PHOTOVOLTAIC ROOF MOUNT SYSTEM

36 MODULES-ROOF MOUNTED - 15.480 kW DC, 15.200 kW AC

151 NW CHADLEY LN, LAKE CITY, FL 32055

LUNEX POWER INC.
4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

PROJECT DATA

PROJECT ADDRESS	151 NW CHADLEY LN, LAKE CITY, FL 32055
OWNER:	RUSTY BERRY
CONTRACTOR:	LUNEX POWER INC. 4721 N GRADY AVE TAMPA FL 33614 PHONE: 813-540-8807
DESIGNER:	ESR
SCOPE:	15.480 KW DC ROOF MOUNT SOLAR PV SYSTEM WITH 36 QCELLS:Q.TRON BLK M-G2.C+ 430W PV MODULES WITH 36 SOLAREDGE: U650 POWER OPTIMIZERS 02 SOLAREDGE: USE11400H-USSKBEZ8 (240V/7600W) INVERTERS

AUTHORITIES HAVING JURISDICTION:
BUILDING: COLUMBIA COUNTY
ZONING: COLUMBIA COUNTY
UTILITY: FPL

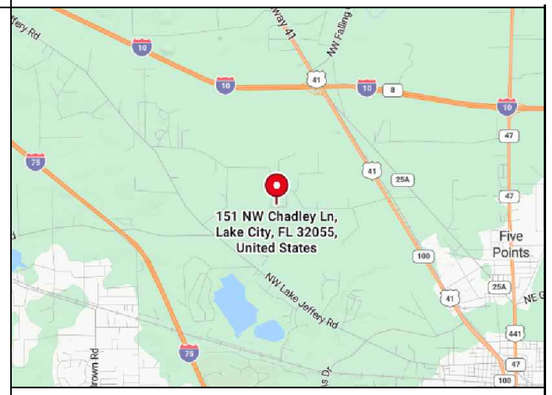
SHEET INDEX

PROFESSIONAL ENGINEER SEAL

GENERAL NOTES

1. ALL COMPONENTS ARE UL LISTED AND NEC CERTIFIED, WHERE WARRANTED.
2. THE SOLAR PV SYSTEM WILL BE INSTALLED IN ACCORDANCE WITH ARTICLE 690 OF THE NEC 2020.
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 NEC 2020 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

PROJECT TO COMPLY WITH THE FOLLOWING:

FLORIDA RESIDENTIAL CODE, 8TH EDITION 2023 (FRC)
FLORIDA PLUMBING CODE, 8TH EDITION 2023 (FPC)
FLORIDA BUILDING CODE, 8TH EDITION 2023 (FBC)
FLORIDA MECHANICAL CODE, 8TH EDITION 2023 (FMC)
2020 NATIONAL ELECTRICAL CODE
FLORIDA FIRE PREVENTION CODE, 8TH EDITION 2023 (FFPC)

REVISIONS		
DESCRIPTION	DATE	REV

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
04/01/2026

DATE: 04/01/2026
PROJECT NAME & ADDRESS

Richard Pantel
Digitally signed by Richard Pantel
Date: 2026.04.01 16:37:29 -05'00'

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN, LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
COVER SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

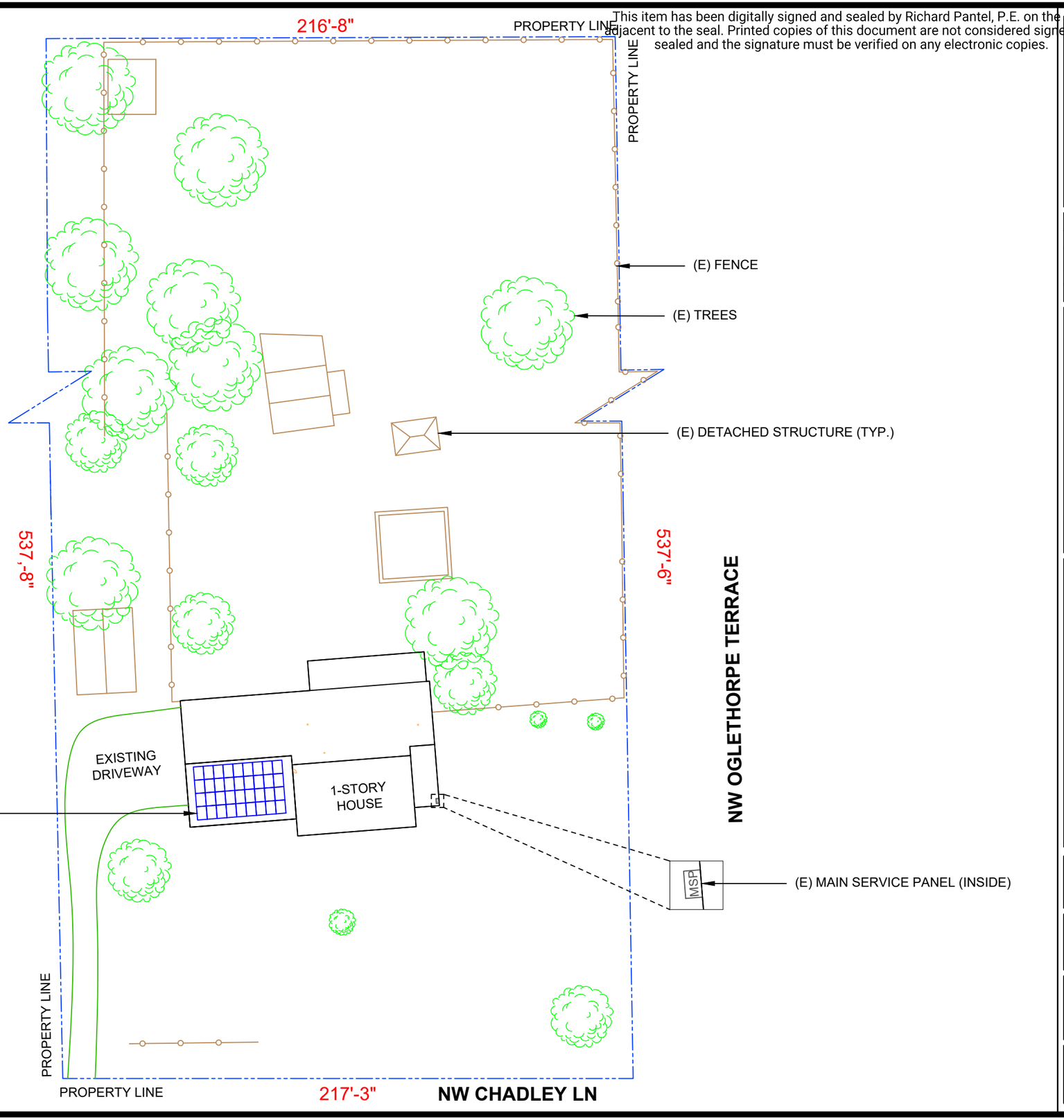
PROJECT DESCRIPTION:

36 X QCELLS: Q.TRON BLK M-G2.C+ 430W PV MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 36 x 430 = 15.480 kW DC
AC SYSTEM SIZE: 02 x 7600 = 15.200 kW AC

EQUIPMENT SUMMARY
36 QCELLS: Q.TRON BLK M-G2.C+ 430W MONO MODULES
36 SOLAREDGE: U650 POWER OPTIMIZERS
02 SOLAREDGE: USE11400H-USSKBEZ8 (240V/7600W) INVERTERS

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

ROOF ARRAY AREA #1:- 755.64 SQ FT.



1 SITE PLAN
PV-2 SCALE: 1"=40'-0"

This item has been digitally signed and sealed by Richard Pantel, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

LUNEX POWER
THE PURE SOURCE

LUNEX POWER INC.
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SHEET NAME
SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

