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	ARRAY WIRING BOX DATASHEET
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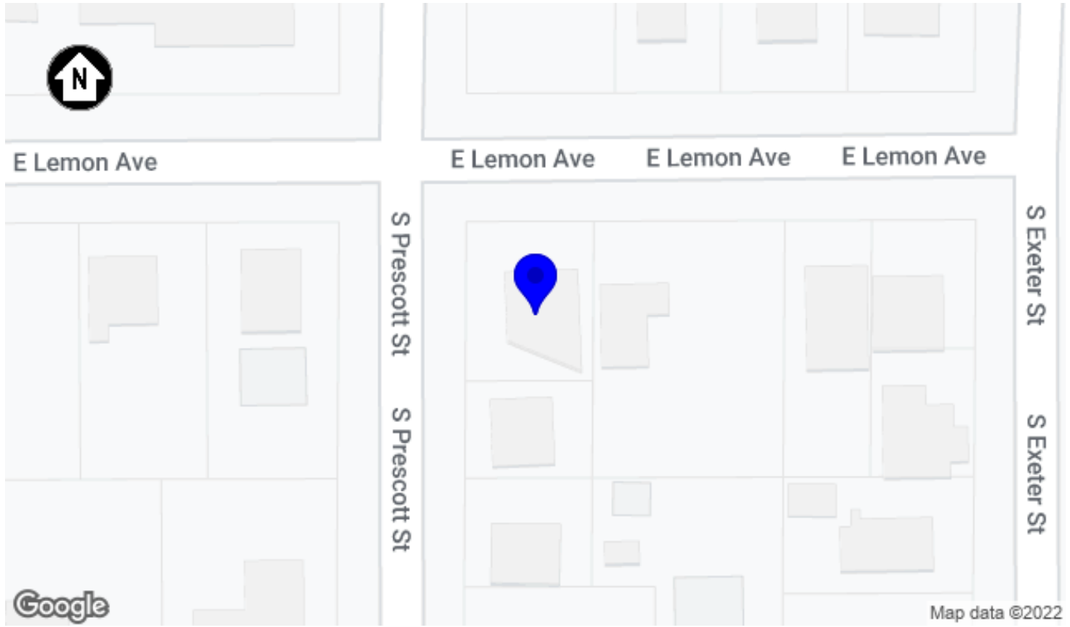
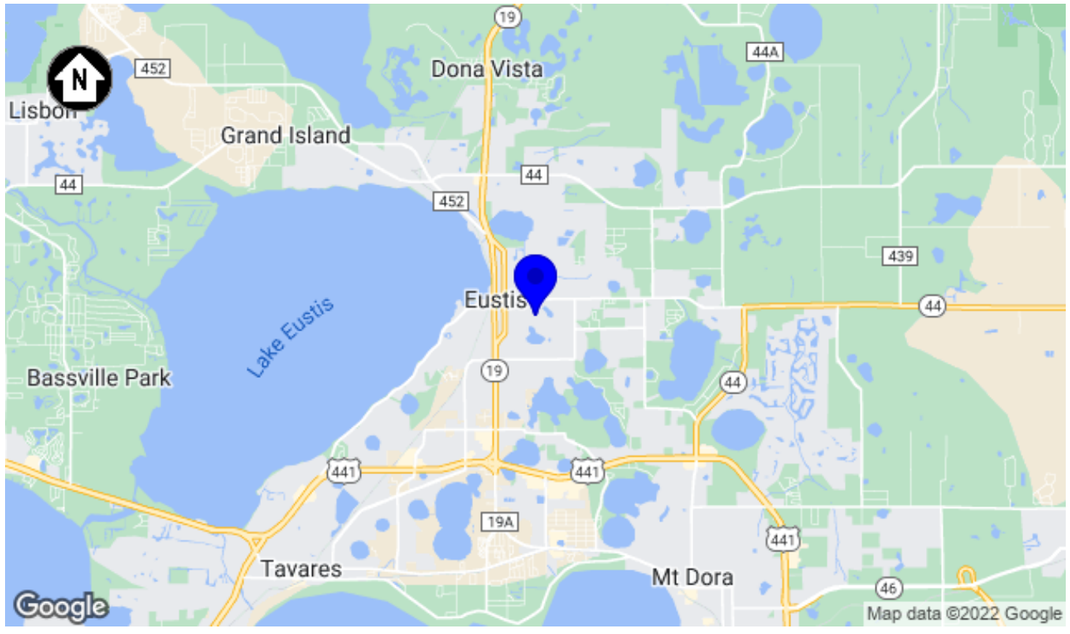
	MOUNTING SYSTEM DATASHEET
	MOUNTING SYSTEM ENGINEERING LETTER
	UL 2703 CLASS A FIRE CERTIFICATION
	UL 2703 GROUNDING AND BONDING CERTIFICATION

PROJECT DETAILS	
PROPERTY OWNER	ESTRELLA SHELTON
PROPERTY ADDRESS	804 E LEMON AVE, EUSTIS, FL 32726
APN	111926010009100700
ZONING	RESIDENTIAL
USE AND OCCUPANCY CLASSIFICATION	ONE- OR TWO-FAMILY DWELLING GROUP (GROUP R3)
AHJ	CITY OF EUSTIS
UTILITY COMPANY	DUKE ENERGY FLORIDA
ELECTRICAL CODE	2017 NEC (NFPA 70)
FIRE CODE	2020 FFPC
OTHER BUILDING CODES	2020 FL BUILDING CODE

CONTRACTOR INFORMATION	
COMPANY	AFFORDABLE SOLAR, ROOF & AIR
CONTRACTOR SIGNATURE	



1 PV-1 PARCEL
SCALE: NTS



2 PV-1 LOCALE
SCALE: NTS

I REYES M RUIZ DONATE PE# 88991 AN ENGINEER LICENSED PURSUANT TO CHAPTER 471, CERTIFY THAT THE PV ELECTRICAL SYSTEM AND ELECTRICAL COMPONENTS ARE DESIGNED AND APPROVED USING THE STANDARDS CONTAINED IN THE MOST RECENT VERSION OF THE FLORIDA BUILDING CODE.

SCOPE OF WORK

THIS PROJECT INVOLVES THE INSTALLATION OF A GRID-INTERACTIVE PV SYSTEM. PV MODULES WILL BE MOUNTED USING A PREENGINEERED MOUNTING SYSTEM. THE MODULES WILL BE ELECTRICALLY CONNECTED WITH DC TO AC POWER INVERTERS AND INTERCONNECTED TO THE LOCAL UTILITY USING MEANS AND METHODS CONSISTENT WITH THE RULES ENFORCED BY THE LOCAL UTILITY AND PERMITTING JURISDICTION.

THIS DOCUMENT HAS BEEN PREPARED TO DESCRIBE THE DESIGN OF A PROPOSED PV SYSTEM WITH ENOUGH DETAIL TO DEMONSTRATE COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS. THE DOCUMENT SHALL NOT BE RELIED UPON AS A SUBSTITUTE FOR FOLLOWING MANUFACTURER INSTALLATION INSTRUCTIONS. THE SYSTEM SHALL COMPLY WITH ALL MANUFACTURERS INSTALLATION INSTRUCTIONS, AS WELL AS ALL APPLICABLE CODES. NOTHING IN THIS DOCUMENT SHALL BE INTERPRETED IN A WAY THAT OVERRIDES THEM. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL DETAILS IN THIS DOCUMENT.

SYSTEM DETAILS	
DESCRIPTION	NEW GRID-INTERACTIVE PHOTOVOLTAIC SYSTEM WITH NO ENERGY STORAGE
DC RATING OF SYSTEM	13.65KW
AC OUTPUT RATINGS	10.15KW, 42.4A
INVERTER(S)	35 X ENPHASE IQ8PLUS-72-2-US
MODULE	TRINA SOLAR TSM-390DE09C.07
ARRAY WIRING	(2) BRANCH OF 12 IQ8PLUS-72-2-US MICROINVERTERS (1) BRANCH OF 11 IQ8PLUS-72-2-US MICROINVERTERS

INTERCONNECTION DETAILS	
POINT OF INTERCONNECTION	NEW SUPPLY SIDE AC CONNECTION PER NEC 705.12(A)
UTILITY SERVICE	120/240V 1Φ
INSIDE PANELBOARD	FUSED EATON DG222NRB DISCONNECT, 2-POLE, 60A, 240VAC

SITE DESIGN PARAMETERS	
ASHRAE EXTREME LOW	-1°C (31°F)
ASHRAE 2% HIGH	34°C (93°F)
CLIMATE DATA SOURCE	LEESBURG INTERNATIONAL
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II

Reviewed for Code Compliance
Kevin Powell
BU1814, PX2841, BN4866, RPX329
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That these plans are in compliance
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By Inspections Solutions, LLC"
Kevin Powell
Digitally signed by Kevin Powell
Date: 2022.12.25 14:41:23 -05'00'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE LICENSE No 88991 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Reyes Manuel Ruiz Donate
Reason: This item has been digitally signed and sealed by Reyes M. Ruiz Donate PE.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
Date: 2022.12.19 23:51:18 -04'00'

PROJECT SUMMARY

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-1

Reviewed for Code Compliance

Kevin Powell

BU1814, PX2841, BN4866, RPX329

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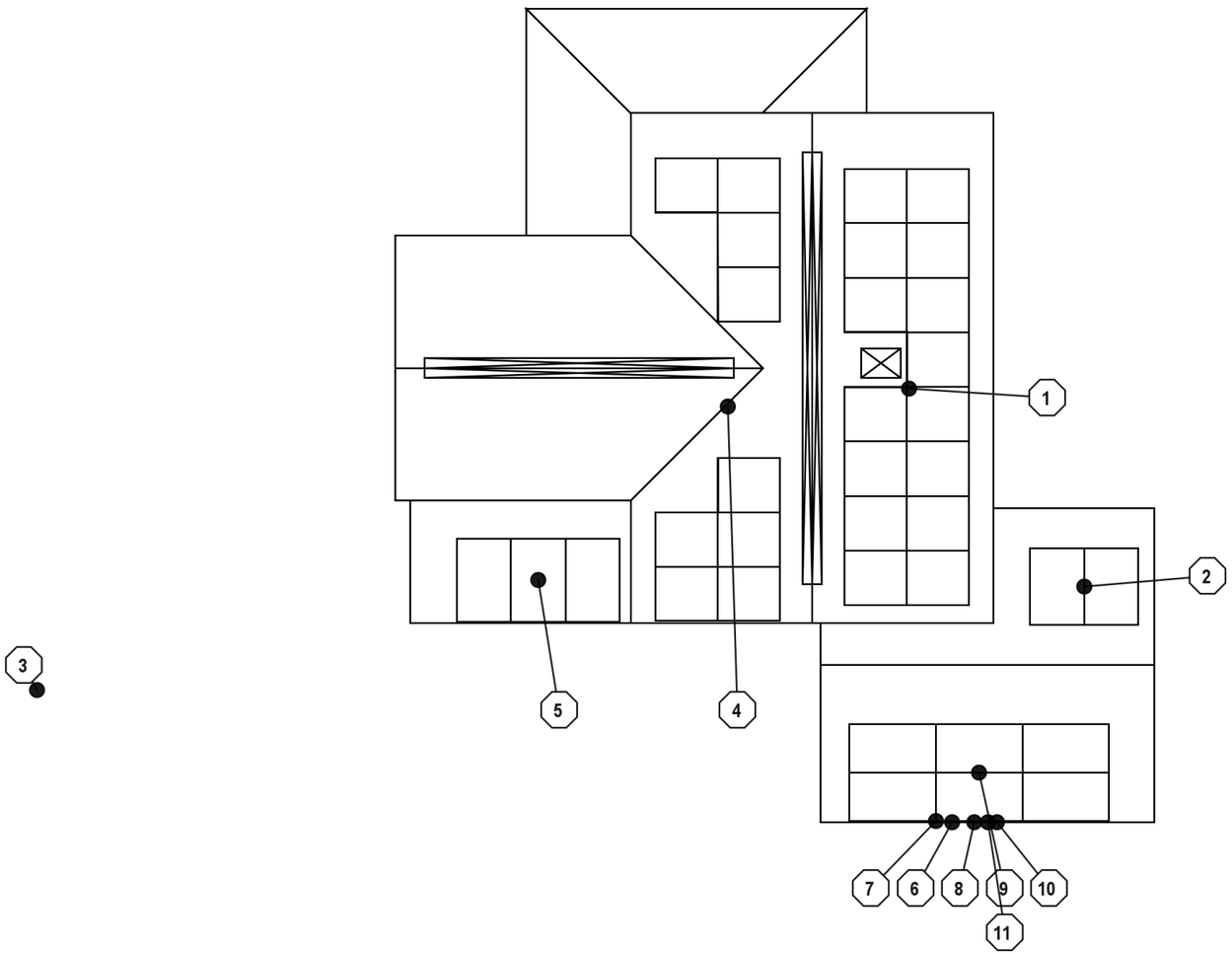


GENERAL NOTES	
1	EQUIPMENT LIKELY TO BE WORKED UPON WHILE ENERGIZED SHALL BE INSTALLED IN LOCATIONS THAT SATISFY MINIMUM WORKING CLEARANCES PER NEC 110.26.
2	24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED TO ALL DUKE ENERGY FLORIDA EQUIPMENT.
3	CONTRACTOR SHALL USE ONLY COMPONENTS LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE INTENDED USE.
4	CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL EQUIPMENT, CABLES, ADDITIONAL CONDUITS, RACEWAYS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL PV SYSTEM.

