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PROPERTY INFORMATION

OWNER:	Arnold Vinyard
PHONE:	1386-965-5846
EMAIL:	arnoldvinyard85@gmail.com
CONTRACTOR:	BETTER EARTH ELECTRIC INC.
PHONE:	(888) 373-9379
AUTHORITIES HAVING JURISDICTION	
BUILDING:	LAKE CITY (FL)
UTILITY:	CLAY ELECTRIC COOPERATIVE

DESIGN SPECIFICATIONS

OCCUPANCY:	R-3/U
CONSTRUCTION:	V-B
NAME:	RESIDENTIAL
SNOW LOAD:	0 PSF
WIND EXPOSURE:	C
WIND SPEED:	156 MPH
ROOF SURFACE:	2073 SQ.FT.
PV SQ FOOTAGE:	359.1 SQ.FT.
PV COVERAGE:	17.32 %
WEIGHT OF EQUIPMENT:	810.7 LBS
WEIGHT PER ATTACHMENT:	25.33 LBS
DISTRIBUTED WEIGHT:	2.26 PSF
NO. OF STORIES:	1
FIRE SPRINKLERS:	NO

LOT INFORMATION

APN:	325S1709477112
LOT AREA:	47044.8
LIVING AREA:	1248

INSTALLER NOTES:

better
earth

BETTER EARTH ELECTRIC INC.
4040 N COMBEE ROAD, STE. 12
LAKELAND, FL 33805

PHONE #: (888) 373-9379
LIC #: 13011324

Roger Gaydos

NEW PV SYSTEM: 6970W DC / 6000W AC

Arnold Vinyard
9325 Sw Tustenuggee Ave, LAKE CITY, FL 32024

APN: 325S1709477112

DATE: 7/29/2024	TIME: 01:19 PM	DESIGNER: TAYLOR BICKFORD	DESIGNER SIGNATURE: <i>Taylor Bickford</i>
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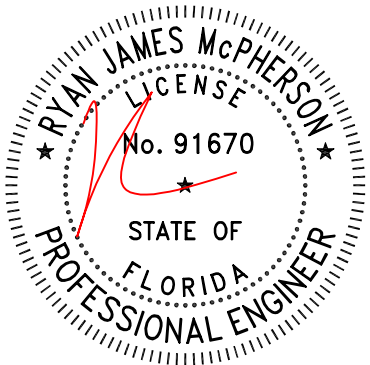
COVER SHEET

DRAWING PAGE:

001 CS

SCALE:

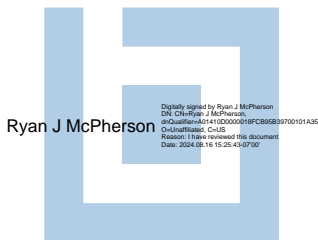
JURISDICTION STAMPS:



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ADDITIONAL SCOPE OF WORK

MAIN PANEL UPGRADE: N/A

DERATE MAIN BREAKER: N/A

UPSIZE MAIN BREAKER: N/A

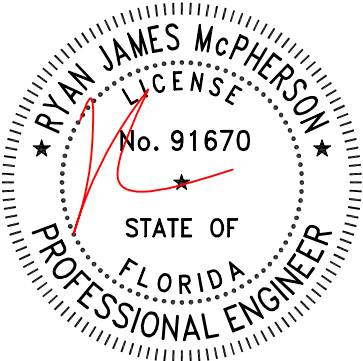
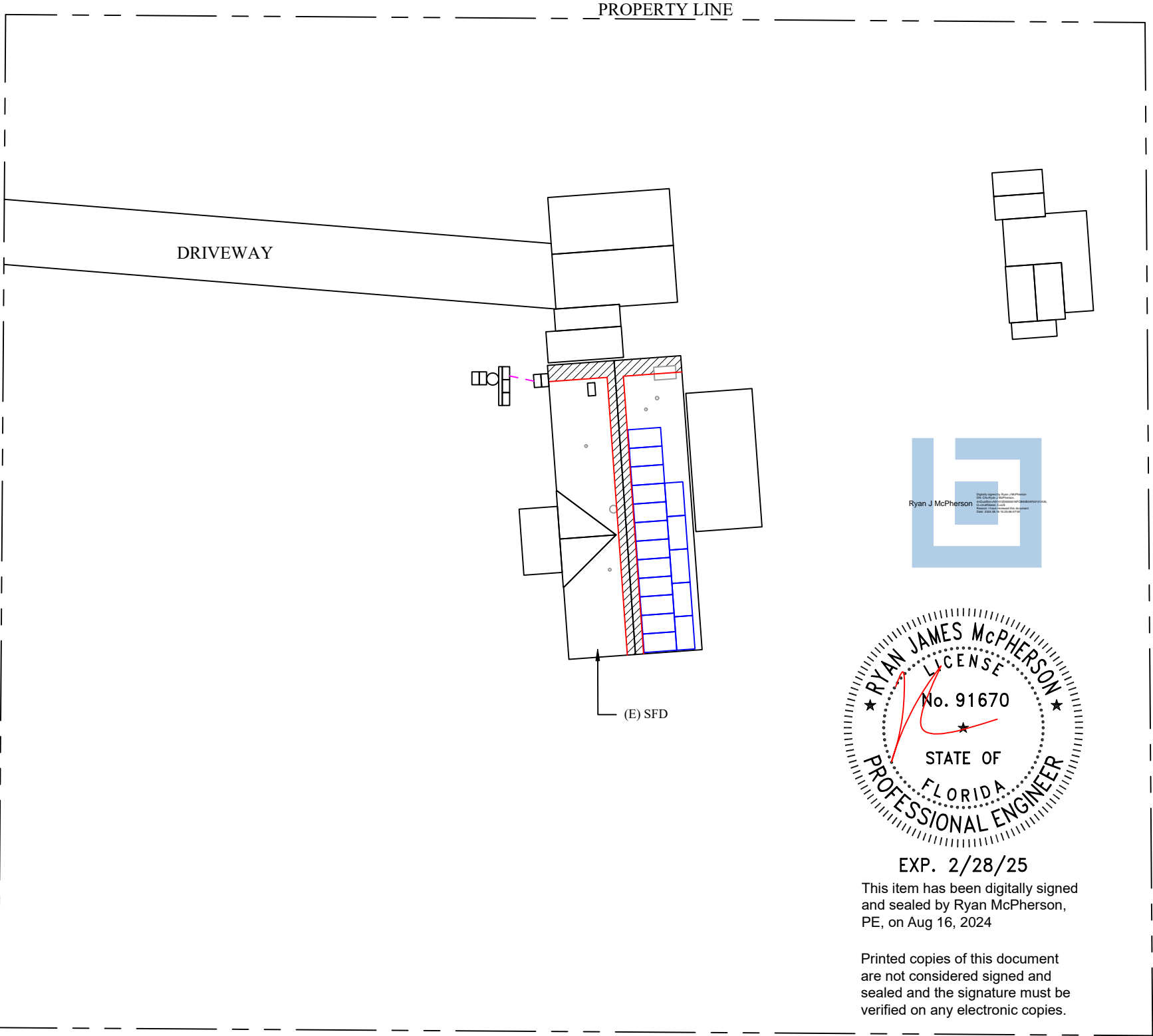
EV CHARGER: N/A

ESS: OUTDOORS ON EXTERIOR WALL - (1) FRANKLIN WH APOWER X AT 13.6kWh EACH

BATTERY TO BE INSTALLED AT LEAST 3' FROM WINDOWS, DOORS, VENTS, AND GAS.

ESS IS NOT SUBJECT TO VEHICLE IMPACT.

9325 SW TUSTENUGGEE AVE, LAKE CITY, FL 32024



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JURISDICTION STAMPS:

NOTES:

MODULE QTY: 17
MODULE MFG: QCELLS NORTH AMERICA
MODULE TYPE: Q.PEAK DUO BLK ML-G10+ 410



BETTER EARTH ELECTRIC INC.
4040 N COMBEE ROAD, STE. 12
LAKE LAND, FL 33805

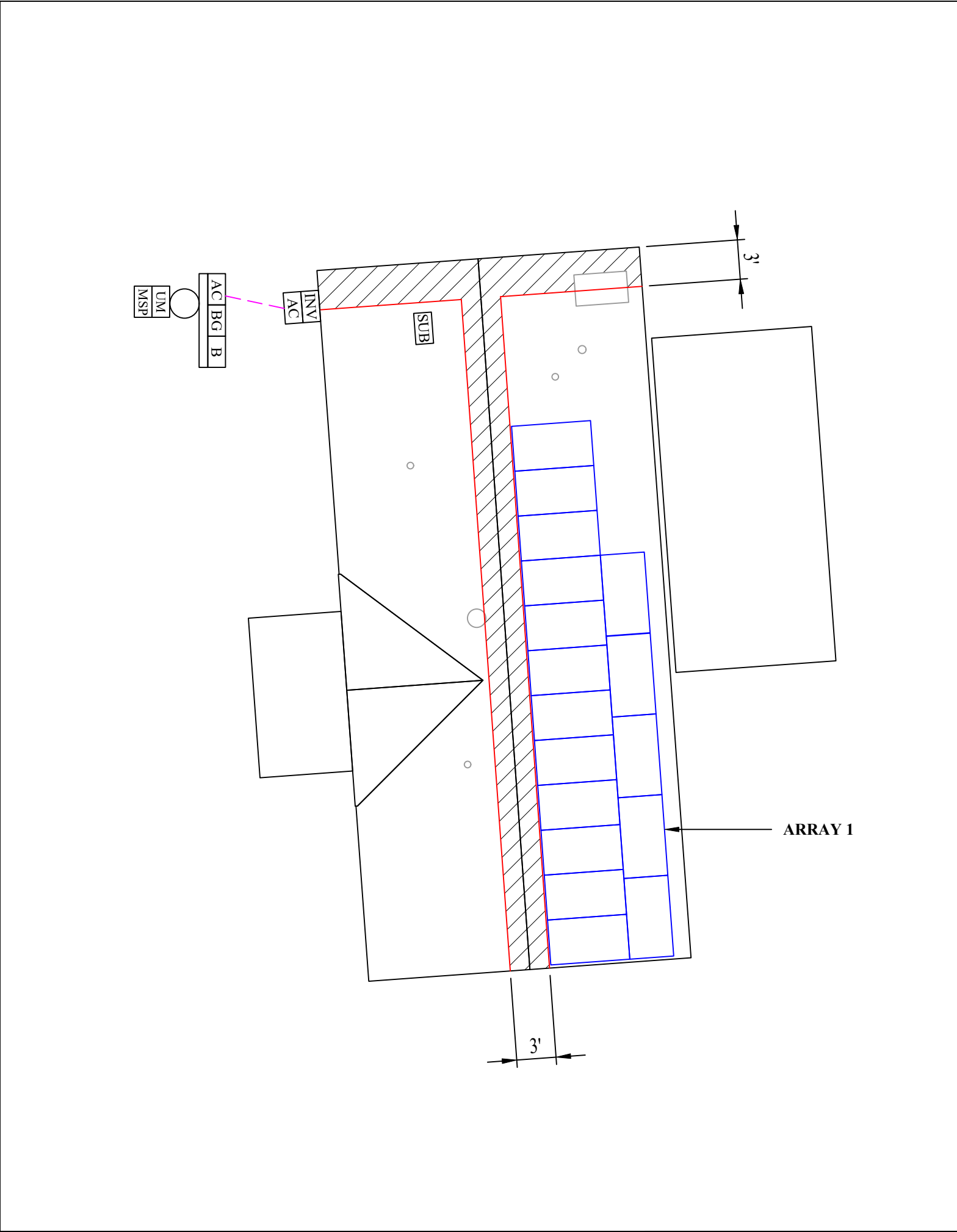
PHONE #: (888) 373-9379
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9325 Sw Tustenuggee Ave, LAKE CITY, FL 32024
APN: 325S1709477112


DRAWING TITLE:
PROPERTY PLAN

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003.1 SP2

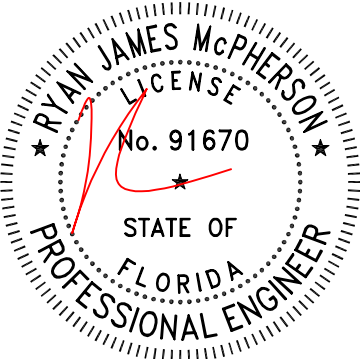


ROOF DETAILS:

ARRAY 1:	
MODULE QTY:	17
TILT:	12°
AZIMUTH:	86°
MATERIAL:	Metal Corrugated/Tin



Ryan J McPherson



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JURISDICTION STAMPS:

LEGEND:

MSP	(E) 200A MAIN SERVICE PANEL	UM	UTILITY METER (IF SEPARATED)
INV	(N) SOLAREEDGE 6000H-US (ENERGY HUB) INVERTER		
SUB	SUB PANEL	B	BATTERY
ACL	AC COMBINER PANEL	BG	BACKUP GATEWAY
AC	AC DISCONNECT	EV	EV CHARGER
DC	DC DISCONNECT	JB	JUNCTION BOX
PV	PV METER		FIRE CODE SETBACK
--- EMT CONDUIT		--- PVC TRENCH	⊗ (E) SOLAR MODULE

CONDUIT RUN TO BE DETERMINED IN FIELD





BETTER EARTH ELECTRIC INC.
4040 N COMBEE ROAD, STE. 12
LAKELAND, FL 33805

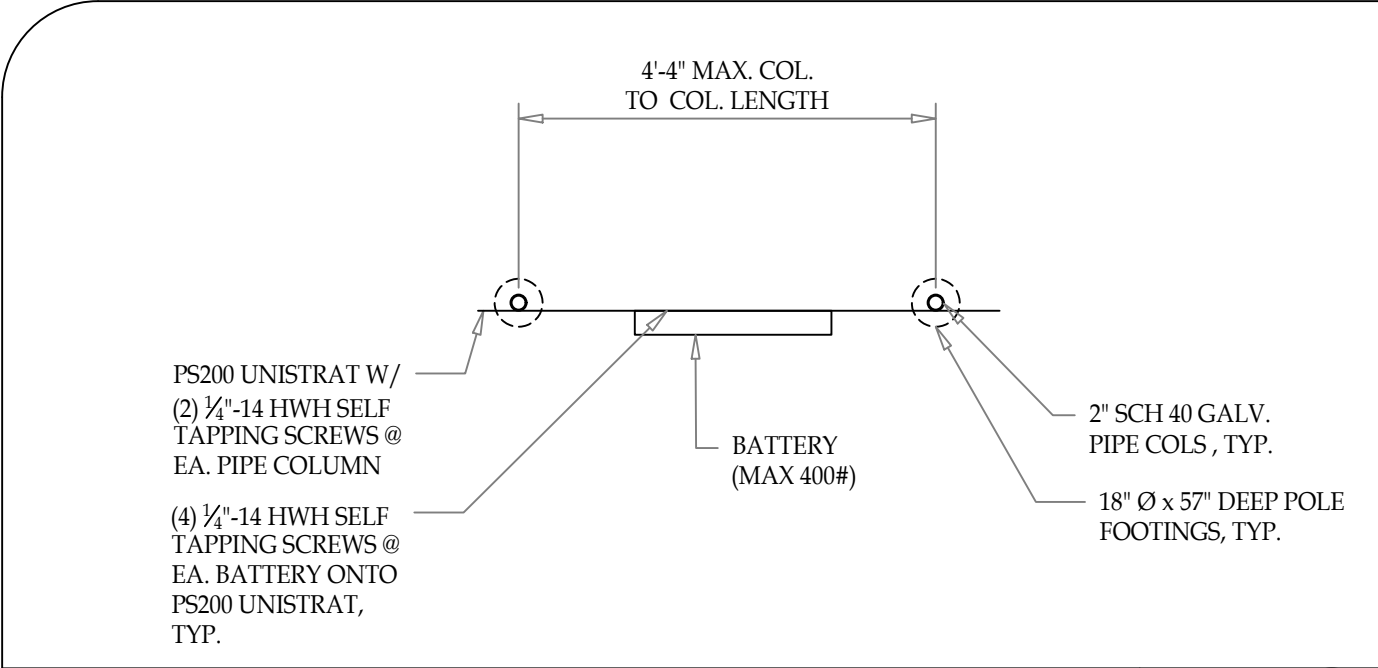
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DRAWING TITLE:
ROOF PLAN
DRAWING PAGE:
004 RP1

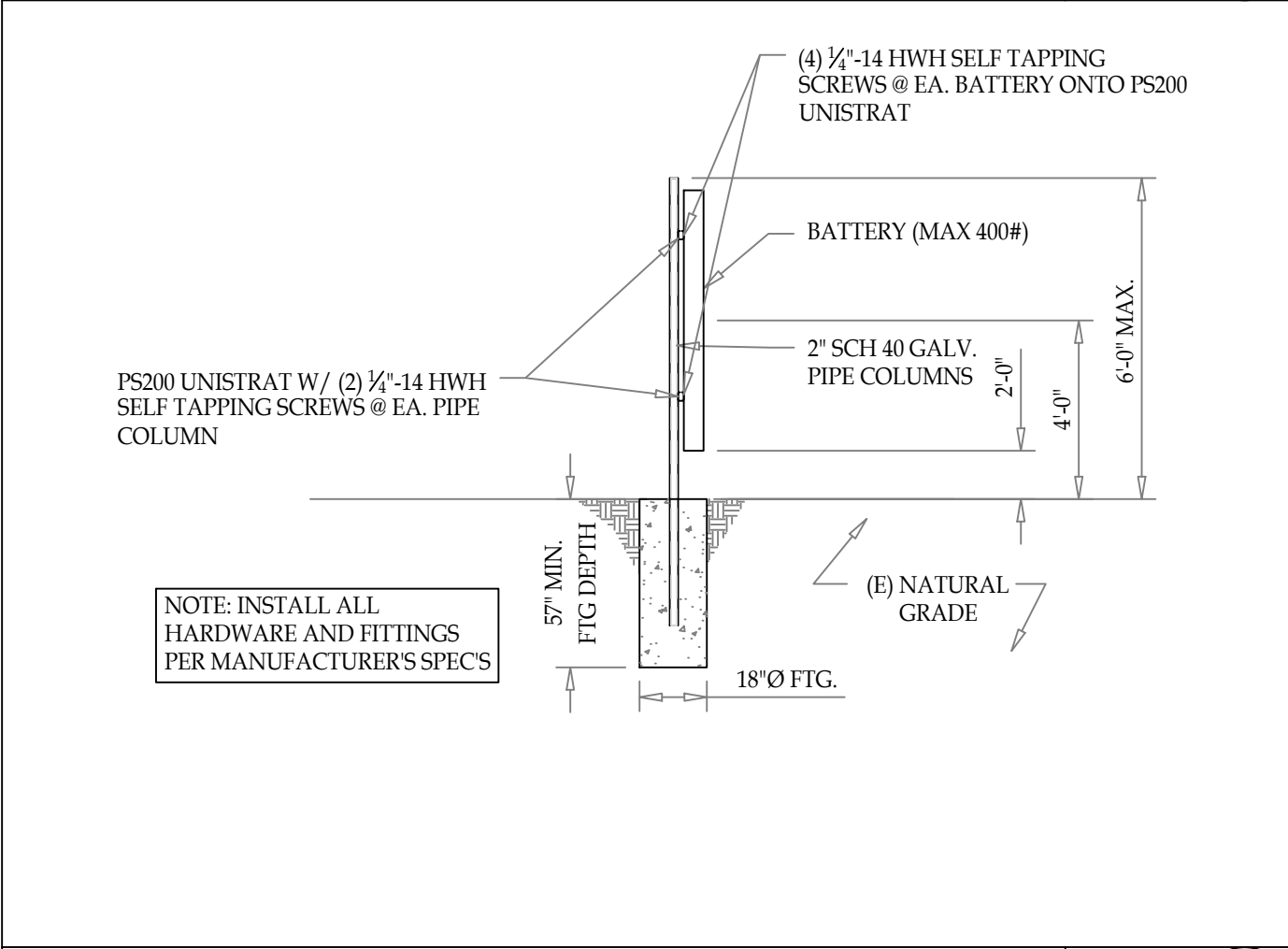
DATE: 7/29/2024	TIME: 01:19 PM	DESIGNER: TAYLOR BICKFORD	DESIGNER SIGNATURE: <i>Taylor Bickford</i>	SCALE: 1" = 8.93'
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PLAN

