

9/20/2024

RE: FL Statute Letter

Project Address: Michael Schlink

485 Southeast Country Club Road, Lake City, FL 32025

To Whom It May Concern,

Per Florida Statute 377-705 (revised 7/01/2017), I, Taqi Khawaja, P.E., a licensed engineer pursuant to Chapter 471, certify that the PV electrical system and electrical components are designed and approved using the code requirements and standards contained in the Florida Building Code.

If you have any questions regarding this project, please feel free to contact me.

Sincerely,

Taqi Khawaja, PE Structural Engineering Mag

FL PE#86163

Taqi Digitally signed by Taqi Khawaja Date: 2024.09.20

ROOF MOUNT PHOTOVOLTAIC SYSTEM

CODES:

THIS PROPOSED INSTALLATION COMPLIES WITH THE FOLLOWING:

2023 8TH EDITION FLORIDA BUILDING CODE: BUILDING

2023 8TH EDITION FLORIDA BUILDING CODE: RESIDENTIAL

2023 8TH EDITION FLORIDA BUILDING CODE: MECHANICAL

2023 8TH EDITION FLORIDA BUILDING CODE: PLUMBING

2023 8TH EDITION FLORIDA BUILDING CODE: FUEL GAS

2023 8TH EDITION FLORIDA BUILDING CODE: ENERGY CONSERVATION

2023 8TH EDITION FLORIDA BUILDING CODE: EXISTING BUILDING

2023 8TH EDITION FLORIDA BUILDING CODE: ACCESSIBILITY

2023 8TH EDITION FLORIDA FIRE PREVENTION CODE (NFPA)

2020 NATIONAL ELECTRIC CODE (NEC) AS ADOPTED BY COUNTY OF COLUMBIA

VICINITY MAP:

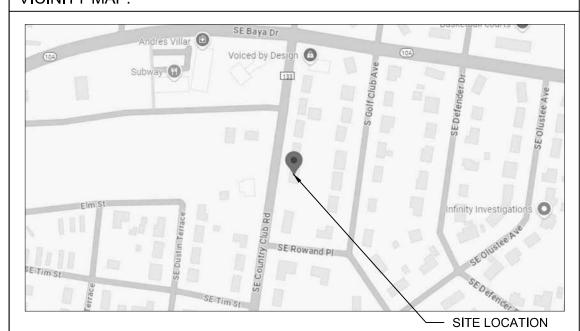


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APPENDIX	MANUFACTURER SPECIFICATION SHEETS

CONSTRUCTION NOTES:

CONDUIT AND CONDUCTOR SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS.

ALL SOLAR ENERGY SYSTEM EQUIPMENT SHALL BE SCREENED TO THE MAXIMUM EXTENT POSSIBLE AND SHALL BE PAINTED A COLOR SIMILAR TO THE SURFACE UPON WHICH THEY ARE MOUNTED.

MODULES SHALL BE TESTED, LISTED AND INDENTIFIED WITH FIRE CLASSIFICATION IN ACCORDANCE WITH UL 2703. SMOKE AND CARBON MONOXIDE ALARMS ARE REQUIRED PER SECTION R314 AND 315 TO BE VERIFIED AND INSPECTED BY INSPECTOR IN THE FIELD.

DIG ALERT (811) TO BE CONTACTED AND COMPLIANCE WITH EXCAVATION SAFETY PRIOR TO ANY EXCAVATION TAKING PLACE

PHOTOVOLTAIC SYSTEM GROUND WILL BE TIED INTO EXISTING GROUND AT MAIN SERVICE FROM DC DISCONNECT/INVERTER AS PER 2020 NEC SEC 250.166(A).

SOLAR PHOTOVOLTAIC SYSTEM EQUIPMENT WILL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF ART. 690 OF THE 2020 NEC

THE MAIN SERVICE PANEL WILL BE EQUIPPED WITH A GROUND ROD OR UFER

UTILITY COMPANY WILL BE NOTIFIED PRIOR TO ACTIVATION OF THE SOLAR PV SYSTEM

SOLAREDGE OPTIMIZERS ARE LISTED TO IEC 62109-1 (CLASS II SAFETY) AND UL 1741 STANDARDS

INSTALL CREW TO VERIFY ROOF STRUCTURE PRIOR TO COMMENCING WORK. EMT CONDUIT ATTACHED TO THE ROOF USING CONDUIT MOUNT.