1. (N) PROPOSED ROOF-MOUNTED PHOTOVOLTAIC ARRAY. 12/12 (44.0°) SLOPED ROOF, 15 PV MODULES (BLACK FRAME, CLEAR BACKSHEET), 90° AZIMUTH
2. (N) PROPOSED ROOF-MOUNTED PHOTOVOLTAIC ARRAY. 6/12 (27.0°) SLOPED ROOF, 2 PV MODULES (BLACK FRAME, CLEAR BACKSHEET), 0° AZIMUTH
3. ROADWAY
4. (N) PROPOSED ROOF-MOUNTED PHOTOVOLTAIC ARRAY. 12/12 (44.0°) SLOPED ROOF, 9 PV MODULES (BLACK FRAME, CLEAR BACKSHEET), 270° AZIMUTH
5. (N) PROPOSED ROOF-MOUNTED PHOTOVOLTAIC ARRAY. 3/12 (16.0°) SLOPED ROOF, 3 PV MODULES (BLACK FRAME, CLEAR BACKSHEET), 180° AZIMUTH
6. (E) MAIN SERVICE PANEL (MSP), INDOOR
7. (N) TRANSITION BOX, OUTDOOR, OUTPUT CIRCUIT CONDUCTORS SHALL BE RUN IN LFMC CONDUIT THROUGH THE INTERIOR OF THE BUILDING
8. (N) AC COMBINER (C1), OUTDOOR
9. (N) PROPOSED ROOF-MOUNTED PHOTOVOLTAIC ARRAY. 6/12 (27.0°) SLOPED ROOF, 6 PV MODULES (BLACK FRAME, CLEAR BACKSHEET), 180° AZIMUTH
10. (N) VISIBLE-OPEN TYPE, LOCKABLE, READILY ACCESSIBLE, LABELED PV SYSTEM AC DISCONNECT LOCATED WITHIN 10 FT OF UTILITY METER (SW1), OUTDOOR
11. (E) UTILITY METER, OUTDOOR
12. ALL ARRAY CIRCUITS SHALL BE ROUTED THROUGH THE INTERIOR OF THE BUILDING, AND WHERE POSSIBLE, ALONG THE BOTTOM OF LOAD BEARING MEMBERS. NO CONDUIT SHALL BE INSTALLED ABOVE THE ROOF.

THIS LAYOUT IS SUBJECT TO CHANGE DUE TO ROOF OBSTRUCTIONS.

THIS ROOF CAN STAND THE LOAD OF THE WIND AND THE DEAD LOAD.

1 / PV-2 SITE PLAN
SCALE: 1" = 10'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

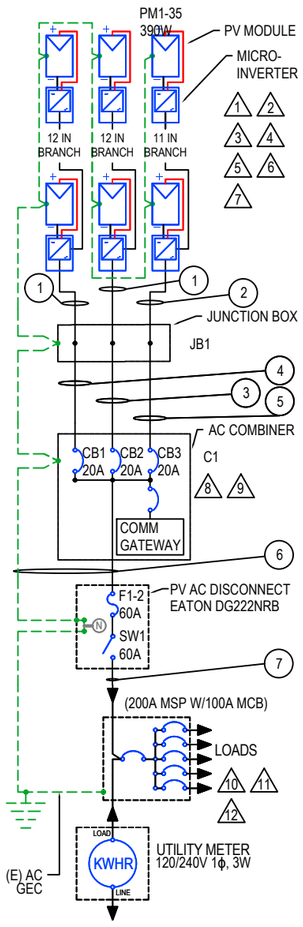
REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SITE PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-2



MODULES

REF.	QTY.	MAKE AND MODEL	PMAX	PTC	ISC	IMP	VOC	VMP	TEMP. COEFF. OF VOC	FUSE RATING
PM1-35	35	TRINA SOLAR TSM-390DE09C.07	390W	364W	12.14A	11.54A	40.8V	33.8V	-0.102V/°C (-0.25%/°C)	25A

INVERTERS

REF.	QTY.	MAKE AND MODEL	AC VOLTAGE	GROUND	RATED POWER	MAX OUTPUT CURRENT	MAX INPUT CURRENT	MAX INPUT VOLTAGE	CEC WEIGHTED EFFICIENCY
I1-35	35	ENPHASE IQ8PLUS-72-2-US	240V	NOT SOLIDLY GROUNDED	290W	1.2A	15.0A	60V	97.0%

DISCONNECTS

REF.	QTY.	MAKE AND MODEL	RATED CURRENT	MAX RATED VOLTAGE
SW1	1	EATON DG222NRB OR EQUIV.	60A	240VAC

OCPDS

REF.	QTY.	RATED CURRENT	MAX VOLTAGE	AIC
CB1-3	3	20A	240VAC	10KA
F1-2	2	60A	240VAC	10KA

PASS-THRU BOXES AND COMBINERS

REF.	QTY	MAKE AND MODEL	RATED CURRENT	MAX RATED VOLTAGE
JB1	1	TRANSITION BOX FOR 3 CIRCUITS	30A	240VAC / 600VDC
C1	1	ENPHASE IQ COMBINER 3 W/ IQ GATEWAY FOR PRODUCTION MONITORING	64A	240VAC

SYSTEM SUMMARY

	BRANCH 1	BRANCH 2	BRANCH 3
INVERTERS PER BRANCH	12	12	11
MAX AC CURRENT	14.52A	14.52A	13.31A
MAX AC OUTPUT	3,480W	3,480W	3,190W
ARRAY STC POWER	13,650W		
ARRAY PTC POWER	12,730W		
MAX AC CURRENT	42A		
MAX AC POWER OUTPUT	10,150W		
DERATED AC POWER OUTPUT	10,150W		

1. RAPID SHUTDOWN DEVICES COMPLIANT WITH REQUIREMENTS AS PER NEC 690.12(B)(2). PV CIRCUIT CONDUCTORS LOCATED OUTSIDE THE ARRAY BOUNDARY (DEFINED AS 3 FEET FROM THE POINT OF PENETRATION INTO A BUILDING OR MORE THAN 3 FEET FROM AN ARRAY) SHALL BE LIMITED TO NOT MORE THAN 30V WITHIN 30 SECONDS OF RAPID SHUTDOWN INITIATION. CONDUCTORS LOCATED INSIDE OF THE ARRAY BOUNDARY SHALL BE LIMITED TO NOT MORE THAN 80 VOLTS WITHIN 30 SECONDS OF SHUTDOWN.
2. ENPHASE SYSTEM MEETS REQUIREMENTS FOR PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM (PVRSS), AS PER NEC 690.12(B)(2).
3. THE DC AND AC CONNECTORS OF THE ENPHASE IQ8PLUS-72-2-US AND ARE LISTED TO MEET REQUIREMENTS AS A DISCONNECT MEANS AS ALLOWED BY NEC 690.15(D). MATING CONNECTORS SHALL COMPLY WITH NEC 690.33.
4. THE ENPHASE IQ8PLUS-72-2-US HAS A CLASS II DOUBLE-INSULATED RATING AND DOES NOT REQUIRE GROUNDING ELECTRODE CONDUCTORS (GEC) OR EQUIPMENT GROUNDING CONDUCTORS (EGC). THE RATING INCLUDES GROUND FAULT PROTECTION (GFP). TO SUPPORT GFP, USE ONLY PV MODULES EQUIPPED WITH DC CABLES LABELED PV WIRE OR PV CABLE.
5. MICROINVERTER BRANCH CIRCUIT CONDUCTORS ARE MANUFACTURED ENPHASE Q CABLES LISTED FOR USE IN 20A OR LESS CIRCUITS OF ENPHASE IQ MICROINVERTERS. THEY ARE ROHS, OIL RESISTANT, AND UV RESISTANT. THEY CONTAIN TWO 12 AWG CONDUCTORS OF TYPE THHN/THWN-2 DRY/WET AND CERTIFIED TO UL 3003 AND UL 9703.
6. ALL METAL ENCLOSURES, RACEWAYS, CABLES AND EXPOSED NONCURRENT-CARRYING METAL PARTS OF EQUIPMENT SHALL BE GROUNDED TO EARTH AS REQUIRED BY NEC 250.4(B) AND PART III OF ARTICLE 250 AND DC EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45. THE GROUNDING ELECTRODE SYSTEM SHALL ADHERE TO NEC 690.47(A) AND NEC 250.169 AND INSTALLED IN COMPLIANCE WITH NEC 250.64.
7. MAX DC VOLTAGE OF PV MODULE IS EXPECTED TO BE 43.4V AT -1°C (-0.8°C - 25°C) X -0.102V/C + 40.8V = 43.4V).
8. AC AGGREGATION PANEL BUSBAR AND THE OVERCURRENT PROTECTION PROTECTING THE BUSBAR SHALL BE SIZED IN ACCORDANCE WITH NEC 705.12(B)(2)(3)(C).
9. THE ENPHASE IQ COMBINER 3 CONTAINS A FACTORY-INSTALLED COMMUNICATIONS GATEWAY WITH AN OCPD RATED NO MORE THAN 20A.
10. POINT-OF-CONNECTION IS ON THE SUPPLY SIDE OF SERVICE DISCONNECT, INSIDE PANELBOARD ENCLOSURE USING UNUSED TERMINALS, TERMINALS THAT ARE SUITABLE FOR DOUBLE LUGGING, OR USING OTHER LOCALLY-APPROVED METHODS AND HARDWARE, IN COMPLIANCE WITH NEC 705.12(A). THE PANELBOARD SHALL HAVE SUFFICIENT SPACE TO ALLOW FOR ANY TAP HARDWARE AS REQUIRED BY NEC 110.3 AND NEC 312.8(A)
11. PV SYSTEM AC DISCONNECT SHALL BE A VISIBLE KNIFE-BLADE TYPE DISCONNECT THAT IS ACCESSIBLE AND LOCKABLE BY THE UTILITY. THE DISCONNECT SHALL BE LOCATED WITHIN 10 FT OF UTILITY METER. DISCONNECT SHALL BE GROUPED IN ACCORDANCE WITH NEC 230.72.
12. PV SYSTEM AC DISCONNECT MEETS NEC 690.12(C) REQUIREMENT FOR A RAPID SHUTDOWN INITIATION DEVICE

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

ID	TYP	CONDUCTOR	CONDUIT / CABLE	CURRENT-CARRYING CONDUCTORS IN CONDUIT/CABLE.	OCPD	EGC	TEMP. CORR. FACTOR	FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	AMP. @ TERM. TEMP. RATING	LEN.	V.D.
1	2	12 AWG THHN/THWN-2 IN ENPHASE Q CABLE, COPPER	CABLE	2	20A	6 AWG BARE, COPPER	0.71 (56°C)	1.0	14.52A	18.15A	40A	28.4A	90°C	40A	157.5FT	1.88%
2	1	12 AWG THHN/THWN-2 IN ENPHASE Q CABLE, COPPER	CABLE	2	20A	6 AWG BARE, COPPER	0.71 (56°C)	1.0	13.31A	16.64A	40A	28.4A	90°C	40A	72.2FT	1.58%
3	1	10 AWG THWN-2, COPPER	0.75" DIA. LFMC	6	20A	10 AWG THWN-2, COPPER	0.76 (54°C)	0.8	14.52A	18.15A	40A	24.32A	90°C	40A	50.3IN	0.06%
4	1	10 AWG THWN-2, COPPER	0.75" DIA. LFMC	6	20A	10 AWG THWN-2, COPPER	0.76 (54°C)	0.8	14.52A	18.15A	40A	24.32A	90°C	40A	50.3IN	0.06%
5	1	10 AWG THWN-2, COPPER	0.75" DIA. LFMC	6	20A	10 AWG THWN-2, COPPER	0.76 (54°C)	0.8	13.31A	16.64A	40A	24.32A	90°C	40A	50.3IN	0.06%
6	1	6 AWG THWN-2, COPPER	0.75" DIA. PVC-40	3	60A	6 AWG THWN-2, COPPER	0.96 (34°C)	1.0	42.35A	52.94A	75A	72A	75°C	65A	48IN	0.07%
7	1	6 AWG THWN-2, COPPER	0.75" DIA. PVC-40	3	60A	N/A	0.96 (34°C)	1.0	42.35A	52.94A	75A	72A	75°C	65A	48IN	0.07%

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GENERAL ELECTRICAL NOTES

1. UTILITY HAS 24-HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AT THE SERVICE ENTRANCE.
2. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC ARTICLE 300.6 (C) (1) AND ARTICLE 310.10 (D).
3. CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC ARTICLE 310.10 (C).

GROUNDING NOTES

1. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED PER THE REQUIREMENTS OF NEC ARTICLES 250 & 690
2. PV MODULES SHALL BE GROUNDED TO MOUNTING RAILS USING MODULE LUGS OR RACKING INTEGRATED GROUNDING CLAMPS AS ALLOWED BY LOCAL JURISDICTION. ALL OTHER EXPOSED METAL PARTS SHALL BE GROUNDED USING UL-LISTED LAY-IN LUGS.
3. INSTALLER SHALL CONFIRM THAT MOUNTING SYSTEM HAS BEEN EVALUATED FOR COMPLIANCE WITH UL 2703 "GROUNDING AND BONDING" WHEN USED WITH PROPOSED PV MODULE.
4. IF THE EXISTING MAIN SERVICE PANEL DOES NOT HAVE A VERIFIABLE GROUNDING ELECTRODE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE.
5. AC SYSTEM GROUNDING ELECTRODE CONDUCTOR (GEC) SHALL BE A MINIMUM SIZE #8AWG WHEN INSULATED, #6AWG IF BARE WIRE.
6. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC ARTICLE 690.45, AND BE A MINIMUM OF #10AWG WHEN NOT EXPOSED TO DAMAGE, AND #6AWG SHALL BE USED WHEN EXPOSED TO DAMAGE
7. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLOR CODED GREEN, OR MARKED GREEN IF #4AWG OR LARGER

1 PV-3 SINGLE-LINE DIAGRAM
SCALE: NTS

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ DONATE LICENSE No 88991 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Reyes Manuel Ruiz Donate
Reason: This item has been digitally signed and sealed by Reyes M. Ruiz Donate PE, Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
Date: 2022.12.19 23:51:30 -04'00'

SINGLE-LINE DIAGRAM

PROJECT ID: ECEF43-1
DATE: 12/19/22
CREATED BY: S.S.
CHECKED BY:

REVISIONS

PV-3

AC COMBINER
3

SW1 - DISCONNECT
(EATON DG222NRB)
1 4 5 6 7 8

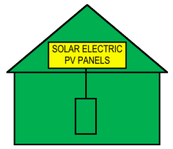
UTILITY METER
2

MAIN SERVICE PANEL
1 2 8

1 SEE NOTE NO. 4 (SW1, MSP)

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM.



NEC690.56(C)(1) AND FFPC11.12.2.1.1.1.1,11.12.2.1.1.2

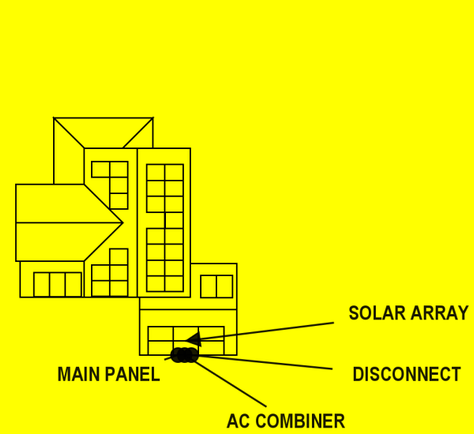
3 AC COMBINER PANEL (C1)

! WARNING !
THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.