MODULE TYPE, DIMENSIONS & WEIGHT

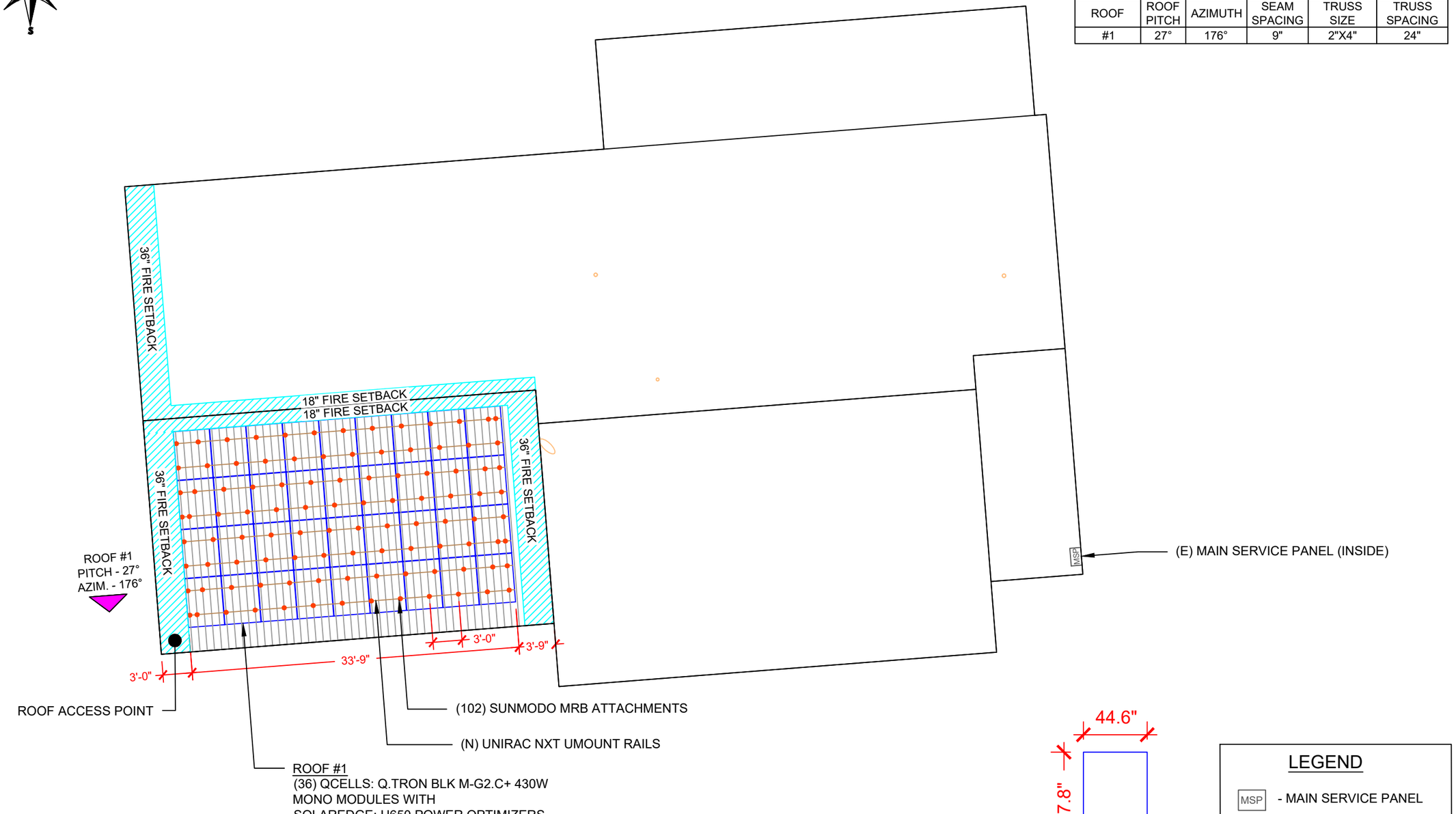
NUMBER OF MODULES = 36 MODULES
MODULE TYPE = QCELLS: Q.TRON BLK M-G2.C+ 430W MONO MODULES
MODULE WEIGHT = 46.7 LBS / 21.2 KG.
MODULE DIMENSIONS = 67.8" x 44.6" = 20.99 SF

ARRAY AREA & ROOF AREA CALCS

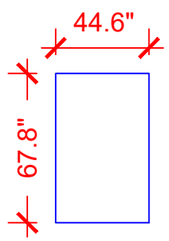
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	36	755.64	979.24	77
TOTAL	36	755.64	5395.08	14

ROOF DESCRIPTION

ROOF TYPE				METAL	
ROOF	ROOF PITCH	AZIMUTH	SEAM SPACING	TRUSS SIZE	TRUSS SPACING
#1	27°	176°	9"	2"X4"	24"



ROOF #1
(36) QCELLS: Q.TRON BLK M-G2.C+ 430W MONO MODULES WITH SOLAREDGE: U650 POWER OPTIMIZERS



QCELLS: Q.TRON BLK M-G2.C+ 430W MODULES

LEGEND

- MSP - MAIN SERVICE PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- SEAM

1 ROOF PLAN & MODULES
PV-3 SCALE: 3/32" = 1'-0"

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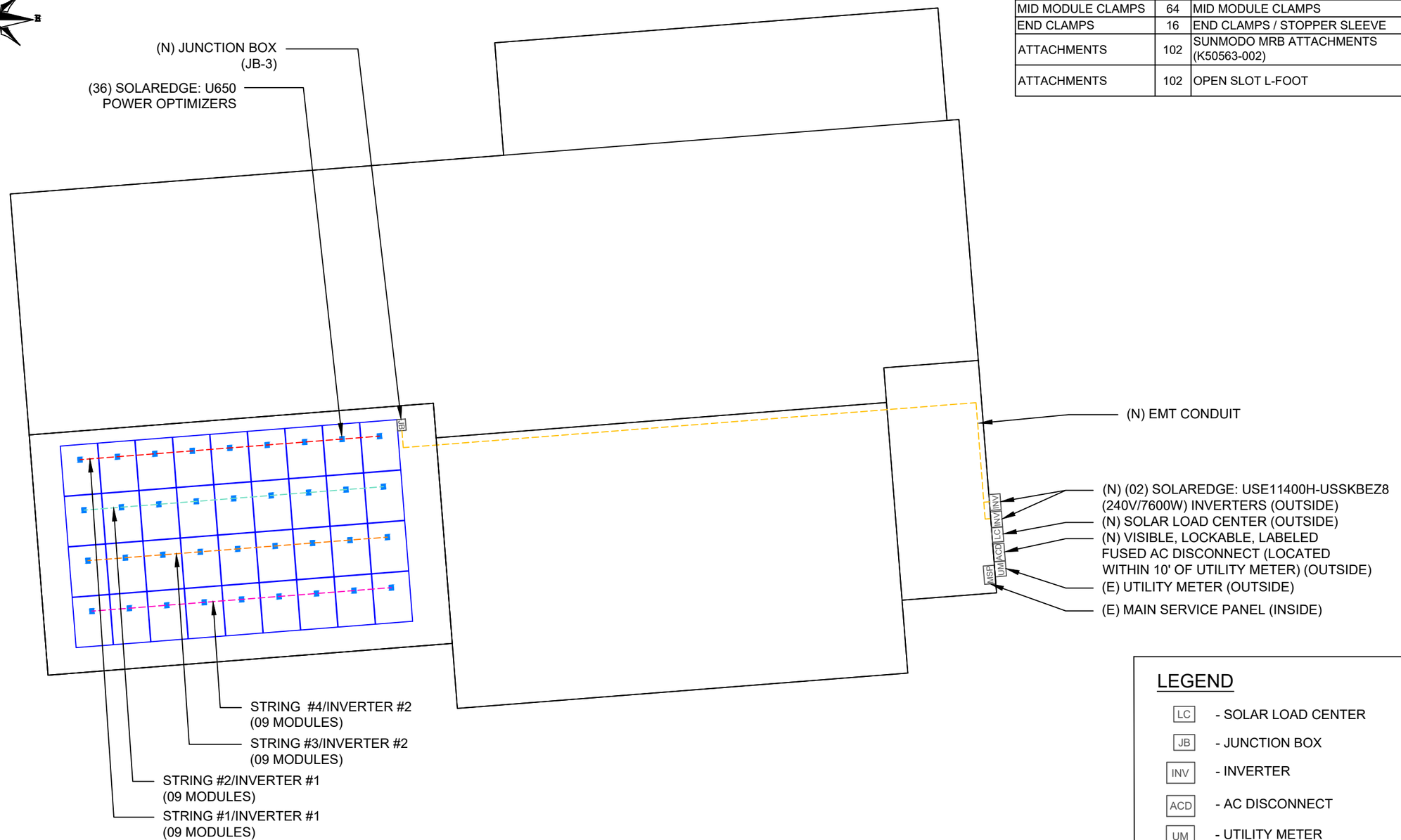
ESR

SHEET NAME
ROOF PLAN & MODULES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3

STRING LEGENDS
STRING #1/INVERTER #1
STRING #2/INVERTER #1
STRING #3/INVERTER #2
STRING #4/INVERTER #2



1 ELECTRICAL PLAN

PV-4 SCALE: 3/32" = 1'-0"

BILL OF MATERIALS

EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULES	36	QCELLS: Q.TRON BLK M-G2.C+ 430W MODULE
POWER OPTIMIZERS	36	SOLAREDGE: U650 POWER OPTIMIZERS
INVERTER	02	SOLAREDGE: USE11400H-USSKBEZ8 (240V/7600W) INVERTERS
JUNCTION BOXES	2	JUNCTION BOXES - (JB-3)
RAILS	20	UNIRAC NXT UMOUNT RAILS
SPLICES	16	SPLICE KIT
MID MODULE CLAMPS	64	MID MODULE CLAMPS
END CLAMPS	16	END CLAMPS / STOPPER SLEEVE
ATTACHMENTS	102	SUNMODO MRB ATTACHMENTS (K50563-002)
ATTACHMENTS	102	OPEN SLOT L-FOOT

LEGEND

- LC - SOLAR LOAD CENTER
- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- CONDUIT