THIS SYSTEM DESIGNED WITH:
WIND SPEED: 119
WIND EXPOSURE: C
SNOW LOAD: 0

Taqi Khawaja

Digitally signed by Taqi Khawaja Date: 2024.09.20 12:43:18 -07'00'

This item has been digitally signed and sealed by Taqi Khawaja, PE on 09/20/2024 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signatures must be verified on any electronic copies.

CLIENT:
MICHAEL SCHLINK
485 SOUTHEAST COUNTRY CLUB ROAD,
LAKE CITY, FL 32025
AHJ: COUNTY OF COLUMBIA
UTILITY: FPL - FLORIDA POWER & LIGHT
METER: ACD5917
"PHONE:
FINANCE: OTHER

SYSTEM:
SYSTEM SIZE (DC): 16 X 430 = 6.880 kW
SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 16 X SILFAB SOLAR: SIL-430QD
OPTIMIZERS: 16 X SOLAREDGE S440
INVERTER: SOLAREDGE SE5000H-USRGM
[SI1]

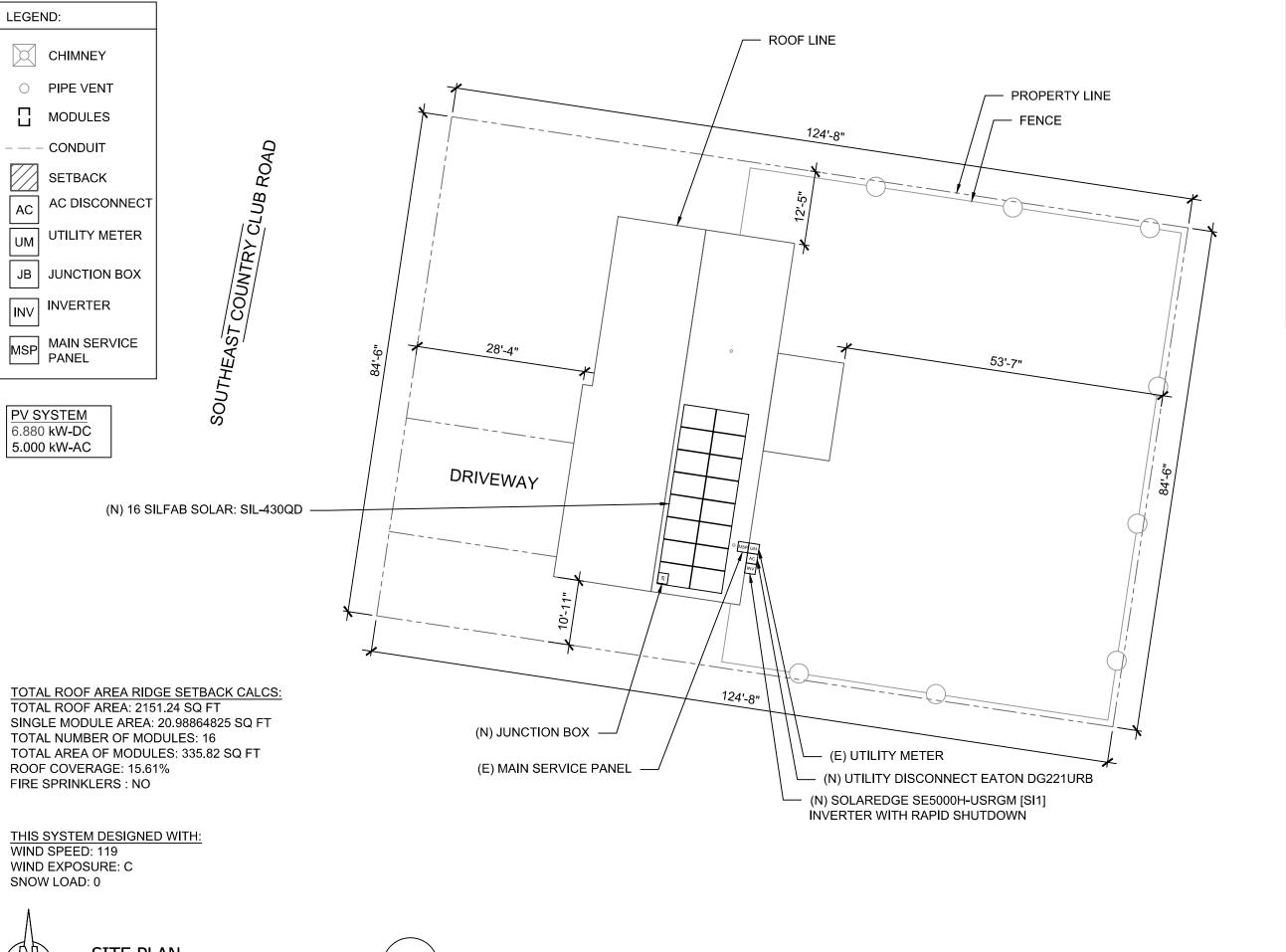
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CONTRACTOR LICENSE:
ERTIFIED ELECTRICAL CONTRACTOR
EC13008056

