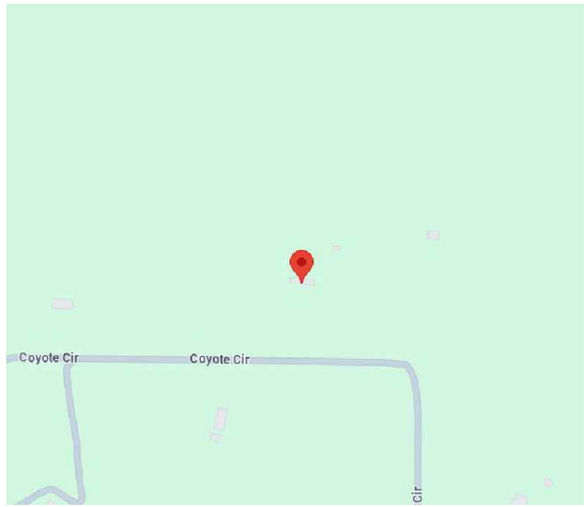
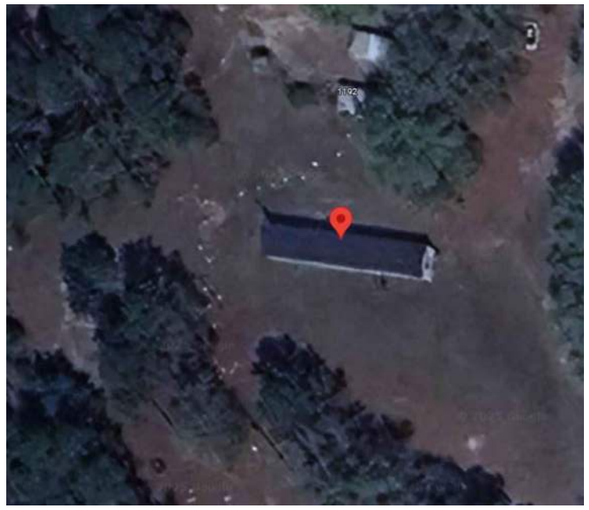
VICINITY MAP



HOUSE PHOTO



NEW ROOF MOUNT PHOTOVOLTAIC SYSTEM
SYSTEM SIZE: 9.600 KW DC, 6.960 KW AC
1192 SW COYOTE CIR, FORT WHITE, FL 32038

SHEET INDEX

PV-1 - - - - - - - - - - - - - - - - COVER SHEET
PV-2 - - - - - - - - - - - - - - - - SITE PLAN
PV-3 - - - - - - - - - - - - - - - - ROOF PLAN
PV-4 - - - - - - - - - - - - - - - - STANDOFF PLAN
PV-5 - - - - - - - - - - - - - - - - LINE DIAGRAM
PV-6 - - - - - - - - - - - - - - - - WARNING LABELS & PLACARD
PV-7.1 TO PV-7.8 - - - - - - RESOURCE DOCUMENTS

SCOPE OF WORK

(N) 9.600 KW DC / 6.960 KW AC ROOF MOUNTED PV SYSTEM
(24) LONGI SOLAR LR5-54HABB-400-M 400W MODULES
(24) ENPHASE IQ8PLUS-72-M-US (240V) MICROINVERTERS
(1) FOX ESS ECS4000-H5 BATTERY, STORAGE SYSTEM, 240V, 12 KWH
(1) FOX ESS HUB G2 SMART ENERGY MANAGEMENT SYSTEM
(1) FOX ESS H1&AC1-7.6-US INVERTER
SUNMODO NANO MOUNT L-FOOT ATTACHMENTS
SUNMODO SMR 100 RAIL,MILL RAILS

AUTHORITIES HAVING JURISDICTION

AHJ: COLUMBIA COUNTY, FL
UTILITY: CLAY ELECTRIC COOPERATIVE INC

GOVERNMENT CODES

2023 FBC-BUILDING 8TH EDITION
2023 FBC-RESIDENTIAL 8TH EDITION
2020 NEC (NFPA 70)
2023 FFPC 8TH EDITION

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 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. 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.
24. PANEL LAYOUT ORIENTATION IS SUBJECT TO CHANGE ON DESIGNED MOUNTING PLANES.
25. 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.
26. MOUNTING SYSTEMS SHALL BE LISTED AND LABELLED IN ACCORDANCE WITH UL 2703 TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THEIR LISTINGS.

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Richard Pantel
Digitally signed by Richard Pantel
Date: 2025.02.14 07:59:43 -06'00'

