# PHOTOVOLTAIC ROOF MOUNT SYSTEM

## 24 MODULES-ROOF MOUNTED - 10.200 KW DC, 5.700 KW AC

## 1192 SW COYOTE CIR, FORT WHITE, FL 32038

## PROJECT DATA

PROJECT ADDRESS: 1192 SW COYOTE CIR, FORT WHITE, FL 32038

OWNER: DAVID CONLEY JR

DESIGNER: ESR

SCOPE: 10.200 KW DC ROOF MOUNT SOLAR PV SYSTEM WITH
24 JINKO SOLAR JKM425N-54HL4-B 425W PV MODULES WITH
24 SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS WITH
1 SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER
(1) SOLAREDGE ENERGY BANK 10 kWh BATTERY

**WIND SPEED - 165MPH**

AUTHORITIES HAVING JURISDICTION:
BUILDING: COLUMBIA COUNTY, FL
ZONING: COLUMBIA COUNTY, FL
UTILITY: CLAY ELECTRIC COOPERATIVE INC

## SHEET INDEX



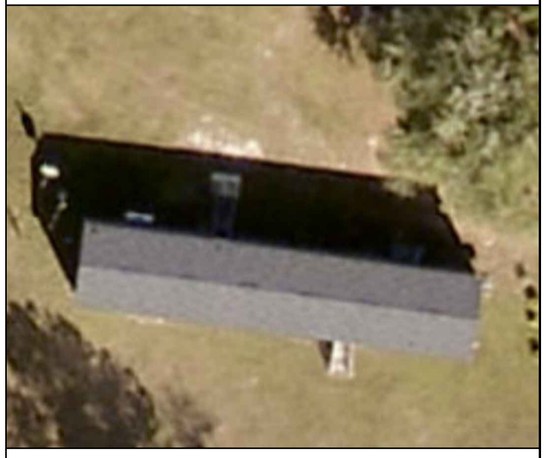
## SIGNATURE

## 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 SIGNAGE TO BE PLACED IN ACCORDANCE WITH THE LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE 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.
23. THE ENCHARGE BATTERY AS PART OF THE ENSEMBLE SYSTEM DOES NOT EXPORT POWER TO THE GRID IN ANY STORAGE MODE.
24. IN ACCORDANCE WITH 2021 IFC 1205.5, 2018 IFC 1204.4, AND 2015 IFC 605.11.2 A CLEAR, BRUSH-FREE AREA OF 10 FEET(3048 MM) SHALL BE REQUIRED FOR GROUND-MOUNTED PHOTOVOLTAIC ARRAYS.
25. PANEL LAYOUT ORIENTATION IS SUBJECT TO CHANGE ON DESIGNED MOUNTING PLANES.
26. ALL PERMANENTLY INSTALLED LUMINARIES, EXCLUDING THOSE IN KITCHEN APPLIANCES, SHALL HAVE AN EFFICIENCY OF AT LEAST 45 LUMENS-PER-WATT OR SHALL UTILIZE LAMPS WITH AN EFFICIENCY OF NOT LESS THAN 65 LUMENS-PER-WATT.

## 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 EDITION (FBC)
FLORIDA MECHANICAL CODE, 8TH EDITION 2023 (FMC)
2020 NATIONAL ELECTRICAL CODE
FLORIDA FIRE PREVENTION CODE, 8TH EDITION 2023 (FFPC)


GENESIS SOLAR POWER

**GOGENESIS SOLAR**
6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com


REVISIONS

| DESCRIPTION | DATE | REV |
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Richard Pantel

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RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
07/16/2025

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY: ESR

SHEET NAME: COVER SHEET

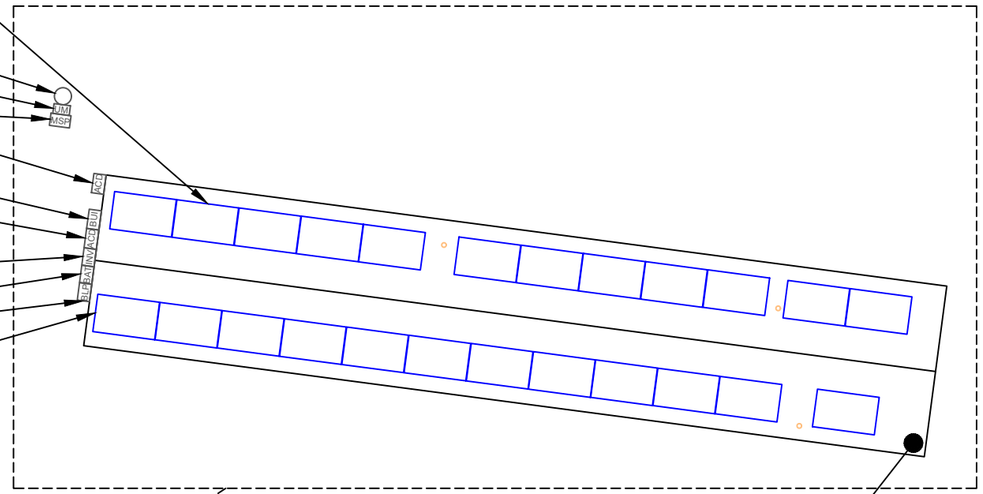
SHEET SIZE: ANSI B 11" X 17"

SHEET NUMBER: G001

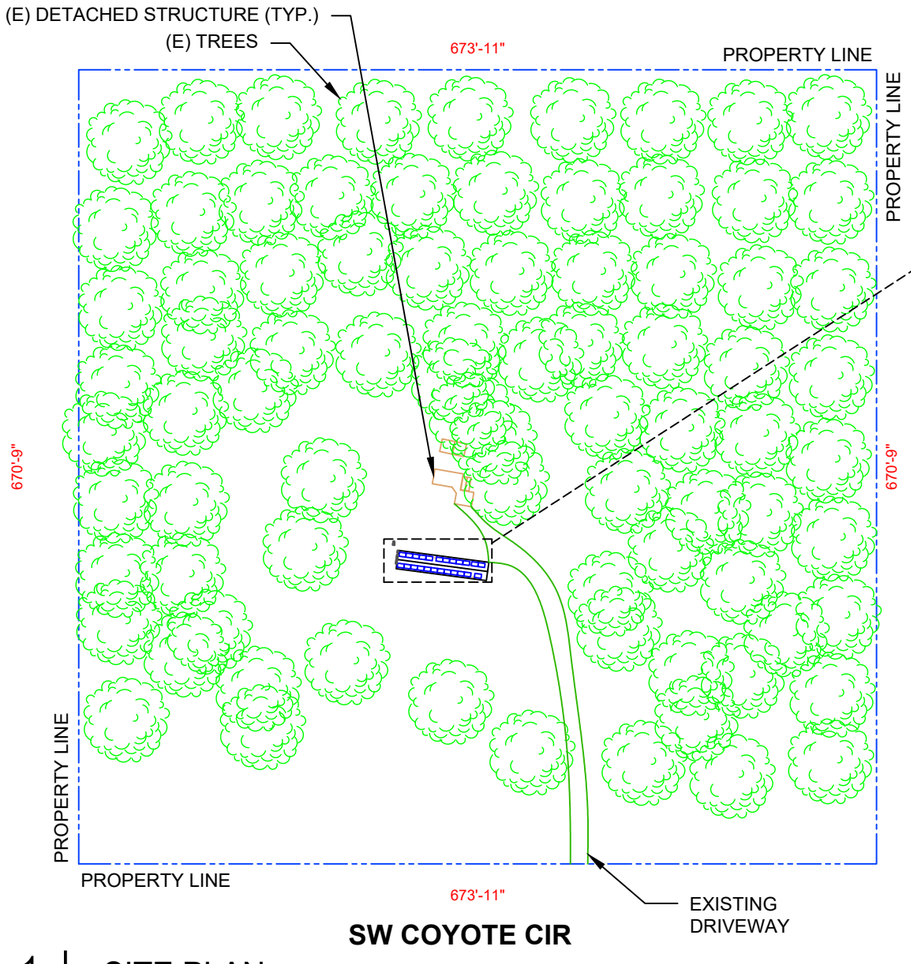
ROOF #2
(12) JINKO SOLAR JKM425N-54HL4-B
425W MONO MODULES WITH SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS

(E) POLE
(E) UTILITY METER (OUTSIDE)
(E) MAIN SERVICE PANEL (OUTSIDE)
(N) PHOTOVOLTAIC AC DISCONNECT VISIBLE, LOCKABLE,LABELED FUSED
(LOCATED WITHIN 10' OF UTILITY METER) (OUTSIDE)
(N) SOLAREDGE BACKUP INTERFACE BI-NUSGN-01 (OUTSIDE)
(N) PHOTOVOLTAIC AC DISCONNECT VISIBLE, LOCKABLE,LABELED NON-FUSED
(LOCATED WITHIN 10' OF UTILITY METER) (OUTSIDE)
(N) SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER (OUTSIDE)
(N) SOLAREDGE ENERGY BANK 10 kWh BATTERY (OUTSIDE)
(N) BACKUP LOAD PANEL (OUTSIDE)

ROOF #1
(12) JINKO SOLAR JKM425N-54HL4-B
425W MONO MODULES WITH
SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS




ROOF ACCESS POINT



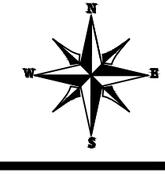

1 SITE PLAN
E001 SCALE: 1/128" = 1'-0"

# PROJECT DESCRIPTION:

24 X JINKO SOLAR JKM425N-54HL4-B 425W MONO MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 24 x 425 = 10.200KW DC
AC SYSTEM SIZE: 1 x 5700 = 5.700KW AC

EQUIPMENT SUMMARY
24 JINKO SOLAR JKM425N-54HL4-B 425W MONO MODULES
24 SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS
1 SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER
(1) SOLAREDGE ENERGY BANK 10 kWh BATTERY

ROOF ARRAY AREA #1:- 252.12 SQ FT.
ROOF ARRAY AREA #2:- 252.12 SQ FT.
NOTE: VISIBLE, LOCKABLE, LABELED
PHOTOVOLTAIC AC DISCONNECT
LOCATED WITHIN 10' OF UTILITY METER

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6028 STONYBOOK CT,TOPEKA,
KS 66614
(913) 228-4495
info@gogenesissolar.com

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FL Lic. No. 73222
07/16/2025

PROJECT NAME & ADDRESS

DAVID CONLEY JR
RESIDENCE

1192 SW COYOTE CIR,
FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E001

## MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 24 MODULES
MODULE TYPE = JINKO SOLAR JKM425N-54HL4-B 425W MONO MODULES
MODULE WEIGHT = 48.5 LBS / 22.0KG.
MODULE DIMENSIONS = 67.79" x 44.65" = 21.01 SF


(E) POLE
(E) UTILITY METER (OUTSIDE)
(E) MAIN SERVICE PANEL (OUTSIDE)