PROJECT DETAILS

JOB NO: DATE: DESIGNED BY: 496653 9/19/2024 C.H.





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ROOF AREA: 2151.24 SQ FT

MICHAEL SCHLINK 485 SOUTHEAST COUNTRY CLUB ROAD, LAKE CITY, FL 32025 AHJ: COUNTY OF COLUMBIA UTILITY: FPL - FLORIDA POWER & LIGHT

METER: ACD5917 "PHONE: FINANCE: OTHER

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FREEDOM FOREVER LLC 2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819

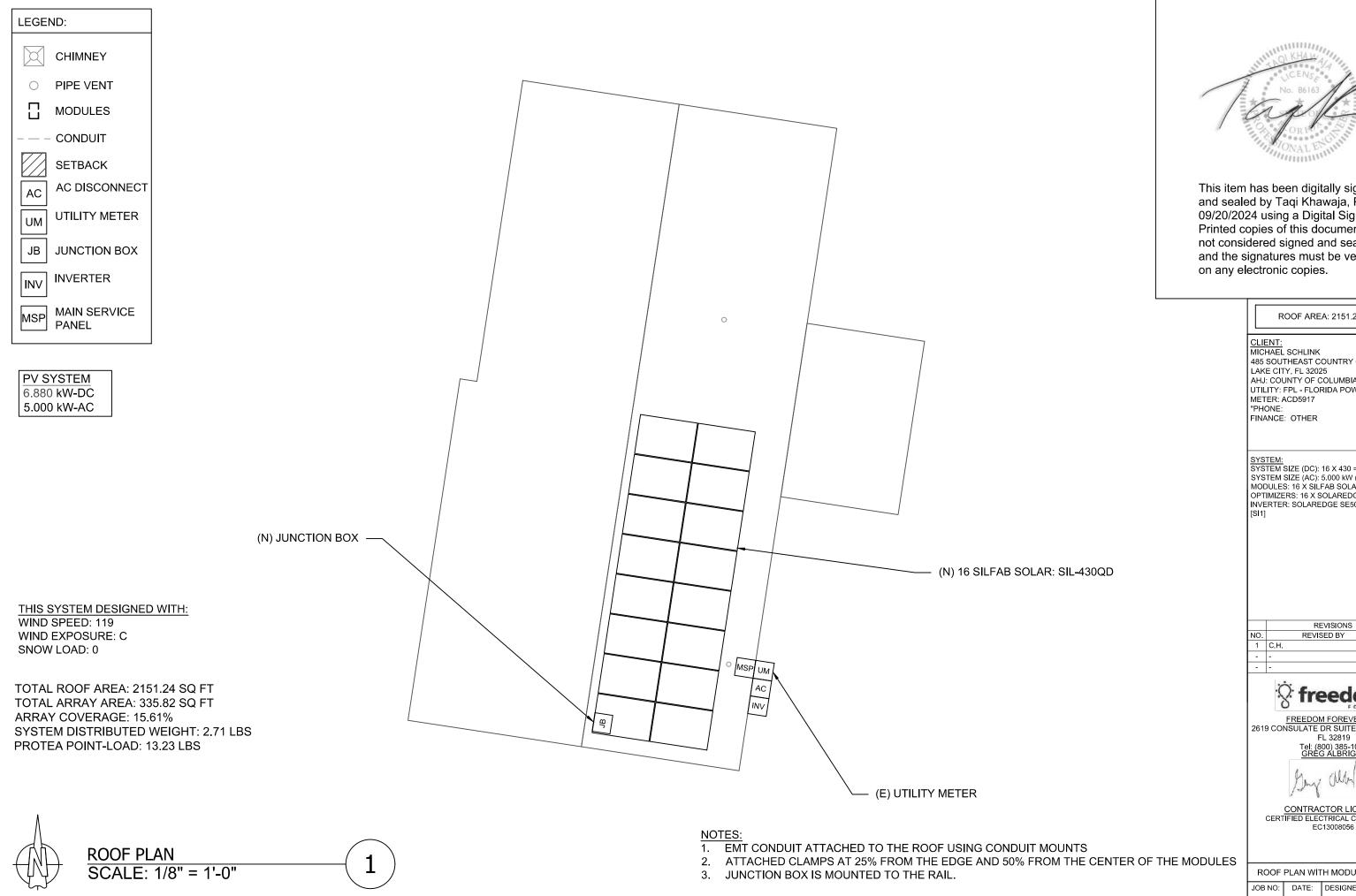
CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR

SITE PLAN

SHEET:

JOB NO: DATE: DESIGNED BY: 496653 9/19/2024

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



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REVISED BY 9/19/2024



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CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR

ROOF PLAN WITH MODULES LAYOUT

496653 9/19/2024

JOB NO: DATE: DESIGNED BY:

ROOF DETAILS:

TOTAL ROOF AREA: 2151.24 SQ FT TOTAL ARRAY AREA: 335.82 SQFT

ARRAY COVERAGE: 15.61%

SYSTEM DISTRIBUTED WEIGHT: 2.71 LBS

PROTEA POINT-LOAD: 13.23 LBS

	ROOF AREA STATEMENT											
ROOF	MODULE QUANTITY	ROOF PITCH	ARRAY PITCH	AZIMUTH	ROOF AREA	ARRAY AREA						
ROOF 1	16	16	16	98.7	956.9 SQ FT	335.82 SQ FT						
					SQ FT	SQ FT						
					SQ FT	SQ FT						
					SQ FT	SQ FT						
					SQ FT	SQ FT						
					SQ FT	SQ FT						
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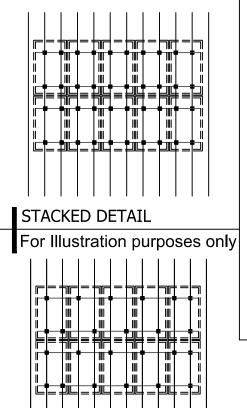
ARRAY	DETAILS

OB NO:	DATE:	DESIGNED BY:	SHEET:
496653	9/19/2024	C.H.	PV-2B

				TABLE 1 - ARRAY IN	<u>ISTALLATION</u>				
	ROOF PITCH	ROOFING TYPE	ATTACHMENT TYPE	FRAMING TYPE	MAX UNBRACED LENGTH(FT.)	STRUCTURAL ANALYSIS RESULT	PENETRATION PATTERN	MAX ATTACHMEN T SPACING (IN.)	MAX RAIL OVERHANG(I N.)
ROOF 1	16	Corrugated Metal	S-5 Proteabracket	2x4 @ 24" O.C.	5	PASS	STAGGERED	72	24
		_					<u> </u>		
							_		