SCALE: 1

N.T.S.



SECTION

SCALE: 2

N.T.S.

FOUNDATION NOTES:

1. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR BUILDING DEPARTMENT APPROVED COMPACTED FILL.
2. ALL FOOTING STEEL SHALL HAVE 3" MINIMUM CLEARANCE TO EARTH.
3. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1,500 P.S.F. OR PER APPROVED GEOTECHNICAL RECOMMENDATIONS.
4. SHOULD UNUSUAL OR UNEXPECTED SOIL CONDITIONS BE ENCOUNTERED, A GEOTECHNICAL ENGINEER SHOULD BE NOTIFIED TO PROVIDE ADDITIONAL RECOMMENDATIONS.

CONCRETE NOTES:

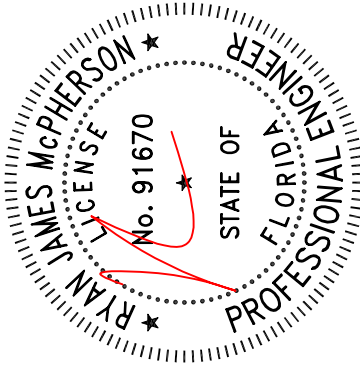
1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I. @ 28 DAYS UNLESS NOTED.
2. KEEP CONCRETE DAMP CONTINUOUSLY FOR 14 DAYS.
3. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C 33.
4. WATER USED IN CONCRETE SHALL BE CLEAN AND FREE FROM DELETERIOUS SUBSTANCES.
5. HYDRATED LIME SHALL CONFORM TO ASTM C 51.
6. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO CBC/IBC CHAP. 19 DIV. II AND BE TYPE I OR II.
7. NO ADMIXTURES OF ANY KIND ARE ALLOWED WITHOUT APPROVAL FROM THIS OFFICE PRIOR TO CONSTRUCTION.
8. SHOULD PROVISIONS FOR SEVERE SULFATE EXPOSURE BE REQUIRED BY THE BUILDING AUTHORITY, CONCRETE IN CONTACT WITH SOIL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 P.S.I. TYPE V CEMENT, AND A WATER/CEMENT RATIO OF 0.45.

DESIGN CRITERIA:

- FBC 2023
- CONCRETE: 2,500 P.S.I.
- STEEL: SCH 40 ASTM A53 GRADE B
- DEAD LOAD: 400 LBS
- S_s: 0.081
- S_i: 0.049
- SITE CLASS: D
- S.D.C.: D
- M.L.F.R.S.: CANTILEVER STEEL COL
- R: 2.0
- RISK CATEGORY: I
- WIND SPEED: 156M.P.H.
- EXPOSURE CATEGORY: C

GENERAL NOTES:

1. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER DRAWING SCALE.
2. THIS PLAN IS NOT INTENDED TO BE APPLICABLE FOR NON STRUCTURAL ITEMS INCLUDING BUT NOT LIMITED TO ELECTRICAL, WATERPROOFING, DRAINAGE, OR CONCRETE DECKING ON GRADE.
3. CONTRACTOR OR OWNER SHALL VERIFY AND IS ULTIMATELY RESPONSIBLE FOR ALL FIELD CONDITIONS AND DIMENSIONS AT THE JOB SITE. IF THE SITE CONDITIONS CHANGE OR ARE NOT AS SHOWN, CONTRACTOR OR OWNER SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION.
4. NO DEVIATIONS FROM STRUCTURAL DETAILS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. APPROVAL BY THE CITY INSPECTOR/PLAN REVIEWER DOES NOT CONSTITUTE AUTHORITY TO DEVIATE FROM PLANS OR SPECIFICATIONS.
5. OWNER, ARCHITECT OR CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND CHECKING STRUCTURAL PLANS AND DETAILS HEREIN FOR CORRECTNESS OF DESIGN INTENT PRIOR TO SUBMITTING FOR PERMIT, INITIATION OF WORK OR ORDERING OF MATERIALS. VARIANCES OR ERRORS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.
6. THE PLANS AND SPECIFICATIONS REPRESENT THE COMPLETED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO BRACING, SHORING, AND DEMOLITION.
7. CONTRACTOR TO VERIFY WITH THE ENGINEER ANY CHANGES MADE TO THE PROJECT THAT DEVIATE FROM THIS PLAN PRIOR TO CONSTRUCTION.



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TYP. NOTES & SPECS

SCALE: 3

N.T.S.



McPHERSON ENGINEERING
RYAN JAMES McPHERSON, P.E.
9240 LIMONITE AVE,
JURUPA VALLEY, CA 92509
(909) 566-0066
SE@MCPE.GROUP

PROJECT LOCATION:

THE VINYARD RESIDENCE
9325 SW TUSTENUGGEE AVE, LAKE CITY, FL 32024

PROJECT DESCRIPTION:

FREESTANDING BATTERY STRUCTURE

SHEET DESCRIPTION:

NOTES & PLAN

E.O.R.

DATE: 8/16/24

SCALE: N.T.S.

PROJECT #: 24-03399

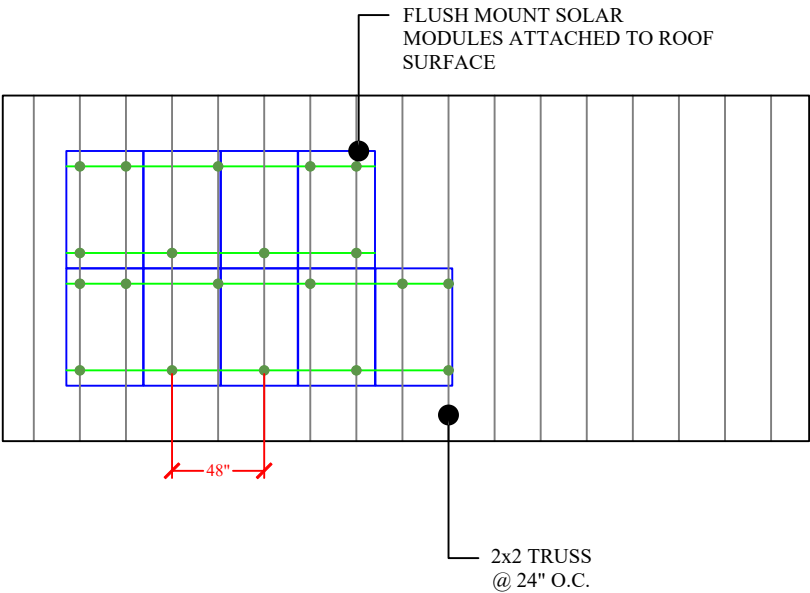
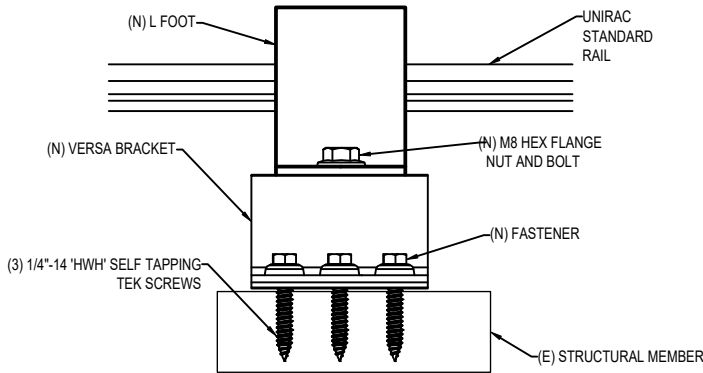
SHEET #:

S-1

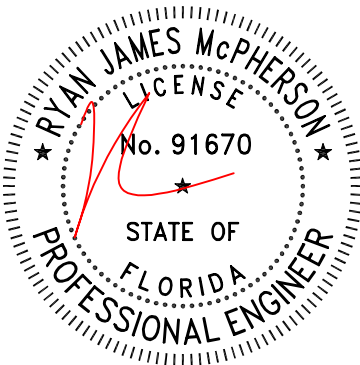
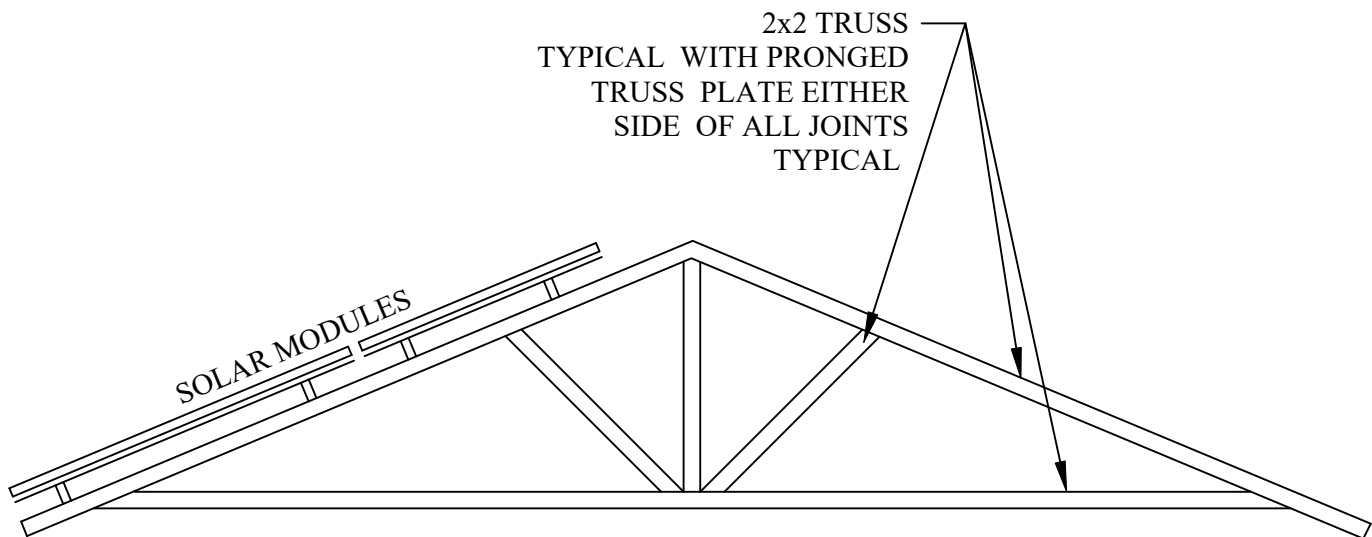
ATTACHMENT DETAIL

TYP ROOF ATTACHMENT PLAN

JURISDICTION STAMPS:



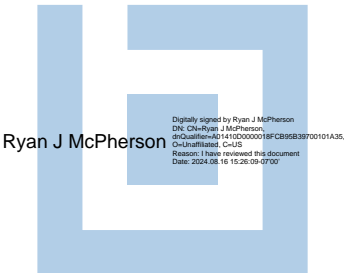
FRONT VIEW TYP FRAMING DETAIL



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INSTALLER NOTES:

better earth
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RACKING & FRAMING DETAILS
DRAWING PAGE:
005 RF1

DATE: 7/29/2024 TIME: 01:19 PM DESIGNER: TAYLOR BICKFORD DESIGNER SIGNATURE: *Taylor Bickford*

SCALE:

STRING CALCULATIONS - INVERTER 1

STRING DETAILS	STRING 1	STRING 2
POWERBOX MAX OUTPUT CURRENT	15A	15A
OPTIMIZERS IN SERIES	8	9
NOMINAL STRING VOLTAGE	380V	380V
ARRAY OPERATING CURRENT	25A	25A

INVERTER 1 SPECS

6000H-US (ENERGY HUB)_RGM

AC VOLTAGE	GROUND
240V	
MAX OCPD	RATED POWER
35A	6000W
MAX OUTPUT	MAX INPUT
25A	17A
MAX INPUT	EFFICIENCY
480V	CEC

RYAN JAMES McPHERSON

LICENSE

No. 91670

STATE OF FLORIDA

PROFESSIONAL ENGINEER

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RYAN J McPherson

Digitally signed by Ryan J McPherson

DN: cn=Ryan J McPherson

o=Qualcomm

c=US

Reason: I have reviewed this document

Date: 2024.08.16 15:28:13 -0700

(N) (1) FRANKLIN WH

aPOWER X

CAPACITY: 13.6kWh

CONT. POWER: 5kW

PEAK POWER: 10kW

IMPORTANT NOTE

SEE INSTALL MANUAL FOR PLACEMENT OF CT's

(E) 200A/200A MAIN SERVICE PANEL

240/120v 1-PH, 3-W

(E) 200A

EV AND LOADS UP TO 80A RELOCATED TO SMART MODULE

(N) FRANKLIN WH aGATE X

(N) 30A

(N) 35A

(N) 200A

GROUND ROD GROUNDING ELECTRODE (COPPER)

MAIN BONDING JUMPER

TO UTILITY GRID OVERHEAD

BI-DIRECTIONAL UTILITY METER 1PH/240V

POINT OF INTERCONNECTION LOAD SIDE 705.12(B)(3)(3)

(N) INVERTER

SOLAREEDGE

SE6000H-US (ENERGY HUB)

RGM (240V)

DC

AC

JUNCTION BOX - NEMA 3R AS REQUIRED

STRING 2: (9x) Qcells North America Q.PEAK DUO BLK ML-G10+ 410 PV MODULES WITH 9 S440 SE POWER OPTIMIZERS

STRING 1: (8x) Qcells North America Q.PEAK DUO BLK ML-G10+ 410 PV MODULES WITH 8 S440 SE POWER OPTIMIZERS

EV AND LOADS UP TO 80A RELOCATED TO SMART MODULE

SMART CIRCUIT PANEL SCHEDULE

BREAKER SIZE	LOAD
60A-2P	A/C

(N) VISIBLE/ LOCKABLE AC DISCONNECT 60A AC NON-FUSED 240V, NEMA3R (SOLAR ARRAY DISCONNECT)

EATON DG222URB,240V 60A,2P,3R

(N) VISIBLE/ LOCKABLE AC DISCONNECT 60A AC NON-FUSED 240V, NEMA3R (UTILITY DISCONNECT)

EATON DG222URB,240V 60A,2P,3R

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

ID	CONDUCTOR (CU)	CONDUIT	CONDUCTORS IN CONDUIT	EGC	TEMP. CORR. FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING
1	#10 PV Wire, in open air	N/A	N/A	#6	0.91	15	18.75	40	36.4	90
2	#10 THWN-2, in conduit	3/4" EMT	4 & (1)G	#8	0.91	15	18.75	40	36.4	90
3	#8 THWN-2, in conduit	3/4" EMT	3 & (1)G	#8	0.91	25	31	55	55	90
4	#8 THWN-2, in conduit (18" UG)	1 1/4" PVC	3 & (1)G	#8	0.91	25	31	55	55	90
5	#10 THWN-2, in conduit	3/4" EMT	3 & (1)G	#8	0.91	21	26	40	36.4	90
6	2/0 THWN-2, in conduit	2" PVC	3 & (1)G	#4	0.91	—	—	195	177.45	90

DESIGN TEMPERATURES

ASHRAE 2% HIGH 37°C

ASHRAE EXTREME LOW -3°C

MODULE SPECS

QCELLS NORTH AMERICA Q.PEAK DUO BLK ML-G10+ 410

PMAX	PTC
410W	381W
ISC	IMP
11.2A	10.89A
VOC	VMP
45.37V	37.64V
TEMP. COEFF. OF VOC	-0.122

POWER OPTIMIZERS

SOLAREEDGE S440 OPTIMIZER

RATED INPUT	MAX OUTPUT
440W	15A
MAX ISC	MAX DC
15A	60V
WEIGHTED EFFICIENCY	98.6

SYSTEM SUMMARY

ARRAY STC POWER 6970W

ARRAY PTC POWER 6477W

MAX AC CURRENT 25A

MAX AC POWER 6000W

better

earth

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DESIGNER SIGNATURE: Taylor Bickford

SCALE:

DRAWING TITLE:

LINE DIAGRAM & DESIGN TABLES

DRAWING PAGE:

006 LD1

JURISDICTION STAMPS:

AHJ/UTILITY NOTES:

SOLAREEDGE INVERTER(S) RSD COMPLIANT PER 690.12

METER NUMBER: 156218646

INSTALLER NOTES:

LABELING PLAN

1

WARNING: PHOTOVOLTAIC POWER SOURCE

[690.31(D)(2)] PLACE ON JUNCTION BOXES AND CONDUIT EVERY 10'

2

DC DISCONNECT
DC PHOTOVOLTAIC POWER SOURCE

MAXIMUM SYSTEM VOLTAGE: 480 VDC
MAXIMUM CIRCUIT CURRENT: 25 AMPS
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-DC CONVERTER (IF INSTALLED) 15 AMPS
[690.53] AT EACH DC DISCONNECT MEANS (INVERTER 1)

3

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

[690.13(B)] PLACE THIS LABEL ON ALL DISCONNECTING MEANS WHERE ENERGIZED IN AN OPEN POSITION

4

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

[690.56(C)(2)] PLACE ON INVERTER

5

AC DISCONNECT
AC PHOTOVOLTAIC POWER SOURCE

MAX AC OPERATING CURRENT: 25A MAX
AC OPERATING VOLTAGE: 240 VAC
[690.54] PLACE LABEL AT "INTERACTIVE POINT OF INTERCONNECTION" (AT MAIN SERVICE PANEL AND SUBPANEL IF APPLICABLE)