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

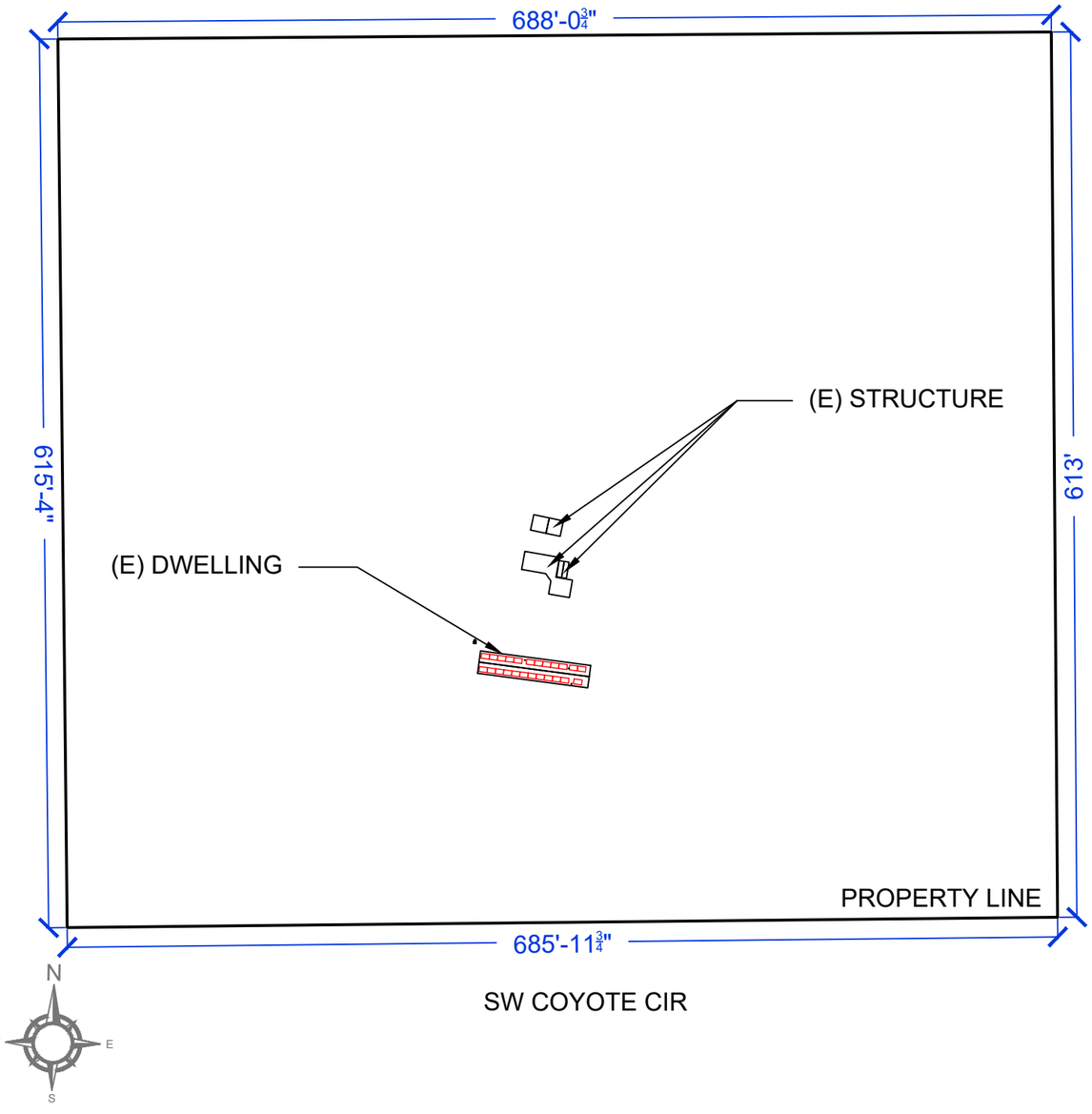
This item has been digitally signed and sealed by Richard Pantel, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

REVISION	
DATE	REV

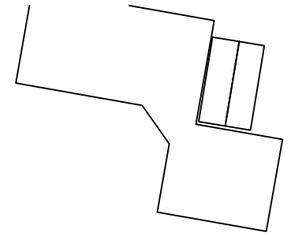
COVER SHEET

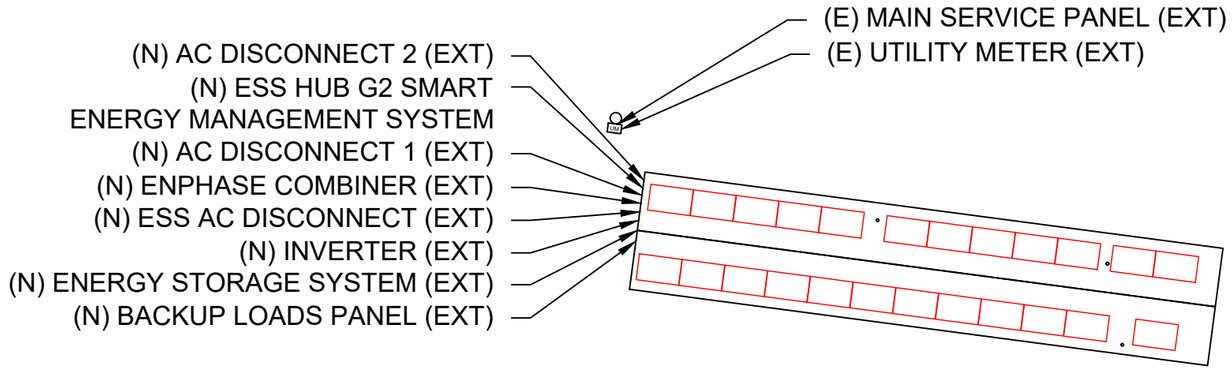
DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-1



1 **SITE PLAN**
SCALE: 1"=100'





1 **SITE PLAN**
SCALE: 1"=20'

