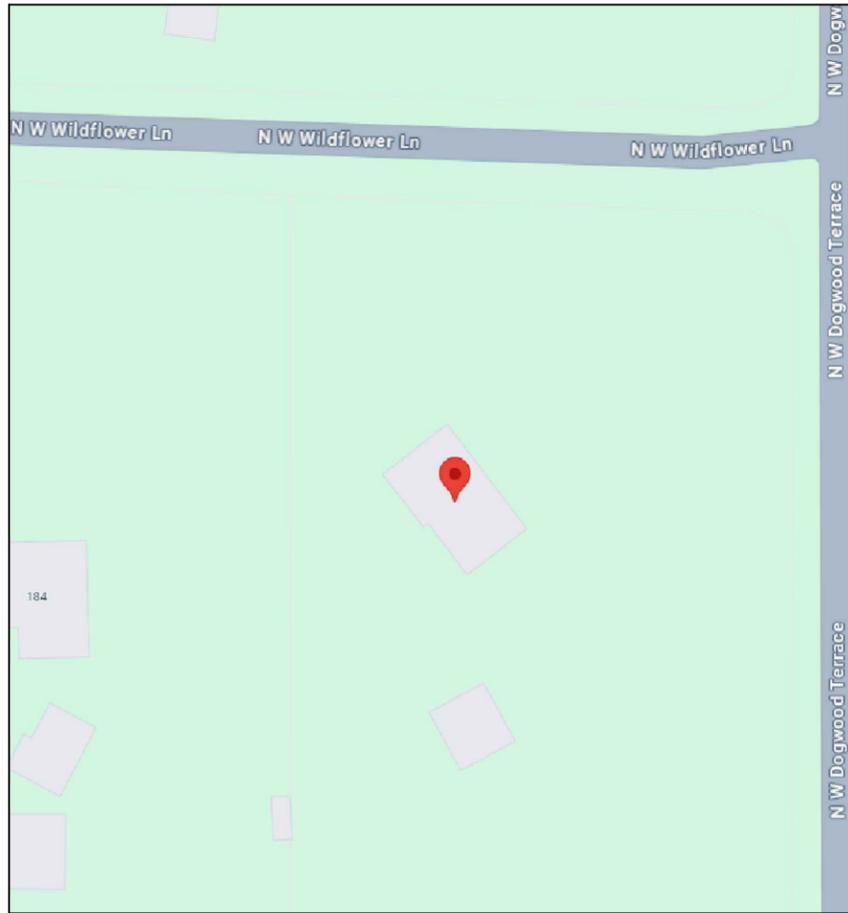
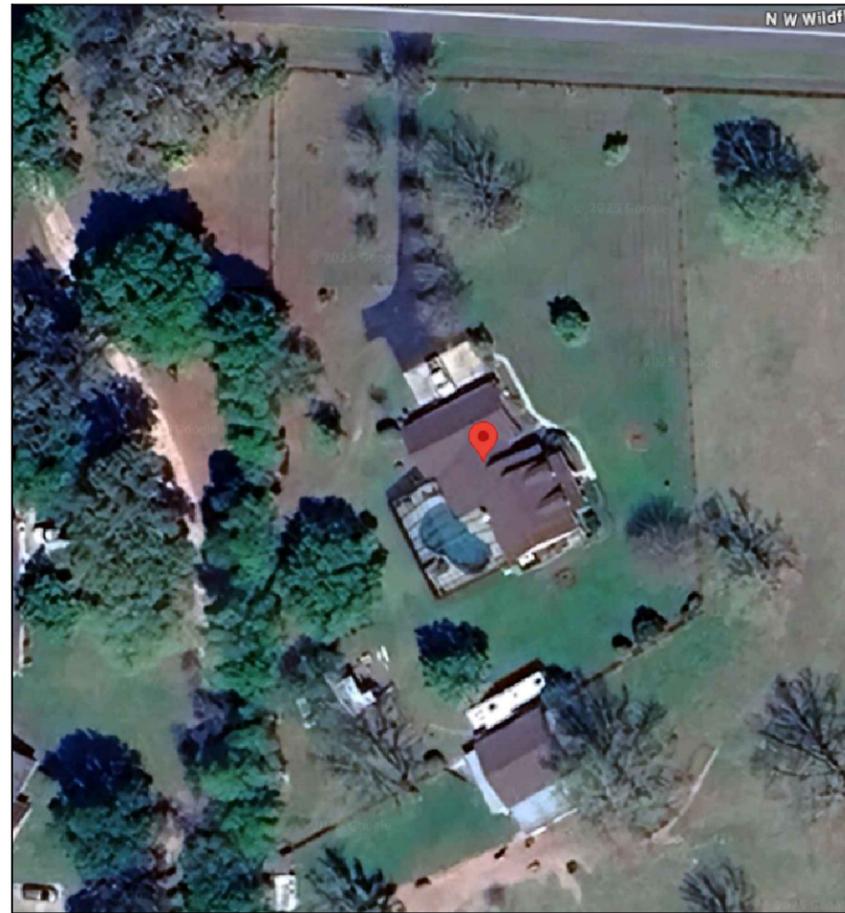


