproof

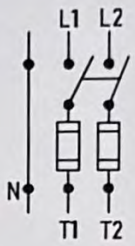
TERMINALS SUITABLE FOR AL-CU WIRE.

INTERRUPTOR DE SEGU RIDAD DE SERVICIO GENERAL
Gabinete NEMA 3R - A Prueba De Lluvia

TERMINALES ADECUADAS PARA CONDUCTORES DE AL-CU.

INTERRUPTEUR DE SÉCURITÉ À USAGE GÉNÉRAL
Enveloppe De Type 3R - A L'épreuve De La Pluie

BORNES CONVENANT POUR CONDUCTEURS AL-CU.



E-5239-G
UL LISTED
ENCLOSED SWITCH
INTERRUPTOR EN GABINETE
INTERRUPTEUR SOUS COFFRET
ISSUE NO. AL-72

NOM-367-ANCE

60 Amperes 120/240, 240, 127/220 V ~ 60Hz 3W S/N, 3H N/S, 3F N/S

Horsepower Ratings	KW(Caballos de potencia)		Régimes "Horsepower"		
	1 Phase/1 Fase		3 Phase/3 Fase *		2 Pole/2 Polo ⎓
Volts / Tension / Voltaje	Std. / Est	Max.	Std. / Est	Max.	
120 / 127 ~	1½ (1,119)	3 (2,238)	3 (2,238)	7½ (5,60)	-
240 ~	3 (2,238)	10 (7,46)	7½ (5,60)	15 (11,19)	-

*For grounded B Phase systems only.
Maximum fuse size 60A
The starting current of motors of more than the standard horsepower ratings may require the use of fuses with appropriate time-delay characteristics.
Continuous load current not to exceed 80% of the rating of fuses employed in other than motor circuits.
Suitable for use as service equipment.
Suitable for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amperes, 240 V ~ maximum, when Class R fuses are used. Fuse kit DS16FK is required for R fuses.
DANGER-Unless Class R fuses are used, this switch may present a risk of fire and personal injury if installed on circuits capable of delivering more than 10,000 RMS symmetrical amperes.
When used with Class K or H fuses, suitable for use on a circuit capable of delivering not more than 10,000 RMS symmetrical amperes, 240 volts maximum.
Experience has shown that renewable fuses can cause overheating problems and thus the use of renewable fuses is not recommended.
Use 60°C or 75°C wire.
Lug torque / Hex across flats / 5/32" / 100 LB. - In
Wire range
14 - 1/0 AWG, 2,1 a 53,5 mm² AL - CU

Accessories
Install per instructions supplied with kit.
R fuse kit DS16FK
Ground lug kit DG030GB
Neutral kit DG100NB
3/4" (19.05mm) Hub size DS075H1
1" (25.40mm) Hub size DS100H1
1¼" (31.75mm) Hub size DS125H1
1½" (38.10mm) Hub size DS150H1
2" (50.80mm) Hub size DS200H1

Accesorios
Instalar de acuerdo a instrucciones incluidas en los accesorios.
Juego adaptador para fusible tipo "R" DS16FK
Juego de partes para terminal de tierra DG030GB
Juego de neutro DG100NB
3/4" (19.05mm) Tamano de cople DS075H1
1" (25.40mm) Tamano de cople DS100H1
1¼" (31.75mm) Tamano de cople DS125H1
1½" (38.10mm) Tamano de cople DS150H1
2" (50.80mm) Tamano de cople DS200H1

Accessoires
Installer conformément aux directives fournies avec l'ensemble.
Ensemble pour fusible R DS16FK
Ensemble de bornes de MALT DG030GB
Ensemble de neutres DG100NB
3/4" (19.05mm) Calibre des manchons DS075H1
1" (25.40mm) Calibre des manchons DS100H1
1¼" (31.75mm) Calibre des manchons DS125H1
1½" (38.10mm) Calibre des manchons DS150H1
2" (50.80mm) Calibre des manchons DS200H1