TOTAL ROOF AREA: 1299.62 SQ.FT.
AREA OF ARRAYS: 505 SQ.FT.
ARRAY COVERAGE AREA: 38.82%

LEGEND

LONGI SOLAR
LR5-54HABB-400-M 400W
PV MODULE

CHIMNEY
ATTIC VENT
PIPE VENT

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

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

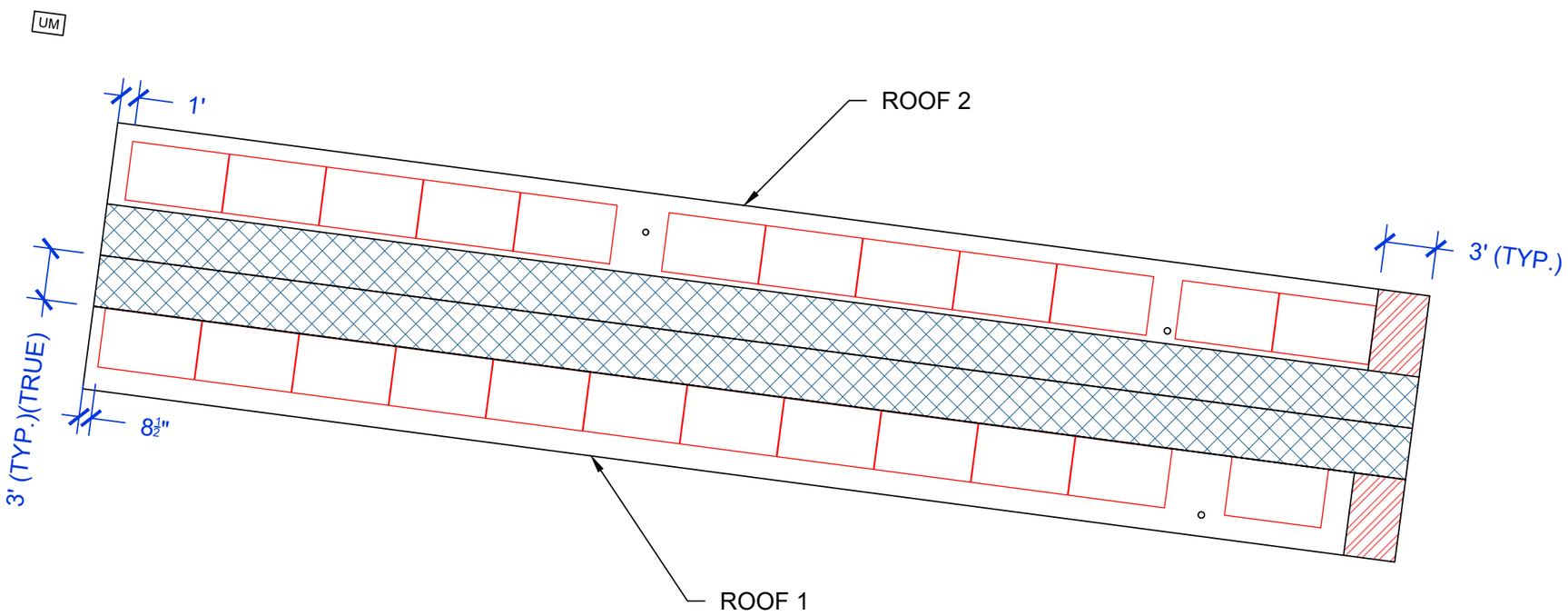
REVISION	
DATE	REV

SITE PLAN

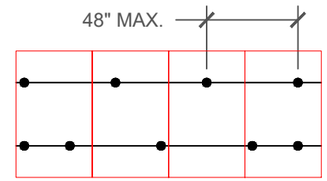
DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-2

ROOF INFORMATION							
ARRAY	PANEL COUNT	AZIMUTH	PITCH	ROOF TYPE	ATTACHMENT	FRAME TYPE & SPACING	ATTACHMENT SPACING
ROOF 1	12	188°	23°	SHINGLE	SUNMODO NANO MOUNT L-FOOT	2"X4" RAFTERS @ 24" OC	48"
ROOF 2	12	8°	23°	SHINGLE	SUNMODO NANO MOUNT L-FOOT	2"X4" RAFTERS @ 24" OC	48"



1 **ROOF PLAN**
SCALE: 1"=8'

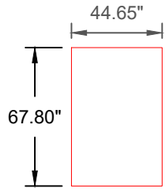


MAX. ATTACHMENT SPACING: 48"
(STAGGERED ATTACHMENTS)

TOTAL ROOF AREA: 1299.62 SQ.FT.
AREA OF ARRAYS: 505 SQ.FT.
ARRAY COVERAGE AREA: 38.82%

LEGEND

- CHIMNEY
- ATTIC VENT
- PIPE VENT
- UM — UTILITY METER



MODULE:
LONGI SOLAR
LR5-54HABB-400-M
400W

MODULE DIMENSION: 67.80"x 44.65"
MODULE WEIGHT: 49.6 LBS

TOTAL NO. OF PANELS: 24 MODULES

- 36" FIRE ACCESS PATHWAY
- 36" FIRE VENTILATION SETBACK

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

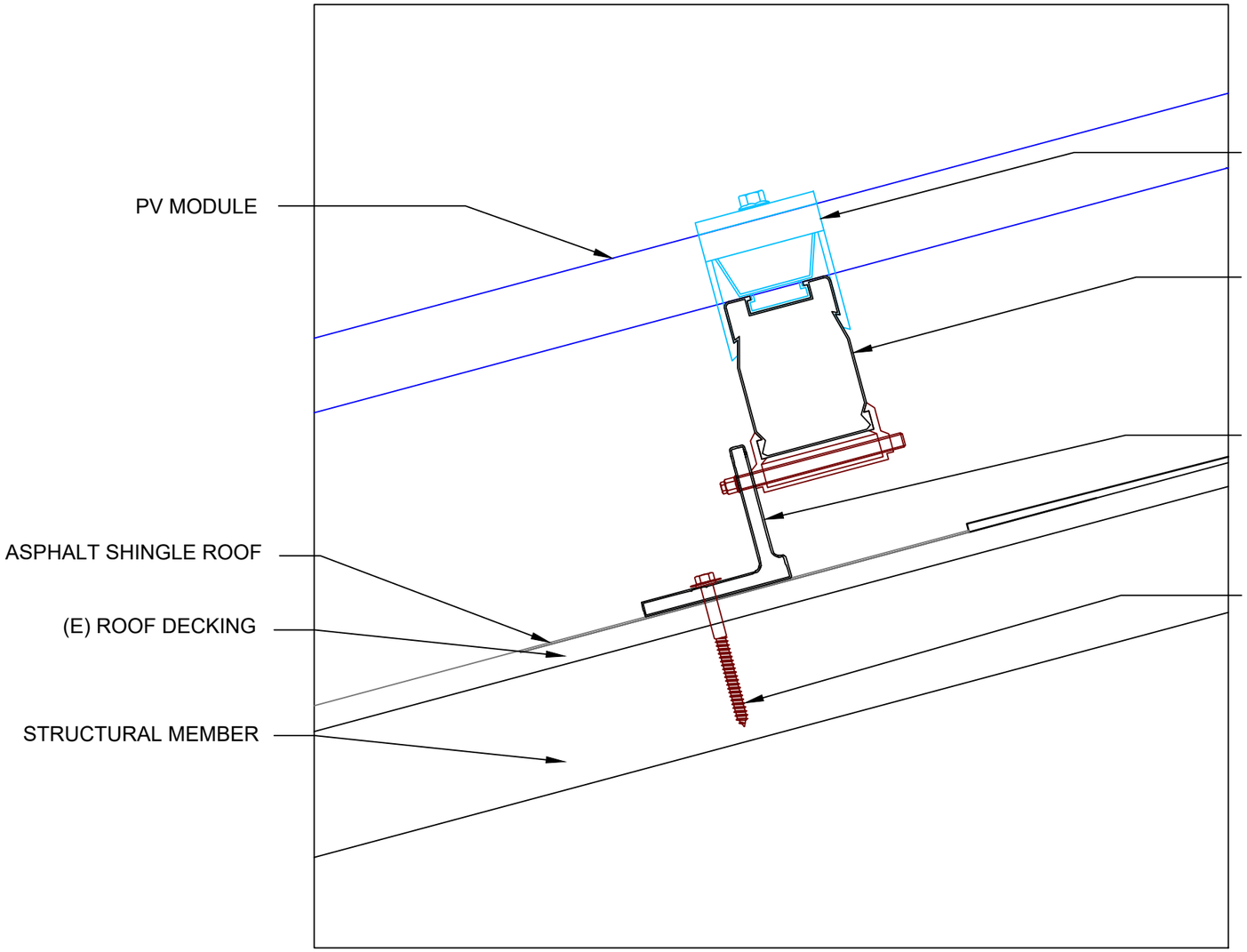
This item has been digitally signed and sealed by Richard Pantel, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