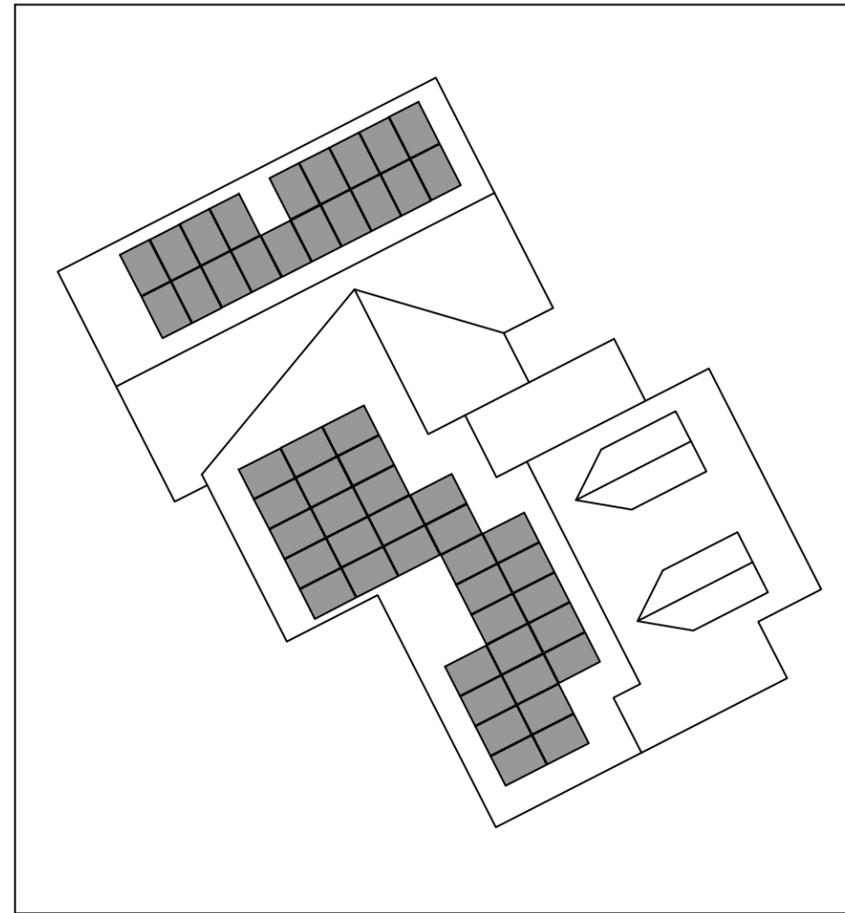
LOCATION MAP



SATELLITE VIEW



INSTALLATION PREVIEW



GENERAL NOTES:

- (1) The contractor shall verify all existing conditions which will affect the installation of all new work. If discrepancies are discovered, engineer must be notified before proceeding with any modification to the approved documents.
- (2) Installer shall assume full responsibility and liability for compliance with regulations per federal OSHA and local regulations pertaining to work practices, protection of workers and visitors to the site.
- (3) All construction shall comply with all state, county, and local codes on their latest edition.
- (4) All materials shall be in new and unused condition.
- (5) Inverter/s must be listed to UL-1741 "Utility interactive"
- (6) Manufacturer's material equipment, etc. Shall be installed per manufacturer's recommendations and instructions.
- (7) The contractor is responsible for the adequate bracing of all structural and nonstructural components during construction.
- (8) Any battery system installed in a location where they are subject to vehicle damage needs to be protected by approved barriers (safety bollards).
- (9) Do not scale drawings, written dimensions take precedence over drawings. If scale or written dimensions do not exist, which are necessary for construction, the contractor must contact the engineer to obtain the latest and most correct documents.
- (10) Information for the basic layout of this drawings was based on existing field dimensions, contractor must verify in field the actual conditions and notify engineer of any discrepancies.
- (11) The contractor is solely responsible for the means and methods of construction and the safety of construction workers.
- (12) All work shall be performed by contractors possessing valid certifications of competency and occupational licenses recognized and accepted by the local government having jurisdiction or by owner.
- (13) To the best of my knowledge, the plans and specifications submitted herewith comply to all existing interpretations and provisions of the applicable building codes at the time of the plans perpetration. No warranty either expressed or implied is herewith given.
- (14) Contractor / owner shall verify all dimensions related to any part of construction prior to beginning work or ordering fabricated materials required for construction.
- (15) Solar contractor is responsible for all installations. Engineer retained on the project is responsible for design only. In case of leans, uplifts, wind damage, incorrect installation or otherwise; Engineer is not responsible for any and all damages to the owner's property.
- (16) Solar contractor will be responsible of sealing the penetrations to the roof substrate. Engineer is not responsible of any property damage caused by water leaking.
- (17) Installation by solar contractor shall be in compliance with Florida Fire Prevention Code (FFPC) 8th Edition, NFPA 1 & NFPA 101 (2021 edition).
- (18) Per NFPA 1 (11.12.1) Photovoltaic systems shall be in accordance with Section 11.12 and NFPA 70.
- (19) This permit is only for solar panels as shown herein. All other site improvements or structures shown in the approved plans, including portions of the structure where the solar panels are being installed is not a part of the scope of this permit and this permit does not evidence the legal or permitted status of the same. Approval of this part shall not be construed as evidence that any portion of the structure(s)/roof, except for the solar panels permitted by this permit (but including any portion of the structure below) is legally permitted or legally permitted by this permit.
- (20) The contractor is obliged to furnish the field inspector with the latest photographs that illustrate the Fire pathway clearance on the roof. These images should distinctly demonstrate compliance with the relevant code regulations, inclusive of appropriate measurements.
- (21) The contractor shall provide onsite an electric meter [amp-multimeter] to demonstrate with the field inspector that the rapid shutdown functions properly.

SHEET INDEX

- PV - 1 COVER PAGE
- PV - 2 STRUCTURAL PLAN
- PV - 3 ELECTRICAL DIAGRAM & WARNING LABELS
- PV - 4 DATA SHEETS

SCOPE OF WORK

SYSTEM SIZE: DC SIZE : 23.140 KW DC
AC SIZE : 17.600 KW AC

(N) (52) CANADIAN SOLAR CS6.1-54TM-445H (445W) PV MODULES
(N) (1) SOLAREEDGE SE7600H-US INVERTER
(N) (1) SOLAREEDGE SE10000H-US INVERTER
(N) (52) SOLAREEDGE S440 OPTIMIZERS

(N) (52) SUNMODO NANOMOUNT MOUNTS WITH SUNMODO SMR100 RAILS

DESIGN SPECIFICATION

RISK CATEGORY: II
CONSTRUCTION: SFR
ZONING: RESIDENTIAL
GROUND SNOW LOAD: 4 psf
WIND EXPOSURE: B
WIND SPEED: 118 mph

AUTHORITIES HAVING JURISDICTION

BUILDING: COLUMBIA COUNTY
ZONING: COLUMBIA COUNTY
UTILITY: SVEC

APPLICABLE CODES & STANDARDS

FLORIDA RESIDENTIAL CODE, 8TH EDITION 2023 (FRC)
FLORIDA BUILDING CODE, 8TH EDITION 2023 (FBC)
FLORIDA FIRE PREVENTION CODE, 8TH EDITION 2023 (FFPC)
FLORIDA EXISTING BUILDING CODE, 8TH EDITION 2023 (FBC EX)
NATIONAL ELECTRICAL CODE, NEC 2020 CODE BOOK, NFPA 70
NFPA 1, 2021 EDITION

AMERICAN SOLAR
INSTALLATION COMPANY
3241 NW 38th St. Miami, FL 33142

PROJECT NAME & ADDRESS
CONNIE BRECHEEN
152 N W WILDFLOWER LN,
LAKE CITY, FL 32055

AHJ STAMP

SYSTEM SIZE
(N) 23.140 KW DC
(N) 17.600 KW AC

REVISIONS		
REV	DESCRIPTION	DATE
1	INVERTER CHANGED TO SOLAREEDGE RACKING SYSTEM CHANGED TO SUNMODO	11/04/25
2	TAG4 CHANGE THE DERATED VALUE ARE NOW LESS THAN TO UN DERATED VALUE	11/04/25

SHEET TITLE
COVER PAGE

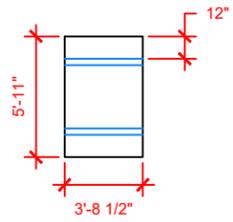
DRAWN DATE	11/04/2025
DRAWN BY	JC
REVIEWED BY	-

SHEET TITLE
PV - 1

- NOTES:**
1. ALL CONSTRUCTION / INSTALLATION IS TO COMPLY WITH THE FOLLOWING: ALL DIMENSIONS ARE APPROXIMATE.
 2. ROOF VENTS, SKYLIGHTS, WILL NOT BE COVERED UPON PV INSTALLATION.
 3. AC DISCONNECT IS LOCATED WITHIN 10FT FROM THE UTILITY METER.