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DATE: 04/01/2026

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LAKE CITY, FL 32055

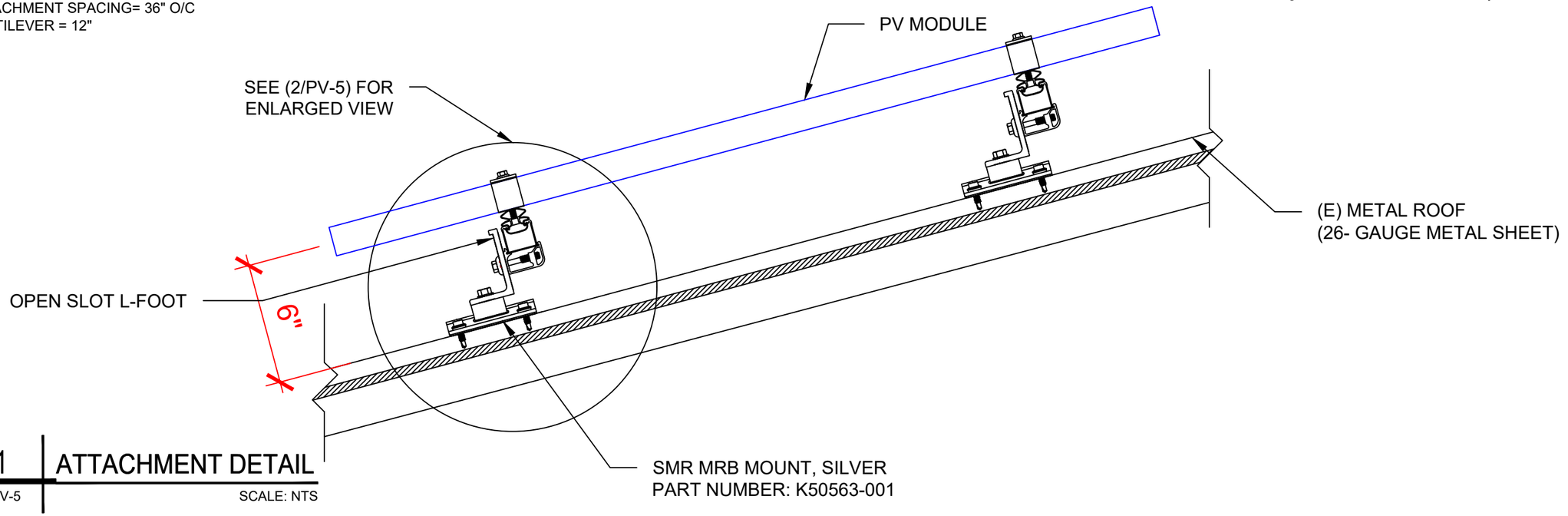
DRAWN BY
ESR

SHEET NAME
ELECTRICAL PLAN

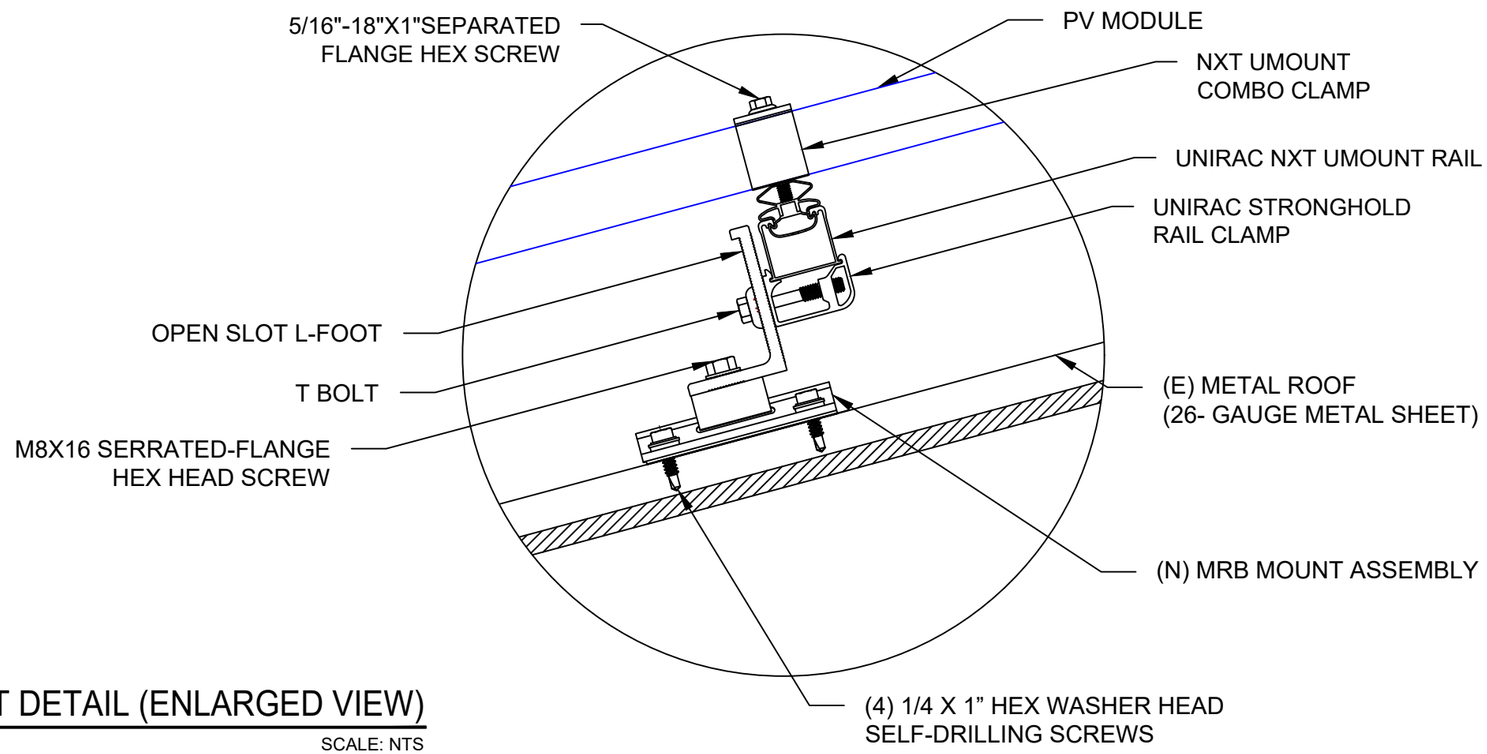
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

DESCRIPTION: CANTILEVER
CANTILEVER CONSIDER 1/3RD OF ROOF ATTACHMENT SPACING.
ATTACHMENT SPACING= 36" O/C
CANTILEVER = 12"



1 ATTACHMENT DETAIL
PV-5 SCALE: NTS



2 ATTACHMENT DETAIL (ENLARGED VIEW)
PV-5 SCALE: NTS

LUNEX POWER
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DRAWN BY
ESR

SHEET NAME
STRUCTURAL DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

DC SYSTEM SIZE: 36 x 430 = 15.480KW DC
AC SYSTEM SIZE: 02 x 7600 = 15.200KW AC

(36) QCELLS: Q.TRON BLK M-G2.C+ 430W MONO MODULES WITH
(36) SOLAREDGE: U650 POWER OPTIMIZERS
(02) SOLAREDGE: USE11400H-USSKBEZ8 (240V/7600W) INVERTERS

(04) STRINGS OF 09 MODULES ARE CONNECTED IN SERIES

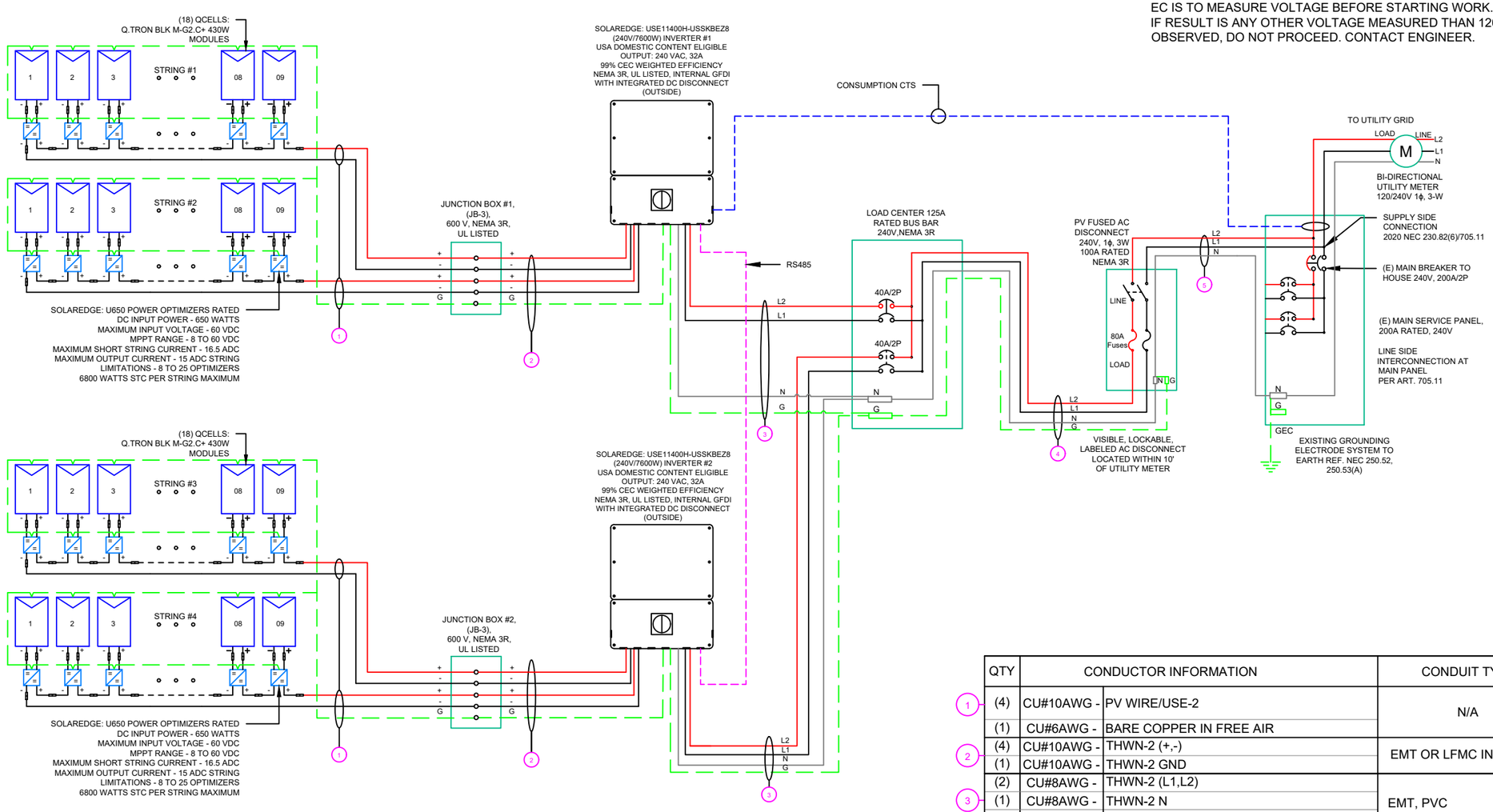
INTERCONNECTION NOTES:
1. INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.59].
2. GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95].
3. ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
4. PV BREAKER TO BE POSITIONED AT THE OPPOSITE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

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

GROUNDING & GENERAL NOTES:
1. **GROUNDING ELECTRODES AND GROUNDING ELECTRODE CONDUCTORS**
ADDITIONAL GROUNDING ELECTRODES SHALL BE PERMITTED TO BE INSTALLED IN ACCORDANCE WITH 250.52 AND 250.54.GROUNDING ELECTRODES SHALL BE PERMITTED TO BE CONNECTED DIRECTLY TO THE PV MODULE FRAME(S) OR SUPPORT STRUCTURE PER [NEC 690.47(B)]
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.