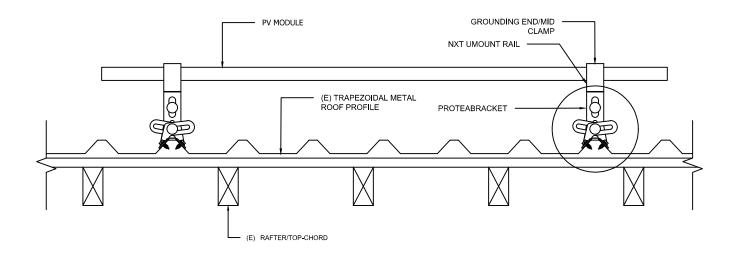


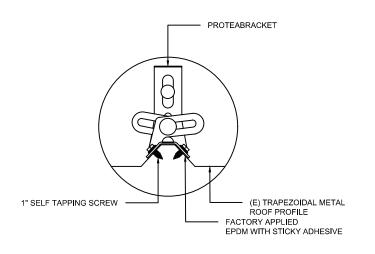
- 2. WHERE COLLAR TIES OR RAFTER SUPPORTS EXIST, CONTRACTOR SHALL USE RAFTERS WITH COLLAR TIES AS ATTACHMENT POINTS.
- 3. MAX RAIL OVERHANG APPLICABLE FOR RAILED ATTACHMENT INSTALLATIONS.



STAGGERED DETAIL

For Illustration purposes only





No. 86163

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FREEDOM FOREVER LLC 2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819 Tel: (800) 385-1075 GRFG AI BRIGHT

CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR EC13008056

MOUNTING DETAILS

JOB NO: DATE: DESIGNED BY: \$
496653 9/19/2024 C.H.

ATTACHMENT DETAIL

Scale: NTS

SOLAR PV ARRAY SECTION VIEW

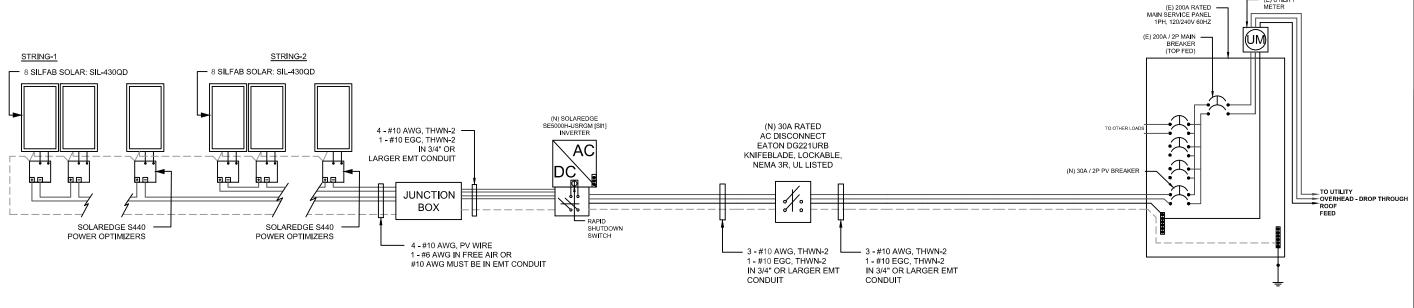
Scale: NTS

BACKFEED BREAKER SIZING									
MAX. CONTINUOUS OUTPUT 21.00A @ 240V									
21.00	Х	1.25	=	26.25AMPS 30A BREAKER - OK					
SEE 705.1	2 C	F 2020	NEC	,					
200	Х	1.20	=	240					
240	-	200	=	40A ALLOWABLE BACKFEED					

PV SYSTEM 6.880 kW-DC 5.000 kW-AC



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FREEDOM FOREVER LLC 2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819 Tel: (800) 385-1075 GREG ALBRIGHT

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CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR EC13008056