REVISION	
DATE	REV

ROOF PLAN

DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-3



BILL OF MATERTIALS		
PROJECT NAME	DAVID CONLEY JR	
PROJECT ADDRESS	1192 SW COYOTE CIR, FORT WHITE, FL 32038	
ITEM	ITEM DESCRIPTION	QUANTITY
ELECTRICAL EQUIPMENT		
PV MODULE	LONGI SOLAR LR5-54HABB-400-M 400W	24
INVERTER	ENPHASE IQ8PLUS-72-M-US	24
COMBINER BOX	ENPHASE COMBINER PANEL	1
ROOF ATTACHMENT HARDWARE		
ROOF ATTACHMENT	SUNMODO NANO MOUNT L-FOOT	80
MOUNTING HARDWARE		
RAIL (14 FEET)	SUNMODO SMR 100 RAIL,MILL	23
RAIL SPLICE	RAIL SPLICE	14
MID CLAMP	MID CLAMP	36
END CLAMP	END CLAMP	24
GROUNDING HARDWARE		
GROUNDING LUGS	GROUNDING LUGS	6

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

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

REVISION	
DATE	REV

STANDOFF PLAN

DRAWN BY	CDR
DATE DRAWN	02/06/2025

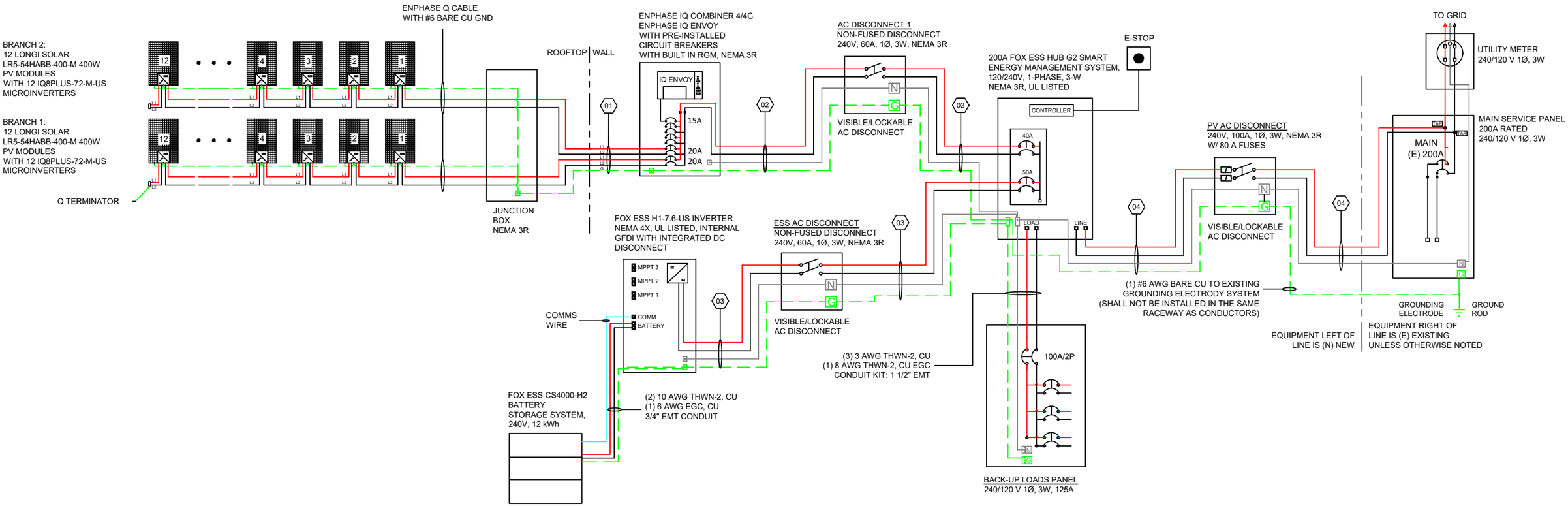
PV-4

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

ID	CONDUCTOR	EGC	NEUTRAL	CONDUIT SIZE	TEMP. CORR. FACTOR	CURRENT-CARRYING CONDUCTORS IN CONDUIT	FILL FACTOR	MAX OUTPUT CURRENT (A)	REQUIRED AMPACITY (MAX OUTPUT CURRENT X125%) (A)	OCPD / FUSE (A)	CONDUCTOR BASE (A)	CONDUCTOR DERATED (A)	TERM. TEMP. RATING
01	(4) 10 AWG THWN-2, CU	(1) 10 AWG THWN-2, CU	N/A	3/4" EMT	.96 (32.7°C)	4	0.8	14.52	18.15	20	40	30.72	90°C
02	(2) 8 AWG THWN-2, CU	(1) 10 AWG THWN-2, CU	(1) 8 AWG THWN-2, CU	3/4" EMT	.94 (32.7°C)	2	1.0	29.04	36.30	40	50	47.00	75°C
03	(2) 8 AWG THWN-2, CU	(1) 10 AWG THWN-2, CU	(1) 8 AWG THWN-2, CU	3/4" EMT	.94 (32.7°C)	2	1.0	34.80	43.50	50	50	47.00	75°C
03	(2) 3 AWG THWN-2, CU	(1) 8 AWG THWN-2, CU	(1) 3 AWG THWN-2, CU	1 1/4" EMT	.94 (32.7°C)	2	1.0	63.84	79.80	80	100	94.00	75°C