*Sólo para sistemas con falla a tierra en fase B.
Adecuado para usarse como equipo de acometida
Tamaño máximo de fusible de 60 amperios
La corriente de arranque de motores con capacidad mayor a los caballos de potencia estándar puede requerir del uso de fusibles con características de retardo de tiempo apropiadas.
La corriente de carga continua no debe exceder el 80% de la capacidad del fusible empleado, con excepción de los circuitos de motores.
Adecuado para usarse en circuitos capaces de entregar no más de 100 000 A RCM simétricos, con 240 V~ máximo, cuando se utilizan fusibles clase R. El juego adaptador de fusibles DS16FK se requiere para fusibles clase R.
PELIGRO-a menos que se utilicen fusibles clase R, este interruptor puede presentar riesgos de incendio y daño personal si es instalado en circuitos con capacidad de entregar más de 10 000 A RCM simétricos.
Cuando se utiliza con fusibles clase K o H, es adecuado para usarse en circuitos con capacidad de entregar no más de 10 000 A RCM simétricos, con 240 V~ máximo.
La experiencia muestra que los fusibles renovables pueden causar problemas de sobrecalentamiento, por lo tanto, el uso de fusibles renovables no es recomendable.
Usar conductores para 60° C ó 75° C.
Par de apriete de terminales / Tornillo de cabeza hexagonal / 3.97 mm / 11,3 N.m
Rango de la seccion transversal del conductor
14 - 1/0 AWG, 2, 1a 53.5 mm² AL - CU

*Seulement pour des systèmes de phase B MALT.
Approprié comme équipement d'entrée de service
Calibre maximum du fusible 60A
L'intensite de démarrage des moteurs plus élevée que pour les "horsepower" standards peut exiger l'utilisation de fusibles ayant des caracteristiques de temporisation appropriées.
Toute charge continue ne devra pas excéder 80% du calibre des fusibles utilisés sauf s'il s'agit de circuits de moteurs.
Convient a un circuit de 100,000 ampères efficaces symétriques au plus, 240 V ~ maximum, lorsque des fusibles de classe R sont utilises.
Ensemble de fusible DS16FK requis pour fusibles R.
DANGER-A moins d'utiliser des fusibles de classe R, cet interrupteur peut présenter des risques d'incendie et de blessures corporelles s'il est installé dans un circuit de plus 10,000 ampères efficaces symetriques.
Si utilisé avec des fusible K ou H, l'interrupteur sera approprié pour utilisation sur un circuit ne délivrant pas plus de 10,000 amperes RMS symetriques, 240V maximum.
L'expérience démontre que l'utilisation de fusibles renouvelables peut causer des problémes de surchauffe et, par conséquent, ces fusibles ne sont pas recommandés.
Utiliser conducteur 60°C ou 75°C.
Torque aux bornes / Vis à téte six pans / 5/32" / 100 Lb. - Po.
Plage de conducteurs
14 - 1/0 AWG, 2, 1a 53.5 mm² AL - CU

SQUARE D METER MAIN

COMBINATION SERVICE ENTRANCE DEVICE
CUSTOMER OWNED EQUIPMENT

CAT. NO.	SERIES
☐ QC12L200C	M01
☐ QC12L200CH	M01

RAINPROOF TYPE 3R ENCLOSURE
MAINS 200 AMP MAX.
120/240 Vac 1 PH. 3 W. 50-60 Hz
208Y/120 Vac 1 PH. 3 W. 50-60 Hz
(FROM A 3 PH. 4 W. SYSTEM)
METER SOCKET RATED 200 AMP CONTINUOUS

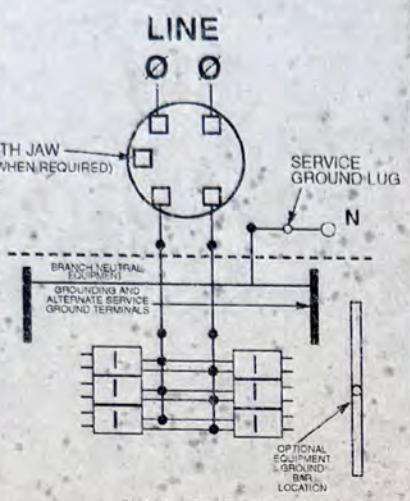
SUITABLE FOR UNDERGROUND OR OVERHEAD SERVICE.

SUITABLE FOR USE WITH 75° C COPPER OR ALUMINUM LINE CONDUCTORS.

SEE BRANCH BREAKERS FOR BRANCH WIRE RATINGS.

TO DISCONNECT ALL LOAD CONDUCTORS FROM THE SUPPLY CONDUCTORS, TURN OFF ALL CIRCUIT BREAKER HANDLES MARKED **SERVICE DISCONNECT.**

LINE TERMINALS SUITABLE FOR NO. 6 AWG TO 350 kcmil WIRE.