INSTALLER / ELECTRICIAN NOTE:
EC IS TO MEASURE VOLTAGE BEFORE STARTING WORK.
IF RESULT IS ANY OTHER VOLTAGE MEASURED THAN 120/240V IS OBSERVED, DO NOT PROCEED. CONTACT ENGINEER.



	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(4)	CU#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	CU#6AWG -	BARE COPPER IN FREE AIR		
2	(4)	CU#10AWG -	THWN-2 (+,-)	EMT OR LFMC IN ATTIC	3/4"
	(1)	CU#10AWG -	THWN-2 GND		
3	(2)	CU#8AWG -	THWN-2 (L1,L2)	EMT, PVC	3/4"
	(1)	CU#8AWG -	THWN-2 N		
	(1)	CU#10AWG -	THWN-2 GND		
4	(3)	CU#4AWG -	THWN-2 (L1,L2,N)	EMT, PVC	1"
	(1)	CU#6AWG -	THWN-2 GND		
5	(2)	CU#4AWG -	THWN-2 (L1,L2)	EMT, PVC	1"
	(1)	CU#4AWG -	THWN-2 N		

1 ELECTRICAL LINE DIAGRAM
PV-6 SCALE: NTS

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THE PURE SOURCE
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REVISIONS		
DESCRIPTION	DATE	REV

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151 NW CHADLEY LN, LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	SOLAREDGE: USE11400H-USSKBEZ8 (240V/7600W) INVERTER
NOMINAL AC POWER	7.600 KW
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	32A

(N) SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	QCELLS:Q.TRON BLK M-G2.C+ 430 W MODULE
VMP (V)	32.94
IMP (A)	13.05
VOC (V)	39.32
ISC (A)	13.74
TEMP. COEFF. VOC %/K	-0.24
TEMP. COEFF. PMAX %/K	-0.30
MODULE DIMENSION	67.8"L x 44.6"W x 1.18"D (In Inch)

AMBIENT TEMPERATURE SPECS	
AMBIENT TEMP (HIGH TEMP 2%)	37°
RECORD LOW TEMP	-6°
TEMP ADJUSTMENT FOR INSTALLATION METHOD (°C)	35°

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

DC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCIUT 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)(1)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(C)(1)	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 #1	480	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	37	2	40	0.91	1	36.4	PASS	30	1.24	0.233	N/A	#N/A
STRING 2	JUNCTION BOX #1	480	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	37	2	40	0.91	1	36.4	PASS	30	1.24	0.233	N/A	#N/A
STRING 3	JUNCTION BOX #2	480	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	37	2	40	0.91	1	36.4	PASS	30	1.24	0.233	N/A	#N/A
STRING 4	JUNCTION BOX #2	480	15.00	18.75	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	37	2	40	0.91	1	36.4	PASS	30	1.24	0.233	N/A	#N/A
JUNCTION BOX #1	INVERTER #1	480	15.00	18.75	20	CU #10 AWG	CU #10 AWG	35	PASS	37	4	40	0.91	0.8	29.12	PASS	92	1.24	0.713	3/4" EMT	19.79362
JUNCTION BOX #2	INVERTER #2	480	15.00	18.75	20	CU #10 AWG	CU #10 AWG	35	PASS	37	4	40	0.91	0.8	29.12	PASS	92	1.24	0.713	3/4" EMT	19.79362

String 1 Voltage Drop	0.946
String 2 Voltage Drop	0.946
String 3 Voltage Drop	0.946
String 4 Voltage Drop	0.946

AC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCIUT 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)(1)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(C)(1)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
INVERTER #1	LOAD CENTER	240	32	40	40	CU #8 AWG	CU #10 AWG	CU #8 AWG	50	PASS	37	2	55	0.91	1	50.05	PASS	5	0.778	0.104	3/4" EMT	24.5591
INVERTER #2	LOAD CENTER	240	32	40	40	CU #8 AWG	CU #10 AWG	CU #8 AWG	50	PASS	37	2	55	0.91	1	50.05	PASS	5	0.778	0.104	3/4" EMT	24.5591
LOAD CENTER	FUSED AC DISCONNECT	240	64	80	80	CU #4 AWG	CU #6 AWG	CU #4 AWG	85	PASS	37	2	95	0.91	1	86.45	PASS	5	0.308	0.082	1" EMT	34.4792
FUSED AC DISCONNECT	POI	240	64	80	80	CU #4 AWG	N/A	CU #4 AWG	85	PASS	37	2	95	0.91	1	86.45	PASS	5	0.308	0.082	1" EMT	28.6111

CUMULATIVE VOLTAGE DROP INV #1	0.268
CUMULATIVE VOLTAGE DROP INV #2	0.268

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.

LUNEX POWER
THE PURE SOURCE

LUNEX POWER INC.
4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

REVISIONS

DESCRIPTION	DATE	REV

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
04/01/2026

DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
WIRING CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-7

FAULT - MSP

$I_{total\ s.c.\ (L\text{-}L)}$	22,000 AMPS
$I_{total\ s.c.\ (L\text{-}N)}$	33,000 AMPS
Voltage (L-L)	240 V

CONDUCTOR RUN - C1

LENGTH	10 FT
SIZE	4
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - AC DISCONNECT

$I_{total\ s.c.\ (L\text{-}L)}$	14,848 AMPS
$I_{total\ s.c.\ (L\text{-}N)}$	13,497 AMPS
Voltage (L-L)	240 V

CONDUCTOR RUN - C2

LENGTH	5 FT
SIZE	4
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - LOAD CENTER

$I_{total\ s.c.\ (L\text{-}L)}$	12,771 AMPS
$I_{total\ s.c.\ (L\text{-}N)}$	10,418 AMPS
Voltage (L-L)	240 V

CONDUCTOR RUN - C3

LENGTH	5 FT
SIZE	8
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - INVERTER

$I_{total\ s.c.\ (L\text{-}L)}$	9,518 AMPS
$I_{total\ s.c.\ (L\text{-}N)}$	6,688 AMPS
Voltage (L-L)	240 V

This item has been digitally signed and sealed by Richard Pantel, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

LUNEX POWER INC.
4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

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DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE

151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
FAULT CURRENT CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-7A

CAUTION: AUTHORIZED SOLAR PERSONNEL ONLY!

LABEL LOCATION:
AC DISCONNECT

⚠WARNING

ELECTRICAL SHOCK HAZARD

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

LABEL LOCATION:
INVERTER(S), AC/DC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).
PER CODE(S): NEC 2020: 690.13(B)

⚠WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:
UTILITY SERVICE METER AND MAIN SERVICE PANEL.
PER CODE(S): NEC 2020: 705.12(C)

⚠WARNING

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:
ADJACENT TO PV BREAKER AND ESS OCPD (IF APPLICABLE).
PER CODE(S): NEC 2020: 705.12(B)(3)(2),

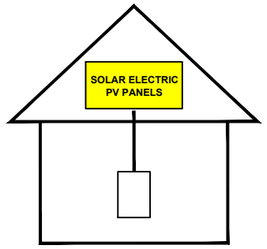
⚠ WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

LABEL LOCATION:
MAIN SERVICE PANEL
SUBPANEL
MAIN SERVICE DISCONNECT
COMBINER
CODE REF: NEC 110.27(C) & OSHA 1910.145 (f) (7)

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 LOCATION:
ON OR NO MORE THAN 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.
PER CODE(S): NEC 2020: 690.56(C)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
INSTALLED WITHIN 3' OF RAPID SHUT DOWN SWITCH PER CODE(S): NEC 2020: 690.56(C)(2)
.

PHOTOVOLTAIC

AC DISCONNECT

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

PV SYSTEM DISCONNECT

MAXIMUM AC OPERATING CURRENT: **64.00** AMPS

NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.
PER CODE(S): NEC 2020: 690.54

PHOTOVOLTAIC DC DISCONNECT

MAXIMUM SYSTEM VOLTAGE: 480 VDC

LABEL LOCATION:
INVERTER(S), DC DISCONNECT(S).
PER CODE(S): NEC 2020: 690.53

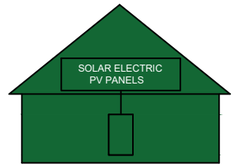
CAUTION: PHOTOVOLTAIC SYSTEM FOR SERVICE : LUNEX POWER 813-540-8807

WARNING: PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION:
INTERIOR AND EXTERIOR PV CONDUIT EVERY 10 FT, AT EACH TURN, ABOVE AND BELOW PENETRATIONS, ON EVERY JB/PULL BOX CONTAINING PV CIRCUITS.
PER CODE(S): NEC 2020: 690.31(D)(2)

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

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



THE LABEL SHALL BE REFLECTIVE, WITH ALL LETTERS CAPITALIZED AND HAVING A MINIMUM HEIGHT OF 3/8 IN. (9.5 MM), IN WHITE ON A RED BACKGROUND.