NEC705.12(B)(2)(3)(C)

2 POINT-OF-INTERCONNECTION OR AT MAIN SERVICE DISCONNECT (MSP, UM)

! CAUTION !
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM ROOF-MOUNTED SOLAR ARRAYS WITH SAFETY DISCONNECTS AS SHOWN



INSTALLED BY AFFORDABLE SOLAR, ROOF & AIR

NEC690.56(B),705.10

4 SEE NOTE NO. 5 (SW1)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

NEC690.56(C)(3) AND FFPC11.12.2.1.1.6,11.12.2.1.1.7

5 EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (SW1)

! WARNING !
ELECTRIC SHOCK HAZARD. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

NEC690.13(B)

6 AC SOLAR DISCONNECT (SW1)

PV SYSTEM DISCONNECT

NEC690.13(B)

7 AC DISCONNECT (SW1)

MAXIMUM AC OPERATING CURRENT: 42.4A
MAXIMUM AC OPERATING VOLTAGE: 240V

NEC690.54

8 ANY AC ELECTRICAL PANEL THAT IS FED BY BOTH THE UTILITY AND THE PHOTOVOLTAIC SYSTEM (SW1, MSP)

! WARNING !
DUAL POWER SOURCE. SECOND SOURCE IS PHOTOVOLTAIC SYSTEM.

NEC705.12(B)(3)

LABELING NOTES

1	ALL PLAQUES AND SIGNAGE REQUIRED BY 2017 NEC AND 2020 FFPC WILL BE INSTALLED AS REQUIRED.
2	LABELS, WARNING(S) AND MARKING SHALL COMPLY WITH ANSI Z535.4, WHICH REQUIRES THAT DANGER, WARNING, AND CAUTION SIGNS USED THE STANDARD HEADER COLORS, HEADER TEXT, AND SAFETY ALERT SYMBOL ON EACH LABEL. THE ANSI STANDARD REQUIRES A HEADING THAT IS AT LEAST 50% TALLER THAN THE BODY TEXT, IN ACCORDANCE WITH NEC 110.21(B).
3	A PERMANENT PLAQUE OR DIRECTORY SHALL BE INSTALLED PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION IN ACCORDANCE WITH NEC 690.56(B).
4	LABEL(S) WITH MARKING, "TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM," SHALL BE LOCATED WITHIN 3 FT OF SERVICE DISCONNECTING MEANS THE TITLE SHALL UTILIZE CAPITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8" IN BLACK ON A RED BACKGROUND, AND REMAINING TEXT SHALL BE CAPITALIZED WITH A MINIMUM HEIGHT OF 3/16" IN BLACK ON WHITE BACKGROUND
5	LABEL(S) WITH MARKING, "RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM," SHALL BE LOCATED WITHIN 3 FT OF RAPID SHUTDOWN SWITCH THE LABEL SHALL HAVE 3/8" TALL LETTERS AND BE REFLECTIVE WITH WHITE TEXT ON A RED BACKGROUND

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P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SAFETY LABELS

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-4

STRUCTURAL DESIGN PARAMETERS	
ELEVATION	119 FT
SEISMIC	0.07 S_{DS}
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II
GROUND SNOW LOAD	0 PSF

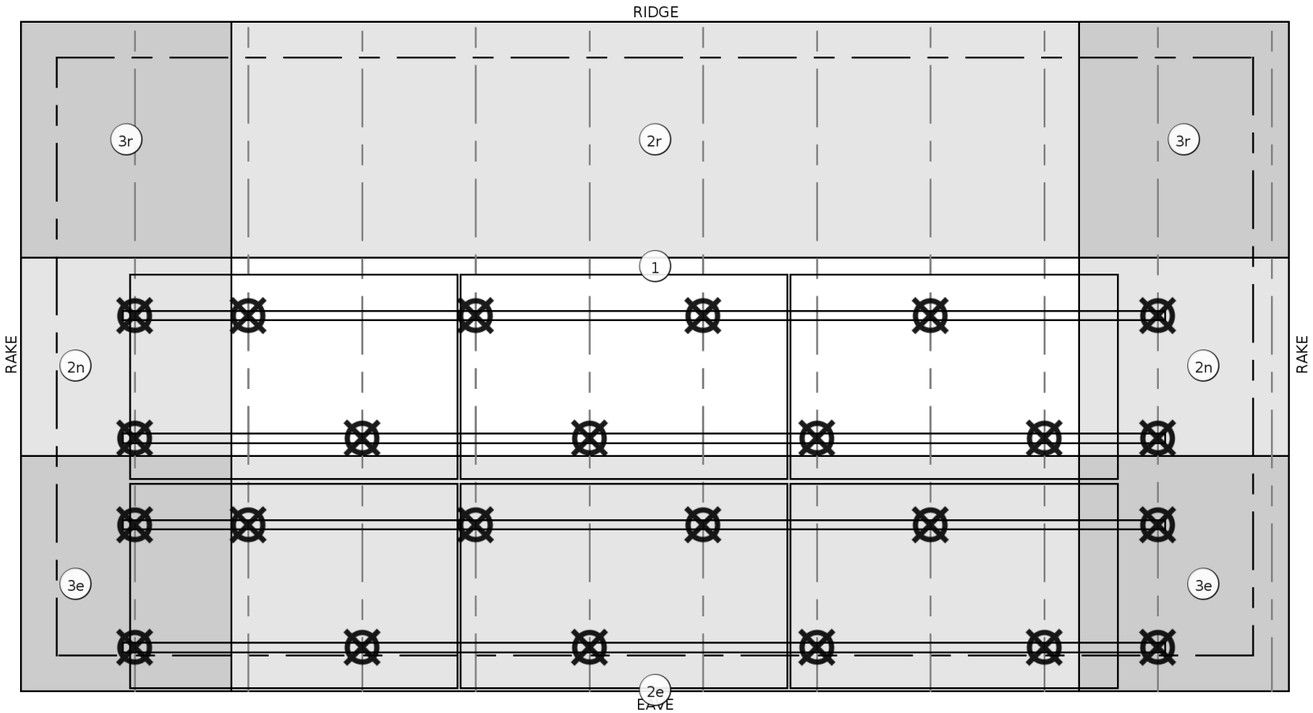
ROOF PROPERTIES	
ROOF MATERIAL	COMPOSITION SHINGLE (1 LAYER)
SLOPE	6/12 (27.0°)
MEAN ROOF HEIGHT	9.2FT
ROOF DECKING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

MODULE MECHANICAL PROPERTIES	
MODEL	TRINA SOLAR TSM-390DE09C.07
DIMENSIONS (AREA)	69.1IN X 43.1IN X 1.2IN (20.7 SQ FT)
WEIGHT	46.3 LBS

MOUNTING SYSTEM PROPERTIES	
RAIL MODEL	K2 CROSSRAIL 44-X
ANCHOR MODEL	K2 4000162, 2.6IN AIR GAP
FASTENING METHOD	2.0 INCH EMBEDMENT INTO TRUSSES OR DECKING WITH (2-4) 3/16IN DIA. FASTENERS
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

DEAD LOAD CALCULATIONS			
LOAD	QTY	LBS	TOTAL LBS
MODULES	6	46.3	277.8
MICROINVERTERS	6	2.4	14.3
LINEAR FEET OF RAIL	73 FT	0.5	34.5
ANCHORS	24	0.8	19.2
MISC. HARDWARE		3.4	3.4
TOTAL ARRAY WEIGHT			349.2 LBS
AREA NAME	QTY	SQFT	TOTAL SQFT
MODULES	6	20.7	124.2
POINT LOAD (349.2 LBS / 24 ATTACHMENTS)			14.5 LBS
DIST. LOAD (349.2 LBS / 124.2 SQFT)			2.81 PSF

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ANCHORS MAY BE FASTENED TO DECKING WHERE NEEDED. IN NO CASE SHALL THE ANCHOR SPACING EXCEED "MAX. ANCHOR SPACING"



ANCHOR PLACEMENT PARAMETERS (ASCE 7-16)				
WIND PRESSURE ZONE	MODULE WIND EXPOSURE	MAX. ALLOWABLE RAIL SPAN	MAX. ANCHOR SPACING	MAX. ALLOWABLE CANTILEVER
ZONE 1	NORMAL	72.0IN	72.0IN	24.0IN
ZONES 2E, 2N, 3E	NORMAL	48.0IN	48.0IN	16.0IN
ZONES 2E, 3E	EDGE	48.0IN	48.0IN	16.0IN

Reviewed for Code Compliance

Kevin Powell

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DISTANCE α IS EQUAL TO 10% OF THE BUILDING'S LEAST HORIZONTAL DIMENSION ("LHD") OR 40% OF THE MEAN ROOF HEIGHT, WHICHEVER IS SMALLER, BUT NOT LESS THAN 4% OF THE LHD OR 3 FT. THESE SETBACKS ARE APPLIED TO THE BUILDING FOOTPRINT AND PROJECTED TO THE ROOF PLANES IN ACCORDANCE WITH GUIDANCE PROVIDED BY ASCE 7-16 FIGURES 30.3-2B–I.

α = MAX(MIN(0.4 * MEAN ROOF HEIGHT, 0.1 * LHD), 0.04 * LHD, 3 FT)

3.7 FT = MAX(MIN(0.4 * 9.2 FT, 0.1 * 49.0 FT), 0.04 * 49.0 FT, 3 FT)

EDGE MODULES = DISTANCE TO ROOF EDGE < 2 * (AIR GAP + MODULE THICKNESS)

7.6 IN = 2 * (2.6 IN + 1.18 IN)

1 PV-5.1 ATTACHMENT PLAN (ORTHOGONAL PROJECTION)
SCALE: 3/8" = 1'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

ATTACHMENT PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-5.1

STRUCTURAL DESIGN PARAMETERS	
ELEVATION	119 FT
SEISMIC	0.07 S_{DS}
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II
GROUND SNOW LOAD	0 PSF

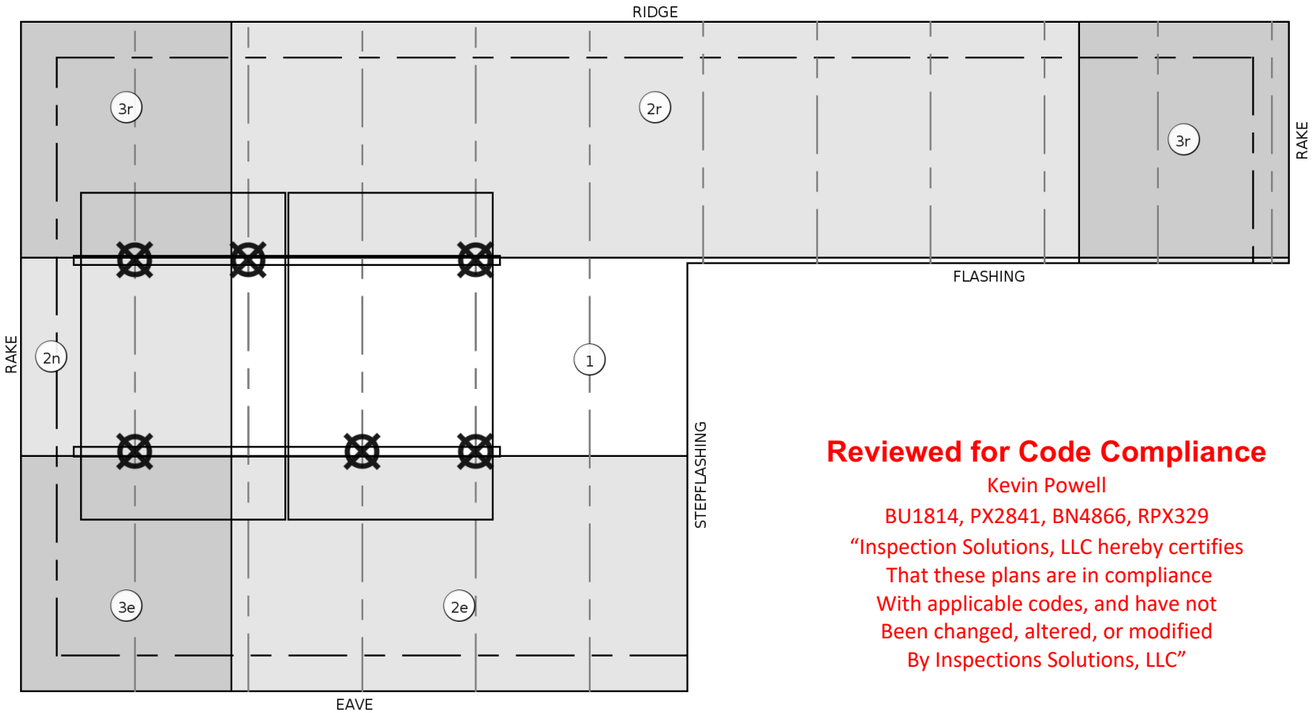
ROOF PROPERTIES	
ROOF MATERIAL	COMPOSITION SHINGLE (1 LAYER)
SLOPE	6/12 (27.0°)
MEAN ROOF HEIGHT	9.2FT
ROOF DECKING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

MODULE MECHANICAL PROPERTIES	
MODEL	TRINA SOLAR TSM-390DE09C.07
DIMENSIONS (AREA)	69.1IN X 43.1IN X 1.2IN (20.7 SQ FT)
WEIGHT	46.3 LBS

MOUNTING SYSTEM PROPERTIES	
RAIL MODEL	K2 CROSSRAIL 44-X
ANCHOR MODEL	K2 4000162, 2.6IN AIR GAP
FASTENING METHOD	2.0 INCH EMBEDMENT INTO TRUSSES OR DECKING WITH (2-4) 3/16IN DIA. FASTENERS
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

DEAD LOAD CALCULATIONS			
LOAD	QTY	LBS	TOTAL LBS
MODULES	2	46.3	92.6
MICROINVERTERS	2	2.4	4.8
LINEAR FEET OF RAIL	15 FT	0.5	7.0
ANCHORS	6	0.8	4.8
MISC. HARDWARE		1.3	1.3
TOTAL ARRAY WEIGHT			110.5 LBS
AREA NAME	QTY	SQFT	TOTAL SQFT
MODULES	2	20.7	41.4
POINT LOAD (110.5 LBS / 6 ATTACHMENTS)			18.4 LBS
DIST. LOAD (110.5 LBS / 41.4 SQFT)			2.67 PSF

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ANCHORS MAY BE FASTENED TO DECKING WHERE NEEDED. IN NO CASE SHALL THE ANCHOR SPACING EXCEED "MAX. ANCHOR SPACING"
2	ARRAY LOCATED AT LEAST $2H_2$ FROM THE ROOF EDGE IN COMPLIANCE WITH ASCE 7-16 29.4.4



ANCHOR PLACEMENT PARAMETERS (ASCE 7-16)				
WIND PRESSURE ZONE	MODULE WIND EXPOSURE	MAX. ALLOWABLE RAIL SPAN	MAX. ANCHOR SPACING	MAX. ALLOWABLE CANTILEVER
ZONE 1	NORMAL	72.0IN	72.0IN	24.0IN
ZONES 2E, 2N, 2R, 3E, 3R	NORMAL	48.0IN	48.0IN	16.0IN

DISTANCE α IS EQUAL TO 10% OF THE BUILDING'S LEAST HORIZONTAL DIMENSION ("LHD") OR 40% OF THE MEAN ROOF HEIGHT, WHICHEVER IS SMALLER, BUT NOT LESS THAN 4% OF THE LHD OR 3 FT. THESE SETBACKS ARE APPLIED TO THE BUILDING FOOTPRINT AND PROJECTED TO THE ROOF PLANES IN ACCORDANCE WITH GUIDANCE PROVIDED BY ASCE 7-16 FIGURES 30.3-2B–I.