NOTE: HEIGHT OF THE CONDUIT ABOVE ROOFTOP TO BE AT LEAST 7/8TH OF AN INCH PER 310.15(B)(3)(C)

DESIGN TEMPERATURES	
ASHRAE EXTREME LOW	-10.5 °C
ASHRAE 2% HIGH	32.7 °C



GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT
WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

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

REVISION	
DATE	REV

LINE DIAGRAM

DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-5

CAUTION
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

[NEC 705.12(D) & 690.59] PLACE LABEL ON ALL EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTORS SUPPLIED FROM MULTIPLE SOURCES

WARNING: PHOTOVOLTAIC POWER SOURCE

[NEC 690.31(G)3 & 4] PLACE ON JUNCTION BOXES AND CONDUIT EVERY 10'

WARNING
THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT

[NEC 690.31(I)(E)] PLACE THIS LABEL ON **ALL** DISCONNECTING MEANS WHERE ENERGIZED IN AN OPEN POSITION

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

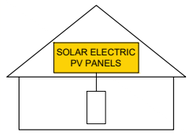
[NEC 690.15(C) & NEC 690.13(B)] PLACE THIS LABEL ON **ALL** DISCONNECTING MEANS WHERE ENERGIZED IN AN OPEN POSITION

ENERGY STORAGE SYSTEM DISCONNECT

CODE REF: [NEC 706.15(C)]
LOCATION: PLACE ON ENERGY STORAGE SYSTEMS

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



FOR PV SYSTEMS THAT SHUT DOWN THE ARRAY AND CONDUCTORS LEAVING THE ARRAY: SIGN TO BE LOCATED ON OR NO MORE THAN 3 FT AWAY FROM SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL INDICATE THE LOCATION OF ALL IDENTIFIED RAPID SHUTDOWN SWITCHES IF NOT AT THE SAME LOCATION.
[NEC 690.56(C)(1)(A)]

PHOTOVOLTAIC AC DISCONNECT
RATED AC OUTPUT CURRENT: 29.04A MAX
NOMINAL AC OPERATING VOLTAGE: 240 VAC

[NEC 690.54] PLACE LABEL AT "INTERACTIVE POINT OF INTERCONNECTION" (AT MAIN SERVICE PANEL *AND* SUBPANEL IF APPLICABLE)

WARNING
DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

[NEC 705.12(C) & NEC 690.59] PLACE LABEL ON ALL EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTORS SUPPLIED FROM MULTIPLE SOURCES

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

[NEC 690.56(C)(2)] PLACE AT MAIN SERVICE PANEL

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

[NEC 705.12(B)(3)(3)] PLACE THIS LABEL AT P.O.C. TO SERVICE DISTRIBUTION EQUIPMENT

WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE THE PANEL

[NEC 110.27(C) & OSHA 1910.145(f)(7)] PLACE ON **ALL** COMBINER BOX/ENCLOSURES, MAIN SERVICE DISCONNECT, BREAKER PANEL AND PULL BOXES

PHOTOVOLTAIC
AC DISCONNECT

[NEC 690.13(B)] PLACE ON AC DISCONNECT

WARNING
POWER SOURCE OUTPUT CONNECTION
DO NOT RELOCATE THIS OVERCURRENT DEVICE

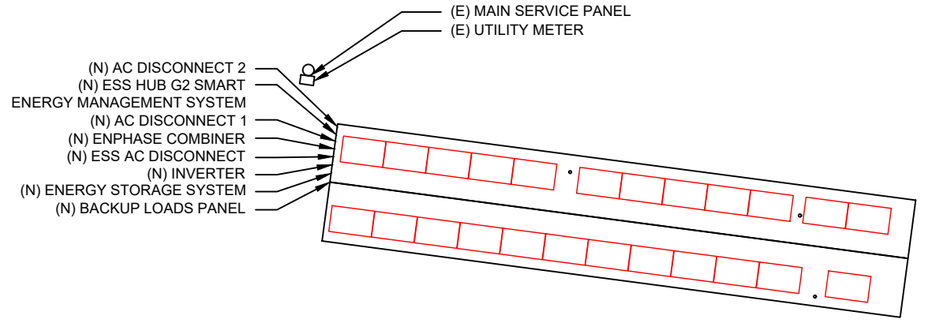
CODE REF: [NEC 705.12(B)(3)(2)]
LOCATION: PLACE LABEL ON ALL EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTORS SUPPLIED FROM MULTIPLE SOURCES

FORMAT
1. WHITE LETTERING ON A RED BACKGROUND
2. MINIMUM 3/8 INCHES LETTER HEIGHT
3. ALL LETTERS SHALL BE CAPITALIZED
4. ARIAL OR SIMILAR FONT (NON-BOLD)

MATERIAL
REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969 AS STANDARD FOR WEATHER RATING).
DURABLE ADHESIVE MATERIALS

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

CAUTION
MULTIPLE SOURCES OF POWER



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

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

RICHARD PANTEL LICENSE No. 73222 STATE OF FLORIDA PROFESSIONAL ENGINEER

Reviewed and approved
Richard Pantel, P.E.
FL Lic. No. 73222
02/14/2025

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

REVISION	
DATE	REV

WARNING LABELS & PLACARD

DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-6

Hi-MO 5

LR5-54HABB
390~415M

- Suitable for distributed projects
- Advanced module technology delivers superior module efficiency
  - M10 Gallium-doped Wafer • Integrated Segmented Ribbons • 9-busbar Half-cut Cell
- Globally validated bifacial energy yield
- High module quality ensures long-term reliability

25 25-year Warranty for Materials and Processing

30 30-year Warranty for Extra Linear Power Output

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730
ISO9001:2015: ISO Quality Management System
ISO14001: 2015: ISO Environment Management System
ISO45001: 2018: Occupational Health and Safety
IEC62941: Guideline for module design qualification and type approval