THREE LINE DIAGRAM

JOB NO: DATE: DESIGNED BY: SHEET: 496653 9/19/2024 C.H. PV-4

CONDUIT AND CONDUCTORS SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS



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					WIRE	SCHEDU	JLE									
RACEWAY #	EQUIPMENT		EQUIPMENT		EQUIPMENT		EQUIPMENT CONDUCT QTY.		CONDUCTOR QTY.	AWG WIRE SIZE	STARTING ALLOWABLE AMPACITY @ 90°C 310.15(B)(16)	STARTING CURRENT APPLIED TO CONDUCTORS IN RACEWAY	TEMPERATURE CORRECTION FACTOR 310.15(B)(2)(a)	ADJUSTMENT FACTOR FOR MORE THAN 3 CONDUCTORS 310.15(B)(3)(a)	ADJUSTED CONDUCTOR AMPACITY @ 90°C	MAXIMUM CURRENT APPLIED TO CONDUCTORS IN RACEWAY
1	DC	MODULE	ТО	OPTIMIZER	2	10	40	17.34	0.96	1	38.40	21.67				
2	DC	OPTIMIZER	ТО	JUNCTION BOX	2	10	40	15.00	0.96	1	38.40	18.75				
3	DC	JUNCTION BOX	TO	INVERTER	4	10	40	15.00	0.96	0.8	30.72	18.75				
4	AC	INVERTER	ТО	AC DISCONNECT	3	10	40	21.00	0.96	1	38.40	26.25				
5	AC	AC DISCONNECT	ТО	POI	3	10	40	21.00	0.96	1	38.40	26.25				

CONDUCTOR AMPACITY CALCULATIONS IN ACCORDANCE WITH NEC 690.8.

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FREEDOM FOREVER LLC 2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819 Tel: (800) 385-1075 GREG ALBRIGHT

CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR EC13008056

CONDUCTOR	CALCUL	ATIONS

JOB NO:	DATE:	DESIGNED BY:	SHEET:
496653	9/19/2024	C.H.	PV-5

OCPD SIZES: 30A BREAKER

SERVICE LIST:

TY.	PART	PART #	DESCRIPTION
16	110 - MODULES	PV-110-430-SIL	"MFG: SILFAB, 430W BOB, MFG SKU: SIL-430QD"
1	120 - INVERTERS	INV-120-508	"MFG: SOLAREDGE, 5.0 KW RGM SCREENLESS W/CONSUMPTION MONITORING, MFG SKU: SE5000H-US000BEI4"
1	180 - MONITORING EQUIPMENT	ME-180-502	"MFG: SOLAREDGE, CELL MODEM W/5 YRS, MFG SKU: SE-CELL-B-R05-US-S-S2"
2	160 - EQUIPMENT ACCESSORIES	EA-163-508	"MFG: SOLAREDGE, 225A CT, MFG SKU: SECT-SPL-225A-T-20"
1	160 - EQUIPMENT ACCESSORIES	EA-163-304	"MFG: SOLAREDGE, ENERGY NET PLUG-IN, MFG SKU: ENET-HBNP-01"
6	130 - OPTIMIZERS	OPT-130-440-2	"MFG: SOLAREDGE, 440W 60V OPTIMIZER, MFG SKU: S440"
2	260 - FITTINGS/ANCHORS	RAC-261-527	"MFG: UNIRAC, JUNCTION BOX, COMP SHINGLE AND RAIL MOUNT APPLICATIONS, MFG SKU: SOLOBOX-D"
2	210 - RAILS	RAC-211-201	"MFG: UNIRAC, E-BOSS J-BOX MOUNTING BRACKET, MFG SKU: 00802JB"
1	320 - DISCONNECTS	EE-321-030	"MFG: EATON, DISCONNECT, GENERAL DUTY, 2P, 240V, 30A, NON FUSIBLE, NEMA 3R, MFG SKU: DG221URB"
00	260 - FITTINGS/ANCHORS	RAC-260-550	"MFG: BURNDY, PV WILEY CABLE CLIP THICKNESS RANGE: 1.3 TO 3MM MFG SKU: ACC-FPV180"
3	350 - ELECTRICAL ACCESSORIES	EA-350-585	"MFG: ILSCO, GROUND LUG, MFG SKU: SGB-4"
6	240 - FOOTINGS	RAC-240-401	"MFG: S-5!, S-5! BRACKET FOR TRAPEZOIDAL METAL ROOFS, MFG SKU: PROTEABRACKET"
8	210 - RAILS	RAC-211-117	"MFG: UNIRAC, NXT HORIZON RAIL - 84"" MILL, MFG SKU: 084RLM1"
8	260 - FITTINGS/ANCHORS	RAC-261-123	"MFG: UNIRAC, NXT HORIZON COMBO CLAMP - DARK, MFG SKU: CCLAMPD1"
3	210 - RAILS	RAC-211-119	"MFG: UNIRAC, NXT HORIZON RAIL SPLICE, MFG SKU: RLSPLCM1 / RLSPLCM2"
6	260 - FITTINGS/ANCHORS	RAC-261-118	"MFG: UNIRAC, STRONGHOLD RAIL CLAMP MILL, MFG SKU: SHCLMPM1 / SHCLMPM2"
6	260 - FITTINGS/ANCHORS	RAC-261-124	"MFG: UNIRAC, NXT MLPE & GND LUG CLAMP, MFG SKU: NULGMLP1"
6	260 - FITTINGS/ANCHORS	RAC-261-113	"MFG: UNIRAC, NXT HORIZON NS WIRE MGMT CLIP, MFG SKU: WRMCNSD1"
00	260 - FITTINGS/ANCHORS	RAC-261-114	"MFG: UNIRAC, NXT HORIZON RL & CLMP CAP KIT, MFG SKU: ENDCAPD1"
6	260 - FITTINGS/ANCHORS	RAC-261-115	"MFG: UNIRAC, NXT HORIZON WIRE MGMT CLIP, MFG SKU: WRMCLPD1"