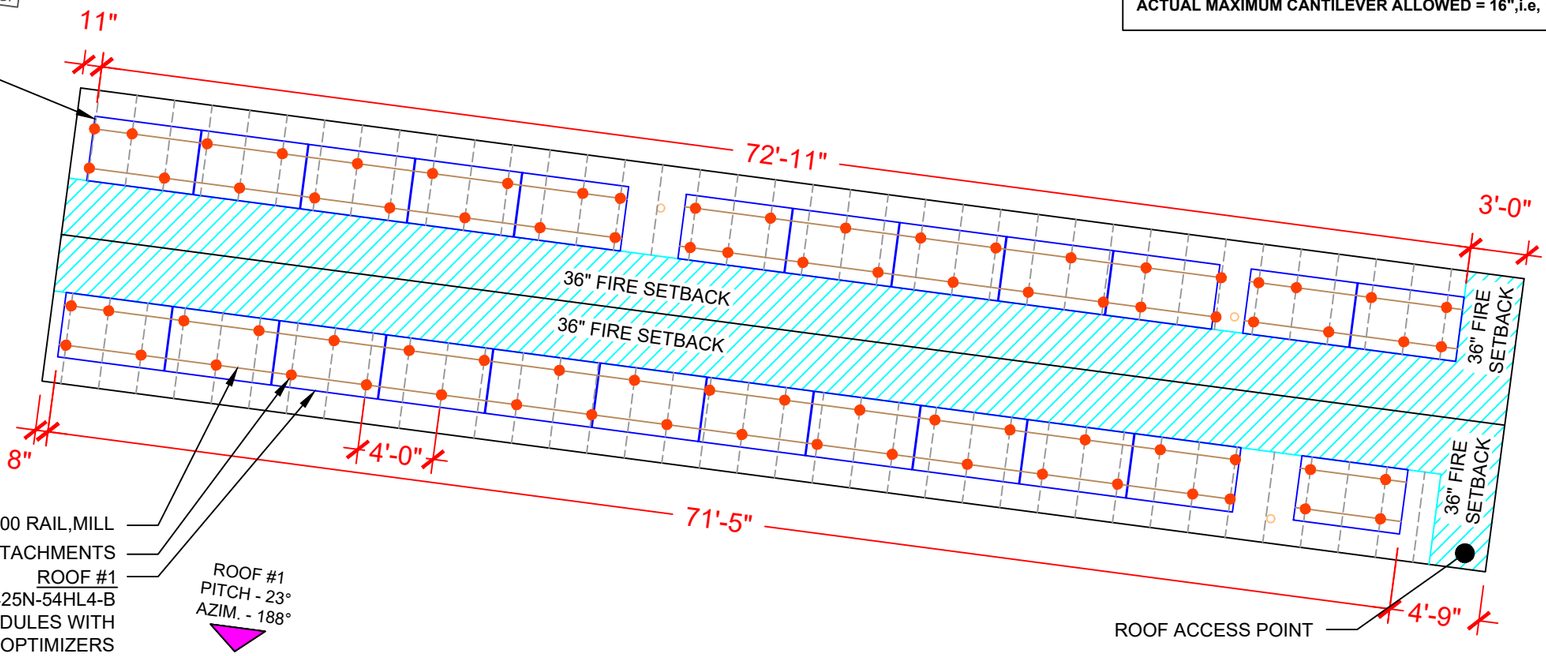

ROOF #2
(12) JINKO SOLAR JKM425N-54HL4-B
425W MONO MODULES WITH
SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS

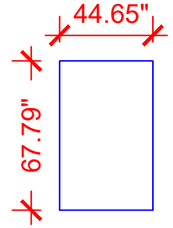
ROOF #2
PITCH - 23°
AZIM. - 8°

(N) SUNMODO SMR100 RAIL,MILL
(80) SUNMODO NANOMOUNT L-FOOT ATTACHMENTS

ROOF #1
(12) JINKO SOLAR JKM425N-54HL4-B
425W MONO MODULES WITH
SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS

ROOF #1
PITCH - 23°
AZIM. - 188°




JINKO SOLAR
JKM425N-54HL4-B 425W
MODULES

## ROOF DESCRIPTION

| ROOF TYPE | | | | ASPHALT SHINGLE | |
|---|---|---|---|---|---|
| ROOF | # OF MODULES | ROOF PITCH | AZIMUTH | RAFTERS SIZE | RAFTERS SPACING |
| #1 | 12 | 23° | 188° | 2"X4" | 24" |
| #2 | 12 | 23° | 8° | 2"X4" | 24" |

## ARRAY AREA & ROOF AREA CALC'S

| TOTAL PV ARRAY AREA (SQ. FT.) | TOTAL ROOF AREA (Sq. Ft.) | ROOF AREA COVERED BY ARRAY (%) |
|---|---|---|
| 504.24 | 1299.62 | 39 |

**ACTUAL MAXIMUM CANTILEVER ALLOWED = L/3,**
**WHERE L IS THE ATTACHMENT SPACING**
**ATTACHMENT SPACING, L = 48"**
**ACTUAL MAXIMUM CANTILEVER ALLOWED = 48/3**
**ACTUAL MAXIMUM CANTILEVER ALLOWED = 16",i.e, 1'-4"**

LEGEND

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

1 ROOF PLAN AND MODULES
S001
SCALE: 1/8" = 1'-0"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DRAWN BY
ESR

SHEET NAME
ROOF PLAN AND MODULES

SHEET SIZE
ANSI B
11" X 17"

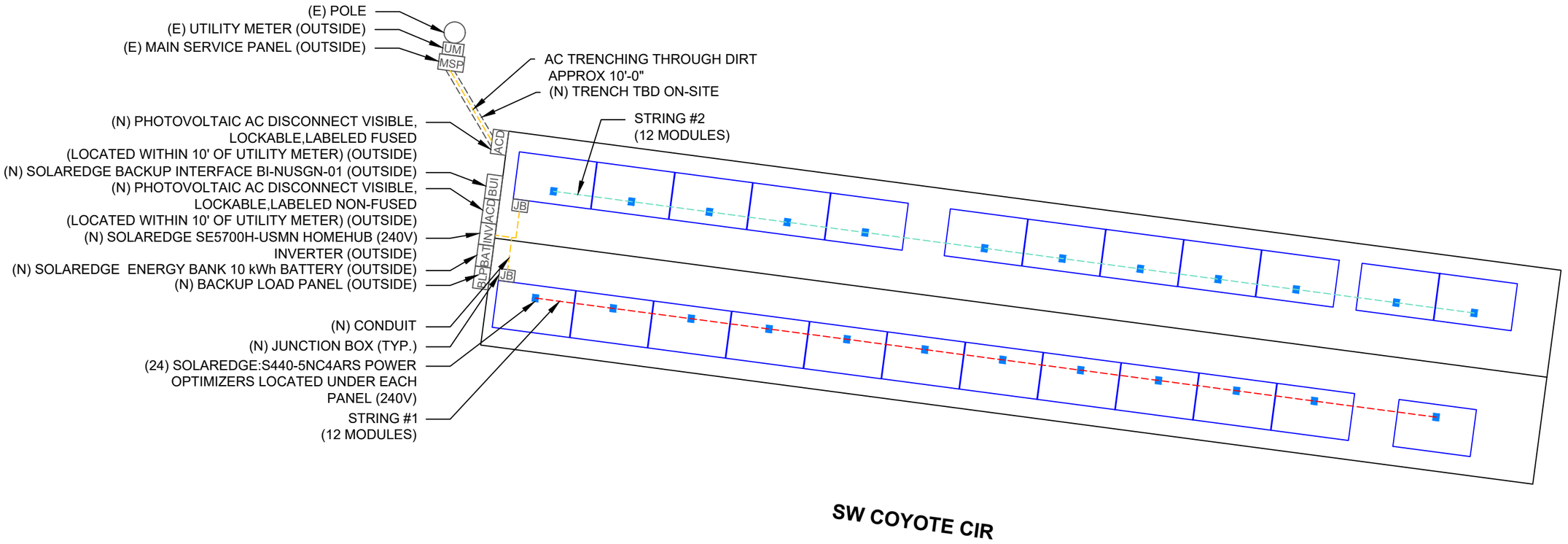
SHEET NUMBER
S001

| STRING LEGENDS |
|---|
| STRING #1 |
| STRING #2 |

NOTE : CONDUIT INSTALLED AT MINIMUM DISTANCE OF 7/8 INCHES ABOVE ROOF


## BILL OF MATERIALS

| EQUIPMENT | QTY | DESCRIPTION |
|---|---|---|
| SOLAR PV MODULES | 24 | JINKO SOLAR JKM425N-54HL4-B 425W MODULE |
| INVERTER | 1 | SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER |
| POWER OPTIMIZERS | 24 | SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS |
| JUNCTION BOXES | 2 | JUNCTION BOXES |
| RAIL | 23 | SUNMODO SMR100 RAIL, MILL |
| SPLICES | 14 | SPLICES |
| MID MODULE CLAMPS | 38 | MID MODULE CLAMPS |
| END CLAMPS | 20 | END CLAMPS / STOPPER SLEEVE |
| ATTACHMENTS | 80 | SUNMODO NANOMOUNT L-FOOT ATTACHMENTS |
| BACKUP LOAD PANEL | 1 | 125A/100A BACKUP LOAD PANEL |
| BATTERY | 1 | SOLAREDGE ENERGY BANK 10KWH |
| BACKUP INTERFACE | 1 | SOLAREDGE BACKUP INTERFACE |




## LEGEND

| | |
|---|---|
| BAT - SOLAREDGE BATTERY | BUI - SOLAREDGE BACKUP INTERFACE |
| ACD - AC DISCONNECT | BLP - BACKUP LOAD PANEL |
| UM - UTILITY METER | INV - INVERTER |
| MSP - MAIN SERVICE PANEL | JB - JUNCTION BOX |
| | - - - - - CONDUIT |

1 ELECTRICAL PLAN

E002 SCALE: 1/8" = 1'-0"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6028 STONYBOOK CT,TOPEKA, KS 66614
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info@gogenesissolar.com