LONGi

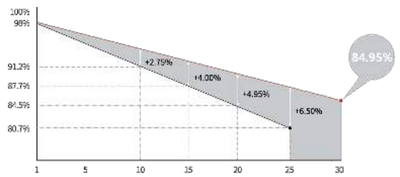
Hi-MO 5

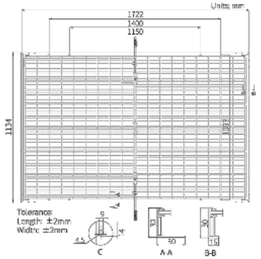
LR5-54HABB 390~415M

21.3%	0~3%	<2%	0.45%	HALF-CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

Additional Value

30-Year Power Warranty





Mechanical Parameters

Cell Orientation	108 (6×18)
Junction Box	IP68, three diodes
Output Cable	4mm², ⊥1200mm length can be customized
Glass	Dual glass, 2.0+1.6mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Weight	22.5kg
Dimension	1722×1134×30mm
Packaging	36pcs per pallet / 216pcs per 20' GP / 936pcs or 792pcs(Only for USA) per 40' HC

Electrical Characteristics

STC : AM1.5 1000W/m² 25°C NOCT : AM1.5 800W/m² 20°C 1m/s *Test uncertainty for Pmax: ±3%

Module Type	LR5-54HABB-390M		LR5-54HABB-395M		LR5-54HABB-400M		LR5-54HABB-405M		LR5-54HABB-410M		LR5-54HABB-415M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	390	291.5	395	295.2	400	299.0	405	302.7	410	306.5	415	310.2
Open Circuit Voltage (Voc/V)	36.58	34.39	36.81	34.61	37.05	34.84	37.29	35.06	37.53	35.29	37.77	35.51
Short Circuit Current (Isc/A)	13.57	10.95	13.65	11.01	13.72	11.07	13.79	11.13	13.87	11.19	13.94	11.25
Voltage at Maximum Power (Vmp/V)	30.47	28.43	30.70	28.64	30.94	28.86	31.18	29.09	31.42	29.31	31.66	29.54
Current at Maximum Power (Imp/A)	12.80	10.26	12.87	10.31	12.93	10.36	12.99	10.41	13.05	10.45	13.11	10.50
Module Efficiency(%)	20.0		20.2		20.5		20.7		21.0		21.3	

Electrical characteristics with different rear side power gain (reference to 400W front)

Pmax /W	Voc/V	Isc /A	Vmp/V	Imp /A	Pmax gain
420	37.05	14.41	30.94	13.58	5%
440	37.05	15.09	30.94	14.22	10%
460	37.15	15.78	31.04	14.87	15%
480	37.15	16.46	31.04	15.52	20%
500	37.15	17.15	31.04	16.16	25%

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	70±5%
Fire Rating	UL Similar type 38 * IEC Class C

*Reference Standard: UL61730 Second Edition, Dated October 28, 2022

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Pmax	-0.340%/°C

LONGi

No.8369 Shangyuan Road, Xi'an Economic And Technological Development Zone, Xi'an, Shaanxi, China.
Web: www.longi.com

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.1
DATE DRAWN	02/06/2025	

ENPHASE.

DATA SHEET

IQ8 and IQ8+ Microinverters

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

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

Enphase 25 year limited warranty

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

Connect PV modules quickly and easily to the IQ8 Series Microinverters that have integrated MC4 connectors.

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to manufacturer's instructions.

Easy to install

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

High productivity and reliability

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

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

NOTE:

- IQ8 Microinverters cannot be mixed together with previous generations of Enphase micro inverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative according to the IEEE 1547 interconnection standard. An IQ Gateway is required to make these changes during installation.

* Meets UL 1741 only when installed with IQ System Controller 2 or 3.
** IQ8 and IQ8+ support split-phase, 240 V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)	UNITS	IQ8-60-M-US	IQ8PLUS-72-M-US
Commonly used module pairings[1]	W	235–350	235–440
Module compatibility	–	To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module I_{sc}. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator.	
MPPT voltage range	V	27–37	27–45
Operating range	V	16–48	16–58
Minimum/Maximum start voltage	V	22/48	22/58
Maximum input DC voltage	V	50	60
Maximum continuous input DC current	A	10	12
Maximum input DC short-circuit current	A	25	
Maximum module (I_{sc})	A	20	
Overvoltage class DC port	–	II	
DC port backfeed current	mA	0	
PV array configuration	–	Ungrounded array; no additional DC side protection required; AC side protection requires max. 20 A per branch circuit	
OUTPUT DATA (AC)	**UNITS**	**IQ8-60-M-US**	**IQ8PLUS-72-M-US**
Peak output power	VA	245	300
Maximum continuous output power	VA	240	290
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	
Minimum and Maximum grid voltage[2]	V	211-264	
Maximum continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	47–68	
AC short circuit fault current over three cycles	Arms	2	
Max units per 20 A (L-L) branch circuit[3]	–	16	13
Total harmonic distortion	%	<5	
Overvoltage class AC port	–	III	
AC port backfeed current	mA	30	
Power factor setting	–	1.0	
Grid-tied power factor (adjustable)	–	0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.7	
CEC weighted efficiency	%	97	
Nighttime power consumption	mW	23	25
MECHANICAL DATA			
Ambient temperature range		-40°C to 60°C (-40°F to 140°F)	
Relative humidity range		4% to 100% (condensing)	
DC connector type		Staubli MC4	
Dimensions (H × W × D)		212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2")	
Weight		1.1 kg (2.43 lbs)	
Cooling		Natural convection–no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion-resistant polymeric enclosure	
Environmental category/UV exposure rating		NEMA Type 6/outdoor	

(1) No enforced DC/AC ratio.
(2) Nominal voltage range can be extended beyond nominal if required by the utility.
(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV Systems, for AC and DC conductors, when installed according to the manufacturer's instructions.

IQ8SP-MC4-DSH-00206-3.0-EN-US-2024-02-09

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.2
DATE DRAWN	02/06/2025	

Data Sheet
Enphase Networking

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C

X-IQ-AM1-240-4C

X-IQ-AM1-240-4

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

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

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed

UL LISTED

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

ENPHASE.