6

THIS PANEL IS FED BY MULTIPLE SOURCES (UTILITY & SOLAR)

[690.64(B)(4)] PLACE LABEL ON ALL EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTORS SUPPLIED FROM MULTIPLE SOURCES

7

WARNING
INVERTER OUTPUT CONNECTION
DON'T RELOCATE THIS OVERCURRENT DEVICE

PLACE THIS LABEL AT P.O.C. TO SERVICE DISTRIBUTION EQUIPMENT (I.E. MAIN PANEL AND SUBPANEL IF APPLICABLE)

8

AC DISCONNECT
AC PHOTOVOLTAIC POWER SOURCE

[690.14(C)(2)] PLACE ON AC DISCONNECT

9

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

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

11

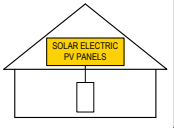
PV SOLAR BREAKER
DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATED INSIDE PANEL NEXT TO PV BREAKER

10

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. [690.56(C)]

LABELING NOTES:
1.1 LABELING REQUIREMENTS BASED ON THE NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE 605.11, OSHA STANDARD 1910.145, ANSI Z535.
1.2 MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
1.3 LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
1.4 LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8" AND PERMANENTLY AFFIXED.

ADDITIONAL PLACARDS FOR ENERGY STORAGE SYSTEM

ENERGY STORAGE SYSTEM DISCONNECT

PLACE ON ACCESSIBLE ESS DISCONNECT

BACKUP LOAD CENTER

[NEC 408.4] PLACE ON BACKUP LOAD CENTER

CAUTION
DO NOT ADD NEW LOADS

[NEC 220] PLACE ON BACKUP LOAD CENTER

CAUTION

THIS PANEL HAS SPLICED FEED-THROUGH CONDUCTORS. LOCATION OF DISCONNECT AT ENERGY STORAGE BACK UP LOAD PANEL.

[312.8(A)(3)] PLACE ON MAIN PANEL IF POINT OF INTERCONNECTION IS SUPPLY SIDE

CAUTION

TRI POWER SOURCE. SECOND SOURCE IS PHOTOVOLTAIC SYSTEM. THIRD SOURCE IS ENERGY STORAGE SYSTEM

[705.12(D)(3)] PLACE ON MAIN PANEL IF PV SYSTEM IS ALSO CONNECTED TO PANEL

ONLY 1 REQUIRED

ENERGY STORAGE SYSTEM ON SITE LOCATED WITHIN LINE OF SIGHT

PLACE ON MAIN PANEL IF ESS IS IN LINE OF SIGHT

ENERGY STORAGE SYSTEM ON SITE LOCATED ON ADJACENT WALL

PLACE ON MAIN PANEL IF ESS IS ON ADJACENT WALL

ENERGY STORAGE SYSTEM ON SITE LOCATED ON OPPOSITE WALL

PLACE ON MAIN PANEL IF ESS IS ON OPPOSITE WALL

1

INVERTER

4

2

INTEGRATED DC DISCONNECT

3

3

AC LOAD CENTER

5

3

AC DISCONNECT

5

8

3

PRODUCTION METER

5

3

PRODUCTION METER

5

3

AC DISCONNECT

5

8

5

SUB PANEL

6

7

6

METER

5

7

10

9

11

8

ROOFTOP ARRAY

JUNCTION BOX 1

WHEN APPLICABLE

WHEN APPLICABLE

WHEN APPLICABLE

WHEN APPLICABLE

WHEN APPLICABLE

WHEN APPLICABLE

RYAN JAMES McPHERSON

LICENSE

No. 91670

STATE OF FLORIDA

PROFESSIONAL ENGINEER

EXP. 2/28/25

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RYAN J McPherson

State of Florida Professional Engineer License No. 91670

Exp. 2/28/25

JURISDICTION STAMPS:

PROPERTY MAP

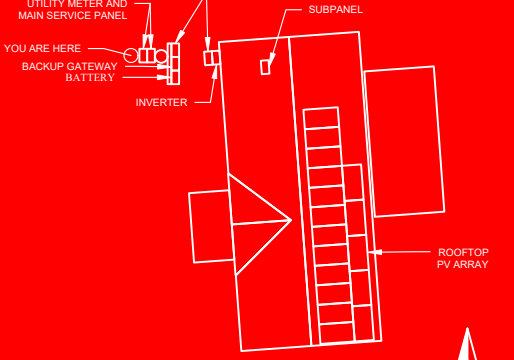
6"X6" DISCONNECT DIRECTORY PLAQUE
INSTALL AT MAIN SERVICE PANEL

NOTES:

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)

CAUTION: MULTIPLE SOURCES OF POWER

POWER TO THIS BUILDING ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN



9325 SW TUSTENUGEE AVE, LAKE CITY, FL 32024
SERVICE BY QUALIFIED PERSONNEL ONLY

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

INSTALLER NOTES:

better

BETTER EARTH ELECTRIC INC.
4040 N COMBEE ROAD, STE. 12
LAKELAND, FL 33805

PHONE #: (888) 373-9379
LIC #: 13011324

Roger Gaydou

NEW PV SYSTEM: 6970W DC / 6000W AC

Arnold Vinyard
9325 Sw Tustenuggee Ave, LAKE CITY, FL 32024
APN: 325S1709477112

DRAWING TITLE:

PLACARD & PLACARD MAP

DRAWING PAGE:

007 PP1

DATE: 7/29/2024

TIME: 01:19 PM

DESIGNER: TAYLOR BICKFORD

DESIGNER SIGNATURE: Taylor Bickford

SCALE:

Q.PEAK DUO BLK ML-G10+ SERIES



385-410 Wp | 132 Cells
20.9% Maximum Module Efficiency

MODEL Q.PEAK DUO BLK ML-G10+



6 busbar
cell technology

12 busbar
cell technology



Breaking the 20% efficiency barrier
 Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.



A reliable investment
 Inclusive 25-year product warranty and 25-year linear performance warranty¹.



Enduring high performance
 Long-term yield security with Anti LeTID Technology, Anti PID Technology² and Hot-Spot Protect.



Extreme weather rating
 High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



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



The most thorough testing programme in the industry
 Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry. The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

¹ See data sheet on rear for further information.
² APT test conditions according to IEC/TS 62804-1:2015, method A (-1500 V, 96h)

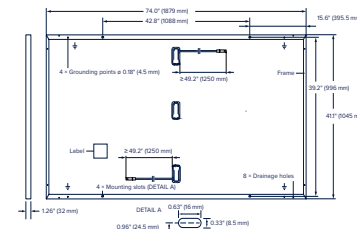
The ideal solution for:
 Rooftop arrays on residential buildings



Q.PEAK DUO BLK ML-G10+ SERIES

Mechanical Specification

Format	74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight	48.5 lbs (22.0 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)
Connector	Stäubli MC4; IP68



Electrical Characteristics

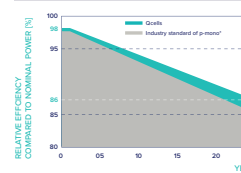
POWER CLASS		385	390	395	400	405	410
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W/-0 W)							
Power at MPP ¹	P_{MPP} [W]	385	390	395	400	405	410
Short Circuit Current ¹	I_{SC} [A]	11.04	11.07	11.10	11.14	11.17	11.20
Open Circuit Voltage ¹	V_{OC} [V]	45.19	45.23	45.27	45.30	45.34	45.37
Current at MPP	I_{MPP} [A]	10.59	10.65	10.71	10.77	10.83	10.89
Voltage at MPP	V_{MPP} [V]	36.36	36.62	36.88	37.13	37.39	37.64
Efficiency ¹	η [%]	≥ 19.6	≥ 19.9	≥ 20.1	≥ 20.4	≥ 20.6	≥ 20.9

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

Power at MPP	P_{MPP} [W]	288.8	292.6	296.3	300.1	303.8	307.6
Short Circuit Current	I_{SC} [A]	8.90	8.92	8.95	8.97	9.00	9.03
Open Circuit Voltage	V_{OC} [V]	42.62	42.65	42.69	42.72	42.76	42.79
Current at MPP	I_{MPP} [A]	8.35	8.41	8.46	8.51	8.57	8.62
Voltage at MPP	V_{MPP} [V]	34.59	34.81	35.03	35.25	35.46	35.68

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

Qcells PERFORMANCE WARRANTY

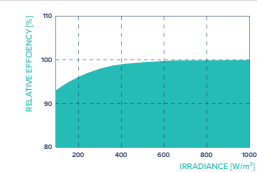


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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

^{*} Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2022)

PERFORMANCE AT LOW IRRADIANCE



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

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α [%/K]	+0.04	Temperature Coefficient of V_{OC}	β [%/K]	-0.27
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V_{SYS} [V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI/UL 61730	TYPE 2
Max. Design Load, Push/Pull ³	[lbs/ft ²]	75 (3600 Pa)/55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push/Pull ³	[lbs/ft ²]	113 (5400 Pa)/84 (4000 Pa)		

³ See Installation Manual

Qualifications and Certificates

UL 61730, CE-compliant,
 Quality Controlled PV - TÜV Rheinland,
 IEC 61215:2016, IEC 61730:2016,
 U.S. Patent No. 9,893,215 (solar cells).