TWO POLE TYPE QO OR QOA (10 - 100A)
TWO POLE TYPE QOC (150 - 200A)
INSTALL NO MORE THAN SIX CIRCIT BREAKERS
USE 10 - 100A AND 150 - 200A BRANCH BREAKERS ONLY.

A SQUARE D UL LISTED SECONDARY SURGE ARRESTER MAY PLUG ON TWO ADJACENT SPACES. **ORDER CAT. NO. QO2175SB.**

USE ONLY SQUARE D TYPE QO, QOA OR QOC BRANCH CIRCUIT BREAKERS AND REPLACEMENT PARTS WITH THIS PRODUCT.

IF THE HANDLE IS MID-POSITION OR IF THE RED VISI-TRIP ® INDICATOR CAN BE SEEN, OR IF BOTH OCCUR, THE BREAKER HAS TRIPPED.

CIRCUIT BREAKER HANDLE POSITIONS

TO RESET A TRIPPED CIRCUIT BREAKER

1. MOVE THE HANDLE TO THE OFF POSITION.
2. NEXT MOVE THE HANDLE TO THE ON POSITION.

REMOVE TWISTOUTS ONLY AS NEEDED WHEN CIRCUITS ARE INSTALLED.

CLOSE UNUSED CIRCUIT BREAKER OPENINGS WITH FILLER PLATES. **ORDER CATALOG NO. QOFP.** EACH FILLER PLATE CLOSES ONE POLE CIRCUIT BREAKER OPENING.

ACCESSORIES

ALL UNUSED NEUTRAL TERMINALS MAY BE USED FOR TERMINATING EQUIPMENT GROUNDING WIRES. WHEN SEPARATE GROUNDING BAR KIT IS REQUIRED, **ORDER CAT. NO. PK15GTA.**

WHEN 5TH JAW KIT IS REQUIRED, **ORDER CAT. NO. 5J.**

WHEN HORN BYPASS KIT IS REQUIRED, **ORDER CAT. NO. RCHB2 OR MMHB (SERIES M02).**

WHEN A BARREL LOCK SEALING PROVISION IS REQUIRED, **ORDER BARREL LOCK MOUNTING BRACKET CAT. NO. SCBRLLOCK.**

USE UL LISTED RAINTIGHT OR LIQUID TIGHT HUBS FOR CONDUIT ENTRY ABOVE CURRENT CARRYING PARTS.

NEUTRAL LUG KIT LK225AN

A TOP CLOSING CAP IS INCLUDED. WHEN A HUB IS REQUIRED FOR SERVICE ENTRANCE, ORDER THE FOLLOWING:				
CONDUIT	1¼"	1½"	2"	2½"
SQUARE D CAT. NO.	A125	A150	A200	A250
or DURHAM CAT. NO.	ARP 00004	ARP 00005	ARP 00006	ARP 00007

FOR REPLACEMENT PARTS, CONTACT THE LOCAL SQUARE D SALES OFFICE.

SHORT CIRCUIT CURRENT RATING

22,000 RMS SYMMETRICAL AMPERES AT 120/240 Vac MAXIMUM WITH TYPES QO OR QOA CIRCUIT BREAKERS (WITH 22,000 AMPERES INTERRUPTING RATING). THE RATING IS EQUAL TO THE LOWEST INTERRUPTING RATING OF ANY CIRCUIT BREAKER INSTALLED.

WATTHOUR METER NOT INCLUDED IN SHORT-CIRCUIT-CURRENT RATING.

ADDITIONAL OR REPLACEMENT CIRCUIT BREAKERS MUST HAVE AN INTERRUPTING RATING EQUAL TO OR GREATER THAN THAT OF THE CIRCUIT BREAKER WITH THE LOWEST INTERRUPTING RATING PRESENTLY INSTALLED.

LUG TORQUE DATA

SEE CIRCUIT BREAKERS AND FIELD INSTALLED UNITS FOR WIRE BINDING SCREW TORQUES.

	WIRE RANGE AWG/kcmil	TORQUE LB-IN
LINE LUGS (PHASE AND NEUTRAL)	6-350 CU/AL	250
SERVICE GROUND LUG	14 - 2/0 CU 12 - 2/0 AL	50

BRANCH NEUT. & EQUIP GND. BAR			
WIRE RANGE (AWG.)	TORQUE LB-IN		
	BAR WITH TWO SCREW SIZES		BARS WITH 1 SIZE SCREW
	LARGE	SMALL	
1/0 - 3 CU/AL	50	--	--
4 CU/AL	45	--	35
6 CU/AL	45	25	35
8 CU/AL	40	10	25
10-14 CU, 10-12 AL	35	10	20
EQUIPMENT GND. COMBINATIONS			
TWO 14 OR 12 CU TWO 12 AL	35	10	25
TWO 10 AL	35	--	25

SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT. INSTALL NO MORE THAN SIX MAIN DISCONNECTING MEANS.