Enphase IQ Combiner 4/4C

MODEL NUMBER	
IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.
ACCESSORIES AND REPLACEMENT PARTS	(not included, order separately)
Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers
MECHANICAL DATA	
Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
COMPLIANCE	
Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

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

ENPHASE.

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.3
DATE DRAWN	02/06/2025	

SUNMODO
LEADING by DESIGN

SOLAR'S FASTEST ATTACHMENT

NanoMount®

Rafter or Deck Mount

Damaging roof shingles used to be one of solar installer's worst challenges.

Now, the easy, affordable solution is NanoMount®, SunModo's new and improved 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 Deck or Rafter mount.
- ✓ 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
LEADING by DESIGN

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 MIAMI-DADE COUNTY APPROVED
Warranty	25 years

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

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-7.4

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

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

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR
DATE DRAWN	02/06/2025

PV-7.5

DATASHEET
ECS SERIES
ECS4000-H2 / H3 / H4 / H5

Fox ESS ECS
BATTERY STORAGE SYSTEM

HIGH VOLTAGE BATTERY FROM Fox ESS

The ECS is a high-performance, scalable battery storage system. The modular design allows for maximum flexibility, making it suitable for a broad range of storage applications.

Additional batteries can be installed in series, allowing for a maximum storage capacity of 19.87 kWh. Installation is easy, with a plug and play solution that can save valuable time for installers.

- 3.97 kWh Capacity
- Scalable to 19.87 kWh
- 90% Depth of Discharge
- Wide Temperature Tolerance
- Easy Installation
- CAN Communication
- Voltage Range up to 328.5 V

Simple Installation | Height Efficiency | Expandable System | 90% DoD

us.fox-ess.com

FOX
ECS SERIES
ECS4000-H2 / H3 / H4 / H5

Model	ECS4000-H2	ECS4000-H3	ECS4000-H4	ECS4000-H5
Electrical Characteristics				
Battery Type		$LiFePO_4$ Prismatic Cell		
Battery Module	1*CM4000 1*CS4000	1*CM4000 2*CS4000	1*CM4000 3*CS4000	1*CM4000 4*CS4000
Nominal Capacity (kWh)	7.95	11.92	15.9	19.87
Nominal Voltage (V)	115.2	172.8	230.4	288
Operating Voltage (V)	97.2-131.4	145.8-197.1	194.4-262.8	243-328.5
Max. Charge / Discharge Current (A)		50		
Peak Discharge Current (A)		65A @60sec		
Round-trip Efficiency		>95%		
Depth of Discharge		90%		
Communication		CAN		
Display		CS: LED*1, CM: LED*6		
Scalability		Max. 5 Modules in Series		
Operating Conditions				
Installation Location		Outdoor / Indoor (Stand)		
Operating Temperature (°C / °F)		-10 to 55 / 14 to 131		
Storage Temperature (°C / °F)		-20 to 55 / -4 to 131		
Cooling Method		Natural Convection		
Humidity		0% to 100% (No Condensing)		
Altitude (m / ft)		Max. 2,000 / 6,560		
Mechanical Characteristics				
Dimensions (W x H x D) (mm)	570 x 350 x 380	570 x 470 x 380	570 x 590 x 380	570 x 710 x 380
Dimensions (W x H x D) (inch)	22.4 x 13.8 x 15.0	22.4 x 18.5 x 15.0	22.4 x 23.2 x 15.0	22.4 x 28.0 x 15.0
Weight (kg/ lbs)	73.5 / 161.7	108.4 / 238.5	143.3 / 315.3	178.2 / 392
Certificates				
Safety		UL1973, UL9540, UL9540A		
Transportation		UN38.3		
Ingress Protection		IP65		
Warranty				
Standard Warranty (Year)		Standard 12.5 years*[1]		