α = MAX(MIN(0.4 * MEAN ROOF HEIGHT, 0.1 * LHD), 0.04 * LHD, 3 FT)

3.7 FT = MAX(MIN(0.4 * 9.2 FT, 0.1 * 49.0 FT), 0.04 * 49.0 FT, 3 FT)

EDGE MODULES = DISTANCE TO ROOF EDGE < 2 * (AIR GAP + MODULE THICKNESS)

7.6 IN = 2 * (2.6 IN + 1.18 IN)

1 PV-5.2 ATTACHMENT PLAN (ORTHOGONAL PROJECTION)
SCALE: 3/8" = 1'

Reviewed for Code Compliance
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P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

ATTACHMENT PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-5.2

STRUCTURAL DESIGN PARAMETERS	
ELEVATION	119 FT
SEISMIC	0.07 S_{DS}
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II
GROUND SNOW LOAD	0 PSF

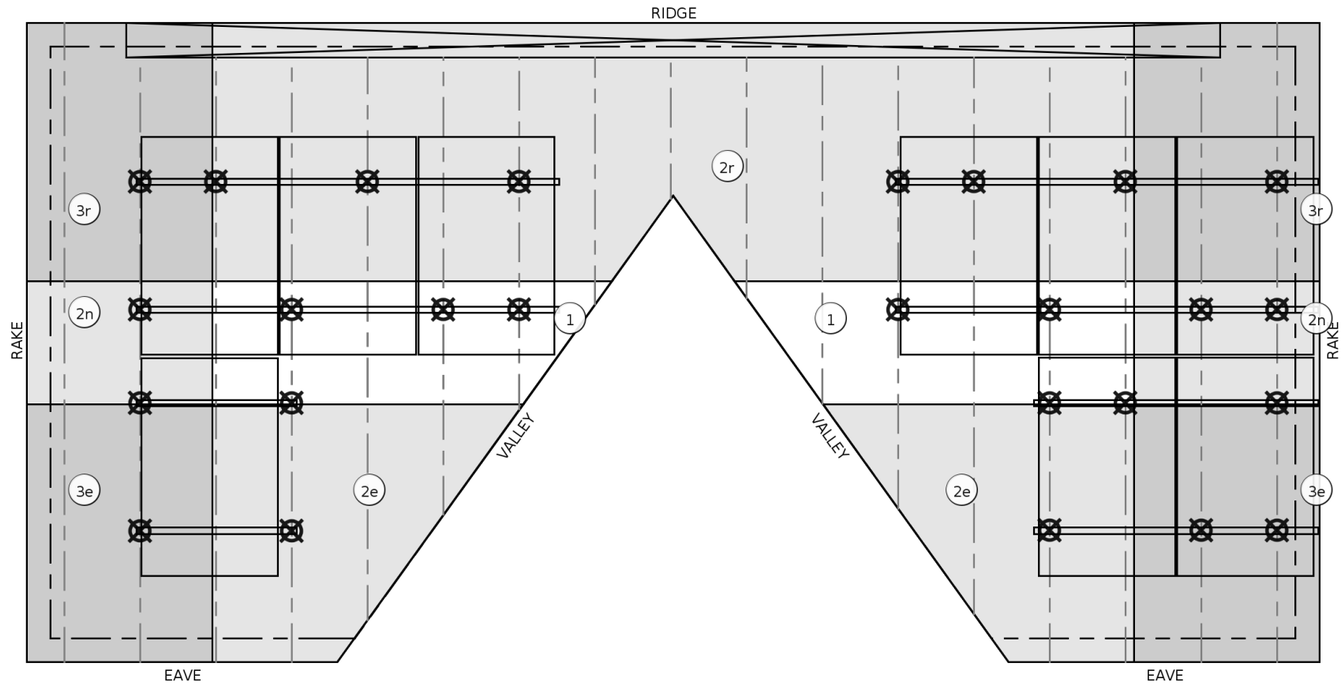
ROOF PROPERTIES	
ROOF MATERIAL	COMPOSITION SHINGLE (1 LAYER)
SLOPE	12/12 (44.0°)
MEAN ROOF HEIGHT	19FT
ROOF DECKING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

MODULE MECHANICAL PROPERTIES	
MODEL	TRINA SOLAR TSM-390DE09C.07
DIMENSIONS (AREA)	69.1IN X 43.1IN X 1.2IN (20.7 SQ FT)
WEIGHT	46.3 LBS

MOUNTING SYSTEM PROPERTIES	
RAIL MODEL	K2 CROSSRAIL 44-X
ANCHOR MODEL	K2 4000162, 2.6IN AIR GAP
FASTENING METHOD	2.0 INCH EMBEDMENT INTO TRUSSES OR DECKING WITH (2-4) 3/16IN DIA. FASTENERS
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

DEAD LOAD CALCULATIONS			
LOAD	QTY	LBS	TOTAL LBS
MODULES	9	46.3	416.7
MICROINVERTERS	9	2.4	21.4
LINEAR FEET OF RAIL	68 FT	0.5	32.0
ANCHORS	26	0.8	20.8
MISC. HARDWARE		5.6	5.6
TOTAL ARRAY WEIGHT			496.5 LBS
AREA NAME	QTY	SQFT	TOTAL SQFT
MODULES	9	20.7	186.3
POINT LOAD (496.5 LBS / 26 ATTACHMENTS)			19.1 LBS
DIST. LOAD (496.5 LBS / 186.3 SQFT)			2.66 PSF

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ANCHORS MAY BE FASTENED TO DECKING WHERE NEEDED. IN NO CASE SHALL THE ANCHOR SPACING EXCEED "MAX. ANCHOR SPACING"



ANCHOR PLACEMENT PARAMETERS (ASCE 7-16)				
WIND PRESSURE ZONE	MODULE WIND EXPOSURE	MAX. ALLOWABLE RAIL SPAN	MAX. ANCHOR SPACING	MAX. ALLOWABLE CANTILEVER
ZONE 1	NORMAL	72.0IN	72.0IN	24.0IN
ZONES 2E, 2N, 2R, 3E, 3R	NORMAL	48.0IN	48.0IN	16.0IN
ZONES 2N, 3E, 3R	EDGE	48.0IN	48.0IN	16.0IN

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α = MAX(MIN(0.4 * MEAN ROOF HEIGHT, 0.1 * LHD), 0.04 * LHD, 3 FT)

4.9 FT = MAX(MIN(0.4 * 19.0 FT, 0.1 * 49.0 FT), 0.04 * 49.0 FT, 3 FT)

EDGE MODULES = DISTANCE TO ROOF EDGE < 2 * (AIR GAP + MODULE THICKNESS)

7.6 IN = 2 * (2.6 IN + 1.18 IN)

1 PV-5.3 ATTACHMENT PLAN (ORTHOGONAL PROJECTION)
SCALE: 1/4" = 1'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

ATTACHMENT PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-5.3

STRUCTURAL DESIGN PARAMETERS	
ELEVATION	119 FT
SEISMIC	0.07 S_{DS}
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II
GROUND SNOW LOAD	0 PSF

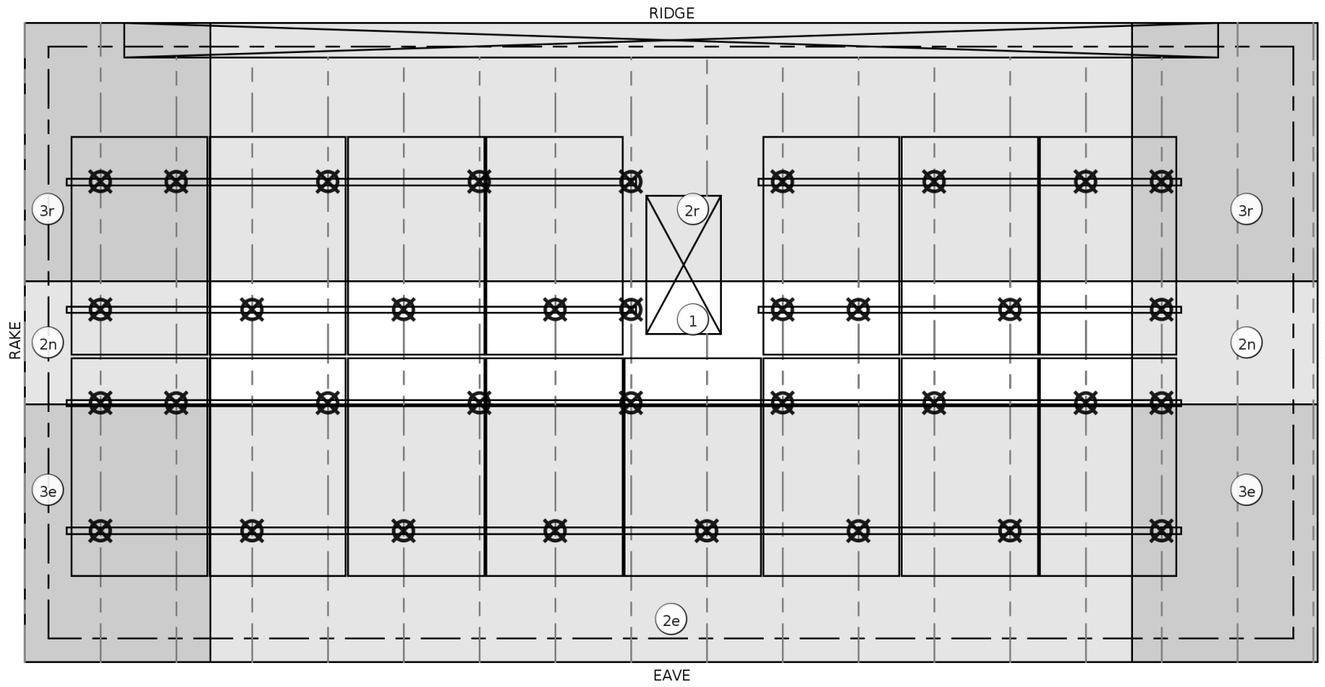
ROOF PROPERTIES	
ROOF MATERIAL	COMPOSITION SHINGLE (1 LAYER)
SLOPE	12/12 (44.0°)
MEAN ROOF HEIGHT	19FT
ROOF DECKING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

MODULE MECHANICAL PROPERTIES	
MODEL	TRINA SOLAR TSM-390DE09C.07
DIMENSIONS (AREA)	69.1IN X 43.1IN X 1.2IN (20.7 SQ FT)
WEIGHT	46.3 LBS

MOUNTING SYSTEM PROPERTIES	
RAIL MODEL	K2 CROSSRAIL 44-X
ANCHOR MODEL	K2 4000162, 2.6IN AIR GAP
FASTENING METHOD	2.0 INCH EMBEDMENT INTO TRUSSES OR DECKING WITH (2-4) 3/16IN DIA. FASTENERS
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

DEAD LOAD CALCULATIONS			
LOAD	QTY	LBS	TOTAL LBS
MODULES	15	46.3	694.5
MICROINVERTERS	15	2.4	35.7
LINEAR FEET OF RAIL	111 FT	0.5	52.2
ANCHORS	35	0.8	28.0
MISC. HARDWARE		7.6	7.6
TOTAL ARRAY WEIGHT			818.1 LBS
AREA NAME	QTY	SQFT	TOTAL SQFT
MODULES	15	20.7	310.5
POINT LOAD (818.1 LBS / 35 ATTACHMENTS)			23.4 LBS
DIST. LOAD (818.1 LBS / 310.5 SQFT)			2.63 PSF

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ANCHORS MAY BE FASTENED TO DECKING WHERE NEEDED. IN NO CASE SHALL THE ANCHOR SPACING EXCEED "MAX. ANCHOR SPACING"
2	ARRAY LOCATED AT LEAST $2H_2$ FROM THE ROOF EDGE IN COMPLIANCE WITH ASCE 7-16 29.4.4



ANCHOR PLACEMENT PARAMETERS (ASCE 7-16)				
WIND PRESSURE ZONE	MODULE WIND EXPOSURE	MAX. ALLOWABLE RAIL SPAN	MAX. ANCHOR SPACING	MAX. ALLOWABLE CANTILEVER
ZONE 1	NORMAL	72.0IN	72.0IN	24.0IN
ZONES 2E, 2N, 2R, 3E, 3R	NORMAL	48.0IN	48.0IN	16.0IN

Reviewed for Code Compliance

Kevin Powell

BU1814, PX2841, BN4866, RPX329

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α = MAX(MIN(0.4 * MEAN ROOF HEIGHT, 0.1 * LHD), 0.04 * LHD, 3 FT)

4.9 FT = MAX(MIN(0.4 * 19.0 FT, 0.1 * 49.0 FT), 0.04 * 49.0 FT, 3 FT)

EDGE MODULES = DISTANCE TO ROOF EDGE < 2 * (AIR GAP + MODULE THICKNESS)

7.6 IN = 2 * (2.6 IN + 1.18 IN)

1 / PV-5.4 ATTACHMENT PLAN (ORTHOGONAL PROJECTION)

SCALE: 1/4" = 1'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

ATTACHMENT PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-5.4

STRUCTURAL DESIGN PARAMETERS	
ELEVATION	119 FT
SEISMIC	0.07 S_{DS}
WIND (ASCE 7-16)	145 MPH, EXPOSURE CATEGORY B, RISK CATEGORY II
GROUND SNOW LOAD	0 PSF