SQUARE D

MADE IN MEXICO | 52 | 40272-183-03

SQUARE D MEDIDOR PRINCIPAL

BASE INTEGRAL DE MEDICION PARA ACOMETIDA
EQUIPO COMPRADO POR EL CLIENTE

NO. DE CATALOGO	SERIE
☐ QC12L200C	M01
☐ QC12L200CH	M01

CAJA A PRUEBA DE LLUVIA TIPO 3R

CONDUCTORES PRINCIPALES 200 AMP MÁXIMO
120/240 V~ 1PH. 3W. 50-60 Hz
208Y/120 V~ 1PH. 3W. 50-60Hz
(DE UN SISTEMA DE 3 FASES Y 4 HILOS)
ENCHUFE DEL MEDIDOR CLASIFICADO A 200 AMP. CONTINUO.
MÁXIMO INTERRUPTOR DE CIRCUITO-100 AMP.

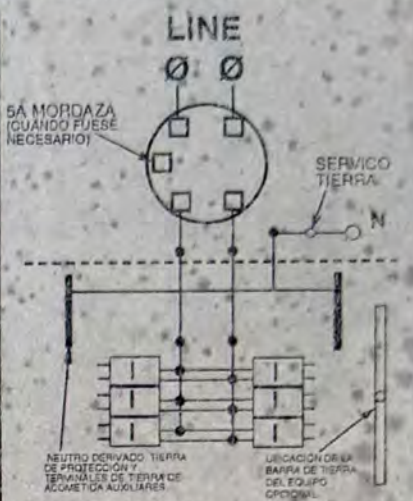
ADECUADO PARA UTILIZACIÓN EN SERVICIO SUBTERRANEO O ELEVADO.

ADECUADO PARA USAR CON LINEAS CONDUCTORAS DE 75°C DE COBRE O ALUMINIO.

VEA EL INTERRUPTOR DE CIRCUITO PARA LA CLASIFICACIÓN DE ALAMBRE.

PARA DESCONECTAR TODOS LOS CONDUCTORES DE CARGA DE LOS CONDUCTORES DE ALIMENTACION, COLOQUE LA PALANCA DEL INTERRUPTOR AUTOMATICO MARCADA DESCONEXION DE ACOMETIDA EN LA POSICION DE ABIERTO.

TERMINALES DE LINEA ADECUADAS PARA CABLE NO. 6 AWG A 350 kcmil.



DOS POLOS TIPO QO O QOA (10-100A)
DOS POLOS TIPO QOC (150-200A)
NO INSTALE MAS DE 6 CIRCUITOS DE INTERRUPTOR

USE INTERRUPTORES DERIVADOS DE 10-100A Y 150-200A UNICAMENTE

UN SQUARE D DE CLASIFICACIÓN UL PARA CHISPAS DE SOBRECORRIENTE SECUNDARIA PUEDE ENCUFARSE EN DOS LUGARES ADYACENTES. **PIDA EL NO. DE CAT. QO2175SB.**

UTILIZE SOLAMENTE INTERRUPTORES DE CIRCUITO SQUARE D TIPO QO, QOA O QOC Y PIEZA DE REPUESTO CON ESTE PRODUCTO.

ACCESORIOS

TODAS LAS TERMINALES NEUTRALES INUTILIZADAS PUEDEN SER USADAS PARA TERMINAR CABLES DE TIERRA DEL EQUIPO. REQUIERA UN "KIT" DE BARRAS DE TIERRA SEPARADAS, **PIDA EL NO. DE CAT. PK15GTA.**

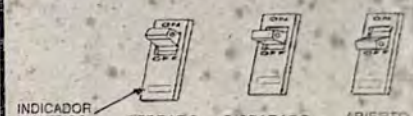
CUANDO SE REQUIERA UN "KIT" DE QUINTA QUIJADA, **PIDA EL NO. DE CAT. 5J.**

CUANDO SE REQUIERA JUEGO DE DESVÍO DE BOCINA, **PIDA NO. DE CAT. RCHB2. O MMHB (SERIE M02).**

CUANDO SE REQUIERA UN PROVISIÓN DE SELLADO DE CERRADURA CILINDRICA, **PIDA RECEPTACULO DE MONTURA DE CERRADURA CILÍNDRICA NO. DE CAT. SCBRLLOCK.**

UTILIZE ENCHUFES DE CONEXIÓN CONTRA LLUVIA O LIQUIDO DE CLASIFICACIÓN UL PARA CONDUCTOS DE ENTRADA QUE ESTEN ARRIBA DEL NIVEL DE PARTES QUE CONDUCEN CORRIENTE.