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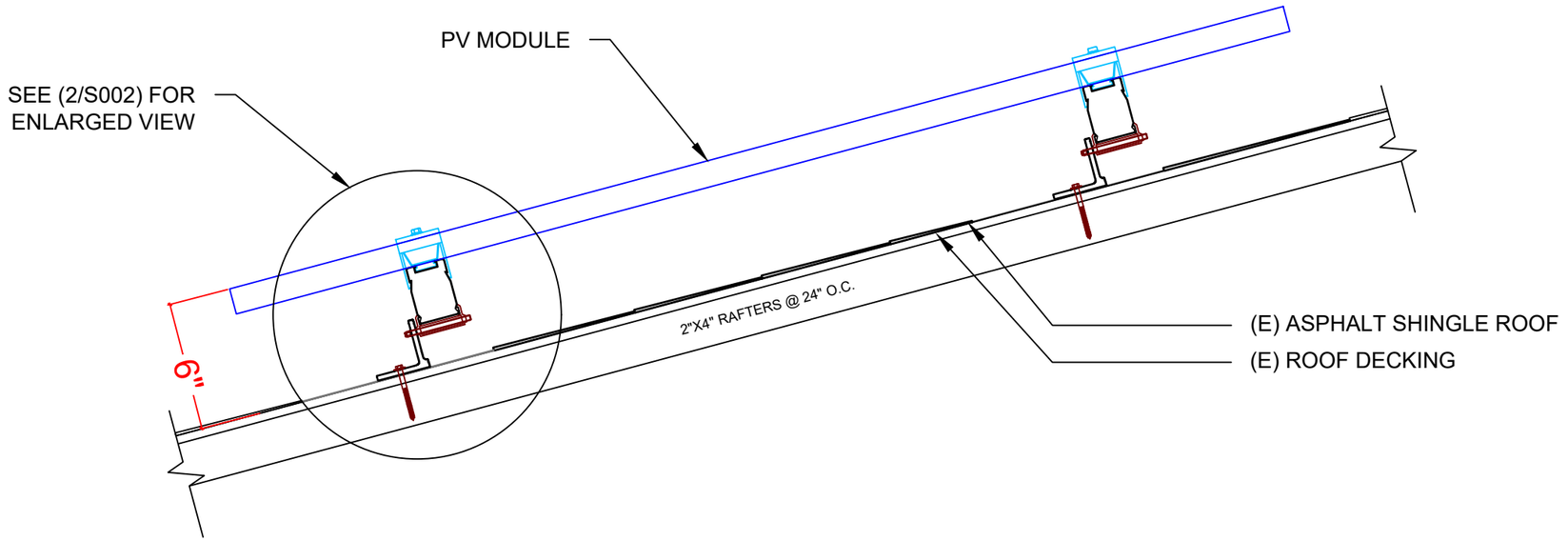
DRAWN BY
ESR

SHEET NAME
ELECTRICAL PLAN

SHEET SIZE
ANSI B
11" X 17"

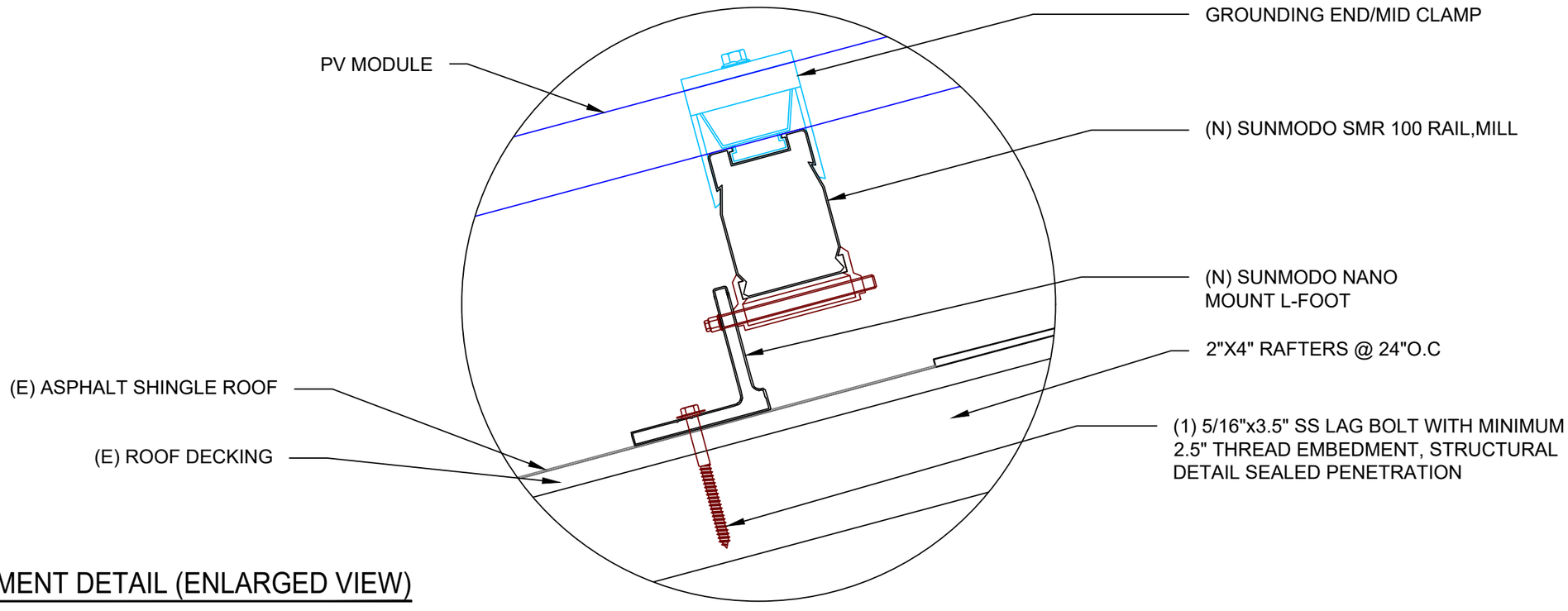
SHEET NUMBER
E002




## 1 ATTACHMENT DETAIL (SIDE VIEW)

S002

SCALE: N.T.S.




## 2 ATTACHMENT DETAIL (ENLARGED VIEW)

S002

SCALE: N.T.S.

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6028 STONYBOOK CT,TOPEKA,
KS 66614
(913) 228-4495
info@gogenesissolar.com

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DRAWN BY
ESR

SHEET NAME
STRUCTURAL DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
S002

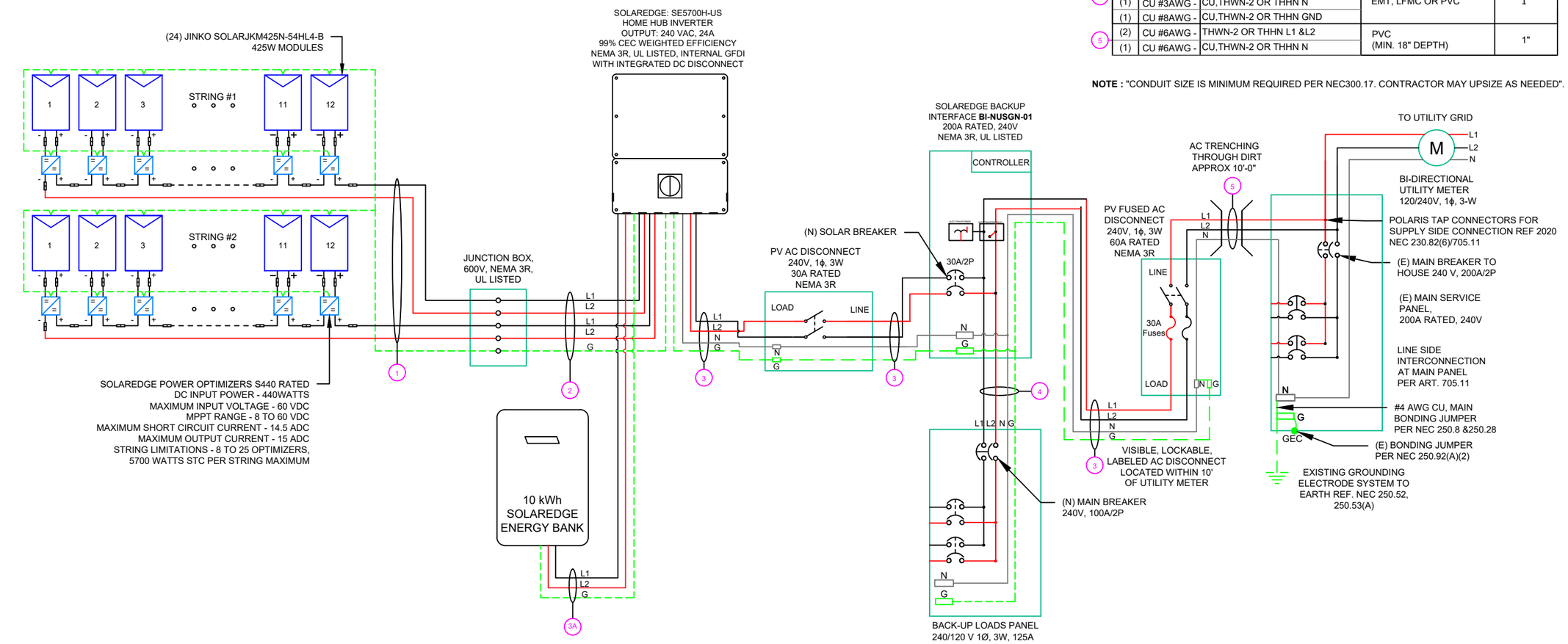
DC SYSTEM SIZE: 24 x 425 = 10.200KW DC
AC SYSTEM SIZE: 1 x 5700 = 5.700KW AC

(24) JINKO SOLAR JKM425N-54HL4-B 425W MONO MODULES WITH (24) SOLAREDGE:S440-5NC4ARS POWER OPTIMIZERS LOCATED UNDER EVERY MODULE (240V)
(1) SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER
(1) SOLAREDGE ENERGY BANK 10 kWh BATTERY

(02) STRINGS OF 12 MODULES ARE CONNECTED IN SERIES

| | 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 L1 &L2 | #10/2 | EMT OR LFMC IN ATTIC | 3/4" |
| | (1) | CU #10AWG - CU,THWN-2 GND | UF-B IN ATTIC | | |
| 3 | (2) | CU #10AWG - THWN-2 OR THHN L1 &L2 | | EMT, LFMC OR PVC | 3/4" |
| | (1) | CU #10AWG - CU,THWN-2 OR THHN N | | | |
| | (1) | CU #10AWG - CU,THWN-2 OR THHN GND | | | |
| 3A | (2) | CU #10AWG - THWN-2 OR THHN L1 &L2 | | EMT, LFMC OR PVC | 3/4" |
| | (1) | CU #10AWG - CU,THWN-2 OR THHN N | | | |
| | (1) | CU #10AWG - CU,THWN-2 OR THHN GND | | | |
| 4 | (2) | CU #3AWG - THWN-2 OR THHN L1 &L2 | | EMT, LFMC OR PVC | 1" |
| | (1) | CU #3AWG - CU,THWN-2 OR THHN N | | | |
| | (1) | CU #8AWG - CU,THWN-2 OR THHN GND | | | |
| 5 | (2) | CU #6AWG - THWN-2 OR THHN L1 &L2 | | PVC (MIN. 18" DEPTH) | 1" |
| | (1) | CU #6AWG - CU,THWN-2 OR THHN N | | | |

**NOTE :** "CONDUIT SIZE IS MINIMUM REQUIRED PER NEC300.17. CONTRACTOR MAY UPSIZE AS NEEDED".




**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 BOXES 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.
8. ALL NEW SERVICE INSTALLATIONS AND REPLACEMENTS REQUIRE A SURGE-PROTECTIVE DEVICE (SPD) IN ACCORDANCE WITH [NEC 230.67]. THE SPD SHALL BE TYPE 1 OR TYPE 2 AND IS REQUIRED TO BE AN INTEGRAL PART OF THE SERVICE EQUIPMENT OR LOCATED IMMEDIATELY ADJACENT THERETO.