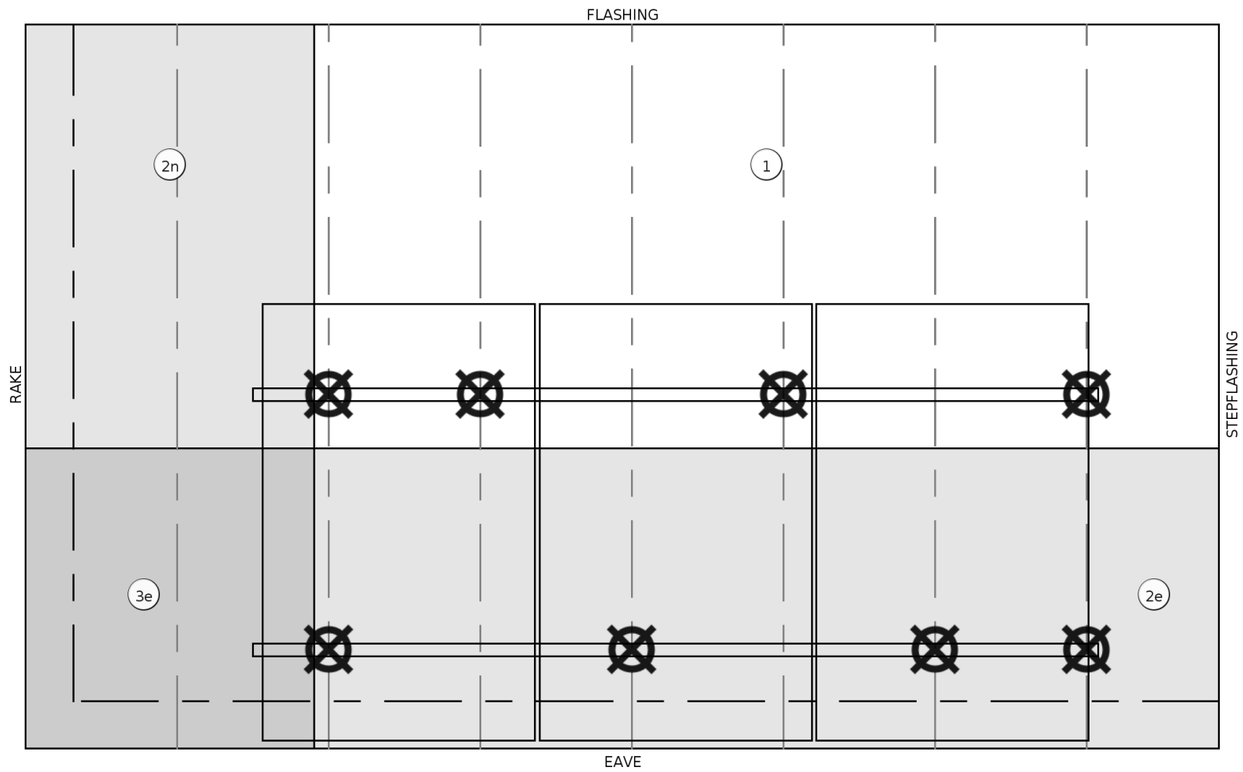
ROOF PROPERTIES	
ROOF MATERIAL	COMPOSITION SHINGLE (1 LAYER)
SLOPE	3/12 (16.0°)
MEAN ROOF HEIGHT	9.5FT
ROOF DECKING	15/32" OSB
CONSTRUCTION	TRUSSES (2X4 TOP-CHORD), 24IN OC

MODULE MECHANICAL PROPERTIES	
MODEL	TRINA SOLAR TSM-390DE09C.07
DIMENSIONS (AREA)	69.1IN X 43.1IN X 1.2IN (20.7 SQ FT)
WEIGHT	46.3 LBS

MOUNTING SYSTEM PROPERTIES	
RAIL MODEL	K2 CROSSRAIL 44-X
ANCHOR MODEL	K2 4000162, 2.6IN AIR GAP
FASTENING METHOD	2.0 INCH EMBEDMENT INTO TRUSSES OR DECKING WITH (2-4) 3/16IN DIA. FASTENERS
GROUNDING AND BONDING	INTEGRAL GROUNDING CERTIFIED TO UL 2703 REQUIREMENTS

DEAD LOAD CALCULATIONS			
LOAD	QTY	LBS	TOTAL LBS
MODULES	3	46.3	138.9
MICROINVERTERS	3	2.4	7.1
LINEAR FEET OF RAIL	22 FT	0.5	10.5
ANCHORS	8	0.8	6.4
MISC. HARDWARE		1.7	1.7
TOTAL ARRAY WEIGHT			164.6 LBS
AREA NAME	QTY	SQFT	TOTAL SQFT
MODULES	3	20.7	62.1
POINT LOAD (164.6 LBS / 8 ATTACHMENTS)			20.6 LBS
DIST. LOAD (164.6 LBS / 62.1 SQFT)			2.65 PSF

NOTES	
1	TRUSS LOCATIONS ARE APPROXIMATE. ANCHORS MAY BE FASTENED TO DECKING WHERE NEEDED. IN NO CASE SHALL THE ANCHOR SPACING EXCEED "MAX. ANCHOR SPACING"



ANCHOR PLACEMENT PARAMETERS (ASCE 7-16)				
WIND PRESSURE ZONE	MODULE WIND EXPOSURE	MAX. ALLOWABLE RAIL SPAN	MAX. ANCHOR SPACING	MAX. ALLOWABLE CANTILEVER
ZONE 1	NORMAL	72.0IN	72.0IN	24.0IN
ZONES 2E, 2N, 3E	NORMAL	48.0IN	48.0IN	16.0IN
ZONES 2E, 3E	EDGE	48.0IN	48.0IN	16.0IN

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α = MAX(MIN(0.4 * MEAN ROOF HEIGHT, 0.1 * LHD), 0.04 * LHD, 3 FT)

3.8 FT = MAX(MIN(0.4 * 9.5 FT, 0.1 * 49.0 FT), 0.04 * 49.0 FT, 3 FT)

EDGE MODULES = DISTANCE TO ROOF EDGE < 2 * (AIR GAP + MODULE THICKNESS)

7.6 IN = 2 * (2.6 IN + 1.18 IN)

1 / PV-5.5 ATTACHMENT PLAN (ORTHOGONAL PROJECTION)
SCALE: 1/2" = 1'

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE LICENSE No 88991 STATE OF FLORIDA PROFESSIONAL ENGINEER

ATTACHMENT PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-5.5

Reviewed for Code Compliance

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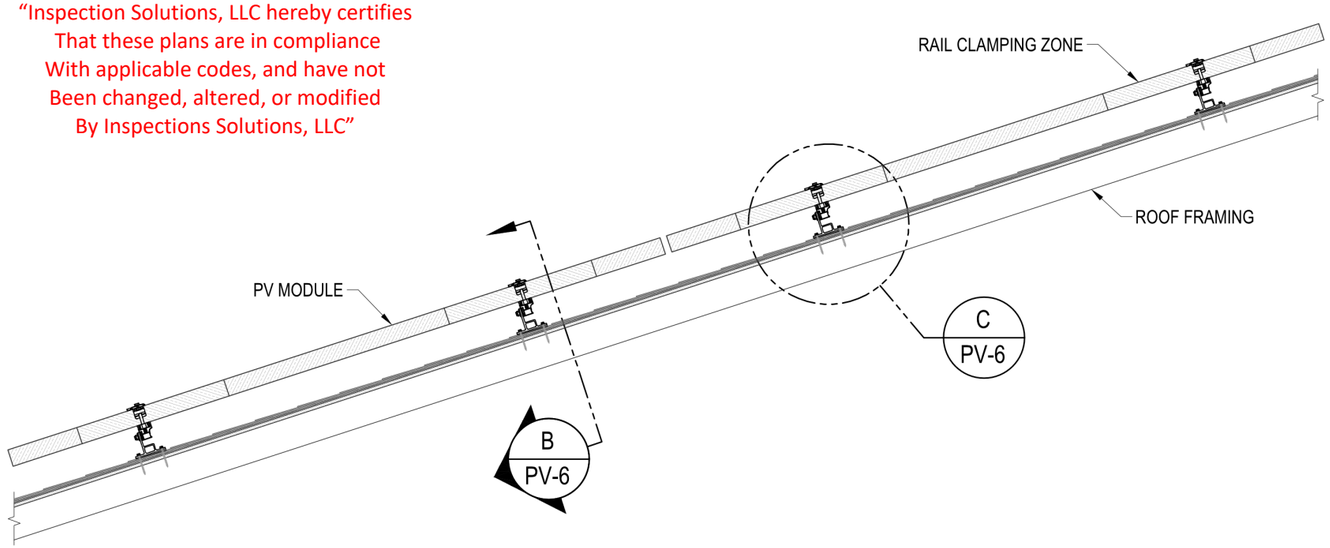
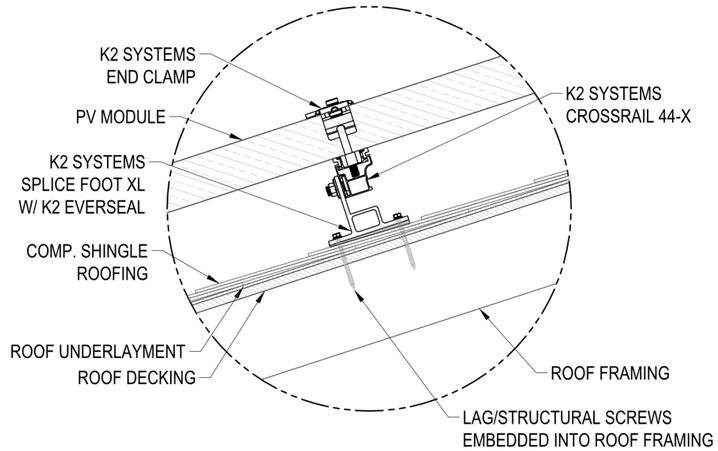
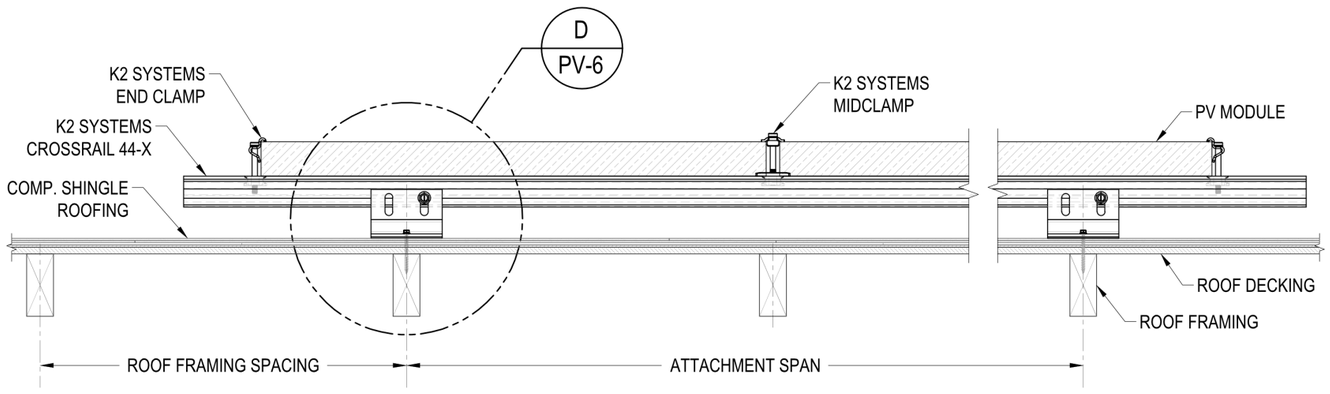
MOUNTING SYSTEM NOTES	
1	FLASHING SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
2	IF THERE IS ANY CONFLICT BETWEEN WHAT IS DEPICTED HERE AND INSTRUCTIONS PROVIDED BY A MANUFACTURER, THE MANUFACTURER'S INSTRUCTIONS SHALL SUPERCEDE.





A PV-6 RACKING ELEVATION (TRANSVERSE VIEW)

SCALE: NTS

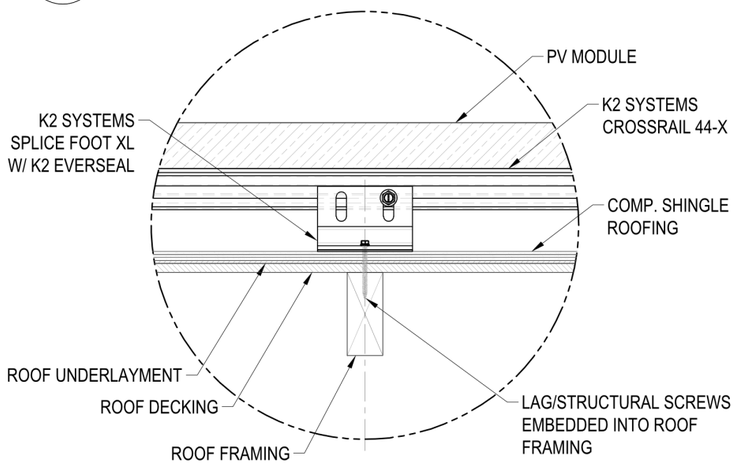


B PV-6 RACKING ELEVATION (LONGITUDINAL VIEW)

SCALE: NTS

C PV-6 ATTACHMENT DETAIL (TRANSVERSE VIEW)

SCALE: NTS



D PV-6 ATTACHMENT DETAIL (LONGITUDINAL VIEW)