*[1] Refer to FoxESS Battery Warranty Terms and Conditions

Version US Mainland 2023/06/28

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.6
DATE DRAWN	02/06/2025	

TECHNICAL SPECIFICATIONS

AC Inverter Model: / Hybrid Inverter Model:	AC1-3.8-US H1-3.8-US	AC1-5.7-US H1-5.7-US	AC1-7.6-US H1-7.6-US	AC1-9.6-US H1-9.6-US	AC1-11.4-US H1-11.4-US
PV INPUT (ONLY FOR HYBRID)					
Max. Input Power [W]	5700	8550	11400	14400	17100
Max. Input Voltage [V]			600		
Start-up Input Voltage [V]			100		
Rated Input Voltage [V]			380		
MPPT Operating Voltage Range [V]			80~550		
MPPT Operating Voltage Range [V] (Full Load)	204~500	204~500	271~500	257~500	305~500
Max. Input Current [A]		28 / 14		28 / 14 / 14	
Max. Short-circuit Current [A]		44 / 22		44 / 22 / 22	
No. of Independent MPP Trackers		2		3	
No. of Strings per MPP Tracker		2 / 1		2 / 1 / 1	
BATTERY CONNECTION					
Battery Type			Lithium Battery (LFP)		
Battery Voltage Range [V]			85~460		
Rated Battery Voltage [V]			360		
Max. Continuous Charge / Discharge Current [A]			50		
Max. Continuous Charge / Discharge Power [W] (for H1)	5700/4180	8550/6270	11400/8360	14400/10560	17100/12540
(for AC1)	3800/4180	5700/6270	7600/8360	9600/10560	11400/12540
Max. Discharge Current (60s) [A]			60		
BMS Communication Interface			CAN 2.0		
AC INPUT AND OUTPUT (GRID)					
Max. AC Input Power [VA]	3800	5700	7600	9600	11400
Max. AC Input Current [A]	16	24	32	40	48
Input Voltage Range [V]			211~264		
Input Frequency Range [Hz]			57~63		
Rated Output Power [W]	3800	5700	7600	9600	11400
Max. Output Apparent Power [VA]	3800	5700	7600	9600	11400
Rated Output Current [A]	15.8	23.8	31.7	40.0	47.5
Max. Output Current [A]	15.8	23.8	31.7	40.0	47.5
Rated Grid Voltage [V]			240 (211~264)		
Rated Grid Frequency [Hz]			57~63		
Power Factor			>0.99 (Adjustable from 0.8 leading to 0.8 lagging)		
THDi			<3 @rated power		
AC OUTPUT (BACKUP)					
Rated Output Power [W]	3800	5700	7600	9600	11400
Max. Output Apparent Power [VA]	4180	6270	8360	10560	12540
Peak Output Apparent Power (10min) [VA]	4560	6840	9120	11520	13680
Peak Output Apparent Power (60s) [VA]	5130	7695	10260	12960	15390
Max. Continuous Output Current [A]	17.4	26.1	34.8	44.0	52.3
LRA [A]			110		
Rated Output Voltage [V]			120 / 240		
Rated Output Frequency [Hz]			60		
THDv (Linear Load) [%]			<3 @rated power		
Imbalance for Split-Phase Loads [%]			100		
EFFICIENCY					
CEC Efficiency [%]			97.00		
Max. Efficiency [%]			97.60		
Max. Battery Discharge Efficiency (BAT to AC) (@full load, 340Vdc) [%]			97.40		
PROTECTION					
Insulation Monitoring			YES		
Residual Current Monitoring			YES		
DC Reverse Polarity Protection			YES		
Anti-Islanding Protection			YES		
AC Short-circuit Protection			YES		
AC Overcurrent / Overvoltage Protection			YES		
DC Switch			YES		
SPD			DC: Type II, /AC: Type II		
AFCI			YES		
GENERAL DATA					
Dimensions (HxWxD) [inch]			25.2*17.7*9.6 inch (640*450*244mm)		
Weight [lbs]			83.8 (38kg)		
Installation			Wall-mounted		
Topology			Transformerless		
Cooling Method			Natural convection		
Noise Emission [dB]			<35		
Max. Operating Altitude			9843 ft (3000 m), derating above 6560 ft (2000 m)		
Operating Temperature Range			-13°F~+140°F (-25°C ~ +60°C), derating above 104°F (40°C)		
Humidity [%]			0 ~ 100 (No Condensation)		
Protection Degree			Type 4X		
Standby consumption [W]			<25		
Monitoring Module			WiFi, LAN		
Communication			CAN2.0, RS485, SUNSPEC		
Display			LED, App, Website		
Warranty			12.5 Years		
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)					
Safety			UL1741, UL1741 SA, UL1699B, CSA C22.2, UL62109-1, UL1998		
EMC			FCC Part 15 Class B		
Grid Regulation			IEEE1547, IEEE1547.1, Rule 21		

Version 3.8 | 2023/06/13

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.7
DATE DRAWN	02/06/2025	

DATASHEET
FOX HUB G2

As a smart energy management system, Fox Hub completes the most critical piece of the puzzle in Fox ESS residential energy storage system. By integrating several intelligent features, Fox Hub centralizes power from multiple sources and performs energy redistribution via FoxCloud US App to provide a more comprehensive power solution. It reassures energy flow safety under different circumstances, and relieves homeowners from power loss concern.

- Automatic Off-Grid Protection
- Seamless On/Off Grid Transition
- Smart Load Shedding Circuit
- Inverter Scalability
- Generator Compatibility

us.fox-ess.com

DATASHEET
FOX HUB G2

MODULE	Fox Hub G2
GENERAL ELECTRICAL	
AC Current (Nominal) [A]	200
AC Input Voltage (Nominal) [Vac]	240
AC Output Voltage (Nominal) [Vac]	120/240
Rated AC Power [KW]	48
AC Voltage Range [Vac]	211-264
AC Frequency (Nominal) [Hz]	60
AC Frequency Range [Hz]	57-63
Microgrid Interconnection Device Rated Current [A]	200
Grid Disconnection Switchover Time [ms]	<15
EXTERNAL CONNECTION	
3rd Party Solar [A]	80
FOX Inverter [A]	80
Smart Circuits 1, 2 (120V) [A]	80
Smart Circuit 3 (240V) [A]	80
Non-Backup Load [A]	200
Backup Load Terminal [A]	200
GENERATOR (Optional)	
Maximum Rated AC Power [KW]	48
AC Voltage Range [Vac]	211-264
Maximum Continuous Input Current [Adc]	200
Dry Contact Switch Voltage Rating [Vac/Vdc]	250/30
Dry Contact Switch Current Rating [A]	0.5A(250Vac) / 3A(30Vdc)
2-wire Start Switch	Yes
ADDITIONAL FEATURES	
Maximum Number of Inverter	4
Communication	CAN，RS485
Energy Meter (for Import/Export)	0.5% accuracy
STANDARD COMPLIANCE	
Safety	UL67,UL869A,UL916,UL1741,CSA22.2 NO.107
Emissions	FCC part 15 class B
INSTALLATION SPECIFICATIONS	
Dimensions (W*H*D) [inch / mm]	17.4*25.6*6.2 inch /443*650*156.6 mm
Weight [lb / Kg]	35.3lbs / 16Kg
Supported Inverters	FOX US Series, AIO US Series
Grid Conduit Size / AWG Range	2.5"Conduits / 6AWG - 250kcmil
Generator Input Conduit Size / AWG Range	2.5"Conduits / 6AWG - 250kcmil
Communication Conduit Size / AWG Range	1"Conduits / 24AWG - 16AWG
Cooling	Natural convection
Noise [dBA]	<35dB
Operating Temeprature Range [°F / °C]	-4°F~+122°F (-20 °C ~ +50 °C)
Protection Rating	Type 3R
Warranty [Years]	12.5

V1.5 2023/06/30

GENESIS SOLAR POWER

GOGENESIS SOLAR

6028 STONYBROOK CT,
TOPEKA,KS 66614
(913) 228-4495

info@gogenesissolar.com

DC SIZE: 9.600 KW DC
AC SIZE: 6.960 KW AC

DAVID CONLEY JR

1192 SW COYOTE CIR, FORT WHITE, FL 32038

REVISION	
DATE	REV

RESOURCE DOCUMENTS

DRAWN BY	CDR	PV-7.8
DATE DRAWN	02/06/2025	