TRUSS/RAFTERS LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS MAY DIFFER AND CONTRACTOR MAY NEED TO ADJUST MOUNT LOCATIONS. IN NO CASE SHALL THE MOUNT SPACING EXCEED "MAX. MOUNT SPACING"

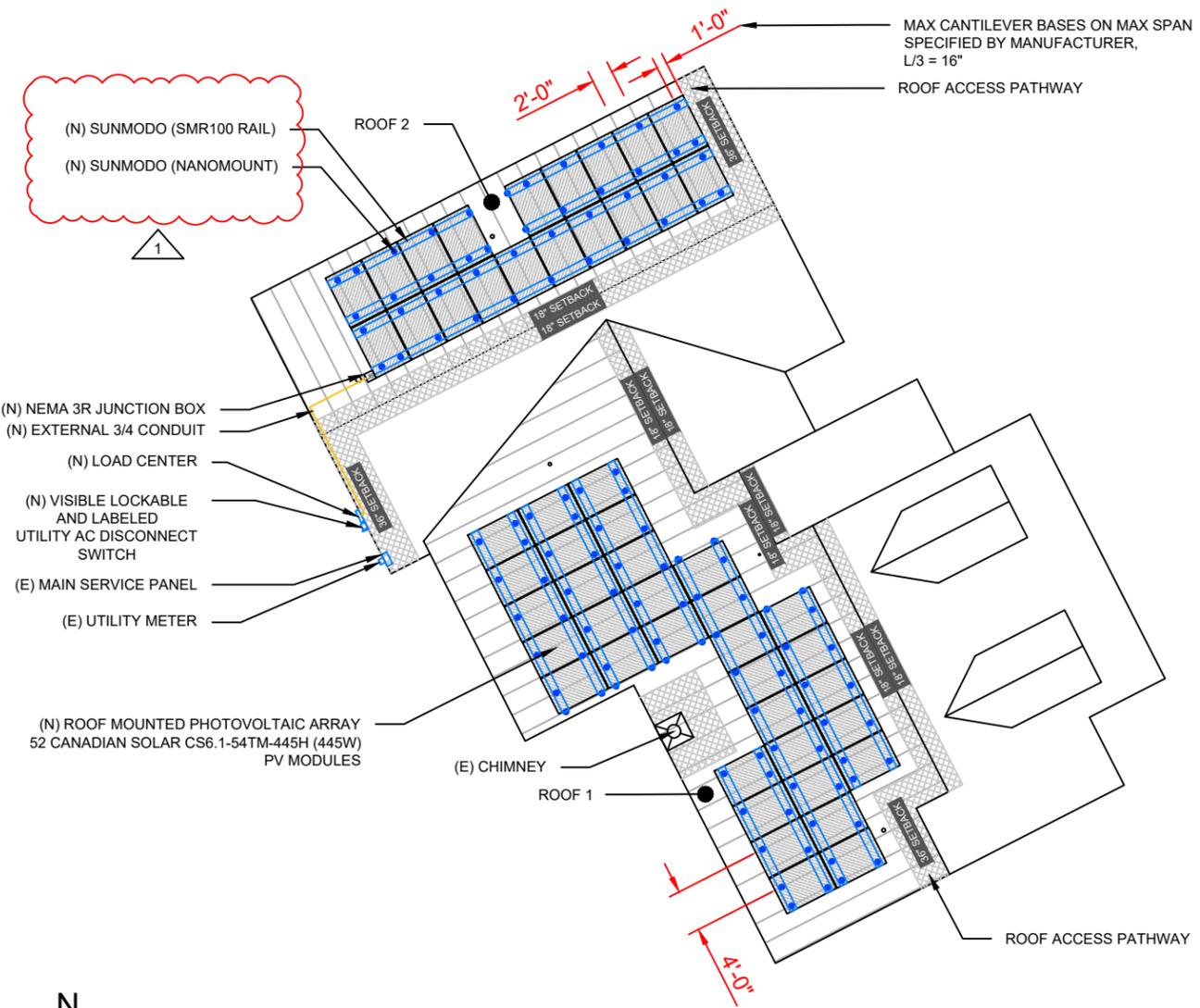
- LEGENDS:**
- - MOUNTS
 - - RAIL
 - - TRUSS / RAFTER



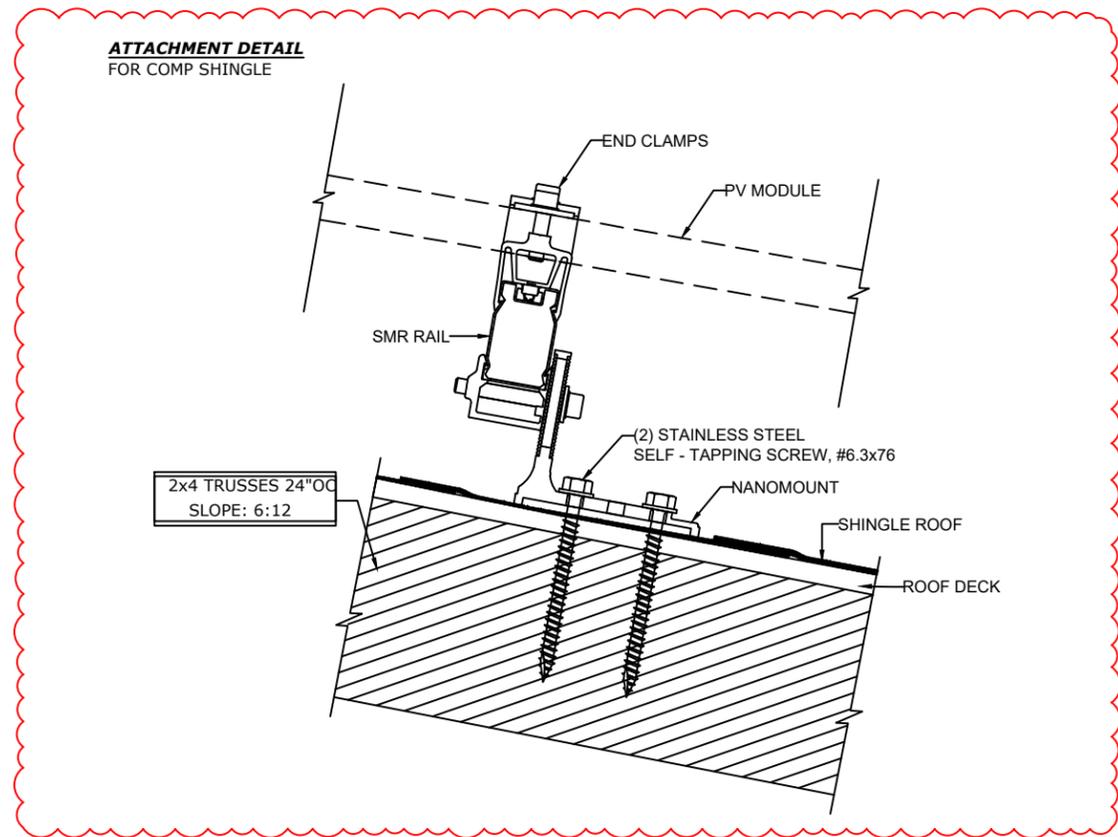
ROOF SECTION(S)			
	MODULE	TILT	AZIMUTH
ROOF 1	33	27°	333°
ROOF 2	19	27°	243°