SCALE: NTS

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

ATTACHMENT DETAILS

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-6

Reviewed for Code Compliance

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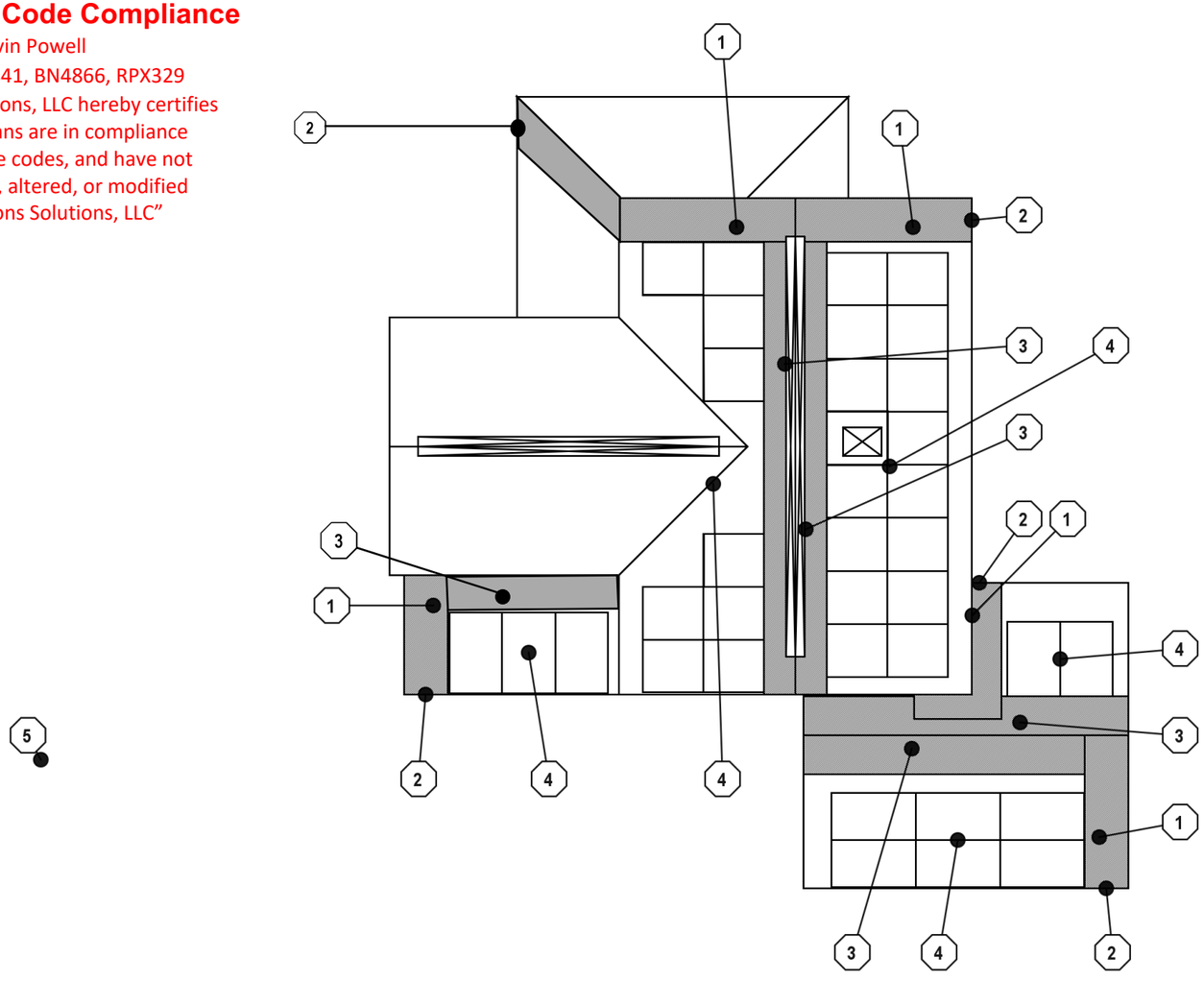

1 PV-7 FIRE SAFETY PLAN
SCALE: 1" = 10'

GENERAL NOTES	
1	ACCESS AND SPACING REQUIREMENTS SHALL BE REQUIRED TO PROVIDE EMERGENCY ACCESS TO THE ROOF, PROVIDE PATHWAYS TO SPECIFIC AREAS OF THE ROOF, PROVIDE FOR SMOKE VENTILATION OPPORTUNITY AREAS, AND TO PROVIDE EMERGENCY EGRESSION FROM THE ROOF. THE AHJ SHALL BE PERMITTED TO MODIFY ROOF ACCESS BASED UPON FIRE DEPARTMENT VENTILATION PROCEDURES OR ALTERNATIVE METHODS THAT ENSURE ADEQUATE ACCESS, PATHWAYS, AND SMOKE VENTILATION. (FFPC 11.12.2.2.1)
2	NOT LESS THAN TWO 3' WIDE PATHWAYS ON SEPARATE ROOF PLANES, FROM GUTTER TO RIDGE, SHALL BE PROVIDED ON ALL BUILDINGS. ONE PATHWAY SHALL BE PROVIDED ON THE STREET OR DRIVEWAY SIDE OF THE ROOF. FOR EACH ROOF PLAN WITH A PV ARRAY, A 3' WIDE PATHWAY FROM GUTTER TO RIDGE SHALL BE PROVIDED ON THE SAME ROOF PLANE AS THE PV ARRAY, ON AN ADJACENT ROOF PLANE, OR STRADDLING THE SAME AND ADJACENT ROOF PLANES. PATHWAYS SHALL BE LOCATED IN AREAS WITH MINIMAL OBSTRUCTIONS SUCH AS VENT PIPES, CONDUIT, OR MECHANICAL EQUIPMENT. (FFPC 11.12.2.2.2.1)
3	FOR PV ARRAYS OCCUPYING UP TO 33% OF THE PLAN VIEW ROOF AREA, A MIN. 18" PATHWAY SHALL BE PROVIDED ON EITHER SIDE OF A HORIZONTAL RIDGE. (FFPC 11.12.2.2.2.2)
4	ROOF FACES WITH NO PV ARE DESIGNATED FOR FIRE VENTILATION AND ACCESS

1. 3.0' WIDE FIRE ACCESS PATHWAY, PER FFPC 11.12.2.2.2.1
2. ROOF ACCESS POINT
3. 3.0' WIDE SMOKE-VENTILATION SETBACK, PER FFPC 11.12.2.2.2.2
4. PV MODULES INSTALLED ON ROOF WITH K2 CROSSRAIL MOUNTING SYSTEM.
5. ROADWAY
6. BUILDING IS GROUP R3
7. TOTAL PLAN VIEW ARRAY AREA IS 564.4 SQ.FT, WHICH REPRESENTS 31.0% OF TOTAL PLAN VIEW ROOF AREA (1822.9 SQ.FT)
8. THIS SYSTEM UTILIZES MICROINVERTERS. THERE ARE NO DC CIRCUITS OUTSIDE OF THE ARRAY PERIMETER OR INSIDE THE BUILDING.
9. ALL ARRAY CIRCUITS SHALL BE ROUTED THROUGH THE INTERIOR OF THE BUILDING, AND WHERE POSSIBLE, ALONG THE BOTTOM OF LOAD BEARING MEMBERS. NO CONDUIT SHALL BE INSTALLED ABOVE THE ROOF.

P-B36935

GRID-TIED SOLAR POWER SYSTEM

SHELTON RESIDENCE
804 E LEMON AVE
EUSTIS, FL 32726

REYES MANUEL RUIZ-DONATE
LICENSE
No 88991
STATE OF FLORIDA
PROFESSIONAL ENGINEER

FIRE SAFETY PLAN

DOC ID: ECEF43-1
DATE: 12/19/22
CREATOR: S.S.
REVIEWER:

REVISIONS

PV-7

Mono Multi Solutions

Vertex S

BACKSHEET MONOCRYSTALLINE MODULE

Reviewed for Code Compliance
Kevin Powell
BU1814, PX2841, BN4866, RPX329
"Inspection Solutions, LLC hereby certifies
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With applicable codes, and have not
Been changed, altered, or modified
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PRODUCT: TSM-DE09C.07
PRODUCT RANGE: 380-405W

405W
MAXIMUM POWER OUTPUT

0~+5W
POSITIVE POWER TOLERANCE

21.1%
MAXIMUM EFFICIENCY

High value

- More productivity from same roof size.
- Outstanding visual appearance.
- Leading 210mm cell technology.

Small in size, big on power

- Small format module allow greater energy generation in limited space.
- Up to 405W, 21.1% module efficiency with high density interconnect technology.
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current.
- Reduce installation cost with higher power bin and efficiency.
- Boost performance in warm weather with lower temperature coefficient (-0.34%) and operating temperature.

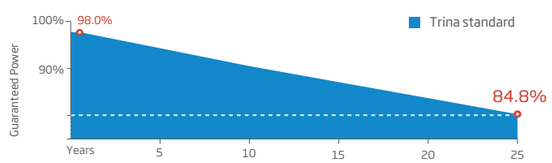
Universal solution for residential and C&I rooftops

- Designed for compatibility with existing mainstream optimizers, inverters and mounting systems.
- Perfect size and low weight makes handling and transportation easier and more cost-effective.
- Diverse installation solutions for flexibility in system deployment

High Reliability

- 25 year product warranty.
- 25 year performance warranty with lowest degradation.
- Minimized micro-cracks with innovative non-destructive cutting technology.
- Ensured PID resistance through cell process and module material control.
- Mechanical performance up to +6000 Pa and-4000 Pa negative load

Trina Solar's Backsheet Performance Warranty



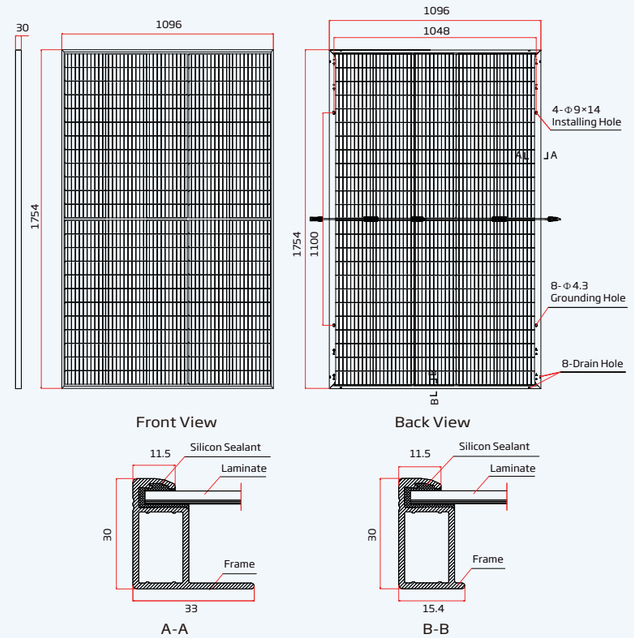
Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

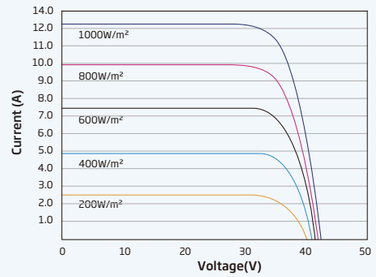
Trinasolar

Vertex S BACKSHEET MONOCRYSTALLINE MODULE

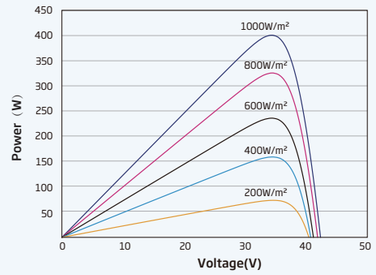
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(400 W)



P-V CURVES OF PV MODULE(400W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	380	385	390	395	400	405
Power Tolerance-PMAX (W)	0 ~ +5					
Maximum Power Voltage-VMPP (V)	33.4	33.6	33.8	34.0	34.2	34.4
Maximum Power Current-IMPP (A)	11.38	11.46	11.54	11.62	11.70	11.77
Open Circuit Voltage-VOC (V)	40.4	40.6	40.8	41.0	41.2	41.4
Short Circuit Current-ISC (A)	12.00	12.07	12.14	12.21	12.28	12.34
Module Efficiency η m (%)	19.8	20.0	20.3	20.5	20.8	21.1

STC: Irrdiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent power -PMAX (Wp)	407	412	417	423	428	433
Maximum Power Voltage-VMPP (V)	33.4	33.6	33.8	34.0	34.2	34.4
Maximum Power Current-IMPP (A)	12.19	12.26	12.34	12.44	12.51	12.59
Open Circuit Voltage-VOC (V)	40.4	40.6	40.8	41.0	41.2	41.4
Short Circuit Current-ISC (A)	12.92	13.00	13.08	13.20	13.25	13.36
Irradiance ratio (rear/front)	10%					

Power Bifaciality:70±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	286	290	294	298	302	305
Maximum Power Voltage-VMPP (V)	31.4	31.6	31.8	31.9	32.1	32.4
Maximum Power Current-IMPP (A)	9.12	9.18	9.24	9.32	9.38	9.42
Open Circuit Voltage-VOC (V)	38.0	38.2	38.4	38.6	38.8	38.9
Short Circuit Current-ISC (A)	9.67	9.73	9.78	9.84	9.90	9.94

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	120 cells
Module Dimensions	1754×1096×30 mm (69.06×43.15×1.18 inches)
Weight	21.0 kg (46.3 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Backsheet	Transparent backsheet
Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: 350/280 mm(13.78/11.02 inches) Landscape: N 1100 mm /P 1100 mm (43.31/43.31 inches)
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.34%/°C
Temperature Coefficient of VOC	- 0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUMRATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	25A

WARRANTY

25 year Product Workmanship Warranty
25 year Power Warranty
2% first year degradation
0.55% Annual Power Attenuation
(Please refer to product warranty for details)

PACKAGING CONFIGUREATION

Modules per box: 36 pieces
Modules per 40' container: 828 pieces

Trinasolar

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

Version number: TSM_NA_2022_A
www.trinasolar.com

Reviewed for Code Compliance
Kevin Powell
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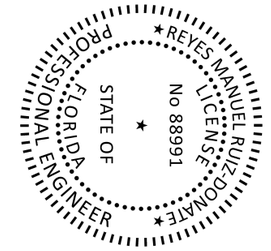
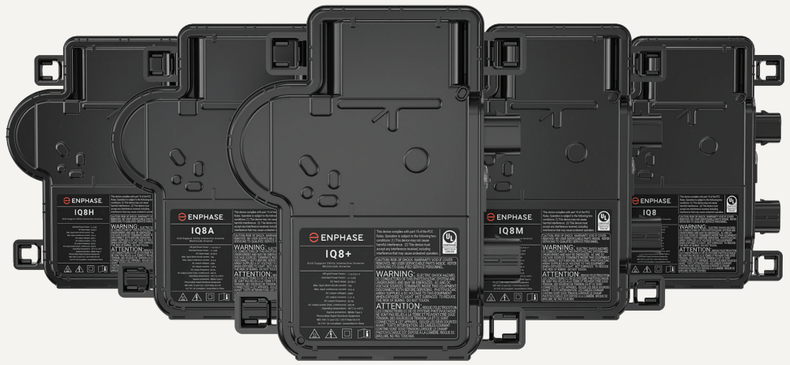


ENPHASE

DATA SHEET



IQ8 Series Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.