1 ELECTRICAL LINE DIAGRAM
E003 SCALE: NTS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RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
07/16/2025

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E003

| INVERTER SPECIFICATIONS | |
|---|---|
| MANUFACTURER / MODEL # | SOLAREDGE SE5700H-USMN HOMEHUB (240V) INVERTER |
| NOMINAL AC POWER | 5.700 KW |
| NOMINAL OUTPUT VOLTAGE | 240 VAC |
| NOMINAL OUTPUT CURRENT | 24A |

| SOLAR MODULE SPECIFICATIONS | |
|---|---|
| MANUFACTURER / MODEL # | JINKO SOLAR JKM425N-54HL4-B 425W MODULE |
| VMP | 32.37V |
| IMP | 13.13A |
| VOC | 38.95V |
| ISC | 13.58A |
| TEMP. COEFF. VOC | -0.25%/°C |
| MODULE DIMENSION | 67.79"L x 44.65"W x 1.38"D (In Inch) |

| AMBIENT TEMPERATURE SPECS | |
|---|---|
| RECORD LOW TEMP | -6° |
| AMBIENT TEMP (HIGH TEMP 2%) | 36° |
| MODULE TEMPERATURE COEFFICIENT OF Voc | -0.25%/°C |

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

**DC FEEDER CALCULATIONS**

| CIRCUIT ORIGIN | CIRCUIT DESTINATION | VOLTAGE (V) | FULL LOAD AMPS "FLA" (A) | FLA*1.25 (A) | OCPD SIZE (A) | GROUND SIZE | CONDUCTOR SIZE | 75°C AMPACITY (A) | AMPACITY CHECK #1 | AMBIENT TEMP. (°C) | TOTAL CC CONDUCTORS IN RACEWAY | 90°C AMPACITY (A) | DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a) | DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a) | 90°C AMPACITY DERATED (A) | AMPACITY CHECK #2 | FEEDER LENGTH (FEET) | CONDUCTOR RESISTANCE (OHM/KFT) | VOLTAGE DROP AT FLA (%) | CONDUIT SIZE | CONDUIT FILL (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STRING 1 | JUNCTION BOX | 380 | 15.00 | 18.75 | 20 | BARE COPPER #6 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 66 | 1.24 | 0.646 | N/A | #N/A |
| STRING 2 | JUNCTION BOX | 380 | 15.00 | 18.75 | 20 | BARE COPPER #6 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 67 | 1.24 | 0.656 | N/A | #N/A |
| JUNCTION BOX | INVERTER | 380 | 15.00 | 18.75 | 20 | CU #10 AWG | CU #10 AWG | 35 | PASS | 36 | 4 | 40 | 0.91 | 0.8 | 29.12 | PASS | 20 | 1.24 | 0.196 | 3/4" EMT | 19.793621 |
| SOLAREDGE BANK | INVERTER | 380 | 13.16 | 16.45 | 20 | CU #10 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 5 | 1.24 | 0.043 | 3/4" EMT | 11.8761726 |

| | |
|---|---|
| String 1 Voltage Drop | 0.885 |
| String 2 Voltage Drop | 0.895 |

**AC FEEDER CALCULATIONS**

| CIRCUIT ORIGIN | CIRCUIT DESTINATION | VOLTAGE (V) | FULL LOAD AMPS "FLA" (A) | FLA*1.25 (A) | OCPD SIZE (A) | NEUTRAL SIZE | GROUND SIZE | CONDUCTOR SIZE | 75°C AMPACITY (A) | AMPACITY CHECK #1 | AMBIENT TEMP. (°C) | TOTAL CC CONDUCTORS IN RACEWAY | 90°C AMPACITY (A) | DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a) | DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a) | 90°C AMPACITY DERATED (A) | AMPACITY CHECK #2 | FEEDER LENGTH (FEET) | CONDUCTOR RESISTANCE (OHM/KFT) | VOLTAGE DROP AT FLA (%) | CONDUIT SIZE | CONDUIT FILL (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INVERTER | UTILITY AC DISCONNECT | 240 | 24 | 30 | 30 | CU #10 AWG | CU #10 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 5 | 1.24 | 0.124 | 3/4" EMT | 15.8349 |
| UTILITY AC DISCONNECT | BACKUP INTERFACE | 240 | 24 | 30 | 30 | CU #10 AWG | CU #10 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 5 | 1.24 | 0.124 | 3/4" EMT | 15.8349 |
| BACKUP INTERFACE | BACKUP LOAD PANEL | 240 | 80 | 100 | 100 | CU #3 AWG | CU #8 AWG | CU #3 AWG | 100 | PASS | 36 | 2 | 115 | 0.91 | 1 | 104.65 | PASS | 5 | 0.245 | 0.082 | 1" EMT | 38.0208 |
| BACKUP INTERFACE | UTILITY AC DISCONNECT | 240 | 24 | 30 | 30 | CU #10 AWG | CU #10 AWG | CU #10 AWG | 35 | PASS | 36 | 2 | 40 | 0.91 | 1 | 36.4 | PASS | 5 | 1.24 | 0.124 | 3/4" EMT | 15.8349 |
| UTILITY AC DISCONNECT | POI | 240 | 24 | 30 | 30 | CU #6 AWG | N/A | CU #6 AWG | 65 | PASS | 36 | 2 | 75 | 0.91 | 1 | 68.25 | PASS | 10 | 0.491 | 0.098 | 1" PVC | 18.2813 |

| | |
|---|---|
| CUMULATIVE VOLTAGE DROP | 0.552 |

ELECTRICAL NOTES

1. ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2. ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V 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 BOXES, 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.
11. CONDUIT INSTALLED AT MINIMUM DISTANCE OF 7/8 INCHES ABOVE ROOF .....NEC 310.15(B)(3)(C)


GENESIS SOLAR POWER

**GOGENESIS SOLAR**
6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com


REVISIONS

| DESCRIPTION | DATE | REV |
|---|---|---|
| INITIAL DESIGN | 07/10/2025 | |
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07/16/2025

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE, FL 32038

DRAWN BY
ESR

SHEET NAME
WIRING CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E004

CAUTION:
AUTHORIZED SOLAR PERSONNEL ONLY!

LABEL-1:
LABEL LOCATION:
AC DISCONNECT

⚠ WARNING

**ELECTRICAL SHOCK HAZARD**

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

LABEL- 2:
LABEL LOCATION:
AC DISCONNECT
COMBINER
MAIN SERVICE PANEL
SUBPANEL
MAIN SERVICE DISCONNECT
CODE REF: NEC 690.13(B)

⚠WARNING **DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM**

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

⚠ WARNING

**TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL**

LABEL- 4:
LABEL LOCATION:
MAIN SERVICE PANEL
SUBPANEL
MAIN SERVICE DISCONNECT
COMBINER
CODE REF: NEC 110.27(C) & OSHA 1910.145 (f) (7)

**GENESIS SOLAR POWER**
**EMERGENCY CONTACT**
**(913) 228-4495**

LABEL- 5:
LABEL LOCATION:
MAIN SERVICE DISCONNECT
CODE REF: NFPA 1 (11.12.2.1.5)

⚠ WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL- 6:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(B)(3)(2)

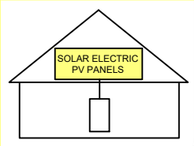
⚠ WARNING

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

LABEL- 7:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(B)(3)(2)

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY




LABEL- 8:
LABEL LOCATION:
AC DISCONNECT
CODE REF:NEC 690.56(C)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL- 9:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.56(C)(2)

PHOTOVOLTAIC

AC DISCONNECT

LABEL- 10:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.13(B)

**PHOTOVOLTAIC AC DISCONNECT**

| | |
|---|---|
| NOMINAL OPERATING AC VOLATGE | 240 V |
| RATED AC OUTPUT CURRENT | 24 A |

LABEL- 11:
LABEL LOCATION:
MAIN SERVICE PANEL
SUBPANEL
AC DISCONNECT
CODE REF: NEC 690.54

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

LABEL- 12:
LABEL LOCATION:
MAIN SERVICE DISCONNECT (ONLY IF MAIN SERVICE DISCONNECT IS PRESENT)
CODE REF: NEC 690.13(B)

| | |
|---|---|
| MAXIMUM VOLTAGE | 480 V |
| MAXIMUM CIRCUIT CURRENT | 20 A |
| MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED) | |

LABEL- 13:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.53

GENESIS SOLAR POWER

**GOGENESIS SOLAR**
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KS 66614
(913) 228-4495
info@gogenesissolar.com

REVISIONS

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PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

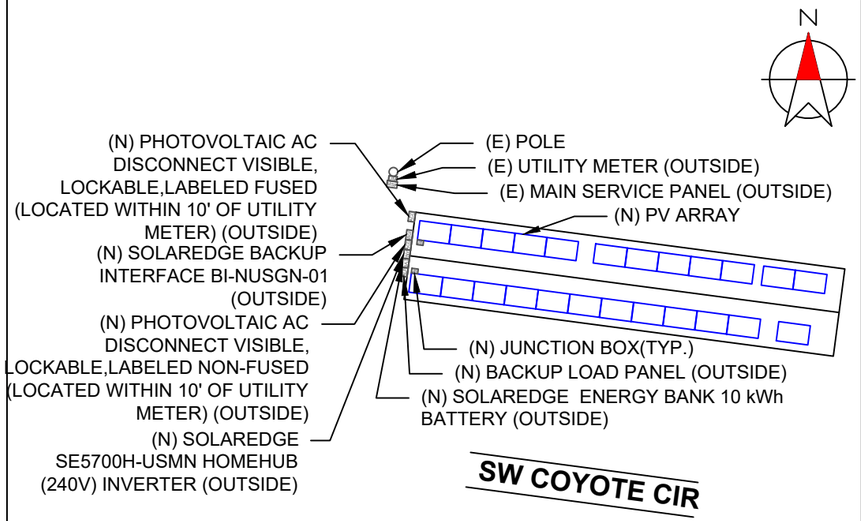
SHEET NAME
LABELS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E005