ACCESORIO DE ZAPATA DE NEUTRO LK225AN



POSICIÓN DE LA PALANCA DEL INTERRUPTOR

CÓMO RESTABLECER UN INTERRUPTOR DISPARADO

1. MUEVA LA PALANCA A LA POSICIÓN DE ABIERTO (OFF)
2. A CONTINUACIÓN, MUEVA LA PALANCA A LA POSICIÓN DE CERRADO (ON)

REMUEVA ROSCAS SOLAMENTE COMO SEA NECESARIO CUANDO LOS CIRCUITOS ESTÉN SIENDO INSTALADOS.

CIERRE LAS APERTURAS DE LOS INTERRUPTORES DE CIRCUITO INUTILIZADOS CON LAMINAS DE RELLENO. **PIDA EL NO. DE CAT. QOFP.** CADA LAMINA DE RELLENO CIERRA UNA APERTURA DE UN INTERRUPTOR DE UN POLO.

TAPA DE CERRADO INCLUIDA. CUANDO SE REQUIERA UN ENCHUFE DE CONEXIÓN PARA SERVICIO SUBTERRANEO DE ENTRADA, PIDA LO SIGUIENTE:				
CONDUIT	1¼"	1½"	2"	2½"
SQUARE D NO. DE CAT.	A125	A150	A200	A250
or DURHAM NO. DE CAT.	ARP 00004	ARP 00005	ARP 00006	ARP 00007

PARA PARTES DE REPUESTO, COMUNIQUESE CON LA OFICINA DE VENTAS LOCAL DE SQUARE D.

CLASIFICACIÓN DE CORRIENTE DE CORTO CIRCUITO

CAPACIDAD NOMINAL DE CORRIENTE DE CORTOCIRCUITO: 22,000 AMPERES SIMÉTRICOS RCM A 120/240 V~ COMO MÁXIMO CON DESCONEXIÓN DE ACOMETIDA TIPO QO (CON CAPACIDAD INTERRUPTIVA DE 22,000 AMPERES). LA CAPACIDAD INTERRUPTIVA DEL EQUIPO ES IGUAL A LA MAS BAJA DE CUALQUIER INTERRUPTOR AUTOMATICO INSTALADO.

MEDIDOR DE WATT/HORA NO ESTA INCLUIDO EN LA CLASIFICACIÓN DE CORRIENTE-DE-CORTO-CIRCUITO.

LOS INTERRUPTORES DE CIRCUITO ADICIONALES O DE REPUESTO DEBEN TENER UN GRADO DE INTERRUPCIÓN IGUAL O MAYOR QUE EL INTERRUPTOR CON EL MENOR GRADO DE INTERRUPCIÓN YA INSTALADO.

APROPIADO SOLAMENTE PARA USARSE COMO EQUIPO DE SERVICIO. INSTALE NO MAS DE SEIS INTERRUPTORES DE CIRCUITO.

DATOS DE TORSIÓN DE LAS LENGUETAS DE CONEXIÓN

VEA LOS INTERRUPTORES DE CIRCUITO Y LAS UNIDADES DE CAMPO PARA LA TORSION DE LOS TORNILLOS DE LIGADURA DEL CABLE.