Enphase 25 year limited warranty

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

IQ8 Series Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US	IQ8M-72-2-US	IQ8A-72-2-US	IQ8H-240-72-2-US	IQ8H-208-72-2-US[1]
Commonly used module pairings[2]	W	235 – 350	235 – 440	260 – 460	295 – 500	320 – 540+	295 – 500+
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell and 72-cell/144 half-cell				
MPPT voltage range	V	27 – 37	29 – 45	33 – 45	36 – 45	38 – 45	38 – 45
Operating range	V	25 – 48	25 – 58				
Min/max start voltage	V	30 / 48	30 / 58				
Max input DC voltage	V	50	60				
Max DC current[3] [module Isc]	A	15					
Overvoltage class DC port		II					
DC port backfeed current	mA	0					
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit					
OUTPUT DATA (AC)		**IQ8-60-2-US**	**IQ8PLUS-72-2-US**	**IQ8M-72-2-US**	**IQ8A-72-2-US**	**IQ8H-240-72-2-US**	**IQ8H-208-72-2-US**
Peak output power	VA	245	300	330	366	384	366
Max continuous output power	VA	240	290	325	349	380	360
Nominal (L-L) voltage/range[4]	V	240 / 211 – 264					208 / 183 – 250
Max continuous output current	A	1.0	1.21	1.35	1.45	1.58	1.73
Nominal frequency	Hz	60					
Extended frequency range	Hz	50 – 68					
Max units per 20 A (L-L) branch circuit[5]		16	13	11	11	10	9
Total harmonic distortion		<5%					
Overvoltage class AC port		III					
AC port backfeed current	mA	30					
Power factor setting		1.0					
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging					
Peak efficiency	%	97.5	97.6	97.6	97.6	97.6	97.4
CEC weighted efficiency	%	97	97	97	97.5	97	97
Night-time power consumption	mW	60					
MECHANICAL DATA							
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)					
Relative humidity range		4% to 100% (condensing)					
DC Connector type		MC4					
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")					
Weight		1.08 kg (2.38 lbs)					
Cooling		Natural convection – no fans					
Approved for wet locations		Yes					
Acoustic noise at 1 m		<60 dBA					
Pollution degree		PD3					
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure					
Environ. category / UV exposure rating		NEMA Type 6 / outdoor					
COMPLIANCE							
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.					

(1) The IQ8H-208 variant will be operating in grid-tied mode only at 208V AC. (2) No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility (3) Maximum continuous input DC current is 10.6A (4) Nominal voltage range can be extended beyond nominal if required by the utility. (5) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Reviewed for Code Compliance
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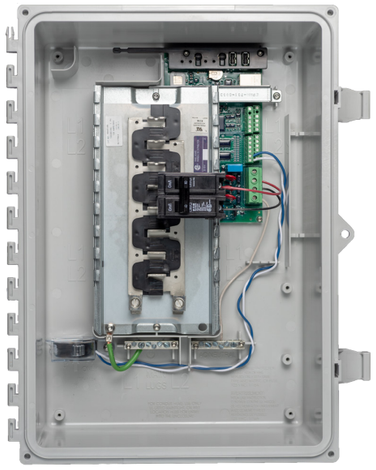
Data Sheet
Enphase Networking

Enphase IQ Combiner 3

(X-IQ-AM1-240-3)

The **Enphase IQ Combiner 3**™ with Enphase IQ Envoy™ consolidates interconnection equipment into a single enclosure and streamlines PV and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.



Smart

- Includes IQ Envoy for communication and control
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and optional consumption monitoring

Simple

- Reduced size from previous combiner
- Centered mounting brackets support single stud mounting
- Supports back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80 A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year warranty
- UL listed

UL LISTED

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

Enphase IQ Combiner 3

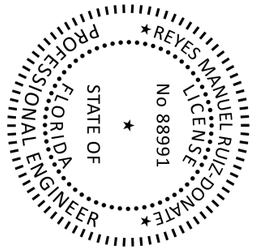
MODEL NUMBER	
IQ Combiner 3 X-IQ-AM1-240-3	IQ Combiner 3 with Enphase IQ Envoy™ printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and optional* consumption monitoring (+/- 2.5%).
ACCESSORIES and **REPLACEMENT PARTS** (not included, order separately)	
Enphase Mobile Connect™ CELLMODEM-03 (4G / 12-year data plan) CELLMODEM-01 (3G / 5-year data plan) CELLMODEM-M1 (4G based LTE-M / 5-year data plan)	Plug and play industrial grade cellular modem with data plan for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)
Consumption Monitoring* CT CT-200-SPLIT	Split core current transformers enable whole home consumption metering (+/- 2.5%).
Circuit Breakers BRK-10A-2-240 BRK-15A-2-240 BRK-20A-2P-240	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220
EPLC-01	Power line carrier (communication bridge pair), quantity 2
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 3 (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Envoy printed circuit board (PCB) for Combiner 3
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating (output to grid)	65 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. continuous current rating (input from PV)	64 A
Max. total branch circuit breaker rating (input)	80A of distributed generation / 90A with IQ Envoy breaker included
Production Metering CT	200 A solid core pre-installed and wired to IQ Envoy
MECHANICAL DATA	
Dimensions (WxHxD)	49.5 x 37.5 x 16.8 cm (19.5" x 14.75" x 6.63"). Height is 21.06" (53.5 cm with mounting brackets).
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Cellular	Optional, CELLMODEM-01 (3G) or CELLMODEM-03 (4G) or CELLMODEM-M1 (4G based LTE-M) (not included)
COMPLIANCE	
Compliance, Combiner	UL 1741 CAN/CSA C22.2 No. 107.1 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production)
Compliance, IQ Envoy	UL 60601-1/CANCSA 22.2 No. 61010-1

* Consumption monitoring is required for Enphase Storage Systems.

To learn more about Enphase offerings, visit **enphase.com**

2018-09-13

ENPHASE



Product compliance: No Data

Eaton general duty cartridge fuse safety switch

DG222NRB

UPC:782113144221

Dimensions:

- **Height:** 14.38 IN
- **Length:** 14.8 IN
- **Width:** 9.7 IN

Weight:10 LB

Notes: Maximum hp ratings apply only when dual element fuses are used. 3-Phase hp rating shown is a grounded B phase rating, UL listed.

Warranties:

- Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.

Specifications:

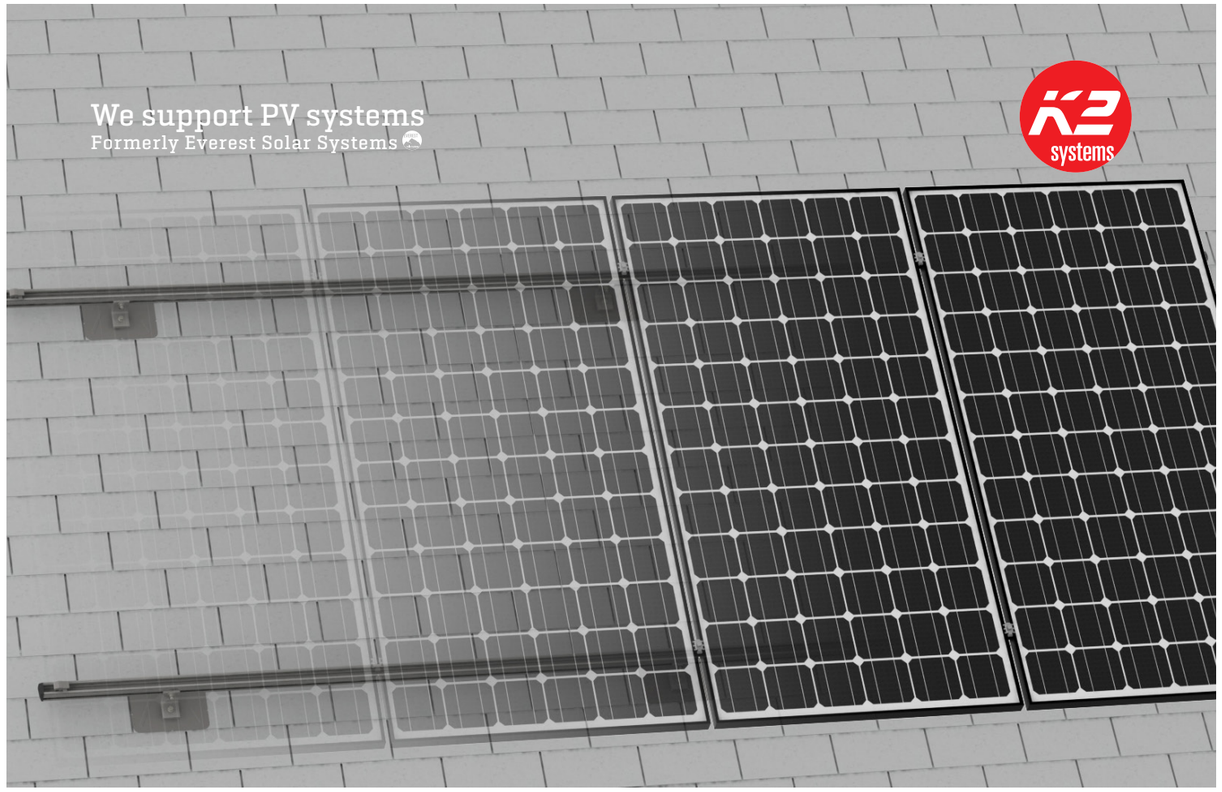
- **Type:** General duty, cartridge fused
- **Amperage Rating:** 60A
- **Enclosure:** NEMA 3R
- **Enclosure Material:** Painted galvanized steel
- **Fuse Class Provision:** Class H fuses
- **Fuse Configuration:** Fusible with neutral
- **Number Of Poles:** Two-pole
- **Number Of Wires:** Three-wire
- **Product Category:** General duty safety switch
- **Voltage Rating:** 240V

Supporting documents:

- Eatons Volume 2-Commercial Distribution
- Eaton Specification Sheet - DG222NRB

Certifications:

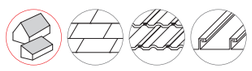
- UL Listed



CrossRail System

PRODUCT SHEET

- High quality, German-engineered system for residential and commercial installations
- 4 rail sizes available to suit all structural conditions
- Universal components for all rail types
- Use 2 innovative components to turn this system into Shared Rail or Tilt Up
- MK3 technology provides highest rail engagement
- Roof attachments for all roof types
- 100% code compliant, structural validation for all solar states
- Fast installation with minimal component count result in low total installed cost



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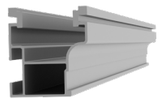
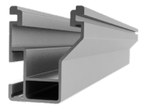
REYES MANUEL RUIZ DONATE LICENSE No 88991 STATE OF FLORIDA PROFESSIONAL ENGINEER

Components



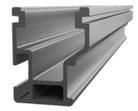
CrossRail 44-X

Part Number	Description
4000019	CrossRail 44-X, 166", Mill
4000020	CrossRail 44-X, 166", Dark
4000021	CrossRail 44-X, 180", Mill
4000022	CrossRail 44-X, 180", Dark



CrossRail 48-X

Part Number	Description
4000662	CrossRail 48-X, 166", Mill
4000663	CrossRail 48-X, 166", Dark
4000675	CrossRail 48-X, 180", Mill
4000665	CrossRail 48-X, 180", Dark



CrossRail 48-XL

Part Number	Description
4000695	CrossRail 48-XL, 166", Mill
4000705	CrossRail 48-XL, 166", Dark

CrossRail 80

Part Number	Description
4000508	CrossRail 80, 168", Mill

CrossRail Mid Clamp

Part Number	Description
4000601-H	CR MC Silver, 30-47mm, 13mm Hex
4000602-H	CR MC Dark, 30-47mm, 13mm Hex
4000688-H	SR MC Silver, 30-50mm, 13mm Hex
4000689-H	SR MC Silver, 30-50mm, 13mm Hex

CrossRail End Clamp

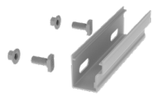
Part Number	Description
4000429	CR EC Silver 30-50mm, SR 30-45mm
4000430	CR EC Dark 30-50mm, SR 30-45mm
4000003	SR EC Silver 46-50mm
4000004	SR EC Dark 46-50mm

Yeti Clamp

Part Number	Description
4000050-H	Yeti Hidden EC for CR, Mill, 13mm Hex

Aluminum End Clamp

Part Number	Description
4005344	CrossRail EC Silver, AL 32-33mm
4005169	CrossRail EC Silver, AL 34-36mm
4005290	CrossRail EC Silver, AL 37-38mm
4005170	CrossRail EC Silver, AL 39-41mm
4005291	CrossRail EC Silver, AL 42-44mm
4005171	CrossRail EC Silver, AL 45-47mm
4005292	CrossRail EC Silver, AL 48mm
4005172	CrossRail EC Silver, AL 49-50mm

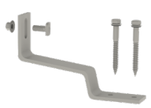


CrossRail Rail Connector

Part Number	Description
4000051	Rail Connector CR 44-X, Set, Mill
4000052	Rail Connector CR 44-X, Set, Dark
4000385	RailConn CR48-X,48-XL Struct Set, Mill
4000386	RailConn CR48-X,48-XL Struct Set, Dark
4001196	Rail Connecctor UL 2703 Set, CR80, Mill

L-Foot & T-Foot

Part Number	Description
4000630	L-Foot Slotted Set, Mill
4000631	L-Foot Slotted Set, Dark
4000080	T-Foot X, Set, Mill



Tile Hooks

Part Number	Description
4000034	Flat Tile Hook
4001294	Tile Hook 3S
4000521	SingleHook

Standing Seam PowerClamps

Part Number	Description
4000016	Standing Seam PowerClamp, Mini
4000017	Standing Seam PowerClamp, Standard

Reviewed for Code Compliance
Kevin Powell
BU1814, PX2841, BN4866, RPX329
"Inspection Solutions, LLC hereby certifies
That these plans are in compliance
With applicable codes, and have not
Been changed, altered, or modified
By Inspections Solutions, LLC"

Bonding and Grounding

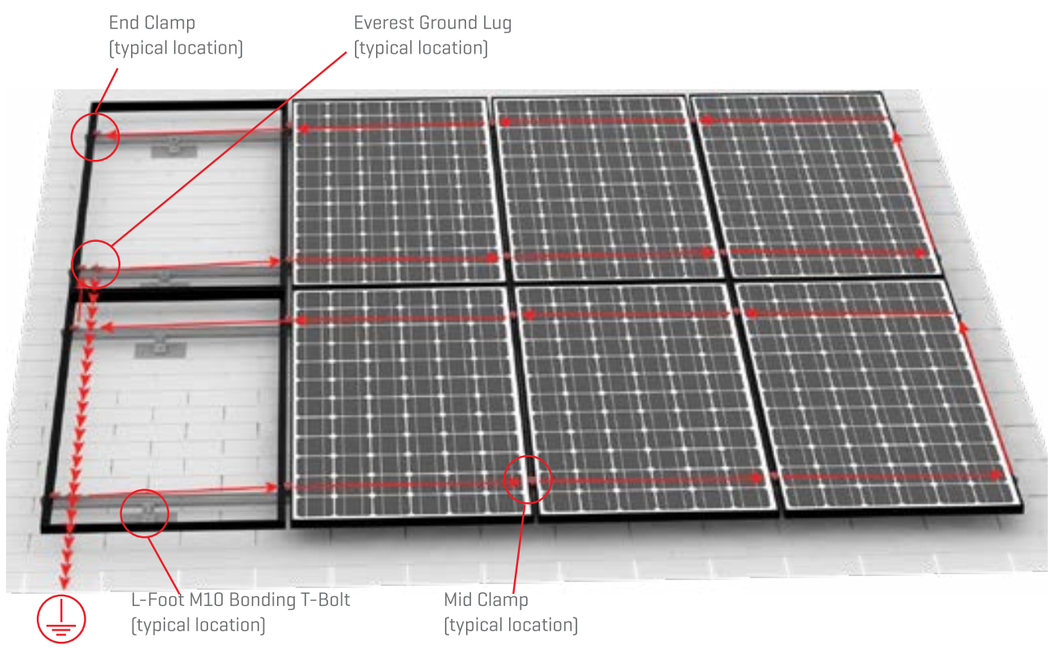
Appropriate means of bonding and grounding are required by regulation. The information provided in this manual shall always be verified with local and national building codes.