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

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.
 Hanhua Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL: +1 949 748 59 96 | EMAIL: hqi-inquiry@qcells.com | WEB: www.qcells.com



qcells

SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US⁽¹⁾



HOME BACKUP

Optimized battery storage with HD-Wave technology

- Record-breaking 99% weighted efficiency with 200% DC oversizing
- Small, lightweight, and easy to install
- Modular design, future ready with optional upgrades to:
 - DC-coupled storage for full or partial home backup
 - Built-in consumption monitoring
 - Direct connection to the SolarEdge Home EV Charger
- Multi-inverter, scalable storage solution
 - With enhanced battery power up to 10kW
- Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020, per article 690.11 and 690.12
- Embedded revenue grade production data, ANSI C12.20 Class 0.5

/ SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US⁽¹⁾

Applicable to inverters with part number	SEXXXXH-USNBBXX4				SE11400H-XXXXXXBX5	Units	
	SE3800H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US		
OUTPUT – AC ON GRID							
Rated AC Power	3800 @ 240V 3300 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208	W	
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208	W	
AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5 ⁽³⁾					Hz	
Maximum Continuous Output Current @ 240V	16	25	32	42	47.5	A	
Maximum Continuous Output Current @ 208V	16	24	-	-	48.5	A	
GFDI Threshold	1					A	
Total Harmonic Distortion (THD)	< 3					%	
Power Factor	1, adjustable -0.85 to 0.85						
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes						
Charge Battery from AC (if allowed)	Yes						
Typical Nighttime Power Consumption	< 2.5					W	
OUTPUT – AC BACKUP ⁽³⁾							
Rated AC Power in Backup Operation ⁽⁴⁾	3800 7600*	6000	7600 10300*	10300	10300	W	
AC L-L Output Voltage Range in Backup	211 – 264					Vac	
AC L-N Output Voltage Range in Backup	105 – 132					Vac	
AC Frequency Range in Backup (min - nom - max)	55 – 60 – 65					Hz	
Maximum Continuous Output Current in Backup Operation	16 32*	25	32 43*	43	43	A	
GFDI	1					A	
THD	< 5					%	
OUTPUT – SOLAREGE HOME EV CHARGER AC							
Rated AC Power	9600					W	
AC Output Voltage Range	211 – 264					Vac	
On-Grid AC Frequency Range (min - nom - max)	59.3 – 60 – 60.5					Hz	
Maximum Continuous Output Current @240V (grid, PV and battery)	40					Aac	
INPUT – DC (PV AND BATTERY)							
Transformer-less, Ungrounded	Yes						
Max Input Voltage	480					Vdc	
Nom DC Input Voltage	380					Vdc	
Reverse-Polarity Protection	Yes						
Ground-Fault Isolation Detection	600kΩ Sensitivity						
INPUT – DC (PV)							
Maximum DC Power @ 240V	7600 15200*	12000	15200 22800*	22000	22800	W	
Maximum DC Power @ 208V	6600	10000	-	-	20000	W	
Maximum Input Current ⁽⁵⁾ @ 240V	10.5 20*	16.5	20 31*	27	31	Adc	
Maximum Input Current ⁽⁵⁾ @ 208V	9	13.5	-	-	27	Adc	
Max. Input Short Circuit Current	45						
Maximum Inverter Efficiency	99.2					%	
CEC Weighted Efficiency	99					99 @ 240V 98.5 @ 208V	%
2-pole Disconnection	Yes						

* Supported with PN SEXXXXH-USMMXXXX or SEXXXXH-USMXXXX.

(1) These specifications apply to inverters with part numbers SEXXXXH-USMMXXXX or SEXXXXH-USNBBXX4 and connection unit model number DCD-1PH-US-PxH-F-x.

(2) For other regional settings please contact SolarEdge support.

(3) Not designed for standalone applications and requires AC for commissioning. Backup functionality is only supported for 240V grid.

(4) Rated AC power in Backup Operation is valid for installations with multiple inverters. For a single backup inverter operation, rated AC power in Backup is 90% of the value stated.

(5) A higher current source may be used; the inverter will limit its input current to the values stated.

/ SolarEdge Home Hub Inverter

For North America

SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US⁽¹⁾

Applicable to inverters with part number	SEXXXXH-USNBBXX4				SE11400H – XXXXXBXXS	Units
	SE3800H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT – DC (BATTERY)						
Supported Battery Types	SolarEdge Home Battery, LG RESU Prime ⁽⁶⁾					
Number of Batteries per Inverter	Up to 3 SolarEdge Home Battery, up to 2 LG RESU Prime					
Continuous Power ⁽⁷⁾	7600		10000			W
Peak Power ⁽⁷⁾	7600		10000			W
Max Input Current	20		26.5			Adc
2-pole Disconnection	Yes					
SMART ENERGY CAPABILITIES						
Consumption Metering	Built-in ⁽⁸⁾					
Backup & Battery Storage	With Backup Interface (purchased separately) for service up to 200A; up to 3 inverters					
EV Charging	Direct connection to SolarEdge Home EV Charger					
ADDITIONAL FEATURES						
Supported Communication Interfaces	RS485, Ethernet, Cellular ⁽⁹⁾ , Wi-Fi (optional), SolarEdge Home Network (optional)					
Revenue Grade Metering, ANSI C12.20	Built-in ⁽⁸⁾					
Integrated AC, DC and Communication Connection Unit	Yes					
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi Access Point for local connection					
DC Voltage Rapid Shutdown (PV and Battery)	Yes, according to NEC 2014, NEC 2017 and NEC 2020 690.12					
STANDARD COMPLIANCE						
Safety	UL1741, UL1741 SA, UL1741 SB, UL1741 PCS, UL16998, UL1998, UL9540, CSA 22.2					
Grid Connection Standards	IEEE1547-2018, Rule 21, Rule 14H					
Emissions	FCC part 15 class B					
INSTALLATION SPECIFICATIONS						
AC Output and EV AC Output Conduit Size / AWG Range	1" maximum / 14-4 AWG					
DC Input (PV and Battery) Conduit Size / AWG Range	1" maximum / 14-6 AWG					
Dimensions with Connection Unit (H x W x D)	17.7 x 14.6 x 6.8 / 450 x 370 x 174	17.7 x 14.6 x 6.8 / 450 x 370 x 174	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 Connection Unit	26 / 11.8	26 / 11.8	41.7 / 18.9	44.9 / 20.3 ⁽¹⁰⁾		lb / kg
Noise	< 25 < 50*	< 25	< 50			dBA
Cooling	Natural Convection					
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽¹¹⁾					°F / °C
Protection Rating	NEMA 4					

(6) The part numbers SExxxxH-USMxxxx only support the SolarEdge Home Battery. The part numbers SExxxxH-USNxxxx support both SolarEdge Home Battery and LG RESU Prime batteries. Requires supporting inverter firmware.

(7) Discharge power is limited up to the inverter rated AC power for on-grid and backup applications.

(8) For consumption metering current transformers should be ordered separately: SECT-SPL-225A-T-20 or SEACT0750-400NA-20 units per box.

Revenue grade metering is only for production metering.

(9) Information concerning the Data Plan's terms & conditions is available in the following link: [SolarEdge Communication Plan Terms and Conditions](#).

(10) SE11400H-USxxxx is the updated PN, though SE11400H-USxxxx are still available. All specifications are similar for both models EXCLUDING the weight and dimensions (HxWxD). The weight and dimensions of SE11400H-USxxxx are 17.6 [kg] and 21.06-14.6-7.3 / 535-370-185 [in/mm], accordingly.

(11) Full power up to at least 50°C / 122°F; for power de-rating information refer to the [Temperature De-Rating Technical Note for North America](#).

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.



solaredge

Power Optimizer

For North America

S440 / S500 / S500B / S650B



POWER OPTIMIZER

Enabling PV power optimization at the module level

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

* Functionality subject to inverter model and firmware version

solaredge.com

solaredge

Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

	S440	S500	S500B	S650B	UNIT
INPUT					
Rated Input DC Power ⁽¹⁾	440	500	650		W
Absolute Maximum Input Voltage (Voc)	60	125	85		Vdc
MPPT Operating Range	8 – 60	12.5 – 105	12.5 – 85		Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5	15			Adc
Maximum Efficiency		99.5			%
Weighted Efficiency		98.6			%
Overvoltage Category		II			
OUTPUT DURING OPERATION					
Maximum Output Current		15			Adc
Maximum Output Voltage	60	80			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimizer		1 ± 0.1			Vdc
STANDARD COMPLIANCE ⁽²⁾					
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011				
Safety	IEC62109-1 (class II safety), UL1741				
Material	UL94 V-0, UV Resistant				
RoHS	Yes				
Fire Safety	VDE-AR-E 2100-712:2018-12				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage		1000			Vdc
Dimensions (W x L x H)	129 x 155 x 30		129 x 165 x 45		mm
Weight	720		790		gr
Input Connector	MC4 ⁽³⁾				
Input Wire Length	0.1				m
Output Connector	MC4				
Output Wire Length	+) 2.3, -) 0.10				m
Operating Temperature Range ⁽⁴⁾	-40 to +85				°C
Protection Rating	IP68				
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 details about CE compliance, see [Declaration of Conformity – CE](#).

(3) For other connector types please contact SolarEdge.