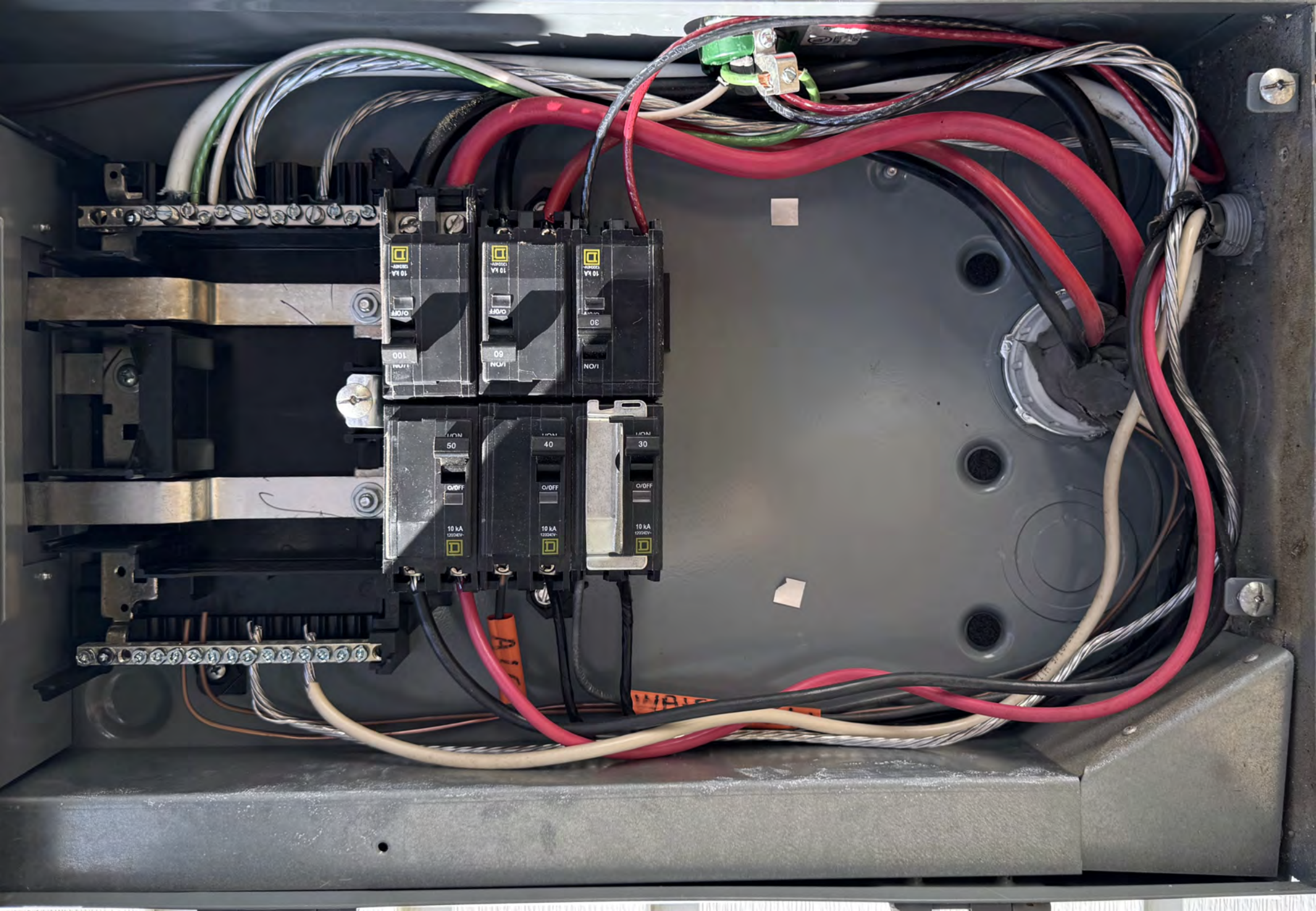
LENGÜETAS DE CONEXIÓN DE LÍNEA (FASE Y NEUTRAL)	CLASE DE CABLE AWG/kcmil	TORSIÓN IN-LBS
	6-350 CU/AL	250
TERMINAL DE SERVICIO TIERRA	14 - 2/0 CU 12 - 2/0 AL	50

NEUTRAL BARRA Y EQUIPO BARRA DE TIERRA			
CLASE DE CABLE AWG.	TORSION, IN-LBS.		
	BARRA CON DOS TAMAÑOS DE TORNILLO		BARRA CON UN TAMAÑO DE TORNILLO
	GRANDE	PEQUEÑO	
1/0 - 3 CU /AL	50	--	--
4 CU/AL	45	--	35
6 CU/AL	45	25	35
8 CU/AL	40	10	25
10-14 CU, 10-12 AL	35	10	20
COMBINACION DE EQUIPO BARRA TIERRA			
DOS 14 O 12 CU DOS 12 AL	35	10	25
DOS 10 AL	35	--	25