Everest Solar Systems has obtained a UL 2703 system listing from Underwriter's Laboratories (UL).

A sample bonding path diagram is shown in Figure 1 below. Your specific installation may vary, based upon site conditions and your AHJ's requirements.

Each electrical connection has been evaluated to a maximum fuse rating of 30A. At least one ground lug per row of modules must be used to ground all strings within each sub-array, although additional may be used for redundancy. When installed per these installation instructions, all connections meet the requirements of NEC 690.43.

This racking system may be used to ground and/or mount a PV module complying with UL 1703 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.



Compatible Modules

K2's CrossRail System was tested with the following:

- UL/NRTL Listed Aptos Solar Modules:
  - DNA-120-MF26-XXXW
  - DNA-144-MF26-XXXW
  - DNA-120-BF23-XXXW
  - DNA-120-MF23-XXXW
  - DNA-144-BF23-XXXW
  - DNA-144-MF23-XXXW
- UL/NRTL Listed Axitec Modules:
  - AC-xxP/156-60S
  - AC-xxxM/156-60S
  - AC-xxxP/60V
  - AC-xxxP/60xV
  - AC-xxxP/60S
  - AC-xxxP/60x
  - AC-xxxMH/120S
  - AC-xxxM/60V
  - AC-xxxM/60xV
  - AC-xxxMH/120V
  - AC-xxxM/60S
  - AC-xxxM/60x
  - AC-xxxP/156-72S
  - AC-XXXP/72V
  - AC-XXXP/72XV
  - AC-XXXP/72S
  - AC-XXXP/72X
  - AC-XXXMH/144S
  - AC-XXXM/72V
  - AC-XXXM/72XV
  - AC-XXXMH/144V
  - AC-XXXM/72S
  - AC-XXXM/72X
- UL/NRTL Listed Boviet Modules:
  - BVM6612M 72-Cell Mono
- UL/NRTL Listed Canadian Solar Inc. Modules:
  - CS6U-xxx
  - CS6K-xxx
  - CS6X-xxx
  - CS6P-xxx
  - CS3K-xxxP
  - CS3K-xxxMS
  - CS3U-xxxP
  - CS3U-xxxMS
  - CS3W-xxxP
  - CS3U-xxxPB-AG
  - CS3U-xxxMB-AG
  - CS3W-xxxPB-AG
  - CS1H-xxxMS
- CONTINUED - Canadian Solar Inc Modules:
  - CS6K-xxxM
  - CS6K-P-FG DYMOND
- UL/NRTL Listed CertainTeed Modules:
  - CTXXXHC11-04
  - CTXXXHC00-04
  - CTxxxHC11-06
- UL/NRTL Listed ET Solar Modules:
  - ET-M660xxxBB
- UL/NRTL Listed Hansol Modules:
  - UB-AN1 Black 270-300
  - UBAN1 Silver 270-300
  - UD-AN1 330-360
- UL/NRTL Listed Hanwha Q Cells Modules:
  - Q.PEAK- G4.1/MAx xxx
  - Q.PEAK BLK G4.1 xxx
  - Q.PRO G4 xxx
  - Q.PLUS G4 xxx
  - Q.PEAK-G4.1/TAA xxx
  - Q.PEAK BLK G4.1/TAA xxx
  - Q.PLUS BFR G4.1/TAA xxx
  - Q.PLUS BFR G4.1/MAx xxx
  - B.LINE PLUS BFR G4.1 xxx
  - B.LINE PRO BFR G4.1 xxx
  - Q.PEAK DUO-G5 xxx
  - Q.PEAK DUO BLK-G5 xxx
  - Q.PEAK DUO-G8 xxx
  - Q.PEAK DUO BLK-G8 xxx
  - Q.PEAK DUO-G7 xxx
  - Q.PEAK DUO BLK-G7 xxx
  - Q.PEAK DUO G7.2 xxx
  - Q.PEAK DUO-G6 xxx
  - Q.PEAK DUO BLK-G6 xxx
  - Q.PEAK DUO BLK-G6+ xxx
  - Q.PEAK DUO-G6+ xxx
  - Q.PEAK DUO-G8+ xxx
  - Q.PEAK DUO BLK-G8+ xxx
  - Q.PEAK DUO L-G8.3 xxx
  - Q.PEAK DUO L-G8.2 xxx
  - Q.PEAK DUO L-G8.1 xxx
  - Q.PEAK DUO L-G8 xxx
  - Q.PEAK DUO L-G7.3 xxx
  - Q.PEAK DUO L-G7.2 xxx
  - Q.PEAK DUO L-G7.1 xxx
  - Q.PEAK DUO L-G7 xxx
  - Q.PEAK DUO L-G6 xxx
- CONTINUED - Hanwha Q Cells Modules:
  - Q.PEAK DUO L-G6.2 xxx
  - Q.PEAK DUO L-G6.3 xxx
  - Q.PLUS DUO L-G5 xxx
  - Q.PLUS DUO L-G5.1 xxx
  - Q.PLUS DUO L-G5.2 xxx
  - Q.PLUS DUO L-G5.3 xxx
  - Q.PEAK DUO L-G5.2 xxx
  - Q.PEAK DUO L-G5.3 xxx
  - Q.PEAK L-G4.2 xxx
  - Q.PEAK L-G4.1 xxx
  - Q.PLUS L-G4.2 xxx
  - Q.PLUS L-G4.1 xxx
  - Q.PLUS L-G4 xxx
  - Q.PEAK DUO BLK G6+/SC xxx
  - Q.PEAK DUO G5/SC xxx
  - Q.PEAK DUO BLK G5/SC xxx
  - Q.Plus BFR-G4.1xxx
  - Q.Pro BFR-G4.1xxx
  - Q.Pro-G4.1/SCxxx
  - Q.PLUS BFR G4.1 xxx
  - Q.PRO BFR G4 xxx
  - Q.PRO BFR G4.1 xxx
  - Q.PRO BFR G4.3 xxx
  - Q.PEAK-G4.1 xxx
  - Q. PEAK DUO BLK G6+/TS XXX
  - Q.PEAK DUO G5/TS-XXX
  - Q.PEAK DUO BLK G6/TS XXX
  - Q.PEAK DUO G6/TS-XXX
  - Q.PEAK DUO G6+/TS-XXX
  - Q.PEAK DUO ML-G9 XXX
  - Q.PEAK DUO ML-G9.2 XXX
  - Q.PEAK DUO ML BLK-G9 XXX
  - Q.PEAK DUO ML BLK-G9.2 XXX
  - Q.PEAK DUO XL-G9 XXX
  - Q.PEAK DUO XL-G9.2 XXX
  - Q.PEAK DUO XL BLK-G9 XXX
  - Q.PEAK DUO XL BLK-G9.2 XXX
  - Q.PEAK DUO XL BLK-G9.3 XXX
  - Q.PEAK DUO XL -G9.3 XXX
  - Q.PEAK DUO ML -G9.3 XXX
  - Q.PEAK DUO ML BLK -G9.3 XXX
  - Q.PEAK DUO ML -G9 XXX
  - Q.PEAK DUO ML -G9+ XXX
  - Q.PEAK DUO BLK ML -G9+ XXX
  - Q.PEAK DUO BLK ML -G9 XXX
- UL/NRTL Listed Hyundai Modules:
  - HiS-MxxxMG
  - HiS-MxxxMI

Reviewed for Code Compliance

Kevin Powell

BU1814, PX2841, BN4866, RPX329

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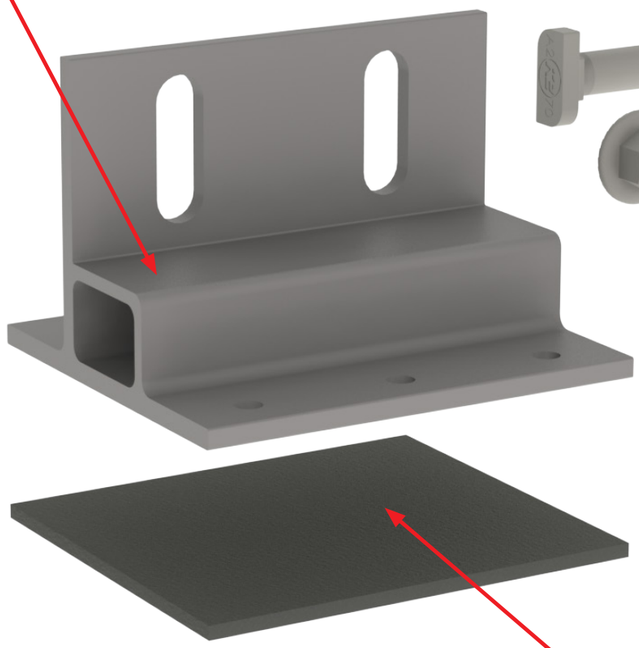
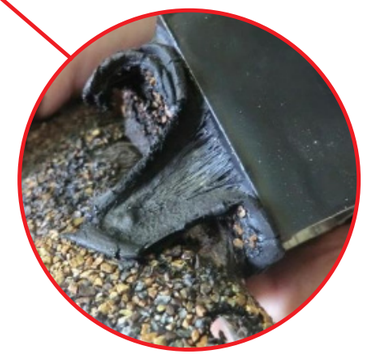
We support PV systems
Formerly Everest Solar Systems

Rail Shelf
- Allows for easier rail support
- Aligns CrossRail T-Bolt channel

Self-Tapping Screws
- Self-sealing; no sealant required
- Self-tapping; no pilot holes required
- 2 screws included per mount



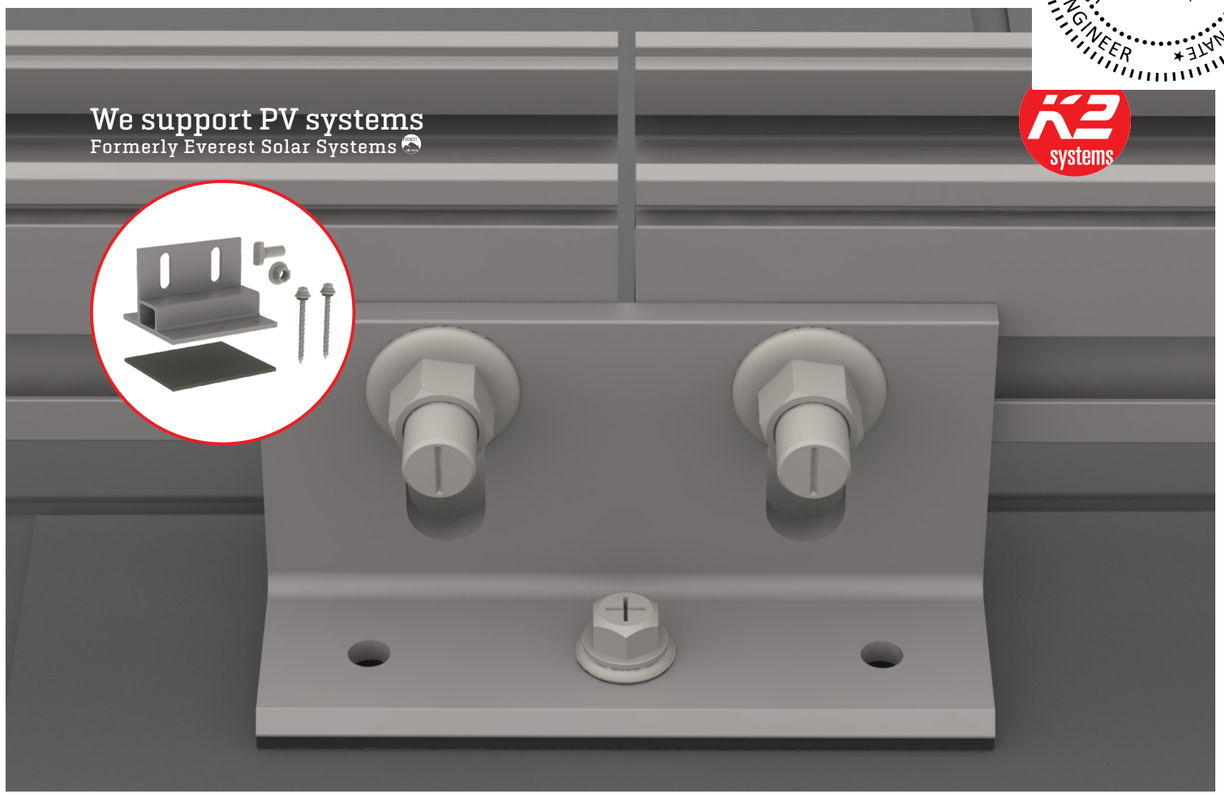
K2 EverSeal
- Pre-installed butyl flexible flashing
- 20+ years of proven water sealing technology
- TAS 100(A) and Wind Driven Rain tested and approved



Splice Foot X & XL

Patent Pending

PRODUCT SHEET



Splice Foot X & XL

Patent Pending

PRODUCT SHEET

Part Number	Description
4000113	Splice Foot X Kit,Mill
4000162	Splice Foot XL Kit, Mill

- All-in-one mount and splice foot
- K2 EverSeal technology
- 20+ years of proven water sealing technology on asphalt
- Self drilling lag screws = less tools needed
- Optimized for CrossRail systems and components
- No L-Foot needed
- T-Bolt hardware included