LABEL LOCATION:
AC DISCONNECT
CODE REF:NFPA 1 (11.12.2.1.1.1.1)

1. THE RAPID SHUTDOWN LABEL SHALL BE LOCATED ON OR NO MORE THAN 3 FT (1 M) FROM THE SERVICE DISCONNECTING MEANS
2. (HEIGHT OF LABEL IS 3/8 IN. (9.5 MM), IN WHITE ON A RED BACKGROUND)

MAXIMUM VOLTAGE:	**480 V**
MAXIMUM CIRCUIT CURRENT:	**40 A**
MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED):	**15.00 A**

LABEL LOCATION:
INVERTER
CODE REF: NEC 690.53

NOTES AND SPECIFICATIONS:

- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2020 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
- SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
- LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
- LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
- DO NOT COVER EXISTING MANUFACTURER LABELS.

LUNEX POWER INC.
4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
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DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE

151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

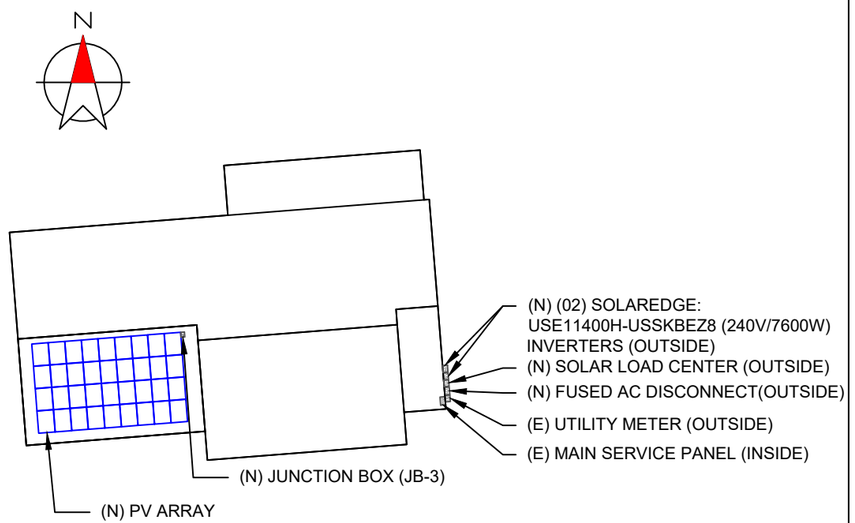
SHEET NAME
LABELS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

CAUTION

MULTIPLE SOURCES OF POWER



151 NW CHADLEY LN, LAKE CITY, FL 32055

DIRECTORY

PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM.

(ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS OUTLINED WITHIN: NEC 690.56(A)(B), [NEC 705.10])

LABELING NOTES:

1. LABELS CALLED OUT ACCORDING TO ALL COMMON CONFIGURATIONS. ELECTRICIAN TO DETERMINE EXACT REQUIREMENTS IN THE FIELD PER CURRENT NEC AND LOCAL CODES AND MAKE APPROPRIATE ADJUSTMENTS.
2. LABELING REQUIREMENTS BASED ON THE 2020 NEC, OSHA STANDARD 1910.145, ANSI Z535.
3. MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
4. LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED [NEC 110.21]
5. LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8", WHITE ON RED BACKGROUND; REFLECTIVE, AND PERMANENTLY AFFIXED [NEC 690.56(C)(1)(A)].

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DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN, LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
PLACARD

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

	1-10	11-20	21-30	31-40	41-50	51-60	61-70
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

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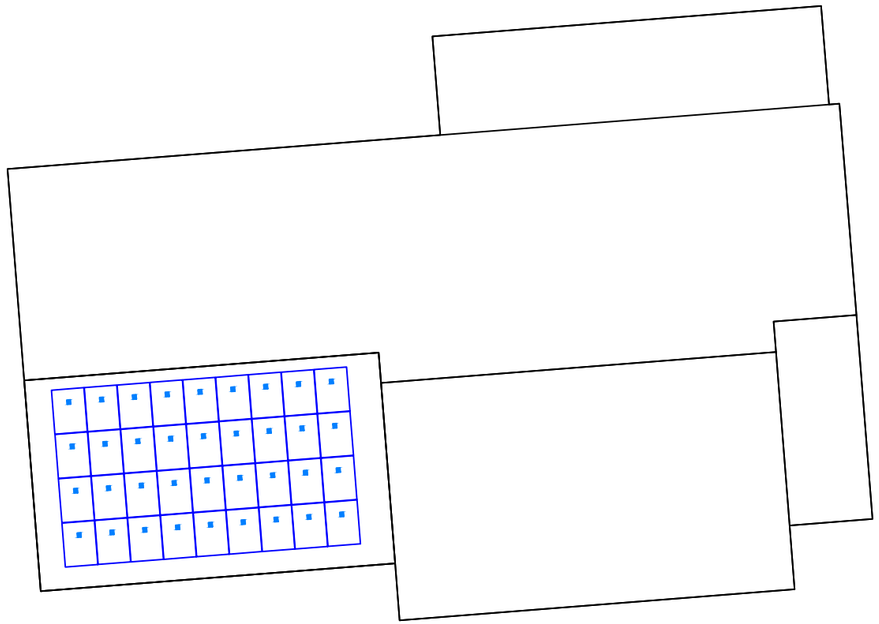
OPTIMIZER CHART



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151 NW CHADLEY LN, LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
OPTIMIZER CHART

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

Q.TRON BLK M-G2+ SERIES

410 - 450 Wp | 108 Cells
22.5 % Maximum Module Efficiency
Domestic Content Option Available

MODEL Q.TRON BLK M-G2+ Q.TRON BLK M-G2.F+, Q.TRON BLK M-G2.C+, Q.TRON BLK M-G2.H+

Includes Domestic Content

Q.TRON BLK M-G2.X+ solar modules ("X" can be "C, F, H") contain U.S. manufactured components which can contribute to qualifying for the 10% domestic content bonus to applicable tax credits under the Inflation Reduction Act of 2022.[1]

High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.5 %.

A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty.[2]

Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology[3], Hot-Spot Protect.

Extreme weather rating

High-tech aluminum alloy frame, certified for high snow (8100 Pa) and wind loads (3600 Pa).

Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.

Far beyond the standard

Qcells' comprehensive quality program ensures high long-term yields and the reliability of your solar system.

[1] This statement should not be relied on as tax advice and is subject to change based on changes made to the Inflation Reduction Act and its implementing rules and regulations. Please consult a qualified tax professional for specific guidance.
[2] See data sheet on rear for further information.
[3] APT test conditions according to IEC/TS 62804-1:2015, method A (−1500 V, 96 h)

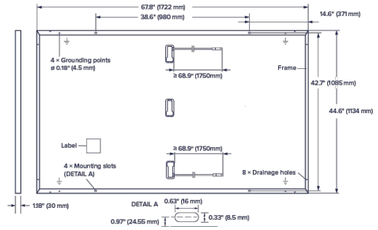
The ideal solution for:

Rooftop arrays on residential buildings

Q.TRON BLK M-G2+ SERIES

Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	46.7 lbs (21.2 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in× 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥68.9 in (1750 mm), (−) ≥68.9 in (1750 mm)
Connector	Stäubli MC4; IP68

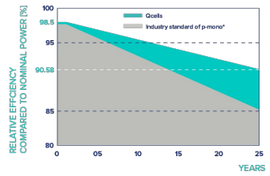


Electrical Characteristics

Power Class			410	415	420	425	430	435	440	445	450
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / −0 W)											
Minimum	Power at MPP[1]	P_{MPP} [W]	410	415	420	425	430	435	440	445	450
	Short Circuit Current[1]	I_{SC} [A]	13.41	13.49	13.58	13.66	13.74	13.82	13.90	13.98	14.07
	Open Circuit Voltage[1]	V_{OC} [V]	38.19	38.47	38.75	39.03	39.32	39.60	39.88	40.16	40.44
	Current at MPP	I_{MPP} [A]	12.76	12.83	12.91	12.98	13.05	13.13	13.20	13.27	13.35
	Voltage at MPP	V_{MPP} [V]	32.13	32.34	32.54	32.74	32.94	33.14	33.33	33.52	33.71
	Efficiency[1]	η [%]	≥21.0	≥21.3	≥21.5	≥21.8	≥22.0	≥22.3	≥22.5	≥22.8	≥23.0
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]											
Minimum	Power at MPP	P_{MPP} [W]	309.9	313.7	317.5	321.2	325.0	328.8	332.6	336.4	340.1
	Short Circuit Current	I_{SC} [A]	10.81	10.87	10.94	11.00	11.07	11.14	11.20	11.27	11.33
	Open Circuit Voltage	V_{OC} [V]	36.23	36.50	36.77	37.04	37.31	37.58	37.84	38.11	38.38
	Current at MPP	I_{MPP} [A]	10.04	10.10	10.15	10.21	10.27	10.33	10.38	10.44	10.50
	Voltage at MPP	V_{MPP} [V]	30.87	31.07	31.26	31.46	31.65	31.84	32.03	32.22	32.41

[1]Measurement tolerances P_{MPP} ±3 %; I_{SC}; V_{OC} ±5 % at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