NOTES:

1. LOCATION OF JUNCTION BOX(ES), AC DISCONNECT(S), AC COMBINER PANEL(S), AND OTHER ELECTRICAL EQUIPMENT RELEVANT TO PV INSTALLATION SUBJECT TO CHANGE BASED ON SITE CONDITIONS.
2. SETBACKS AT RIDGES CAN BE REDUCED TO 18 INCHES IF TOTAL PV AREA IS WITHIN 33% OF TOTAL ROOF AREA IN COMPLIANCE WITH IBC 2023:
TOTAL ROOF AREA = 3607 SQFT
TOTAL PV AREA = 52(70.9" X 44.6")/(144 IN²)
= 1141.92 SQFT
(1141.92 SQFT/3607 SQFT)100 = 31.66%
TOTAL PV AREA POPULATES 31.66% OF TOTAL ROOF AREA



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

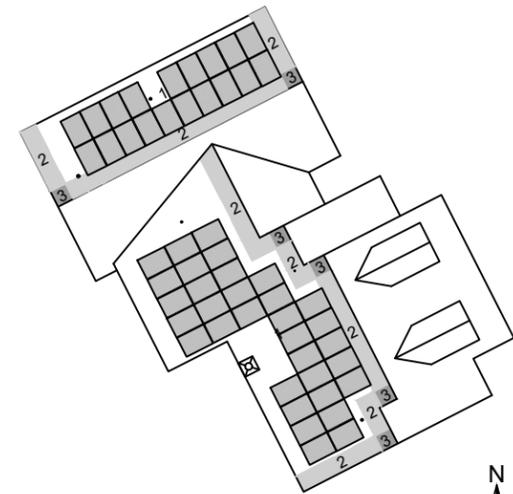
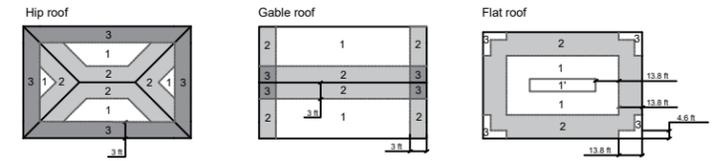


MODULE TYPE, DIMENSIONS & WEIGHT:

NUMBER OF PANELS IN ARRAY = 52 MODULES
 MODULE TYPE = CANADIAN SOLAR CS6.1-54TM-445H PV MODULES
 NUMBER OF CONNECTIONS TO ROOF = 133
 WEIGHT OF INDIVIDUAL PANEL = 50.7 LBS / 23.00 KG
 MOUNTING SYSTEM WEIGHT: 1.5 LBS PER MODULE
 TOTAL WEIGHT OF ARRAY: 2636.40 LBS
 WEIGHT AT EACH CONNECTION: 2636.40 LBS / 133 = 19.82 LBS
 SOLAR PANEL AREA = 70.9" X 44.6" = 21.96 SQFT
 TOTAL ARRAY AREA = 52X21.96 = 1141.92 SQFT
 DISTRIBUTED LOAD = 2636.40/1141.92 = 2.31 PSF

- PHOTOVOLTAIC MODULE GENERAL NOTES**
1. APPLICABLE CODE: 2023 FLORIDA BUILDING CODE 8th ED. & ASCE 7-22 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES
 2. BOLT DIAMETER AND EMBEDMENT LENGTHS ARE DESIGNED PER NDS(2023) REQUIREMENTS. ALL BOLT CAPACITIES ARE BASED ON A WOOD ROOF RAFTER AS EMBEDMENT MATERIAL
 3. ALL WIND DESIGN CRITERIA AND PARAMETERS ARE FOR HIP AND GABLE RESIDENTIAL ROOFS, CONSIDERING FROM A 7° TO A MAXIMUM 27° (2/12 TO A MAXIMUM 6/12 PITCH) ROOF IN SCHEDULE. ALL RESIDENTIAL ROOFS SHALL NOT EXCEED 30'-0" MEAN ROOF HEIGHT.
 4. ROOF SEALANTS SHALL CONFORM TO ASTM C920 AND ASTM 6511.
 5. THIS SHEET REFLECTS STRUCTURAL CONNECTIONS ONLY. REFER TO MANUFACTURER'S MANUAL FOR ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SOLAR SPECS.
 6. ALL ALUMINUM COMPONENTS SHALL BE ANODIZED ALUMINUM 6105-T5 UNLESS OTHERWISE NOTED.
 7. LAG BOLTS SHALL BE ASTM A276 STAINLESS STEEL UNLESS OTHERWISE NOTED.
 8. ALL RAILING AND MODULES SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
 9. I CERTIFY THAT THE INSTALLATION OF THE MODULES IS IN COMPLIANCE WITH FBC: BUILDING CHAPTER 16 AND FBC: RESIDENTIAL CHAPTER 3. BUILDING STRUCTURE WILL SAFELY ACCOMMODATE CALCULATED WIND LATERAL AND UPLIFT FORCES, AND EQUIPMENT DEAD LOADS.