# CAUTION:

## MULTIPLE SOURCES OF POWER




1192 SW COYOTE CIR, FORT WHITE, FL 32038

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 NATIONAL ELECTRIC CODE, OSHA STANDARD 19010.145, 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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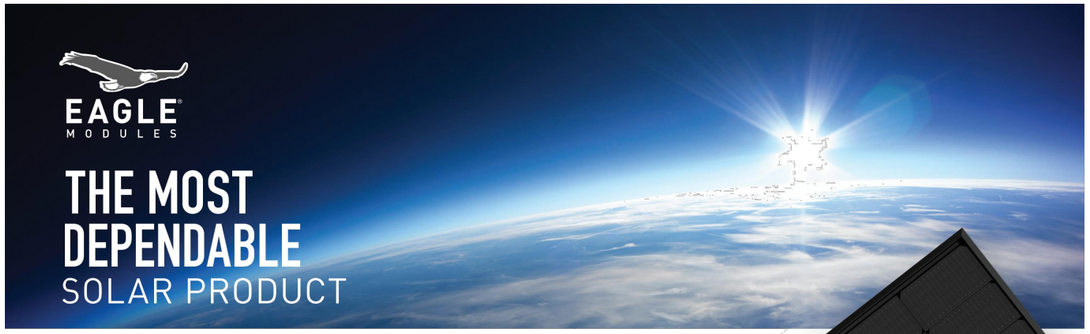
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
PLACARD

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E006




# EAGLE® 54 G6R

## 420-440 WATT • N-TYPE TOPCON

Positive power tolerance of 0~+3%

- NYSE-listed since 2010, Bloomberg Tier 1 manufacturer
- Top performance in the strictest 3rd party labs
- Automated manufacturing utilizing artificial intelligence
- Vertically integrated, tight controls on quality
- Premium solar factories in USA, Vietnam, and Malaysia


## KEY FEATURES

**Superior Aesthetics**
Black backsheet and black frame create ideal look for residential applications.

**N-Type Technology**
N-type cells with Jinko's in-house TOPCon technology offers better performance and improved reliability.

**Thick and Tough**
Fire Type 1 rated module engineered with a thick frame, 3.2mm front side glass, and thick backsheet for added durability.

**Shade Tolerant**
Twin array design allows continued performance even with shading by trees or debris.

**Protected Against All Environments**
Certified to withstand humidity, heat, rain, marine environments, wind, hailstorms, and packed snow.

**Warranty**
25-year product and 30-year linear power warranty.

- ISO9001:2015 Quality Standards
- ISO14001:2015 Environmental Standards
- IEC61215, IEC61730 certified products
- ISO45001: 2018 Occupational Health & Safety Standards
- UL61730 certified products

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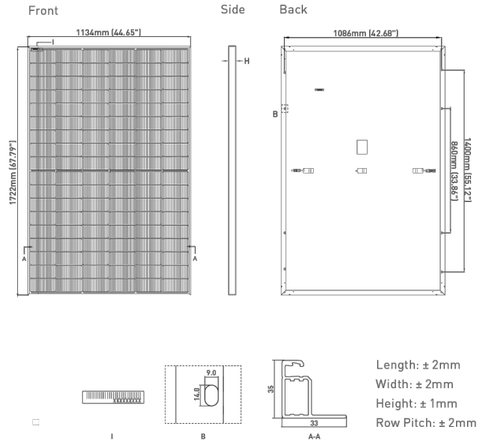
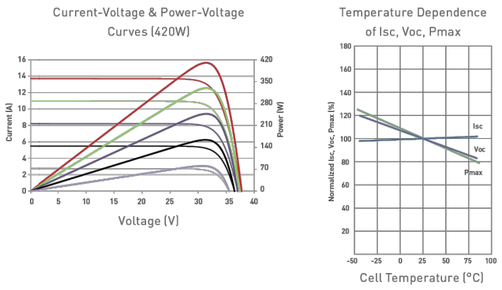
## ENGINEERING DRAWINGS




## ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE




## MECHANICAL CHARACTERISTICS

| | |
|---|---|
| No. of Half Cells | 108 (2 x 54) |
| Dimensions | 1722 × 1134 × 35mm (67.79 × 44.65 × 1.38 inch) |
| Weight | 21.0kg (46.3lbs) |
| Front Glass | 3.2mm, Anti-Reflection Coating<br>High Transmission, Low Iron, Tempered Glass |
| Frame | Anodized Aluminum Alloy |
| Junction Box | IP68 Rated |
| Output Cables | 12 AWG, 1400mm (55.12in) or Customized Length |
| Connector | Staubli MC4 |
| Fire Type | Type 1 |
| Pressure Rating | 5400Pa (Snow) & 2400Pa (Wind)* |

**see Supplemental Installation Manual for higher wind pressure rating solutions*

## TEMPERATURE CHARACTERISTICS

| | |
|---|---|
| **Temperature Coefficients of Pmax** | **-0.29%/°C** |
| Temperature Coefficients of Voc | -0.25%/°C |
| **Temperature Coefficients of Isc** | **0.045%/°C** |
| Nominal Operating Cell Temperature (NOCT) | 45±2°C |

## MAXIMUM RATINGS

| | |
|---|---|
| **Operating Temperature (°C)** | **-40°C~+85°C** |
| Maximum System Voltage | 1000VDC |
| **Maximum Series Fuse Rating** | **25A** |

## PACKAGING CONFIGURATION

(Two pallets = One stack)

**31pcs/pallets, 62pcs/stack, 806pcs/40 HQ Container**

## WARRANTY

**25-year product and 30-year linear power warranty**

**1st year degradation not to exceed 1%, each subsequent year not to exceed 0.4%, minimum power at year 30 is 87.4% or greater.**

## ELECTRICAL CHARACTERISTICS

| Module Type | JKM420N-54HL4-B | | JKM425N-54HL4-B | | JKM430N-54HL4-B | | JKM435N-54HL4-B | | JKM440N-54HL4-B | |
|---|---|---|---|---|---|---|---|---|---|---|
| | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT |
| Maximum Power (Pmax) | 420Wp | 316Wp | 425Wp | 320Wp | 430Wp | 323Wp | 435Wp | 327Wp | 440Wp | 331Wp |
| Maximum Power Voltage (Vmp) | 32.16V | 29.95V | 32.37V | 30.19V | 32.58V | 30.30V | 32.78V | 30.50V | 32.99V | 30.73V |
| Maximum Power Current (Imp) | 13.06A | 10.55A | 13.13A | 10.60A | 13.20A | 10.66A | 13.27A | 10.72A | 13.34A | 10.77A |
| Open-circuit Voltage (Voc) | 38.74V | 36.80V | 38.95V | 37.00V | 39.16V | 37.20V | 39.36V | 37.39V | 39.57V | 37.59V |
| Short-circuit Current (Isc) | 13.51A | 10.91A | 13.58A | 10.96A | 13.65A | 11.02A | 13.72A | 11.08A | 13.80A | 11.14A |
| Module Efficiency STC (%) | 21.51% | | 21.76% | | 22.02% | | 22.28% | | 22.53% | |

***STC:** Irradiance 1000W/m² | Cell Temperature 25°C | AM = 1.5
**NOCT:** Irradiance 800W/m² | Ambient Temperature 20°C | AM = 1.5 | Wind Speed 1m/s

*Power measurement tolerance: ±3%

*The company reserves the final right for explanation on any of the information presented hereby. JKM400-420N-54HL4-B-F4-US*

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DRAWN BY
ESR

SHEET NAME
MODULE DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD001

# SolarEdge Home Wave Inverter

## For North America

SE3000H-US / SE3800H-US / SE5000H-US / SE5700H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS


### Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014-2023 per articles 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

solaredge.com

solaredge

# SolarEdge Home Wave Inverter

## For North America

SE3000H-US / SE3800H-US / SE5000H-US / SE5700H-US / SE6000H-US/ SE7600H-US

| Applicable to inverters with part number | SEXXXXH-XXXXXBXX4 | | | | | | Units |
|---|---|---|---|---|---|---|---|
| | SE3000H-US | SE3800H-US | SE5000H-US | SE5700H-US | SE6000H-US | SE7600H-US | |
| **OUTPUT** | | | | | | | |
| Rated AC Power Output | 3000 | 3800 @ 240V<br>3300 @ 208V | 5000 | 5760 @ 240V<br>5000 @ 208V | 6000 @ 240V<br>5000 @ 208V | 7600 | VA |
| Maximum AC Power Output | 3000 | 3800 @ 240V<br>3300 @ 208V | 5000 | 5760 @ 240V<br>5000 @ 208V | 6000 @ 240V<br>5000 @ 208V | 7600 | VA |
| AC Output Voltage Min. – Nom. – Max.<br>(211 – 240 – 264) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Vac |
| AC Output Voltage Min. – Nom. – Max.<br>(183 – 208 – 229) | - | ✓ | - | ✓ | ✓ | - | Vac |
| AC Frequency (Nominal) | 59.3 – 60 – 60.5[1] | | | | | | Hz |
| Maximum Continuous Output Current @240V | 12.5 | 16 | 21 | 24 | 25 | 32 | A |
| Maximum Continuous Output Current @208V | - | 16 | - | 24 | 24 | - | A |
| Power Factor | 1, Adjustable – 0.85 to 0.85 | | | | | | |
| GFDI Threshold | 1 | | | | | | A |
| Utility Monitoring, Islanding Protection,<br>Country Configurable Thresholds | Yes | | | | | | |
| **INPUT** | | | | | | | |
| Maximum DC Power @240V | 4650 | 5900 | 7750 | 8900 | 9300 | 11800 | W |
| Maximum DC Power @208V | - | 5100 | - | 7750 | 7750 | - | W |
| Transformer-less, Ungrounded | Yes | | | | | | |
| Maximum Input Voltage | 480 | | | | | | Vdc |
| Nominal DC Input Voltage | 380 | | | | | | Vdc |
| Maximum Input Current @240V[2] | 8.5 | 10.5 | 13.5 | 16 | 16.5 | 20 | Adc |
| Maximum Input Current @208V[2] | - | 9 | - | 13.5 | 13.5 | - | Adc |
| Max. Input Short Circuit Current | 45 | | | | | | Adc |
| Reverse-Polarity Protection | Yes | | | | | | |
| Ground-Fault Isolation Detection | 600k Sensitivity | | | | | | |
| Maximum Inverter Efficiency | 99 | 99.2 | | | | | % |
| CEC Weighted Efficiency | 99 | | | | | | % |
| Nighttime Power Consumption | < 2.5 | | | | | | W |
| **ADDITIONAL FEATURES** | | | | | | | |
| Supported Communication Interfaces | RS485, Ethernet, wireless SolarEdge Home Network (optional)[3], Wi-Fi (optional), Cellular (optional) | | | | | | |
| Revenue Grade Metering, ANSI C12.20 | Optional[4] | | | | | | |
| Consumption Metering | Optional[4] | | | | | | |
| Inverter Commissioning | With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection | | | | | | |
| Rapid Shutdown - NEC 2014-2023 per articles<br>690.11 and 690.12 | Automatic Rapid Shutdown upon AC Grid Disconnect | | | | | | |
| **STANDARD COMPLIANCE** | | | | | | | |
| Safety | Conforms to UL 1741, UL 1741SA, UL 1741SB, UL 1699B<br>Certified by CSA 22.2#107.1, C22.2#330, C22.3#9, ANSI/CAN/UL 9540 | | | | | | |
| Grid Connection Standards | IEEE1547 and IEEE-1547.1, Rule 21, Rule 14H | | | | | | |
| Emissions | FCC Part 15 Class B | | | | | | |
| **INSTALLATION SPECIFICATIONS** | | | | | | | |
| AC Output Conduit Size / AWG Range | 1" Maximum / 14 – 6 AWG | | | | | | |
| DC Input Conduit Size / # of Strings / AWG Range | 1" Maximum / 1 – 2 strings / 14 – 6 AWG | | | | | | |
| Dimensions with Safety Switch (H x W x D) | 17.7 x 14.6 x 6.8 / 450 x 370 x 174 | | | | | | in / mm |
| Weight with Safety Switch | 22 / 10 | 25.1 / 11.4 | 27.5 / 12.5 | 26.2 / 11.9 | | | lb / kg |
| Noise | < 25 | | | | < 50 | | dBA |
| Cooling | Natural Convection | | | | | | |
| Operating Temperature Range | -40 to +140 / -40 to +60[5] | | | | | | °F / °C |
| Protection Rating | NEMA 4X (Inverter with Safety Switch) | | | | | | |