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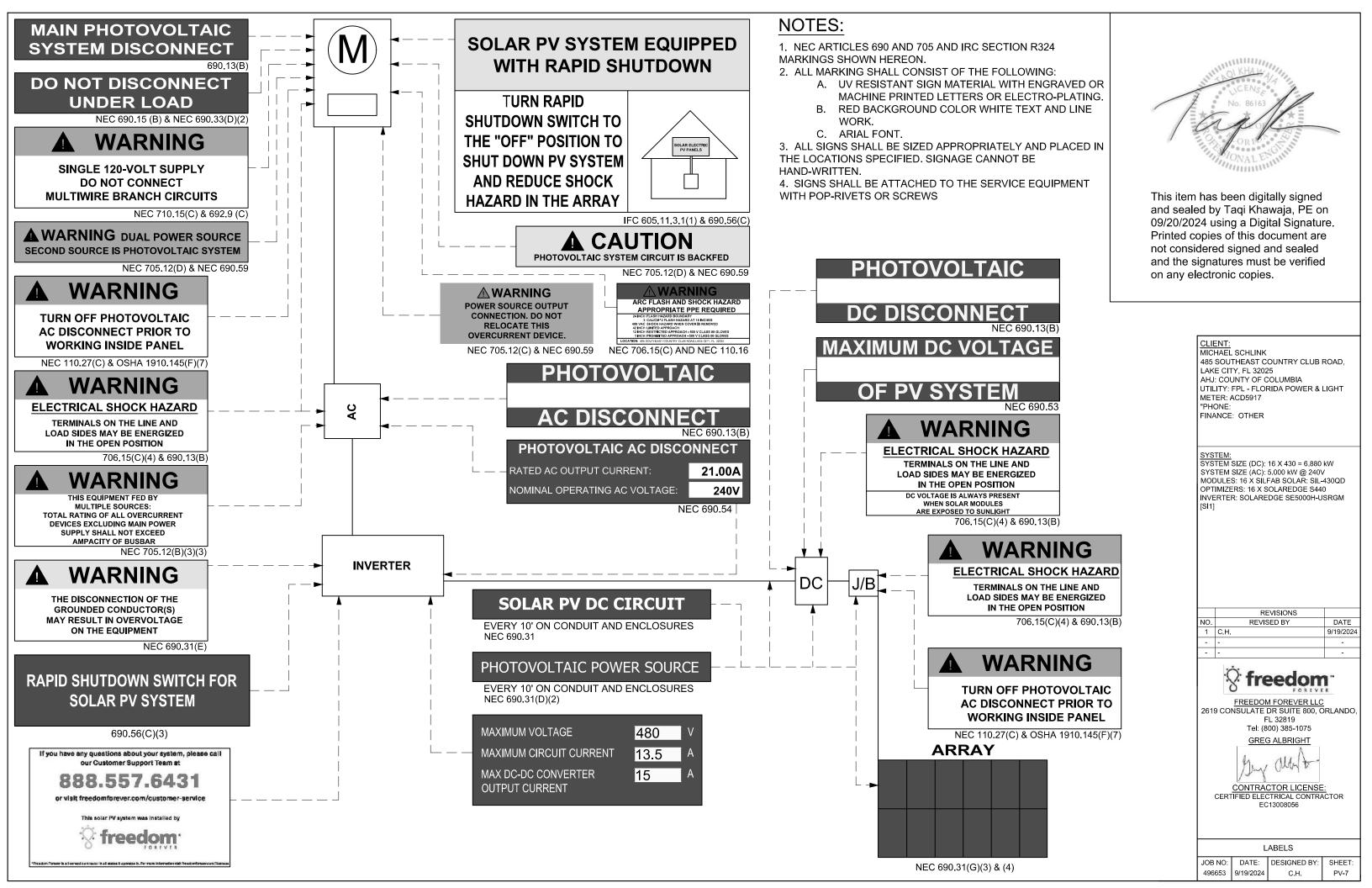