SQUARE D

HECHO EN MEXICO | 52 | 40272-189-03

I/ON
30
O/OFF
10 kA
120/240V~
60
O/OFF
10 kA
120/240V~
40
I/ON
30
I/ON


50
40
30
O/OFF
10 kA
120/240V~

The maximum operating current of this system may be controlled **electronically. Refer to manufacturer's** instructions for more information.

solaredge **SE5700H – US**

Grid Support Utility Interactive Non – Isolated Photovoltaic Inverter With stand – alone Mode

Operating Voltage Range	270 – 480 Vdc
Max Input Current	31 Adc
Max Continuous Output Power Grid connected	5760Wac@240V
Max Continuous Output Power and Current stand – alone	☐ 7.6 KVA 32A ☐ 11.4 KVA 48A
Voltage Min – Nom – Max	211 – 240 – 264 Vac 183 – 208 – 229 Vac
Max stand – alone Capacity	11.4 KVA
Max Continuous Output Current Grid Connected	24Aac
Max Output Fault Current	74 Aac
Max Utility Backfeed Current	0 Aac
Frequency Min – Nom – Max	59.3 – 60.0 – 60.5 Hz
Output Power Factor	+/– 0.85 – 1
Max Ambient Temperature	60 C
Enclosure	IP65/NEMA 4X

With integrated ground fault protection per NEC 690.35 (C)
Type 1 Photovoltaic Arc – Fault Circuit – Protection
ATTENTION: The maximum operating current of this system may be controlled electronically. Refer to manufacturer's instructions for more information.

Wi – Fi Password:
Cb93Ndy1
Activation:
B3oU 2/DX pqNo ywb3 eJWo UWH+ Eg4=
WiFi MAC:
84:D6:C5:A3:5F:A3

PN: USE5700H – USMNBL75
SN: SB0225 – 0750F258E – 37

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PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM


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PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM
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ETL LISTED CONFORMS TO ANSI/UL 1741 CERTIFIED TO CAN/CSA C22.2 NO 107
C ETL US
Intertek
4004590
750F258E-37
Grid Support Interactive Inverter – CSA C22.3 No. 9 - Basic" or "Grid Support Interactive Inverter – CSA C22.3 No. 9 - Supplemental.
Contains FCC ID: 2AGPT-PLNX, IC: 20916-PNLX, The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(i.) this device may not cause harmful interference.
(ii.) this device must accept any interference received, including interference that may cause undesired operation.
PATENT MARKING NOTICE: SEE www.solaredge.com/groups/patent
Made in the USA From Imported Parts
solaredge
StorEdge Connection Unit
Max DC Voltage (PV/Battery) 480 Vdc
Max DC Current (PV) 62 Adc
Max DC Power (PV) 23.2 kWdc
Max Continuous DC Current (Battery) 31 Adc
Max Continuous DC Power (Battery) 11.6 kWdc
Max AC Voltage 264 Vac
AC-Single Phase Frequency 50/60 Hz
Max AC Current (Grid) 48 Aac
For more details refer to the installation guide
Patent marketing notice: see WWW.SOLAREDGE.COM/patent

solaredge

StorEdge Connection Unit

Max DC Voltage (PV/Battery)	480 Vdc
Max DC Current (PV)	62 Adc
Max DC Power (PV)	23.2 kWdc
Max Continuous DC Current (Battery)	31 Adc
Max Continuous DC Power (Battery)	11.6 kWdc
Max AC Voltage	264 Vac
AC-Single Phase Frequency	50/60 Hz
Max AC Current (Grid)	48 Aac

For more details refer to the installation guide
Patent marketing notice: see WWW.SOLAREDGE.COM/patent

PN: DCD-1PH-US-P2H-F-C

SN: SB0225-191D2C368-8E

MADE IN THE U.S.A FROM IMPORTED PARTS

Intertek 4004590

solaredge

StorEdge Connection Unit

Max AC Current (Smart EV Charger)	40 Aac
Max Continuous Output Power (Smart EV Charger)	9600 W
Max Battery Energy Storage	32 kWh
Number of AC phases	L1, L2, N
Maximum AC short circuit current	74 Aac
Weight	30.2/ 13.7 lbs/kg
Ambient Temperature:	-40°C ..60°C
Enclosure Rating:	IP65 / Type 4X