(1) For other regional settings please contact SolarEdge support.
(2) A higher current source may be used; the inverter will limit its input current to the values stated.
(3) For more information, refer to the SolarEdge Home Network datasheet
(4) Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BEI4. For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box.
(5) Full power up to at least 50°C / 122°F; for power de-rating information refer to the Temperature Derating technical note for North America.



CE

# SolarEdge Home Wave Inverter

## For North America

SE10000H-US / SE11400H-US

| Applicable to inverters with part number | SEXXXXH-XXXXXBXX4 | SE11400H-XXXXXBXX5 | Units |
|---|---|---|---|
| | SE10000H-US | SE11400H-US | |
| **OUTPUT** | | | |
| Rated AC Power Output | 10000 | 11400 @ 240V<br>10000 @ 208V | VA |
| Maximum AC Power Output | 10000 | 11400 @ 240V<br>10000 @ 208V | VA |
| AC Output Voltage Min. – Nom . – Max.<br>(211 – 240 – 264) | ✓ | ✓ | Vac |
| AC Output Voltage Min. – Nom. – Max.<br>(183 – 208 – 229) | - | ✓ | Vac |
| AC Frequency (Nominal) | 59.3 – 60 – 60.5[6] | | Hz |
| Maximum Continuous Output Current @240V | 42 | 47.5 | A |
| Maximum Continuous Output Current @208V | - | 48.5 | A |
| Power Factor | 1, Adjustable – 0.85 to 0.85 | | |
| GFDI Threshold | 1 | | A |
| Utility Monitoring, Islanding Protection,<br>Country Configurable Thresholds | Yes | | |
| **INPUT** | | | |
| Maximum DC Power @240V | 15500 | 17650 | W |
| Maximum DC Power @208V | - | 15500 | W |
| Transformer-less, Ungrounded | Yes | | |
| Maximum Input Voltage | 480 | | Vdc |
| Nominal DC Input Voltage | 380 | | Vdc |
| Maximum Input Current @240V[7] | 27 | 30.5 | Adc |
| Maximum Input Current @208V[7] | - | 27 | Adc |
| Max. Input Short Circuit Current | 45 | | Adc |
| Reverse-Polarity Protection | Yes | | |
| Ground-Fault Isolation Detection | 600k Sensitivity | | |
| Maximum Inverter Efficiency | 99.2 | | % |
| CEC Weighted Efficiency | 99 | 99 @ 240V<br>98.5 @ 208V | % |
| Nighttime Power Consumption | < 2.5 | | W |
| **ADDITIONAL FEATURES** | | | |
| Supported Communication Interfaces | RS485, Ethernet, wireless SolarEdge Home Network (optional)[8], Wi-Fi (optional), Cellular (optional) | | |
| Revenue Grade Metering, ANSI C12.20 | Optional[8] | | |
| Consumption Metering | Optional[8] | | |
| Inverter Commissioning | With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection | | |
| Rapid Shutdown - NEC 2014-2023 per articles<br>690.11 and 690.12 | Automatic Rapid Shutdown upon AC Grid Disconnect | | |
| **STANDARD COMPLIANCE** | | | |
| Safety | Conforms to UL 1741, UL 1741SA, UL 1741SB, UL 1699B<br>Certified by CSA 22.2#107.1, C22.2#330, C22.3#9, ANSI/CAN/UL 9540 | | |
| Grid Connection Standards | IEEE1547 and IEEE-1547.1, Rule 21, Rule 14H | | |
| Emissions | FCC Part 15 Class B | | |
| **INSTALLATION SPECIFICATIONS** | | | |
| AC Output Conduit Size / AWG Range | 1" Maximum / 14 – 4 AWG | | |
| DC Input Conduit Size / # of Strings / AWG Range | 1" Maximum / 1 – 3 strings / 14 – 6 AWG | | |
| Dimensions with Safety Switch (H x W x D) | 21.06 x 14.6 x 7.3 / 535 x 370 x 185 | 21.06 x 14.6 x 8.2 / 535 x 370 x 208[10] | in / mm |
| Weight with Safety Switch | 38.8 / 17.6 | 44.9 / 20.4[10] | lb / kg |
| Noise | <50 | | dBA |
| Cooling | Natural Convection | | |
| Operating Temperature Range | -40 to +140 / -40 to +60[11] | | °F / °C |
| Protection Rating | NEMA 4X (Inverter with Safety Switch) | | |

(6) For other regional settings please contact SolarEdge support.
(7) A higher current source may be used; the inverter will limit its input current to the values stated.
(8) For more information, refer to the SolarEdge Home Network datasheet
(9) Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BEI4. For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box.
(10) SE11400H-USxxxBxx5 is the updated PN, though SE11400H-USxxxBxx4 will still be available. All specifications are similar for both models, EXCLUDING the weight and dimensions [HxWxD]: The weight and dimensions of SE11400H-USxxxBxx4 are 38.8 / 17.6 [lb / kg] and 21.06 x 14.6 x 7.3 / 535 x 370 x 185 [in/mm], accordingly.
(11) Full power up to at least 50°C / 122°F; for power de-rating information refer to the Temperature Derating technical note for North America.



CE

GENESIS SOLAR POWER

**GOGENESIS SOLAR**
6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com

REVISIONS

| DESCRIPTION | DATE | REV |
|---|---|---|
| INITIAL DESIGN | 07/10/2025 | |
| | | |
| | | |
| | | |

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
INVERTER DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD002

# Residential Power Optimizer

## For North America

S440 / S500B / S650B


POWER OPTIMIZER

## PV power optimization at the module level

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

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# Residential Power Optimizer

## For North America

S440 / S500B / S650B

| | S440 | S500B | S650B | |
|---|---|---|---|---|
| **INPUT** | | | | |
| Rated Input DC Power(1) | 440(2) | 500(3) | 650 | W |
| Absolute Maximum Input Voltage (Voc) | 60 | 125 | 85 | Vdc |
| MPPT Operating Range | 8 – 60 | 12.5 – 105 | 12.5 – 85 | Vdc |
| Maximum Input Current (Maximum Isc of Connected PV Module)(2) | 14.5 | 15 | | Adc |
| Maximum Input Short Circuit Current(4) | 18.75 | | | Adc |
| Maximum Efficiency | 99.5 | | | % |
| Weighted Efficiency | 98.6 | | | % |
| Overvoltage Category | II | | | |
| **OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)** | | | | |
| Maximum Output Current | 15 | | | Adc |
| Maximum Output Voltage | 60 | 80 | | Vdc |
| **OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR INVERTER OFF)** | | | | |
| Safety Output Voltage per Power Optimizer | 1 ± 0.1 | | | Vdc |
| **STANDARD COMPLIANCE** | | | | |
| Photovoltaic Rapid Shutdown System | CSA C22.2#330, NEC 2014 – 2023 | | | |
| EMC | FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3 | | | |
| Safety | CSA C22.2#107.1; IEC 62109-1 (Class II Safety); UL 1741 | | | |
| Material | UL 94 V-0, UV Resistant | | | |
| RoHS | Yes | | | |
| Fire Safety | VDE-AR-E 2100-712:2013-05 | | | |
| **INSTALLATION SPECIFICATIONS** | | | | |
| Maximum Allowed System Voltage | 1000 | | | Vdc |
| Dimensions (W x L x H) | 129 x 155 x 30 / 5.07 x 6.10 x 1.18 | 129 x 165 x 45 / 5.07 x 6.49 x 1.77 | | mm / in |
| Weight | 720 / 1.6 | 790 / 1.74 | | gr / lb |
| Input Connector | MC4 | | | |
| Input Wire Length | 0.1 / 0.32 | | | m / ft |
| Output Connector | MC4 | | | |
| Output Wire Length | (+) 2.3, (-) 0.10 / (+) 7.54, (-) 0.32 | | | m / ft |
| Operating Temperature Range(5) | -40 to +85 | | | °C |
| Protection Rating | IP68 / NEMA6P | | | |
| Relative Humidity | 0 – 100 | | | % |

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For S440 with part number S440-1GM4MRMP, the Rated Input DC Power is 650W, and the Maximum Input Current is 15A.
(3) For installations after Aug 1st, 2024, the Rated Input DC Power for S500B is 650W.
(4) The Maximum Input Short Circuit Current is adjusted for worst case conditions of ambient temperature, irradiance, bifacial gain, and so on, in accordance with NEC and CSA.
(5) Power derating is applied for ambient temperatures above +85°C / +185°F for S440, and for ambient temperatures above +75°C / 167°F for S500B and S650B. Refer to the Power Optimizers Temperature Derating technical note for more details.