WIND LOAD INFORMATION:
 THIS SYSTEM HAS BEEN DESIGN TO MEET THE REQUIREMENTS OF THE 8TH EDITION OF THE FLORIDA BUILDING CODE AND USED THE FOLLOWING DESIGN PARAMETERS:
 ULTIMATE WIND SPEED: 118 MPH
 EXPOSURE CATEGORY: B
 RISK CATEGORY: II
 MEAN ROOF HEIGHT: 20



Roof Wind Zones and module exposure as per ASCE 7-22 Figure 30.3-2A to 2I and ASCE 7-22 29.4.4
 SCALE: 1/32" = 1'-0"

AMERICAN SOLAR
 INSTALLATION COMPANY
 3241 NW 38th St. Miami, FL 33142

PROJECT NAME & ADDRESS
CONNIE BRECHEEN
 152 N W WILDFLOWER LN,
 LAKE CITY, FL 32055

AHJ STAMP

SYSTEM SIZE
 (N) 23.140 KW DC
 (N) 17.600 KW AC

REVISIONS

REV	DESCRIPTION	DATE
1	INVERTER CHANGED TO SOLAREDDGE RACKING SYSTEM CHANGED TO SUNMODO	11/04/25
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SHEET TITLE
STRUCTURAL PLAN

DRAWN DATE: 11/04/2025
 DRAWN BY: JC
 REVIEWED BY: -

SHEET TITLE
PV - 2

"ALL EXPOSED PV ROOFTOP CONDUCTORS THAT ARE NOT LOCATED UNDER THE ARRAY MODULES, SHALL INCLUDE LISTED JUNCTION BOXES AT BOTH ENDS OF THE RACEWAY TO TRANSITION FROM EXPOSED CONDUCTORS TO THE LISTED RACEWAYS."

PHOTOVOLTAIC INSTALLATION ELECTRICAL DIAGRAM RATED 23,140 DC WATTS UNDER (STC)

- (2) BRANCHED CIRCUITS OF 11 MODULES
- (3) BRANCHED CIRCUITS OF 10 MODULES

ADDITIONAL NOTES:
MARKING IS REQUIRED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, AND JUNCTION BOXES TO ALERT THE FIRE SERVICE TO AVOID CUTTING THEM. MARKING SHOULD BE PLACED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES, AND CABLE ASSEMBLIES, AT A MINIMUM OF EVERY 10 FEET, AT TURNS AND ABOVE AND OR BELOW PENETRATIONS AND ALL DC COMBINER AND JUNCTION BOXES

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-6°
AMBIENT TEMP (HIGH TEMP 2%)	34°
CONDUCTOR HEIGHT	0.5"
CONDUCTOR TEMPERATURE RATE	90°

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

NOTE:
1. SUBJECT PV SYSTEM HAS BEEN DESIGNED TO MEET THE REQUIREMENT OF THE NEC 2020, NFPA 70 AND THOSE SET FORTH BY THE FLORIDA SOLAR ENERGY CENTER CERTIFICATION, INCLUDING MAXIMUM NUMBER OF MODULE STRINGS, MAXIMUM NUMBER OF MODULES PER STRING, MAXIMUM OUTPUT, MODULE MANUFACTURER AND MODEL NUMBER, INVERTER MANUFACTURER AND MODEL NUMBER, AS APPLICABLE.
2. PROVIDE TAP BOX IN COMPLIANCE WITH 312.8 IF PANEL GUTTER SPACE IS INADEQUATE.

GROUNDING & GENERAL NOTES

- PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE
- DC EGC AND AC EGC TO BE SPLICED TO EXISTING ELECTRODE
- ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION
- JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - JUNCTION BOXES DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE TYPE TRANSITIONS
- AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT
- SIZING OF OVERCURRENT PROTECTION DEVICES ARE ROUNDED TO THE NEAREST WHOLE AMPERE WITH DECIMAL FRACTIONS SMALLER THAN 0.5 DROPPED ACCORDING TO 220.5(B)

INTERCONNECTION NOTES

- INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12]
- GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95] AND [NEC 690.41]
- ALL EQUIPMENT TO BE RATED FOR BACKFEEDING
- PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATED TO THE MAIN BREAKER

DISCONNECT NOTES

- 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)
- AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH

NOTE:

"ENGINEER OF RECORD IS CERTIFYING THE SOLAR DESIGN ELECTRICAL SYSTEM PER FLORIDA STATUTE 377.705"

OPTIMIZER SPECIFICATIONS	
MANUFACTURER / MODEL	SOLAREEDGE S440
DC INPUT POWER	440W
DC MAX INPUT VOLTAGE	60 A
DC MAX INPUT CURRENT	14.5 A
DC MAX OUTPUT CURRENT	15 A

WIRE SCHEDULE											
TAG	CONDUCTOR DETAILS	GROUND DETAILS	CONDUIT SIZE	CONDUCTOR RATING	AMBIENT TEMP	DEGREE COLUMN	TEMP DERATE	# OF CONDUCTOR DERATE	CONDUCTOR RATING W/ DERATES	CONDUIT FILL	
1	(2) #10 PV WIRE CU	(1) #6 AWG BARE CU	FREE AIR	35 A	34°C	75°C	0.94	1	32.9 A	FREE AIR	
2	(4) #10 AWG THHN/THWN-2, CU	(1) #8 AWG THWN-2, CU	3/4" PVC SCH 40	35 A	34°C	75°C	0.94	0.8	26.32 A	39.1%	
2.1	(3) #2 AWG THWN-2, CU	(1) #6 AWG THWN-2, CU	1-1/4" PVC SCH 40	115 A	34°C	75°C	0.94	1	108.1 A	25.6%	
3	(3) #8 AWG THWN-2, CU	(1) #8 AWG THWN-2, CU	3/4" PVC SCH 40	50 A	34°C	75°C	0.94	1	47 A	23.2%	
3.1	(3) #6 AWG THWN-2, CU	(1) #8 AWG THWN-2, CU	3/4" PVC SCH 40	65 A	34°C	75°C	0.94	1	61.1 A	35.8%	
4	(3) #3 AWG THWN-2, CU	(1) #8 AWG THWN-2, CU	1" PVC SCH 40	100 A	34°C	75°C	0.94	1	94 A	38.2%	

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL	CANADIAN SOLAR CS6-1-54TM-445W PV MODULES
VMP	32.8 V
IMP	13.59 A
VOC	38.7 V
ISC	14.48 A
DIMENSION	70.9" L X 44.6" W X 1.38" D

INVERTER1 SPECIFICATIONS	
MANUFACTURER / MODEL	SOLAREEDGE SE7600H-US INVERTER
MAXIMUM OUTPUT POWER	7600 W
NOMINAL VOLTAGE	240 V
NOMINAL OUTPUT CURRENT	32 A
INVERTER QUANTITY	1