Qcells Performance Warranty

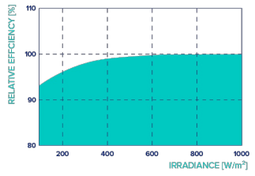


At least 98.5 % of nominal power during first year. Thereafter max. 0.33 % degradation per year. At least 95.53 % of nominal power up to 10 years. At least 90.58 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organization of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

Performance at low Irradiance



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

Temperature Coefficients

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	−0.24
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.30	Nominal Module Operating Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1000 (IEC) / 1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	25	Fire Rating based on ANSI / UL 61730	C / TYPE 2
Max. Design Load, Push / Pull[3]		[lbs / ft²]	113 (5400 Pa) / 50 (2400 Pa)	Permitted Module Temperature on Continuous Duty	−40 °F up to +158 °F (−40 °C up to +70 °C)
Max. Test Load, Push / Pull[3]		[lbs / ft²]	169 (8100 Pa) / 75 (3600 Pa)		

[3] See Installation Manual

Qualifications and Certificates

UL61730-1 & UL61730-2, CE-compliant, IEC 61215:2021, IEC 61730:2023,

Find product recycling details at QR code above

*Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.
Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA | TEL +1 (949) 748-5996 | EMAIL na.support@qcells.com | WEB www.qcells.com/us

LUNEX POWER
THE PURE SOURCE

LUNEX POWER INC.
4721 N GRADY AVE
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151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE7600H-US / SE9600H-US / SE10000H-US / SE11400H-US

HOME BACKUP

Made in the USA from imported parts

USA-manufactured residential inverter for storage and backup, with a single part number for all power classes

- Eligible for domestic content % towards the enhanced federal income tax credit*
- One part number for all power classes, streamlining every step:
  - Unified product configuration simplifies ordering, logistics, and inventory
  - Optimized system design, selection, and installation
- 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 200% DC oversizing
- Able to start high LRA HVAC systems during backup operation
- Integrates seamlessly with the complete SolarEdge Home Smart Energy Ecosystem, through the SolarEdge Home Network
- Module-level monitoring and visibility of battery status, PV production, and self-consumption data
- Integrated Wi-Fi antenna for enhanced communication reliability and simplicity
- Fast and easy installation – small and lightweight, with reduced commissioning time
- NEMA 4X-rated, for indoor and outdoor installations
- A scalable solution that supports future homeowner needs through easy connection to a growing ecosystem
- 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
- Install larger systems while avoiding main panel upgrades with the embedded Power Control System (PCS)

* For more information on domestic content eligibility, see the SolarEdge Domestic Content application note.
** Requires additional hardware and firmware version upgrade.

solaredge.com

solaredge

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE7600H-US / SE9600H-US / SE10000H-US / SE11400H-US

Applicable to inverters with part number	USE11400H-USSKBEZ8						
Model Number(1)	SE3800H-US	SE5700H-US	SE7600H-US	SE9600H-US	SE10000H-US	SE11400H-US	
OUTPUT – AC ON GRID							
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	5760 @ 240V 5000 @ 208V	7600 @ 240V 6600 @208V	9600 @ 240V 8300 @ 208V	10,000 @ 240V 8700 @ 208V	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(2)						Hz
Maximum Continuous Output Current	16	24	32	40	42	47.8	A
Maximum Fault Current / Duration	74 / 50						Aac / µs
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 STANDALONE (BACKUP)(3)							
Rated AC Power in Standalone Operation(4)	12,500(9)(6)						W
Maximum Continuous Output Current in Standalone Operation	52						A
Locked Rotor Amperage (LRA)(7)	Up to 106						A
AC L-L Output Voltage Range in Standalone Operation	211 – 264						Vac
AC L-N Output Voltage Range in Standalone Operation	105 – 132						Vac
AC Frequency Range in Standalone Operation (min - nom - max)	55 – 60 – 65						Hz
GFDI	1						A
THD	< 5						%
INPUT – DC (PV AND BATTERY)							
Transformer-less, Ungrounded	Yes						
Maximum Input Voltage	480						Vdc
Nominal DC Input Voltage	395V @ 240Vac 380V @ 208Vac						Vdc
Reverse-Polarity Protection	Yes						
Ground-Fault Isolation Detection	600kΩ Sensitivity						
Maximum Input Short Circuit Current	45						Adc
Maximum Inverter Efficiency	99.2						%
CEC Weighted Efficiency	99	99 @ 240V 98.6 @ 208V		98.7 @ 240V 98.6 @ 208V	99 @ 240V 98.6 @ 208V	99	%
2-Pole Disconnection	Yes						
DC CONNECTION – PV							
Maximum Input Power	7600 @ 240V 6600 @ 208V	11,520 @ 240V 10,000 @ 208V	15,200 @ 240V 13,200 @ 208V	19,200 @ 240V 16,600 @ 208V	20,000 @ 240V 17,400 @ 208V	22,800 @ 240V 20,000 @ 208V	W
Maximum Input Current	20 @ 240V 17.5 @ 208V	30 @ 240V 26.5 @ 208V	40 @ 240V 35 @ 208V	51 @ 240V 44 @ 208V	53 @ 240V 46 @ 208V	60 @ 240V 53 @ 208V	Adc
Number of Ports	3						
Maximum Current per Port	40						Adc

(1) These specifications apply to inverters with part number USE11400H-US5KBEZ8 and connection unit model number DCD-1PH-US-PxH-F-x.
(2) For other regional settings please refer to the SolarEdge Inverters, Power Control Options application note.
(3) Not designed for non-grid connected applications and requires AC for commissioning. Standalone (backup) functionality is only supported for the 240V grid.
(4) For models SE7600H-US and below, the Rated AC Power in Standalone Operation is configurable between 7,600W with a Maximum Continuous Output Current of 32A or 12,500W with a Maximum Continuous Output Current of 52A, from firmware version 4.23.xx.
(5) Operational only at ambient temperatures up to 86°F / 30°C. Above 86°F / 30°C, the Maximum Rated AC Power in Standalone Operation is 11,400W.
(6) Available only for single inverter installations. In multi-inverter installations, the Maximum Rated AC Power in Standalone Operation is 11,400W.
(7) For more information about LRA (Locked Rotor Amperage) values, see the SolarEdge Home Hub Inverter LRA application note.

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE5700H-US / SE7600H-US / SE9600H-US / SE10000H-US / SE11400H-US

Applicable to inverters with part number	USE11400H-USSKBEZ8						
Model Number(1)	SE3800H-US	SE5700H-US	SE7600H-US	SE9600H-US	SE10000H-US	SE11400H-US	
DC CONNECTION – BATTERY							
Supported Battery Types	SolarEdge Home Battery 400V						
Number of Batteries per Inverter	Up to 3						
Maximum Continuous Power (Charge and Discharge)(8)	12,500						W
Number of Ports	2						
Maximum Current per Port	40						Adc
2-pole Disconnection	Up to the inverter's rated standalone power						
SMART ENERGY CAPABILITIES							
Consumption Metering	Built-in(9)						
Standalone & 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(10)						
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, Cellular(11) (optional), Wi-Fi(12), SolarEdge Home Network(13) (optional)						
Revenue Grade Metering, ANSI C12.20	Built-in(9)						
Integrated AC, DC, and Communication Connection Unit	Yes						
Inverter Commissioning	With the SolarEdge Go 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	IEEE1547-2018 and IEEE-1547.1 Rule 21, Rule 14H						
Emissions	FCC Part 15 Class B						
Power Control System (PCS)	UL 1741 PCS(14)						
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	3 x terminal block pairs for PV input, 2 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(15)						°F / °C
Protection Rating	NEMA 4X						

(8) Discharge power is limited up to the inverter's rated AC power for on-grid applications, and up to 12.5 kW for standalone 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) For more information about the SolarEdge Home EV Charger, refer to the SolarEdge Home EV Charger datasheet.
(11) Purchased separately. Information concerning the data plan terms & conditions is available in SolarEdge Communication Plan Terms and Conditions.
(12) External Wi-Fi antenna for wider range provided with the inverter's package. Refer to the Antenna for Wi-Fi and ZigBee Wireless Communications datasheet.
(13) SolarEdge Home Network Plugin ENET-HBNP-01 purchased separately. For more information, refer to the SolarEdge Home Network Plugin datasheet.
(14) Only part numbers USExxxxH-US(M)Nxx7x/USE11400H-US5KBEZ8 support the PCS meter.
(15) Full power up to at least 122°F / 50°C. For power derating information refer to the Temperature Derating for North America technical note.