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

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



Intertek RoHS

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**GOGENESIS SOLAR**
6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com

REVISIONS

| DESCRIPTION | DATE | REV |
|---|---|---|
| INITIAL DESIGN | 07/10/2025 | |
| | | |
| | | |
| | | |

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
POWER OPTIMIZER DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD003

# SolarEdge Energy Bank 10kWh Battery

## For North America

HOME BACKUP

10 YEAR WARRANTY


## Optimized for SolarEdge Energy Hub Inverters(1)

- Maximized system performance, gaining more energy to store and use for on-grid and backup power applications
- Integrates with the complete SolarEdge residential offering, providing a single point of contact for warranty, support, training, and simplified logistics & operations
- DC coupled battery featuring superior overall system efficiency, from PV to battery to grid
- Scalable solution for increased power and capacity with multiple SolarEdge inverters and batteries
- Solar, storage, EV charging, and smart devices all monitored and managed by a single app to optimize solar production, consumption and backup* power
- Wireless communication to the inverter, reducing wiring, labor and installation faults
- Simple plug and play installation, with automatic SetApp-based configuration
- Includes multiple safety features for battery protection

* Backup application are subject to local regulation and may require additional components and firmware upgrade

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# SolarEdge Energy Bank 10kWh Battery

## For North America

| BAT-10K1P(2) | | |
|---|---|---|
| **BATTERY SPECIFICATION** | | |
| Usable Energy (100% depth of discharge) | 9700 | Wh |
| Continuous Output Power | 5000 | W |
| Peak Output Power (for 10 seconds) | 7500 | W |
| Peak Roundtrip Efficiency | >94.5 | % |
| Warranty(3) | 10 | Years |
| Voltage Range | 350-450 | Vdc |
| Communication Interfaces | Wireless* | |
| Batteries per Inverter | Up to 3(4) | |
| **STANDARD COMPLIANCE** | | |
| Safety | UL1642, UL1973, UL9540, UN38.3 | |
| Emissions | FCC Part 15 Class B | |
| **MECHANICAL SPECIFICATIONS** | | |
| Dimensions (W x H x D) | 31.1 x 46.4 x 9.84 / 790 x 1179 x 250 | in / mm |
| Weight | 267 / 121 | lb / kg |
| Mounting(5) | Floor or wall mount(6) | |
| Operating Temperature(7) | +14 to +122 / -10 to +50 | °F / °C |
| Storage Temperature (more than 3 months) | +14 to +86 / -10 to +30 | °F / °C |
| Storage Temperature (less than 3 months) | -22 to + 140 / -30 to +60 | °F / °C |
| Altitude | 6562 / 2000 | ft / m |
| Enclosure Protection | IP55 / NEMA 3R - indoor and outdoor (water and dust protection) | |
| Cooling | Natural convection | |
| Noise (at 1m distance) | <25 | dBA |

* The SolarEdge Energy Bank is designed for use with SolarEdge Energy Net for wireless communication. The inverter might require a matching SolarEdge Energy Net Plug-in (more details below). Using RS485 could reduce the usable energy to 9500Wh.

(1) Please refer to the SolarEdge Energy Bank battery connections and configuration application note for compatible inverters.

(2) These specifications apply to part number BAT-10K1PS0B-01.

(3) For warranty details please refer to the SolarEdge Energy Bank battery Limited Warranty.

(4) Installations with multiple SolarEdge Energy Bank batteries connected to a single inverter require a pair of branch connectors (DC + and DC -) per battery excluding the last battery. Support for 3 batteries is pending supporting inverter firmware. The branch connectors should be purchased separately.

(5) Installation and mounting requires handles that should be purchased separately. Please refer to the Accessories' PN table below.

(6) The floor stand is purchased separately. One floor stand is required per SolarEdge Energy Bank battery. Please refer to the Accessories' PN table below.

(7) Please note that operating the SolarEdge Energy Bank at extreme temperatures for extended durations of time may void the Energy Bank's warranty coverage. Please see the Energy Bank Limited Product Warranty for additional details.

| SolarEdge Energy Bank Battery – Accessories (purchased separately) | |
|---|---|
| **Accessory** | **PN** |
| Floor stand | IAC-RBAT-FLRSTD-01 |
| Branch connectors set (includes a pair of DC + and DC - connectors) Required for installations with multiple SolarEdge Energy Bank batteries with a single inverter | IAC-RBAT-USYCBL-01 |
| Handles | IAC-RBAT-HANDLE-01 |
| SolarEdge Energy Net Plug-in | ENET-HBNP-01 |
| Battery inverter extension cable 2m long (MC4 to terminal block) | IAC-RBAT-10M420-01 |



CE RoHS

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6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com

REVISIONS

| DESCRIPTION | DATE | REV |
|---|---|---|
| INITIAL DESIGN | 07/10/2025 | |
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| | | |

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE

1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD004

# SolarEdge Home Backup Interface

## For North America

BI-E / BI-N

HOME BACKUP

### Backup Interface for Flexible Backup

- Automatically provides backup power to home loads in the event of grid interruption
- Full flexibility in which loads to back up – the entire home or selected loads
- Scalable solution to support higher power and higher capacity
- Built-in Auto Transformer that supports 5kW of Phase Imbalance
- Built-in PCS certified* Energy Meter readies the Backup Interface to be part of the Busbar Current Management**
- Seamless integration with the SolarEdge Home Hub Inverter to manage and monitor both PV generation and energy storage
- Generator connection support

* Only applicable to Backup Interface with part number **BI-xxxxx-03**. Backup Interface with part number **BI-xxxxx-02** includes a built-in Auto Transformer and Energy Meter that is NOT PCS certified.
** Only applicable to Backup Interface with part number **BI-xxxxx-03**.

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# SolarEdge Home Backup Interface

## For North America

BI-E / BI-N

| Applicable to Backup Interface with Part Number | BI-xxxxx-02 / BI-xxxxx-03 | | |
|---|---|---|---|
| Model | BI-E | BI-N | Units |
| **INPUT FROM GRID** | | | |
| AC Current Input | 200 | | A |
| AC Output Voltage (Nominal) | 240 | | Vac |
| AC Output Voltage Range | 211 – 264 | | Vac |
| AC Frequency (Nominal) | 60 | | Hz |
| AC Frequency Range | 59.3 – 60.5 | | Hz |
| Microgrid Interconnection Device Rated Current | 200 | | A |
| Service Side AC Main Circuit Breaker Rated Current | 200 | N/A | A |
| Service Side AC Main Circuit Breaker Interrupt Current | 10,000 | N/A | A |
| Grid Disconnection Switchover Time | <100 | | ms |
| **OUTPUT TO MAIN DISTRIBUTION PANEL** | | | |
| Maximum AC Current Output | 200 | | A |
| AC L-L Output Voltage (Nominal) | 240 | | Vac |
| AC L-L Output Voltage Range | 211 – 264 | | Vac |
| AC Frequency (Nominal) | 60 | | Hz |
| AC Frequency Range | 59.3 – 60.5 | | Hz |
| Maximum Inverters AC Current Output in Backup Operation | 144 | | A |
| Imbalance Compensation in Backup Operation | 5000 | | W |
| AC L-N Output Voltage in Backup (Nominal) | 120 | | V |
| AC L-N Output Voltage Range in Backup | 105 – 132 | | V |
| AC Frequency Range in Backup | 55 – 65 | | Hz |
| **INPUT FROM INVERTER** | | | |
| Number of Inverter Inputs | Up to 3 | | # |
| Maximum Rated AC Power in On-Grid and Backup Operation | 11,400 | | W |
| Maximum Continuous Current in On-Grid and Backup Operation | 48 | | A |
| Factory Installed Inverter Input AC Circuit Breaker | 40/63[2] | | A |
| Upgradability | Up to 3 x 40A/63A[2] CB | | |
| **GENERATOR** | | | |
| Maximum Rated AC Power | 22,500 | | W |
| Maximum Continuous Input Current | 94 | | Aac |
| Dry Contact Switch Voltage Rating | 250 / 30 | | Vac / Vdc |
| Dry Contact Switch Current Rating | 5 | | A |
| 2-wire Start Switch | Yes | | |
| **ADDITIONAL FEATURES** | | | |
| Installation Type | Suitable for use as service equipment | For main lug only | |
| Number of Communication Inputs | 2 | | |
| Communication | RS485 | | |
| PCS Certified Energy Meter (for Import/Export)[3] | 1% accuracy | | |
| Manual Control Over Microgrid Interconnection Device | Yes | | |

(1) Backup Interface with part number **BI-xxxxx-03** includes one 63A circuit breaker. Backup Interface with part number **BI-xxxxx-02** includes one 40A circuit breaker.
(2) 63A circuit breaker supports up to one 11.4kW inverter, and 40A circuit breaker supports up to one 7.6kW inverter. 20A, 25A, and 30A breakers can be used for inverters with lower power ratings (On-Grid and Backup Operation). The circuit breaker kits are available with the following part numbers:
- For 63A, CB-LPG-63-01
- For 40A, CB-LPG-40-01

(3) Backup Interface with part number **BI-xxxxx-02** includes an Energy Meter that is NOT PCS certified.

# SolarEdge Home Backup Interface

## For North America

BI-E/ BI-N

| Applicable to Backup Interface with Part Number | BI-xxxxx-02 / BI-xxxxx-03 | | |
|---|---|---|---|
| Model | BI-E | BI-N | Units |
| **STANDARD COMPLIANCE** | | | |
| Safety | UL1741; CSA 22.2 NO. 107 | | |
| | UL869A | N/A | |
| Emissions | FCC Part 15 Class B | | |
| **INSTALLATION SPECIFICATIONS** | | | |
| Supported Inverters | StorEdge Single Phase Inverter; SolarEdge Home Hub Inverter | | |
| AC from Grid Conduit Size / AWG Range | 2" conduit / 4 – 4/0 AWG | | |
| AC to Loads Conduit Size / AWG Range | 2" conduit / 4 – 4/0 AWG | | |
| AC Inverter Conduit Size / AWG Range | 1" conduit / 14 – 4 AWG | | |
| AC Generator Input Conduit Size / AWG Range | 1" conduit / 8 – 3 AWG | | |
| Communication Conduit Size / AWG Range | 3/4" conduit / 24 – 10 AWG | | |
| Weight | 73 / 33 | | lb / kg |
| Cooling | Fan (user replaceable) | | |
| Noise | < 50 | | dBA |
| Operating Temperature Range | (-) 40 to (+) 122 / (-) 40 to (+) 50 | | °F / °C |
| Protection Rating | NEMA 3R; IP44 | | |
| Dimensions (H x W x D) | 20.59 x 13.88 x 8.62 / 523.5 x 352.5 x 219 | | in / mm |

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6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
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DRAWN BY
ESR

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD005

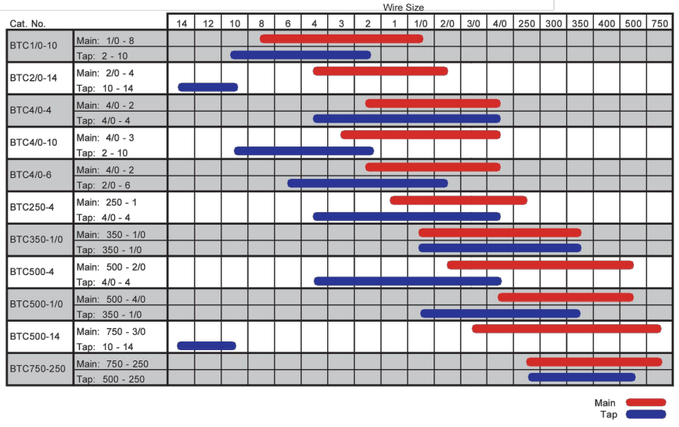
CONSTRUCTION PRODUCTS
BUCHANAN

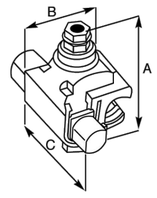
## B-TAP® Insulation-Piercing Tap Connectors