INVERTER2 SPECIFICATIONS	
MANUFACTURER / MODEL	SOLAREEDGE SE10000H-US INVERTER
MAXIMUM OUTPUT POWER	10000 W
NOMINAL VOLTAGE	240 V
NOMINAL OUTPUT CURRENT	42 A
INVERTER QUANTITY	1

PV OVERCURRENT PROTECTION ...NEC 690.9(B)
= TOTAL INVERTER O/P CURRENT x 1.25
INVERTER1: (1 x 32) x 1.25 = 40.00 A
INVERTER2: (1 x 42) x 1.25 = 52.50 A
TOTAL OUTPUT CURRENT = 92.50A
SELECTED OCPD = 100 A ...NEC 240.6

WARNING LABELS

LABEL LOCATION : COMBINER BOX / CIRCUITS / CONDUIT COMBINER BOX / ENCLOSURES / EMT ENCLOSURES

WARNING

ELECTRICAL SHOCK HAZARD
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 705.20(7) & NEC 690.13(B)

WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 110.27(C) & OSHA 1910.145(f)(7)

LABEL LOCATION : MAIN SERVICE DISCONNECT

WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

NEC 705.12(B)(2)

WARNING

ELECTRICAL SHOCK HAZARD
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 705.20(7) & NEC 690.13(B)

WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 705.82 & NEC 710.15(C)

WARNING

SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTIWIRE BRANCH CIRCUITS

NEC 705.82 & NEC 710.15(C)

LABEL LOCATION : EMT / CONDUIT RACEWAYS

PHOTOVOLTAIC POWER SOURCE

NEC 690.31(D)(2)

DO NOT DISCONNECT UNDER LOAD

NEC 690.15(B) & NEC 690.33(D)(2)

WARNING DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

NEC 705.30(C) & NEC 690.59

LABEL LOCATION : BUILDING / STRUCTURE

THIS EQUIPMENT SUITABLE FOR ATTACHMENT TO FLOATING STRUCTURES, OR ATTACHED TO STRUCTURES FLOATING ON BODIES OF WATER.

NEC 690.4(G)

LABEL LOCATION : AC DISCONNECT / BREAKER / POINTS OF CONNECTION

WARNING

ELECTRICAL SHOCK HAZARD
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 705.20(7) & NEC 690.13(B)

WARNING

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

NEC 705.12(B)(3)

NEC 690.56 (C)(1)(A) & NFPA 111.12.2.1.1.1 AC DISCONNECT, DC DISCONNECT, POINT OF INTERCONNECTION

EMERGENCY RESPONDER: THIS SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN

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

SECTIONS OF THE PV SYSTEMS THAT ARE SHUT DOWN WHEN THE RAPID SHUTDOWN SWITCH IS OPERATED.

SECTIONS OF THE PV SYSTEMS THAT ARE NOT SHUT DOWN WHEN THE RAPID SHUTDOWN SWITCH IS OPERATED.



RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

NEC 690.12(D)(2)

LABEL LOCATION : COMBINER BOX / AC DISCONNECT / MAIN PANEL / UTILITY METER

PHOTOVOLTAIC POWER SOURCE

OPERATING CURRENT AC VOLTAGE 240 V
MAXIMUM OPERATING AC OUTPUT CURRENT 74 A

LABEL LOCATION : MAIN SERVICE DISCONNECT / UTILITY METER

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

NEC 690.13(B)

SERVICING CONTRACTOR

AMERICAN SOLAR INSTALLATION COMPANY
305.260.7000

NFPA 1 (11.12.2.1.5)

CAUTION

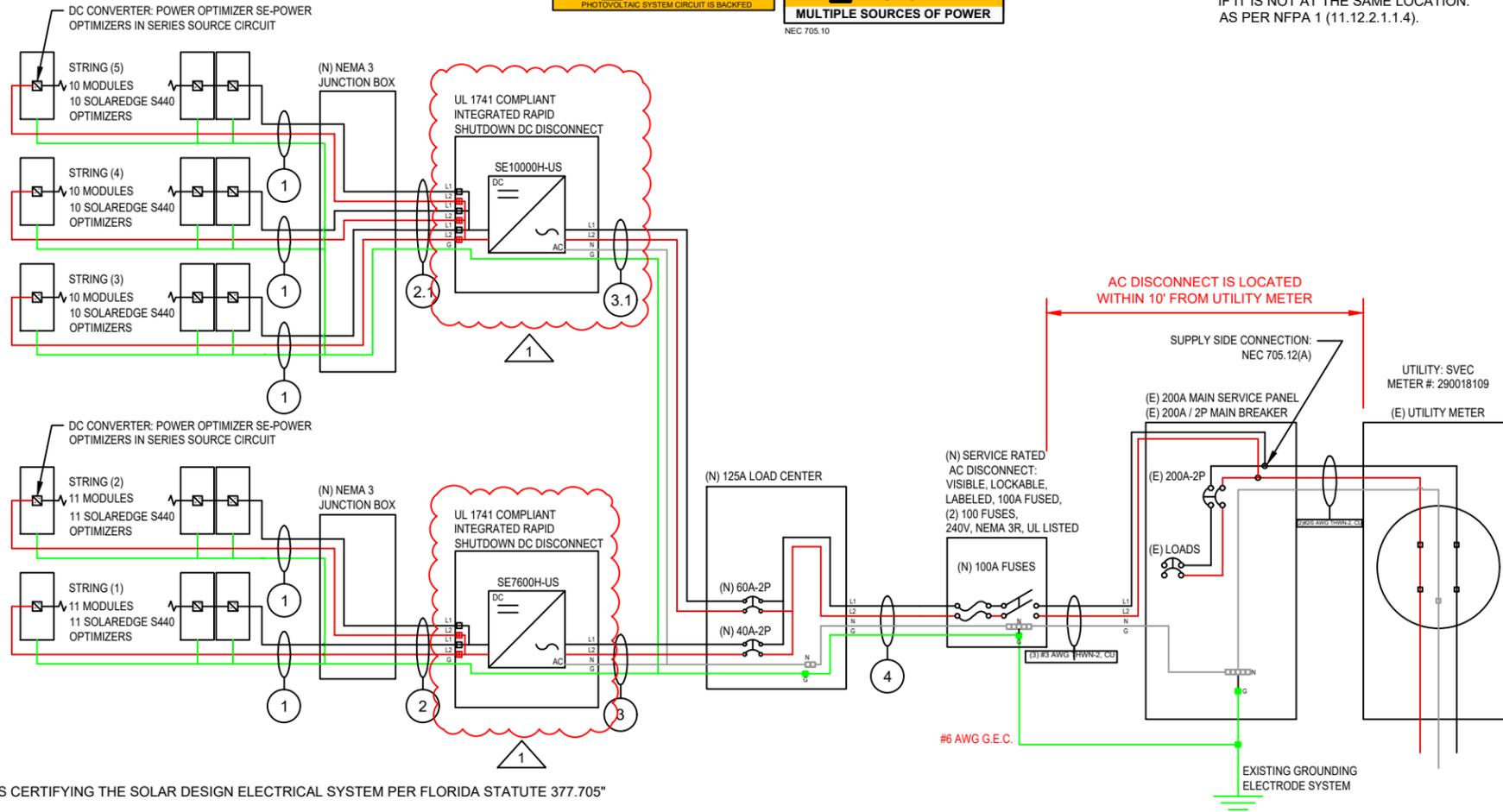
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFEED

NEC 705.10

CAUTION

MULTIPLE SOURCES OF POWER

NEC 705.10



- LABELS MUST COMPLY WITH NEC 110.21: ADEQUATE AFFIXED AND SUFFICIENT DURABILITY. LABELS AND MARKINGS SHALL BE APPLIED TO THE APPROPRIATE WAY IN ACCORDANCE WITH THE NEC.
- OSHA 1910.145 AND ANSI Z535 SPECIFICATIONS ARE RECOMMENDED BUT NOT REQUIRED.
- LABELS SHALL HAVE ROUNDED CORNERS.
- LABELS SHALL BE VISIBLE AT A MINIMUM OF 5FT.
- "WARNING" LABELS BACKGROUND SHALL BE IN ORANGE.
- "NOTICE" LABEL SHALL BE IN BLUE.
- THE RAPID SHUTDOWN SWITCH SHALL HAVE A LABEL LOCATED ON OR NO MORE THAN 3 FT FROM THE SWITCH AS PER 11.12.2.1.1.6, THAT INCLUDES THE FOLLOWING WORDS:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

FOR MICRO-INVERTER SYSTEMS, THE RAPID SHUTDOWN SWITCH IS THE SOLAR OUTPUT BACKFEED BREAKER OR SOLAR AC DISCONNECT.

THE RAPID SHUTDOWN LABEL SHALL BE LOCATED ON OR NO MORE THE 3 FT FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED, AND THE LABEL SHALL INDICATE THE LOCATION OF THE RAPID SHUTDOWN SWITCH IF IT IS NOT AT THE SAME LOCATION. AS PER NFPA 1 (11.12.2.1.1.4).

PROJECT NAME & ADDRESS
CONNIE BRECHEEN
152 N W WILDFLOWER LN,
LAKE CITY, FL 32055

AMERICAN SOLAR
INSTALLATION COMPANY
3241 NW 38th St, Miami, FL 33142

AHJ STAMP

SYSTEM SIZE
(N) 23,140 KW DC
(N) 17,600 KW AC

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SHEET TITLE
ELECTRICAL DIAGRAM AND LABELS

DRAWN DATE 11/04/2025
DRAWN BY JC
REVIEWED BY -

SHEET TITLE
PV - 3

PV MODULE



TOPHiKu6 (All-Black)
N-type TOPCon Technology
445 W - 470 W
CS6.1-547M-445 | 450 | 455 | 460 | 465 | 470H

MORE POWER

- Module power up to 470 W
- Module efficiency up to 23.8 %
- Excellent anti-LID and anti-PID performance.
- Low power degradation, high energy yield
- Lower temperature coefficient (Pmax) -0.29%/°C
- Increases energy yield in hot climate
- Lower LCOE & system cost

MORE RELIABLE

- Minimizes micro-crack impacts
- Heavy snow load up to 81.00 lbs.
- wind load up to 6000 Pa*

25 Year Industry Leading Product Warranty on Materials and Workmanship

30 Year Linear Power Performance Warranty*

1% power degradation no more than 1%
Subsequent annual power degradation no more than 0.4%

MANAGEMENT SYSTEM CERTIFICATION

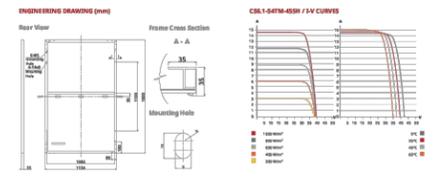
ISO 9001:2015 Quality management system
ISO 14001:2015 Environmental management system
ISO 45001:2018 Occupational health and safety
ISO 26262:2018 Functional safety for electrical/electronic systems

PRODUCT CERTIFICATION

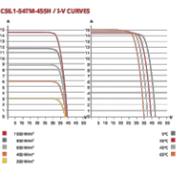
IEC 61215 / IEC 61730 REC 0000-0-00
IEC 61215 / IEC 61730 REC 0000-0-00
UL 61730 REC 0000-0-00
UL 61730 REC 0000-0-00

Canadian Solar (USA) Inc. December 2022 | All rights reserved | PV Module Product Datasheet v1.1CS2_F23_PV_M4

ENGINEERING DRAWING (mm)



CS6.1-547M-450H / 3 V CURVES



ELECTRICAL DATA | ETC*

CS6.1-547M	445H	450H	455H	460H	465H	470H
Normal Max. Power (Pmax)	445 W	450 W	455 W	460 W	465 W	470 W
Opt. Operating Voltage (Vmp)	33.9 V	33.9 V	33.9 V	33.9 V	33.9 V	33.9 V
Opt. Operating Current (Imp)	13.59 A	13.66 A	13.72 A	13.78 A	13.84 A	13.91 A
Open Circuit Voltage (Voc)	38.7 V	38.7 V	38.7 V	38.7 V	38.7 V	38.7 V
Short Circuit Current (Isc)	14.48 A	14.55 A	14.61 A	14.68 A	14.74 A	14.80 A
Module Efficiency	21.8%	22.0%	22.3%	22.5%	22.8%	23.0%
Operating Temperature	-40°C ~ 85°C					
Max. System Voltage	1500V (IEC/UL) or 1000V (IEEE/IEC)					
Module Fire Performance	TYPE 1 (UL 61730 / IEC 61730) or TYPE 2 (UL 61730 / IEC 61730) CLASS B (IEC 61730)					
Max. Series Fuse Rating	25 A					
Application Classification	Class A					
Power Tolerances	± 10 W					
*For detailed information, please refer to the Installation Manual.						