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4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

REVISIONS

DESCRIPTION	DATE	REV

DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE

151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12

Power Optimizer

USA Domestic Content Eligible*

For North America

U650 / U650B

POWER OPTIMIZER

Made in the USA from imported parts

SolarEdge's USA-manufactured offering for PV power optimization at the module level

- Eligible for domestic content: SolarEdge USA-manufactured Power Optimizers*, when paired with certain SolarEdge inverters, are intended to be eligible for the enhanced federal income tax credit for domestic content
- Specifically designed to work with SolarEdge inverters
- Supports high open circuit voltage (Voc) modules with U650B
- U650B provides improved design flexibility of multifaceted, complex roofs, with extended output voltage that reduces yield factor losses
- Superior efficiency (99.5%)
- Mitigates diverse types of module mismatch loss, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Faster installations with simplified wire management and easy assembly using a single bolt
- Compatible with a wide range of modules, including high-powered and bifacial PV modules
- Advanced safety:
  - Patented Sense Connect technology, designed to automatically detect and prevent potential electric arcs at the connector level before an arc is created
  - Patented SafeDC™ – module-level voltage shutdown, for installer and firefighter safety
  - Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

* Manufactured by SolarEdge with the intent to be eligible for inclusion under the elective safe harbor in calculating the Domestic Cost Percentage under the "Rooftop (MLPE)" category (under IRS Notice 2024-41). The PCBA, Electrical Parts, and Enclosure are domestically manufactured to meet the requirements of eligibility to be considered for the ITC domestic content bonus adder. SolarEdge does not provide tax and/or legal advice. You should consult with your own legal and/or tax advisor(s) regarding the eligibility of your project for the ITC or PTC, including the 10% domestic content bonus, to determine how the applicable rules apply to your particular project. The forward-looking statements in this datasheet are accurate as of the date herein and are subject to change. For more information, please contact your local SolarEdge sales representative.

solaredge.com

solaredge

Power Optimizer

USA Domestic Content Eligible, for North America

U650 / U650B

	U650	U650B	Units
INPUT			
Rated Input DC Power(1)	650		W
Absolute Maximum Input Voltage (Voc)	60	100	Vdc
MPPT Operating Range	8 – 60	12.5 – 100	Vdc
Maximum Continuous Input Current	15		Adc
Maximum Short-Circuit Current (Isc) of Connected PV Module for SolarEdge Home Hub Single Phase Inverters	16.5		Adc
Maximum Short-Circuit Current (Isc) of Connected PV Module for SolarEdge Home Wave Single Phase Inverters	15		Adc
Maximum Short-Circuit Current (Isc) with Safety Factor(2)	25		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(3)	-40 to +85		°C
Protection Rating	IP68 / NEMA6P		
Relative Humidity	0 – 100		%

(1) The Rated Power of the module at STC will not exceed the power optimizer's Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) The Maximum Isc with Safety Factor is ≥ 1.25 x the Maximum Isc of Connected PV Module. Adjusted for worst case conditions of ambient temperature, irradiance, bifacial gain, and so on, in accordance with NEC and CSA.
(3) Power derating is applied for ambient temperatures above +85°C / +185°F for U650 and for ambient temperatures above +75°C / 167°F for U650B. Refer to the Power Optimizers Temperature Derating technical note for details.

PV System Design Using a SolarEdge Inverter		SolarEdge Home Hub Single Phase	Three Phase for 208V Grid	Three Phase for 277/480V Grid	Units
Minimum String Length (Power Optimizers)	U650	8	10(4)	18	
	U650B	6	8	14	
Maximum String Length (Power Optimizers)		25		50(5)	
Maximum Usable Power Delivered per String		5700	6000	12,750	W
Maximum Allowed Connected Power per String(6)(7)	Inverters with Rated AC Power ≤ 5760W	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 ≥ 7600W	One string: 5700 Two strings or more: 6800			
Parallel Strings of Different Lengths or Orientations		Yes			

(4) For the SE17.3KUS Three Phase Inverter and the SE50KUS Three Phase Inverter with Synergy Technology, the minimum string length is 11 Power Optimizers.
(5) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement.
(6) For the 208V grid, the maximum is permitted only when the difference in connected power between strings is 1000W or less.
(7) For the 240V or 277/480V grids, the maximum is permitted only when the difference in connected power between strings 2000W or less.
(8) Refer to the Single String Design Guidelines application note for more details.

Intertek RoHS

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4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

REVISIONS

DESCRIPTION	DATE	REV

DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN,
LAKE CITY, FL 32055

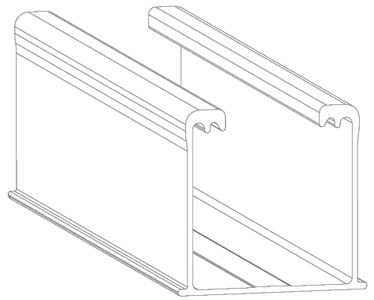
DRAWN BY
ESR

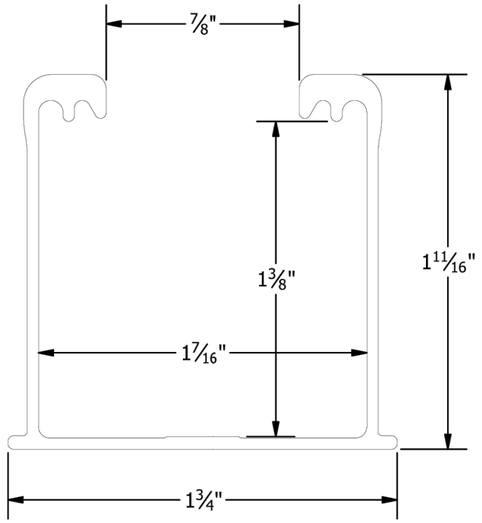
SHEET NAME
EQUIPMENT SPECIFICATION

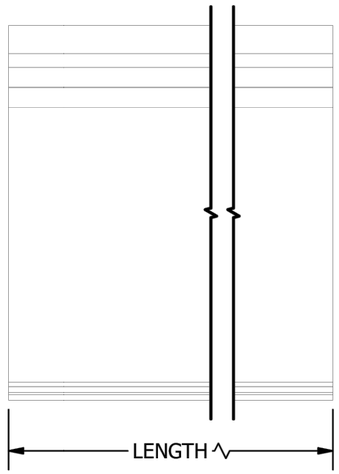
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13

PART # TABLE		
P/N	DESCRIPTION	LENGTH
084RLM1	NXT UMOUNT RAIL 84" MILL	84"
084RLD1	NXT UMOUNT RAIL 84" DARK	84"
168RLM1	NXT UMOUNT RAIL 168" MILL	168"
168RLD1	NXT UMOUNT RAIL 168" DARK	168"
208RLM1	NXT UMOUNT RAIL 208" MILL	208"
208RLD1	NXT UMOUNT RAIL 208" DARK	208"
246RLM1	NXT UMOUNT RAIL 246" MILL	246"
246RLD1	NXT UMOUNT RAIL 246" DARK	246"
171RLM1	NXT UMOUNT RAIL 171" MILL	171.50"
171RLD1	NXT UMOUNT RAIL 171" DARK	171.50"
096RLM1	NXT UMOUNT RAIL 96" MILL	96"
096RLD1	NXT UMOUNT RAIL 96" DARK	96"
185RLM1	NXT UMOUNT RAIL 185" MILL	185"
185RLD1	NXT UMOUNT RAIL 185" DARK	185"







UNIRAC
1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	NXT UMOUNT
DRAWING TYPE:	PART DETAIL
DESCRIPTION:	RAIL
REVISION DATE:	2/29/2024

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE NOMINAL

PRODUCT PROTECTED BY ONE OR MORE US PATENTS
LEGAL NOTICE

NU-P01
SHEET

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LUNEX POWER INC.
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TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

REVISIONS		
DESCRIPTION	DATE	REV

DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

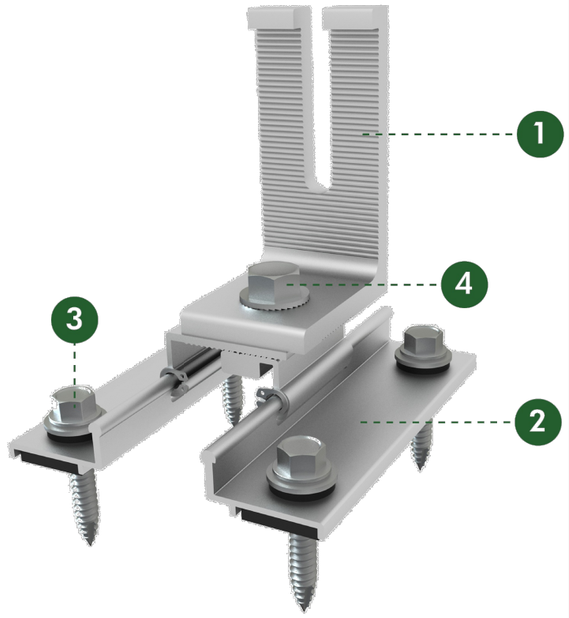
SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

SUNMODO
LEADING by DESIGN

MRB Mount



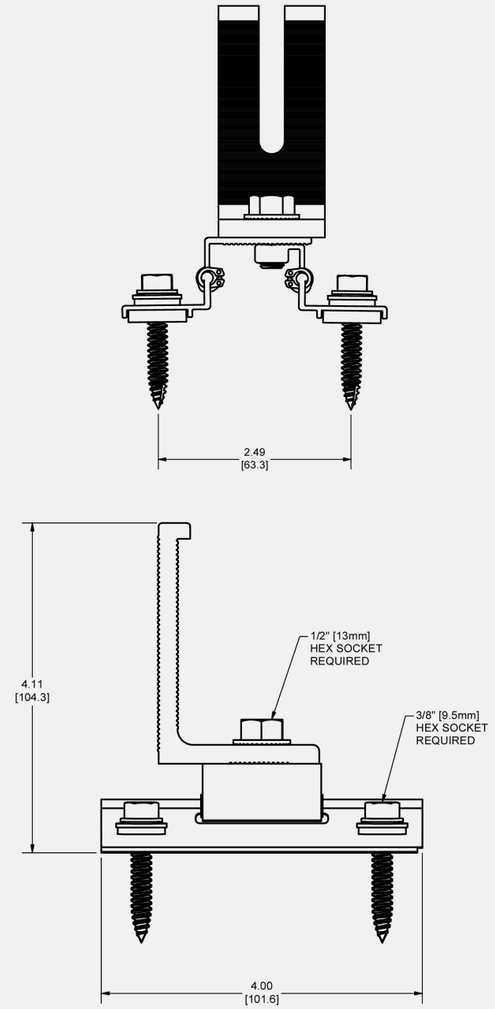
Part Description: MRB Mount
Part No: K50563-002

Item No.	Description	Qty in Kit
1	Open Slot L-Foot	1
2	MRB Mount Assembly	1
3	Self-Drilling Metal Screw w/Washer	4
4	M8X16 Serrated-Flange Hex Head Screw	1

See Published data for allowable loads. Care should be taken to avoid concentrated loads during installation.