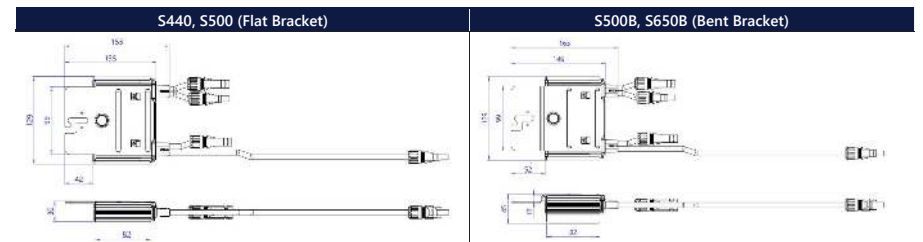
(4) Power de-rating is applied for ambient temperatures above +85°C for S440 and S500, and for ambient temperatures above +75°C for S500B. Refer to the [Power Optimizers Temperature De-Rating Technical Note](#) for details.

PV System Design Using a SolarEdge Inverter ⁽⁵⁾		SolarEdge Home Wave Inverter Single Phase	SolarEdge Home Short String Inverter Three Phase	Three Phase for 230/400V Grid	Three Phase for 277/480V Grid
Minimum String Length (Power Optimizers)	S440, S500	8	9	16	18
	S500B, S650B	6	8	14	
Maximum String Length (Power Optimizers)		25	20	50	
Maximum Continuous Power per String		5700	5625	11,250	12,750
Maximum Allowed Connected Power per String ⁽⁶⁾ (In multiple string designs, the maximum is permitted only when the difference in connected power between strings is 2,000W or less)		6800 ⁽⁷⁾	See ⁽⁶⁾	13,500	15,000
Parallel Strings of Different Lengths or Orientations		Yes			

(5) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.

(6) If the inverter's rated AC power ≤ maximum continuous power per string, then the maximum connected power per string will be able to reach up to the inverter's maximum input DC power. Refer to the [Single String Design Guidelines](#) application note.

(7) For inverters with a rated AC power ≥ 8000W that are connected to at least two strings.



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FRANKLINWH

aGate

Intelligent energy management system

Serves as the controller for all home power sources by interconnecting solar, grid, batteries, and a standby generator to supply electricity to the home. Seamlessly transitions the home supply from grid power to backup power so that always-on appliances, such as the refrigerator and network router, will not be affected when grid goes down.



- ✓ Micro-grid interconnect device (MID)
- ✓ Integrated PV and grid metering
- ✓ Auto load-shedding

- ✓ Compatible with micro and string solar inverter
- ✓ Optional Smart-Circuits Module
- ✓ Optional Generator Module

PERFORMANCE SPECIFICATIONS

Coupling	AC-coupled
Nominal AC Voltage	120 / 208 V, 120 / 240 V, 60 Hz
Phase	2 W+N+PE
aPower Over Current Protection Device	100 A Max
Solar Input Over Current Protection Device	80 A Max
Backup Load Port Over Current Protection Device	200 A Max
Generator Over Current Protection Device ¹	200 A Max
Smart Circuits Over Current Protection Device ²	Opt. a 1 x 80 A Max @ 208 V / 240 V & 1 x 50 A Max @ 208 V / 240 V Opt. b 1 x 80 A Max @ 208 V / 240 V & 2 x 50 A Max @ 120 V
Maximum Supply Fault Current	20 kA
Busbar Rating	280 A
Work Modes	Self-Consumption, Time of Use, Emergency Backup
Communications	Ethernet / 4G / Wifi
User Interface	FranklinWH App
Warranty	12 years

COMPLIANCE INFORMATION

Certifications	UL 1741 ¹ , UL 1741 PCS ¹ , UL 67 ¹ , UL 869A ¹ , UL 916 ¹ , CAN/CSA C22.2 No. 107.1-16, CSA C22.2 No. 29, CSA C22.2 No. 0.19
Seismic	AC 156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65 RoHS Directive 2011 / EU
Emissions	FCC Part 15 Class B, ICES 003

1. Generator Module is optional.
2. Smart Circuit Module is optional.
3. Sections from these standards were used during the safety evaluation and included in the UL 1741 listing.

WWW.FRANKLINWH.COM

FRANKLINWH

aPower

AC-coupled battery

Store solar generated power while the sun is shining. Use the stored energy when needed to lower electric bills. Run heavy loads such as air conditioners and water heaters as usual even during grid outages. Provide homeowner peace of mind by fully charging before severe weather events.



- ✓ Safe LFP chemistry
- ✓ Built-in inverter
- ✓ 13.6 kWh per unit, up to 204 kWh (15 units) per aGate
- ✓ 5 kW continuous / 10 kW peak for 10s (discharge)

- ✓ Normal operations down to -4°F (-20°C)
- ✓ IP67 protection
- ✓ Single aPower capable of starting a 4-Ton AC
- ✓ First-of-its-kind 208 V compliant battery for multi-family housing

PERFORMANCE SPECIFICATIONS

Battery Chemistry	Lithium Iron Phosphate (LFP)
Usable System Energy	13.6 kWh per unit, up to 15 units ¹ per aGate
Aggregate Throughput	43 MWh
Real Power (charge)	5 kW continuous, 7.6 kW peak for 30 minutes
Real Power (discharge)	5 kW continuous, 10 kW peak for 10 seconds
Load Start Capability	118 A LRA ²
Nominal AC Voltage	120 / 208 V, 120 / 240 V, 60 Hz
Coupling	AC-coupled
Phase	2 W+N+PE
Round Trip Efficiency	89% ³
Work Modes	Self-Consumption, Time of Use, Emergency Backup
Noise Emission	< 30 dB (A) ⁴
User Interface	FranklinWH App
Warranty	12 years

COMPLIANCE INFORMATION

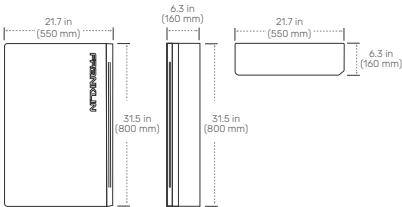
Certifications	UL 9540, UL 9540A, UL 1741, UL 1973, IEEE 1547, IEEE 1547.1, UN 38.3, CAN/CSA C22.2 No. 107.1-16
Seismic	AC 156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65 RoHS Directive 2011 / EU
Emissions	FCC Part 15 Class B, ICES 003

1. For 120 / 208V applications, max. 4 aPowers per aGate can be connected in parallel. Please contact us if you have large capacity requirements.
2. Load start capability may vary.

WWW.FRANKLINWH.COM

MECHANICAL SPECIFICATIONS

Dimensions (H x W x D)	31.5 in x 21.7 in x 6.3 in (800 mm x 550 mm x 160 mm)
Weight	50 lb (23 kg)
Mounting	Wall mount or floor mount

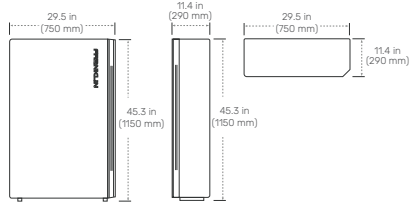


ENVIRONMENTAL SPECIFICATIONS

Enclosure Type	NEMA 3R
Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Operating Humidity (RH)	Up to 100% RH, condensing
Altitude	Maximum 9,843 ft (3,000 m)
Environment	Indoor and outdoor rated

MECHANICAL SPECIFICATIONS

Dimensions (H x W x D)	45.3 in x 29.5 in x 11.4 in (1150 mm x 750 mm x 290 mm)
Weight	395 lb (179 kg)
Mounting	Wall mount or floor mount
Cooling	Natural air-cooled design



ENVIRONMENTAL SPECIFICATIONS

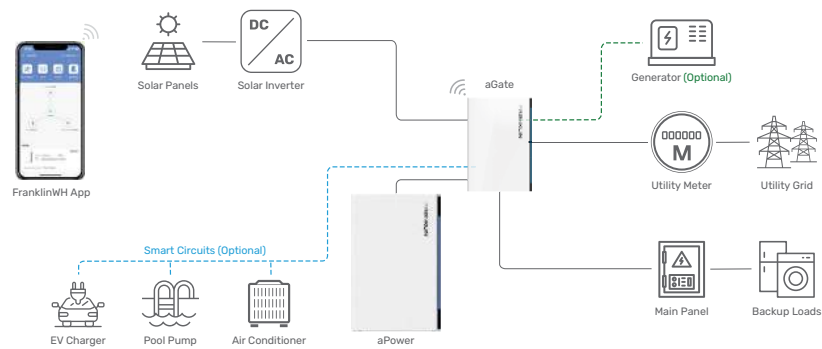
Ingress Protection	IP67 (Battery and power converter system), IP56 (Wiring compartment)
Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Operating Humidity (RH)	Up to 100% RH, condensing
Altitude	Maximum 9,843 ft (3,000 m)
Environment	Indoor and outdoor rated

3. At beginning of life, AC to battery to AC, 50% power rating.
4. 5 kW discharge power, no fan running.

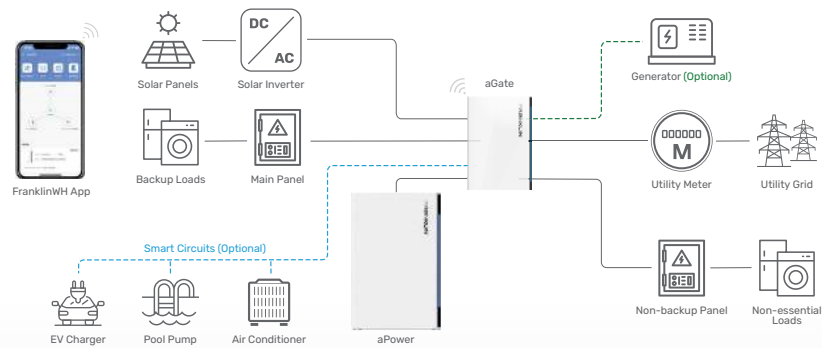
DATASHEET

Franklin Home Power Solution

Whole Home Backup



Partial Home Backup



Address: 1731 Technology Dr., Suite 530 San Jose, CA 95110 Telephone: +1 888-837-2655 Email: info@franklinwh.com Website: www.franklinwh.com
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The right way to attach almost anything to metal roofs!