MECHANICAL DATA

Specification: Data

Cell Type: TOPCon cells

Cell Arrangement: 120 (2.0 x 5.0)

Dimensions: 1800 x 1134 x 35 mm

Weight: 23 kg (50.7 lbs)

Front Cover: 3.2 mm tempered glass with anti-reflective coating

Frame: Anodized aluminum alloy

J-Box: IP68, 3 bypass diodes

Cable: 4mm² PV1-F, 12 AWG (UL)

Connector: MC4, MC4-6/602 or MC4-6/602A (IEC60361)

Cable Length: 1500 mm (51.2 in) / 1200 mm (47.2 in)

Per Panel: 31 pieces

Per Container (60' HQ) 245 pieces

ELECTRICAL DATA | NEMF*

CS6.1-547M	445H	450H	455H	460H	465H	470H
Normal Max. Power (Pmax)	339 W	339 W	342 W	347 W	351 W	354 W
Opt. Operating Voltage (Vmp)	31.1 V	31.3 V	31.5 V	31.7 V	31.9 V	32.1 V
Opt. Operating Current (Imp)	10.85 A	10.91 A	10.96 A	11.02 A	11.07 A	11.13 A
Open Circuit Voltage (Voc)	36.5 V					
Short Circuit Current (Isc)	11.68 A	11.74 A	11.79 A	11.85 A	11.91 A	11.97 A
*Under Normal Test Conditions (Irradiance: 1000 W/m ² , Temperature: 25°C, Air Mass: 1.5, Ambient Temperature: 25°C, Wind Speed: 0 m/s)						

TEMPERATURE CHARACTERISTICS

Specification: Data

Temperature Coefficient (Pmax): -0.29 %/°C

Temperature Coefficient (Voc): -0.28 %/°C

Temperature Coefficient (Isc): 0.05 %/°C

Normal Module Operating Temperature: 42 ± 3°C

PARTS SECTION



INVERTER

SolarEdge Home Hub Inverter
USA Domestic Content Eligible*
Single Phase, for North America

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

12-25 Year WARRANTY

HOME BACKUP

Made in USA

SolarEdge's USA-manufactured residential single phase inverter offering for storage and backup applications

- Eligible for domestic content % under the enhanced federal income tax credit**
- The ultimate home energy manager in charge of PV production, battery storage, backup operation during a power outage***, DC charging, and smart energy devices
- Record-breaking 99% weighted efficiency with up to 200% DC overrating
- Ability to start high USA HVAC systems during backup operation
- Integrates seamlessly with the complete SolarEdge Home Smart Energy Ecosystem, through SolarEdge Home Network
- Module-level monitoring and visibility of battery status, PV production, and self-consumption data
- Integrated Wi-Fi platform for enhanced communication, reliability, and simplicity

Fast and easy installation - small and lightweight, with reduced cabling time

- NEMA 4X-rated, for indoor and outdoor installations
- A scalable solution that supports future homeowner needs through easy connection to a growing ecosystem of products
- Advanced safety features with integrated arc fault protection and rapid shutdown for 600V and 600V-12
- Advanced reliability with sub-zero-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)

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SolarEdge Home Hub Inverter
USA Domestic Content Eligible
Single Phase, for North America
SE3800H-US / SE5700H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number*	USE CASES (US/AM/ME/SE)				
	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
OUTPUT - AC ON GRID	3800 @ 240V 3900 @ 208V	5700 @ 240V 5900 @ 208V	7600 @ 240V 7900 @ 208V	10000 @ 240V 10500 @ 208V	11400 @ 240V 11900 @ 208V
Maximum AC Power Output	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
AC Output Voltage (Nominal)	240V	240V	240V	240V	240V
AC Output Voltage (Range)	208-264V	208-264V	208-264V	208-264V	208-264V
AC Frequency Range (Nom - Max)	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Maximum Continuous Output Current	16	24	32	42	47.8
Maximum Peak Current (Duration)	31	39	52	68	76
Grid Support	Yes	Yes	Yes	Yes	Yes
Total Harmonic Distortion (THD)	< 3	< 3	< 3	< 3	< 3
Power Factor	1	1	1	1	1
Energy Monitoring (optional)	Yes	Yes	Yes	Yes	Yes
Charge Configurable (Optional)	Yes	Yes	Yes	Yes	Yes
Charge Relay Non-AC (Optional)	Yes	Yes	Yes	Yes	Yes
Specialty Battery Power Conversion	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
OUTPUT - AC STANDALONE (BACKUP)**	3800 @ 240V	5700 @ 240V	7600 @ 240V	10000 @ 240V	11400 @ 240V
Maximum AC Power Output (Standalone)	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Continuous Output Current (Standalone)	16	24	32	42	47.8
Maximum Peak Current (Standalone)	31	39	52	68	76
AC Output Voltage Range in Standalone Operation	208-264V	208-264V	208-264V	208-264V	208-264V
AC Frequency Range in Standalone Operation	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
AC Maximum Output Current (Standalone)	16	24	32	42	47.8
AC Maximum Peak Current (Standalone)	31	39	52	68	76
THD	< 3	< 3	< 3	< 3	< 3
Power Factor	1	1	1	1	1
INPUT - DC (PV AND BATTERY)	750V	1150V	1550V	2500V	2500V
Maximum Input Voltage	750V	1150V	1550V	2500V	2500V
Maximum DC Open Voltage	750V	1150V	1550V	2500V	2500V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity	4000V Sensitivity	4000V Sensitivity	4000V Sensitivity	4000V Sensitivity
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes
DC CONNECTION - PV	750V @ 240V	1150V @ 240V	1550V @ 240V	2500V @ 240V	2500V @ 240V
Maximum Input Power	6500 W	10000 W	13000 W	25000 W	25000 W
Maximum Input Current	27 @ 240V	42 @ 240V	55 @ 240V	104 @ 240V	104 @ 240V
Maximum Input Voltage	750V	1150V	1550V	2500V	2500V
Number of Phases	1	1	1	1	1
Maximum Current per Phase	45	65	85	125	145

DC CONNECTION - BATTERY

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - PV

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - BATTERY

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - PV

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - BATTERY

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - PV

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - BATTERY

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
Maximum Input Power	3.8 kW	5.7 kW	7.6 kW	10.0 kW	11.4 kW
Maximum Input Current	16	24	32	42	47.8
Maximum Input Voltage	240V	240V	240V	240V	240V
Maximum DC Open Voltage	240V	240V	240V	240V	240V
Reverse Polarity Protection	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection	4000V Sensitivity				
Maximum Input Current (PV)	45	65	85	125	145
Maximum Input Current (Battery)	90	130	170	250	290
DC Maximum Efficiency	99.5	99.5	99.5	99.5	99.5
DC Input Efficiency	99.5	99.5	99.5	99.5	99.5
2-Phase Conversion	Yes	Yes	Yes	Yes	Yes

DC CONNECTION - PV

Model Number*	SE3800H-US	SE5700H-US	SE7600H-US	SE10000H-US	SE11400H-US
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