- Eliminates split bolts and tape
- Easy two-minute installation requires only box/socket wrench
- Installs on energized systems eliminating costly power shutdowns
- Self-sealing, grease-filled end-cap ensures safe, weather-tight connection
- Unique turbo spacer keeps connector wide open for quick and easy installation
- Torque-regulating nut breaks off when proper tension is reached
- Full-line is 600V dual-rated,194°F (90°C)

Tap Connectors

### B-Tap® Wire Range Chart




| Conductor Range | | Voltage Rating | Dimensions (Inches) | | | Socket Size (Inches) | Torque (In. Lbs.) | No. of Bolts | Cat. No. |
|---|---|---|---|---|---|---|---|---|---|
| Run | Tap | | A | B | C | | | | |
| 1/0-8 | 2-10[1] | 600V | 3.1 | 1.8 | 2.2 | 1/2 | 80 | 1 | **BTC1/0-10** |
| 2/0-4 | 10-14[2] | 600V | 3.1 | 1.8 | 2.2 | 1/2 | 80 | 1 | **BTC2/0-14** |
| 4/0-2 | 4/0-4 | 600V | 4.4 | 2.4 | 3.2 | 1/2 | 160 | 1 | **BTC4/0-4** |
| 4/0-3 | 2-10[3] | 600V | 3.1 | 1.8 | 2.2 | 1/2 | 125 | 1 | **BTC4/0-10** |
| 4/0-2 | 2/0-6 | 600V | 3.5 | 2.2 | 2.5 | 1/2 | 160 | 1 | **BTC4/0-6** |
| 250-1 | 4/0-4 | 600V | 3.5 | 2.2 | 2.5 | 1/2 | 160 | 1 | **BTC250-4** |
| 350-1/0 | 350-1/0 | 600V | 4.5 | 3 | 3.9 | 5/8 | 330 | 2 | **BTC350-1/0** |
| 500-2/0 | 4/0-4 | 600V | 4.5 | 3 | 3.9 | 5/8 | 330 | 2 | **BTC500-4** |
| 500-4/0 | 350-1/0 | 600V | 4.5 | 3 | 3.9 | 5/8 | 330 | 2 | **BTC500-1/0** |
| 750-3/0 | 10-14[4] | 600V | 3.7 | 2.5 | 2.2 | 1/2 | 80 | 1 | **BTC500-14** |
| 750-250 | 500-250 | 600V | 4.7 | 3.4 | 4.75 | 5/8 | 330 | 2 | **BTC750-250** |
| Assortment* | | | | | | | | | **BTCA-2** |

* Includes BTC 1/0-10, BTC 2/0-14, BTC 4/0-2, BTC 4/0-10, BTC 4/0-6, BTC 250-4, BTC 350-1/0, BTC 500-4 & BTC 500-1/0

[1] Tap #2 - #10 Cu solid/stranded; #2 - #10 Al stranded
[2] Tap #10 - #14 Cu solid/stranded; #10 - #14 Al stranded
[3] Tap #2 - #10 Cu solid/stranded; #2 - #8 Al stranded
[4] Tap #10 - #14 Cu solid/stranded; #10 - #12 Al stranded



GENESIS SOLAR POWER

**GOGENESIS SOLAR**
6028 STONYBOOK CT,TOPEKA, KS 66614
(913) 228-4495
info@gogenesissolar.com

REVISIONS

| DESCRIPTION | DATE | REV |
|---|---|---|
| INITIAL DESIGN | 07/10/2025 | |
| | | |
| | | |
| | | |

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
TAP CONNECTOR DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD006


**SunModo** introduces the SMR Pitched Roof System, the best value pitched roof mounting system on the market.

With fast and easy Pop-On Clamps and L-Foot adaptors, professional installers can mount, adjust, and secure PV panels with a single tool.

Whether rafter or deck, portrait or landscape, the SMR System is the ideal solution for your solar installation. Save money on materials and installation time.

## The SMR System Advantage

- ✓ The best value, best performing rail system on the market
- ✓ Lag-to-Panel single tool installation
- ✓ Pop-On universal clamps make installation fast, reliable and flexible
- ✓ A full range of roof attachments to meet every need
- ✓ Fastest install and lowest cost

## Key Features of the SMR System

SUNMODO
LEADING by DESIGN

**SMR 100 Rail**
4' span or more up to 90 psf snow load or 190 mph winds

The SMR System represents a huge leap in racking technology.

Optimized design makes the SMR Rails not only the lightest but also the strongest rails on the market. One tool assembly and Pop-On technology allow fast and worry-free installation.

The cost and performance cannot be beaten.

## Clamps & Grounding

**Mid Clamp**
The Bonding Pop-On Universal Mid Clamps accommodate PV module frame heights ranging from 30mm to 48mm. The fastest installing Mid Clamps on the market.

**L Foot Adaptor**
Fast and easy Pop-On L-Foot Adaptor speeds installation and eliminates old-fashioned T-Bolts. Install fast with full confidence in every attachment.

**End Clamp**
End Clamps are adjustable for different module frame heights and provide fast and secure attachment of modules.

**Rail Splice**
Structural bonding splice with fast and easy single bolt installation

**Wire Management Clip**
The clip attaches to the channel on the SMR rail to provide a neat and effective solution for PV wire management.

**Grounding Lug**
The Lug provides proper grounding of the PV System

**Technical Data**

| | |
|---|---|
| **Application** | Pitched Roof |
| **Roof Type** | Composition shingle, Metal and Tile |
| **Material** | High grade aluminum and 304 stainless steel hardware |
| **PV Modules** | Compatible with all common module types |
| **Module Orientation** | Portrait and landscape |
| **Roof Attachment** | Rafter and decking |
| **Structural Integrity** | IBC compliant, stamped engineering letters available |
| **Certificate** | UL 2703 listed by ETL |
| **Warranty** | 25 years |



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| | | |

PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

SHEET NAME
RACKING DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD007


Damaging roof shingles used to be one of a solar installers' worst challenges.

Now, the easy, affordable solution is NanoMount®, SunModo's patented solar mounting innovation.

The mount eliminates the need for lifting shingles and dramatically reduces the installation time.

## The NanoMount® Advantage

- ✓ The fastest roof attachment in solar.
- ✓ Versatile mounting options including direct-to-decking.
- ✓ Eliminates the need to lift shingles and prevents damage to shingles.
- ✓ High-Velocity Hurricane Zone Approved - Passed TAS 100 (a) Wind-Driven Rain Test.
- ✓ All materials are compatible with asphalt shingles and single-ply roof membranes.

## Key Features of NanoMount®

SUNMODO

5 levels of protection against water penetration


## Technical Data

| | |
|---|---|
| **Application** | Residential roof coverings, commercial single-ply roof membranes |
| **Material** | High grade aluminum, 304 stainless steel hardware |
| **Finish** | Black powder coating |
| **Roof Attachment** | Rafter and decking |
| **Structural integrity** | IBC and IRC Compliant |
| **Warranty** | 25 years |

**SunModo, Corp.** Vancouver, WA., USA • www.sunmodo.com • 360.844.0048 • info@sunmodo.com

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(913) 228-4495
info@gogenesissolar.com

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PROJECT NAME & ADDRESS

DAVID CONLEY JR RESIDENCE
1192 SW COYOTE CIR, FORT WHITE,FL 32038

DRAWN BY
ESR

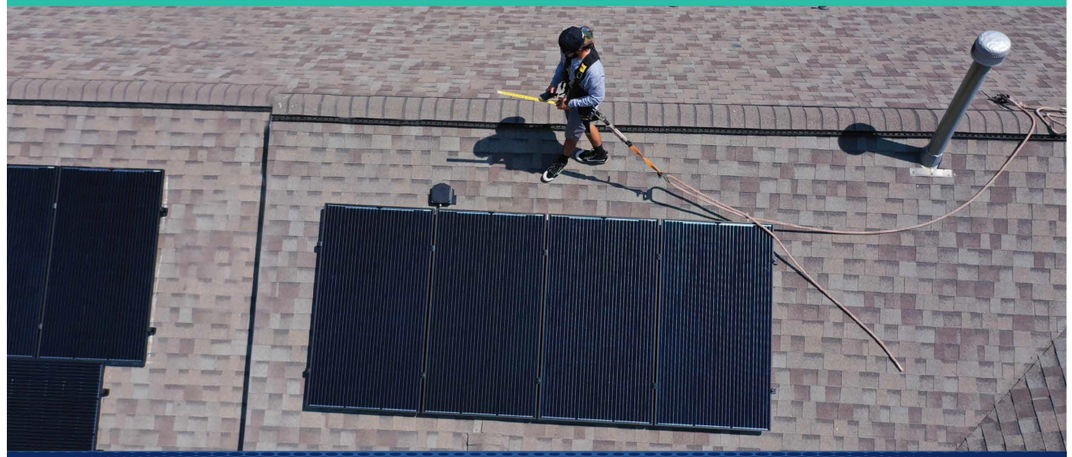
SHEET NAME
ATTACHMENT DATASHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PD008

EZ SOLAR
making solar simple.

JB-1.2



# THE ULTIMATE ROOFTOP JUNCTION BOX

EZ Solar believes innovation is key to making Solar Simple! The most revolutionary junction box on the market just got better! Designed with the installer in mind, the **JB-1.2** makes installation fast and easy!

## SIMPLE TO INSTALL

- Minimal Shingle Cutting
- Enter Through 3 Sidewalls
- Wider and Taller Sidewalls

## HIGH QUALITY

- Made from advanced durable polycarbonate + superior components, UL1741, Nema 3R, CSA C22.2 No. 290
- 3 patented layers of water protection
- 2 Weep Holes for breathability


## LOWER PRICE

- We believe that EVERYONE should have access to affordable renewable energy
- With the same great features as the JB-1, the JB-1.2 is now available with updates to make installation even easier.

MADE IN USA

Intertek 5019942

ezsolarproducts.com | info@ezsolarproducts.com | 385.202.4150

making solar simple.

EZ SOLAR
making solar simple.

# JB-1.2, JB-1.XL

Specification Sheet

PV Junction Box for Composition/Asphalt Shingle Roofs

## A. System Specifications and Ratings

- Maximum Voltage: 1,000 Volts
- Maximum Current: **JB-1.2:** 80 Amps; **JB-1.XL:** 120 Amps
- Allowable Wire: 14 AWG – 6 AWG
- 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-1.2:** UL1741, CSA C22.2 No. 290; **JB-1.XL:** UL1741, CSA C22.2 No. 290
  - Approved wire connectors: must conform to UL1741, CSA C22.2 No. 290
- System Marking: **Interek Symbol and File #5019942**
- 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.

Intertek 5019942

**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) | - | | - | | - | |



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11" X 17"

SHEET NUMBER
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