Cut Sheet

MRB Mount



Material: Aluminum and Stainless Steel hardware

Dimensions shown are inches (and millimeters)

Details are subject to change without notice

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SHEET NAME
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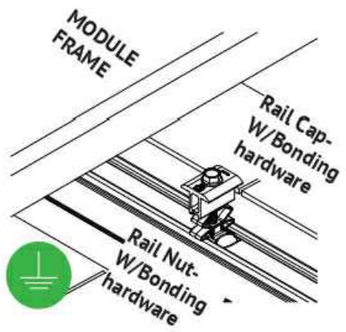
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-15

NXT UMOUNT® BONDING CONNECTIONS & GROUNDING PATHS

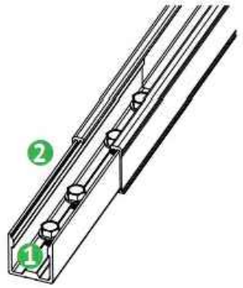
INSTALLATION GUIDE | 21 PAGE



BONDING COMBO MID-END CLAMP ASSEMBLY

1. Aluminum combo mid-end clamp cap with stainless steel bonding pins that pierce module frame anodization to bond module to module through clamp
2. Stainless steel bolt bonds aluminum clamp to stainless steel Hex bolt
3. Aluminum combo mid-end clamp rail nut with stainless steel bonding pins that pierce rail anodization to bond module to module through clamp

NOTE: See Page 19 for installation details.

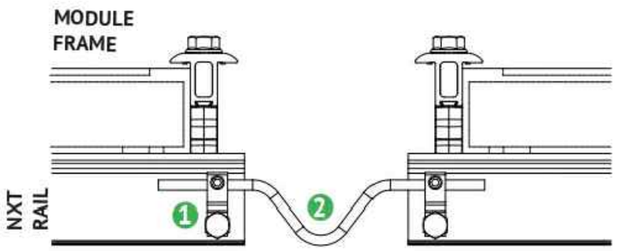


BONDING RAIL SPLICE

1. Bonding Hardware creates bond between Splice bar and each rail section.
2. Aluminum splice bar spans across rail gap to create rail to rail bond. Rail on at least one side of splice will be grounded.

NOTE:

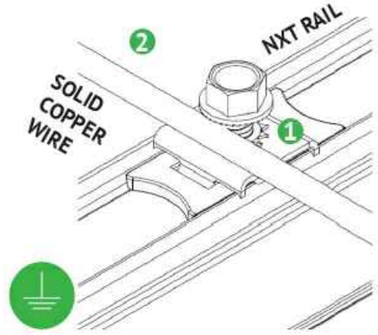
- **See Page 15 for installation details**
- **Splice certified for single-use only**



BONDING BETWEEN THERMAL BREAKS

1. Lug is connected at the end of each thermal break to the rail.
2. Solid copper wire is connected across the gap to bond the two ends.

NOTE: See Page 5 for installation details.



RACK SYSTEM GROUNDING

1. Tabs on the stainless-steel washer pierce anodization on the rail to bond rail to ground wire.
2. Solid copper wire connected to lug is routed to provide final system ground connection.

NOTE: See Page 16 for installation details and alternate racking system grounding methods.

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TAMPA FL 33614
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RUSTY BERRY RESIDENCE
151 NW CHADLEY LN, LAKE CITY, FL 32055

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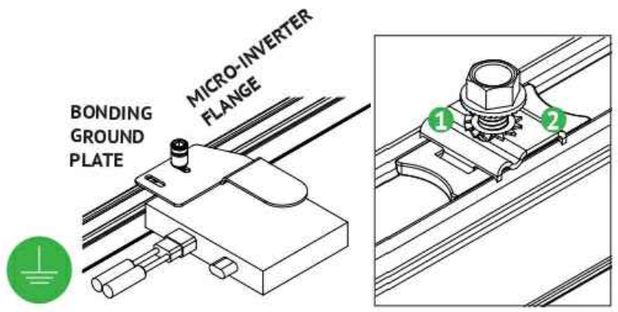
SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-16

NXT UMOUNT™ BONDING CONNECTIONS & GROUNDING PATHS

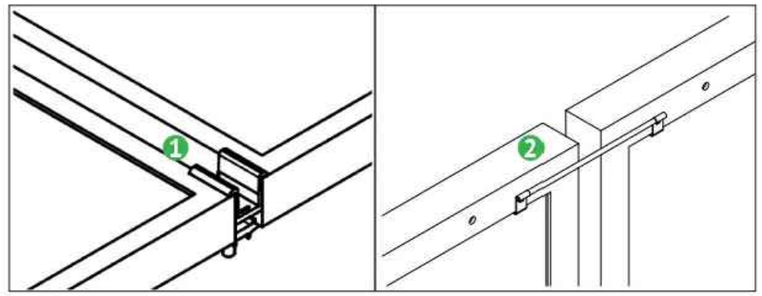
INSTALLATION GUIDE | 22 PAGE



BONDING MICROINVERTER MOUNT

1. Stainless steel Tooth lock washer beneath the MLPE flange remove anodization on the MLPE and bonds.
2. Tabs on the stainless steel washer remove anodization on the rail and bonds.

NOTE: See Page 17 for installation details



ALTERNATE ROW-TO-ROW BONDING PATHS

1. Row-to-row module bonding is accomplished with bonding clamp with 2 integral bonding pins.
2. Alternate method by connecting clips on either module to complete the bonding path.

NOTE:

- See Page 16 for installation details
- Row-to-row module bonding certified for single-use only

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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.

JB-3
Specification Sheet
PV Junction Box for Rail or Panel Mount Applications

A. System Specifications and Ratings

- Maximum Voltage: 1,000 Volts
- Maximum Current: 80 Amps
- Allowable Wire: 14 AWG – 6 AWG
- Maximum Number of Input Circuits: 4
- Spacing: Please maintain a spacing of at least ½" between uninsulated live parts and fittings for conduit, armored cable, and uninsulated live parts of opposite polarity.
- Enclosure Rating: Type 3R
- Roof Slope Range: 2.5 – 12:12
- Max Side Wall Fitting Size: 1"
- Max Floor Pass-Through Fitting Size: 1"
- Ambient Operating Conditions: (-35°C) - (+75°C)
- Compliance:
  - JB-3: UL1741, CSA C22.2 No. 290
  - Approved wire connectors: must conform to UL1741
- System Marking: **Intertek Symbol and File #5025824**
- Periodic Re-inspections: If re-inspections yield loose components, loose fasteners, or any corrosion between components, components that are found to be affected are to be replaced immediately.

Table 1: Typical Wire Size, Torque Loads and Ratings

	1 Conductor	2 Conductor	Torque				
			Type	NM	Inch Lbs	Voltage	Current
ABB ZS6 terminal block	10-24 awg	16-24 awg	Sol/Str	0.5-0.7	6.2-8.85	600V	30 amp
ABB ZS10 terminal block	6-24 awg	12-20 awg	Sol/Str	1.0-1.6	8.85-14.16	600V	40 amp
ABB ZS16 terminal block	4-24 awg	10-20 awg	Sol/Str	1.6-2.4	14.6-21.24	600V	60 amp
ABB M6/8 terminal block	8-22 awg		Sol/Str	.08-1	8.85	600V	50 amp
Ideal 452 Red WING-NUT Wire Connector	8-18 awg		Sol/Str	Self-Torque	Self-Torque	600V	
Ideal 451 Yellow WING-NUT Wire Connector	10-18 awg		Sol/Str	Self-Torque	Self-Torque	600V	
Ideal, In-Sure Push-In Connector Part #39	10-14 awg		Sol/Str	Self-Torque	Self-Torque	600V	
WAGO, 2204-1201	10-20 awg	16-24 awg	Sol/Str	Self-Torque	Self-Torque	600V	30 amp
WAGO, 221-612	10-20 awg	10-24 awg	Sol/Str	Self-Torque	Self-Torque	600V	30 amp
Dottie DRC75	6-12 awg		Sol/Str	Snap-In	Snap-In		
ESP NG-53	4-6 awg		Sol/Str		45	2000V	
	10-14 awg		Sol/Str		35		
ESP NG-717	4-6 awg		Sol/Str		45	2000V	
	10-14 awg		Sol/Str		35		
Brumall 4-5,3	4-6 awg		Sol/Str		45	2000V	
	10-14 awg		Sol/Str		35		

Table 2: Minimum wire-bending space for conductors through a wall opposite terminals in mm (inches)

Wire size, AWG or kcmil (mm2)	Wires per terminal (pole)							
	1		2		3		4 or More	
	mm	(inch)	mm	(inch)	mm	(inch)	mm	(inch)
14-10 (2.1-5.3)	Not Specified		-		-		-	
8 (8.4)	38.1	(1-1/2)	-		-		-	
6 (13.3)	50.8	(2)	-		-		-	

Intertek
5025824

LUNEX POWER
THE PURE SOURCE
LUNEX POWER INC.
4721 N GRADY AVE
TAMPA FL 33614
LIC #: CVC57085
PHONE: 813-540-8807

REVISIONS

DESCRIPTION	DATE	REV

DATE: 04/01/2026

PROJECT NAME & ADDRESS

RUSTY BERRY RESIDENCE
151 NW CHADLEY LN,
LAKE CITY, FL 32055

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-18