S-5!® The Right Way!

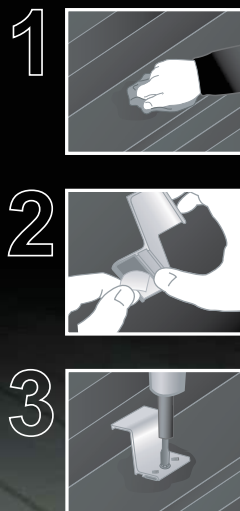
VersaBracket™

VersaBracket™ can be used to mount almost anything to an exposed-fastened roof system and is compatible with almost any trapezoidal exposed-fastened profile. No messy sealants to apply! No chance for leaks! The VersaBracket comes with factory-applied butyl sealant already in the base, and the S-5!® patented reservoir conceals the sealant from UV exposure, preventing drying and cracks.

Installation is simple! VersaBracket is mounted in the flat of the panel, directly into the supporting structure of the roof, i.e. wood decking, wood or steel purlins or trusses. No surface preparation is necessary; simply wipe away excess oil and debris, peel the release paper from the base, align, and apply. Secure through the pre-punched holes using the appropriate screws for the supporting structure.

VersaBracket is so strong, it will even support heavy-duty applications like snow retention. For exposed-fastened trapezoidal profiles, the VersaBracket is the perfect match for our ColorGard® snow retention systems (for corrugated roofs use CorruBracket™). VersaBracket is extremely economical and facilitates quick and easy installation.

S-5!® VersaBracket™ is the right way to attach almost anything to exposed-fastened roof profiles, including PV through rail methods.



VersaBracket™



888-825-3432 | www.S-5.com

S-5!®
The Right Way!

VersaBracket™ can be used for almost any attachment need, including S-5!® ColorGard®, on all types of exposed-fastened metal roofing. No messy sealants to apply. The factory-applied butyl sealant waterproofs and makes installation a snap!

To accommodate various rib heights, VersaBracket™ comes in two heights—the 2.65" VersaBracket-67™ and the 1.86" VersaBracket-47™. The VersaBracket-67 mounting face has no holes or slots; thus, ancillary items are typically secured using self-tapping screws. The VersaBracket-47 comes with a 1" slot on top as the standard part. Other hole and slot configurations available with minimum purchase requirements (contact your distributor for available configurations). Each VersaBracket comes with factory-applied butyl sealant in the base. A structural aluminum attachment bracket, VersaBracket is compatible with most common metal roofing materials. For design assistance, ask your distributor, or use our web-based calculator at www.S-5.com for job-specific system engineering and design of your next snow retention project. Also, please visit our website for more information including CAD details, metallurgical compatibilities, and specifications.

The VersaBracket has been tested for load-to-failure results on wood decking, metal, and wood purlins. The independent lab test data found at www.S-5.com can be used for load-critical designs and applications. S-5!® holding strength is unmatched in the industry.

Example Profile

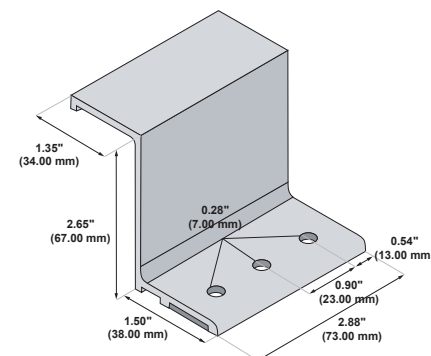


Example Applications

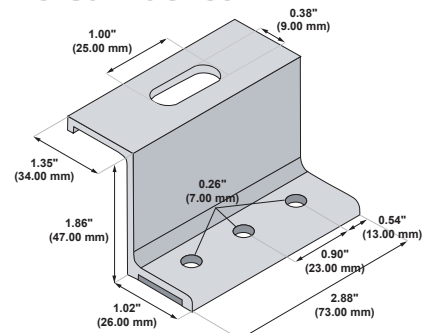
ColorGard



VersaBracket-67™



VersaBracket-47™



3 holes are provided for versatility. Some installations require only 2 fasteners. See the load table on the S-5! website and the installation instructions for more details.

Due to varied applications, mounting hardware is not furnished with part.

Please note: All measurements are rounded to the second decimal place.

S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. For published data regarding holding strength, bolt torque, patents and trademarks visit the S-5! website at www.S-5.com.

Copyright 2015, Metal Roof Innovations, Ltd. S-5! products are patent protected. S-5! aggressively protects its patents, trademarks, and copyrights. Version 052115.

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SOLARMOUNT



FEATURING SOLARMOUNT

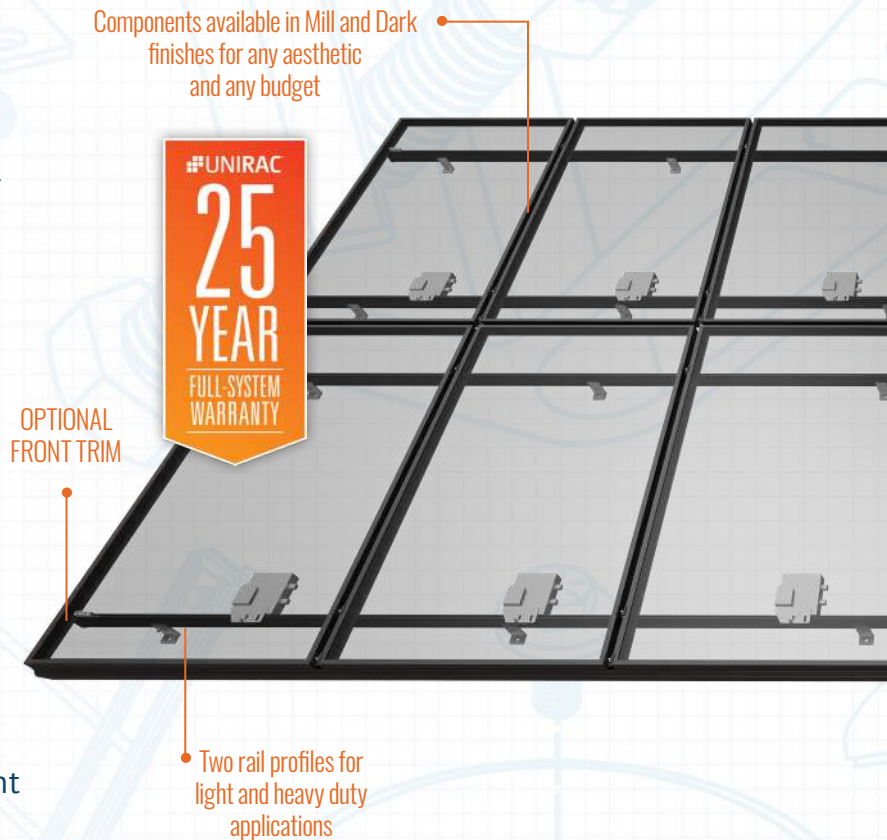
- Designed for Unirac's Solarmount rail systems and certified to UL2703A for low-slope AND steep-slope roofs
- One-step butyl application for easy install and reliable waterproofing

DIFFERENT CLAMPS FOR DIFFERENT NEEDS

- Universal AF mid clamps and end clamps adjust to module heights from 30-46mm in a great looking, easy to install fastener
- Pro-series clamps feature hidden fasteners for fantastic aesthetics
- Standard clamps feature tight row spacing and various clamps to accommodate module frames up to 51mm in height

OPTIONS FOR ANY APPLICATION

- Solarmount Standard and Solarmount Light rails profiles for installations across the country, including Puerto Rico
- Huge selection of attachments for any roof form comp shingle to tile
- Adjustable tilt legs certified to UL2703 to dial in your system just right



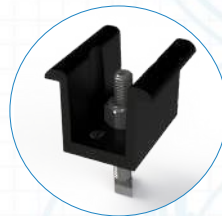
UNIVERSAL END CLAMP



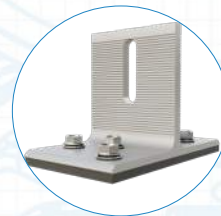
UNIVERSAL MID CLAMP



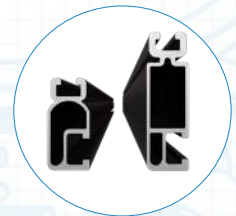
CONCEALED SM
END CLAMP



SM PRO SERIES
MID CLAMP



SOLARMOUNT
BUTYL



SOLARMOUNT PROFILE
AND LIGHT PROFILE

WHY SOLARMOUNT?

SOLARMOUNT is the professionals' choice for residential PV mounting applications. Every aspect of the system is designed for an easier, faster installation experience. SOLARMOUNT is a complete solution with universal clamps, tons of attachment options, full system UL 2703 certification, and 25-year warranty. Sleek rails for both light and heavy duty applications, with optional trim, make for a reliable, cost-effective, great looking racking solution.