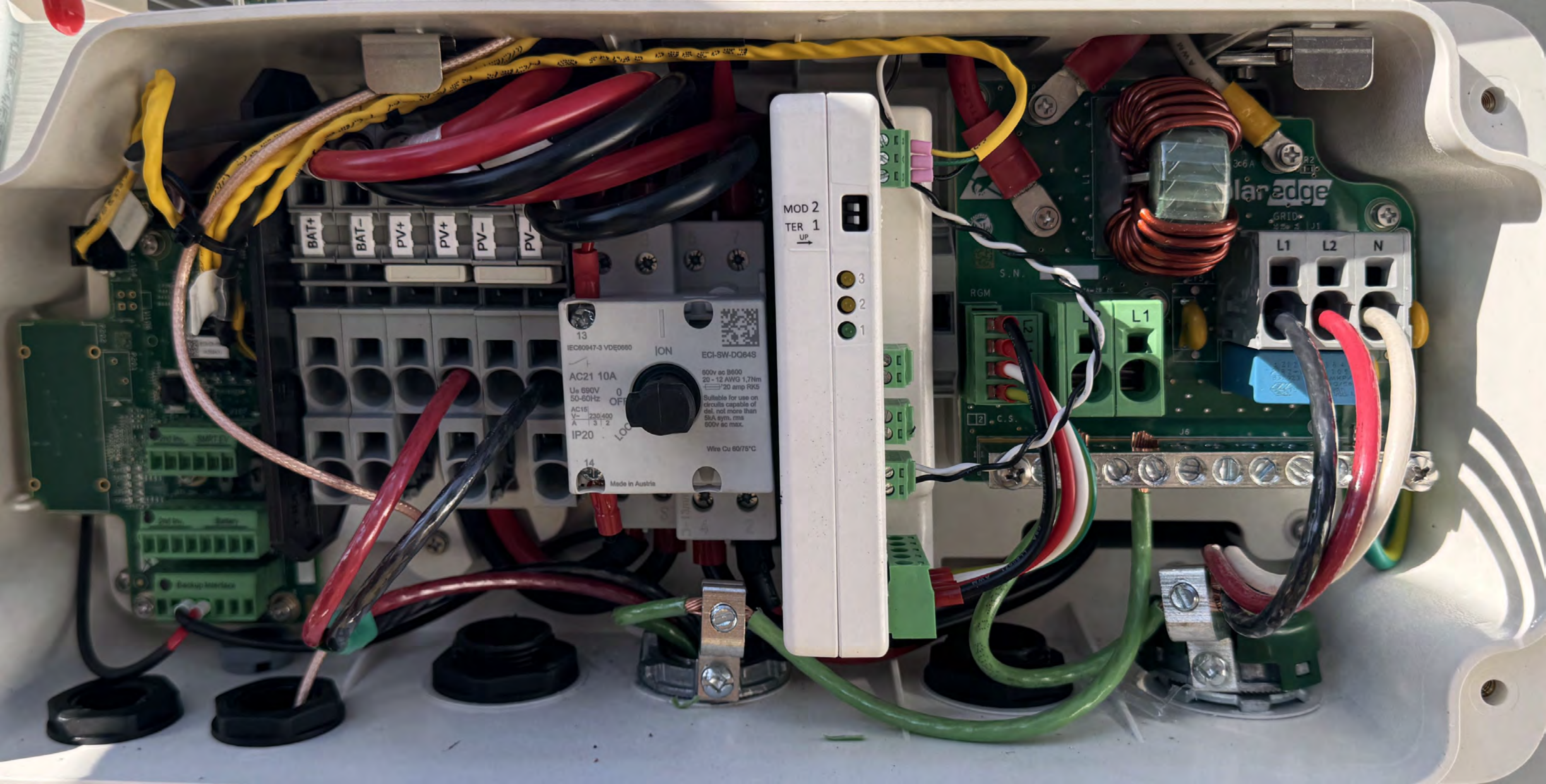
For more details refer to the installation guide
Patent marketing notice: see WWW.SOLAREDGE.COM/patent
Use 90°C copper PV Wires only.
Revenue Grade ANSI C12.20
PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM

PN: DCD-1PH-US-P2H-F-C

SN: SB0225-191D2C368-8E

MADE IN U.S.A FROM IMPORTED PARTS

Intertek 4004590


BAT+
BAT–
PV+
PV+
PV–
PV–
13
IEC60947-3 VDE0660
ON
ECI-SW-DG64S
AC21 10A
0
OFF
IP20
14
Made in Austria
Wire Cu 60/75°C
MOD 2
TER 1
UP
3
2
1
RGM
S.N.
C.S.
J6
L1
GRID
L1
L2
N


Milwaukee
PACKOUT

Milwaukee
PACKOUT


Milwaukee