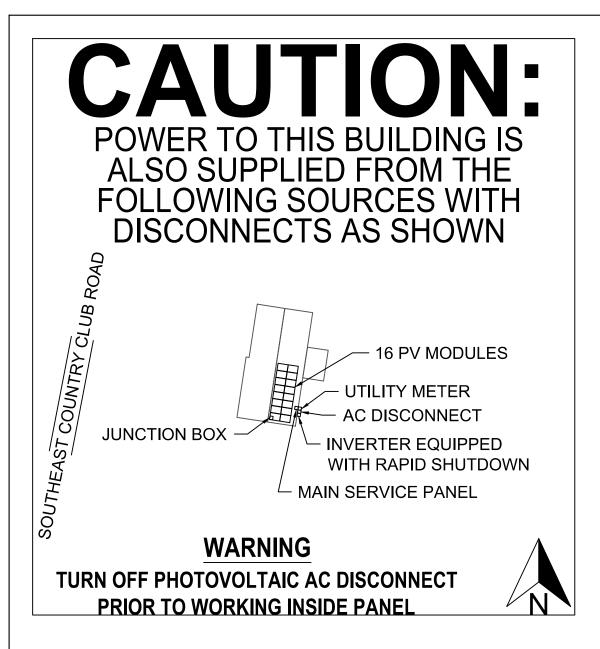
FREEDOM FOREVER LLC 2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819 Tel: (800) 385-1075 GREG ALBRIGHT

CONTRACTOR LICENSE: CERTIFIED ELECTRICAL CONTRACTOR EC13008056

EQUIPMENT & SERVICE LIST

JOB NO: DATE: DESIGNED BY: 496653 9/19/2024





NOTES:

- 1. NEC ARTICLES 690 AND 705 AND IRC SECTION R324 MARKINGS SHOWN HEREON.
- 2. ALL MARKING SHALL CONSIST OF THE FOLLOWING:
 - A. UV RESISTANT SIGN MATERIAL WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PLATING.
 - B. RED BACKGROUND COLOR WHITE TEXT AND LINE WORK.
- C. AERIAL FONT.
- 3. ALL SIGNS SHALL BE SIZED APPROPRIATELY AND PLACED IN THE LOCATIONS SPECIFIED. SIGNAGE CANNOT BE HAND-WRITTEN.
- 4. SIGNS SHALL BE ATTACHED TO THE SERVICE EQUIPMENT WITH POP-RIVETS OR SCREWS.



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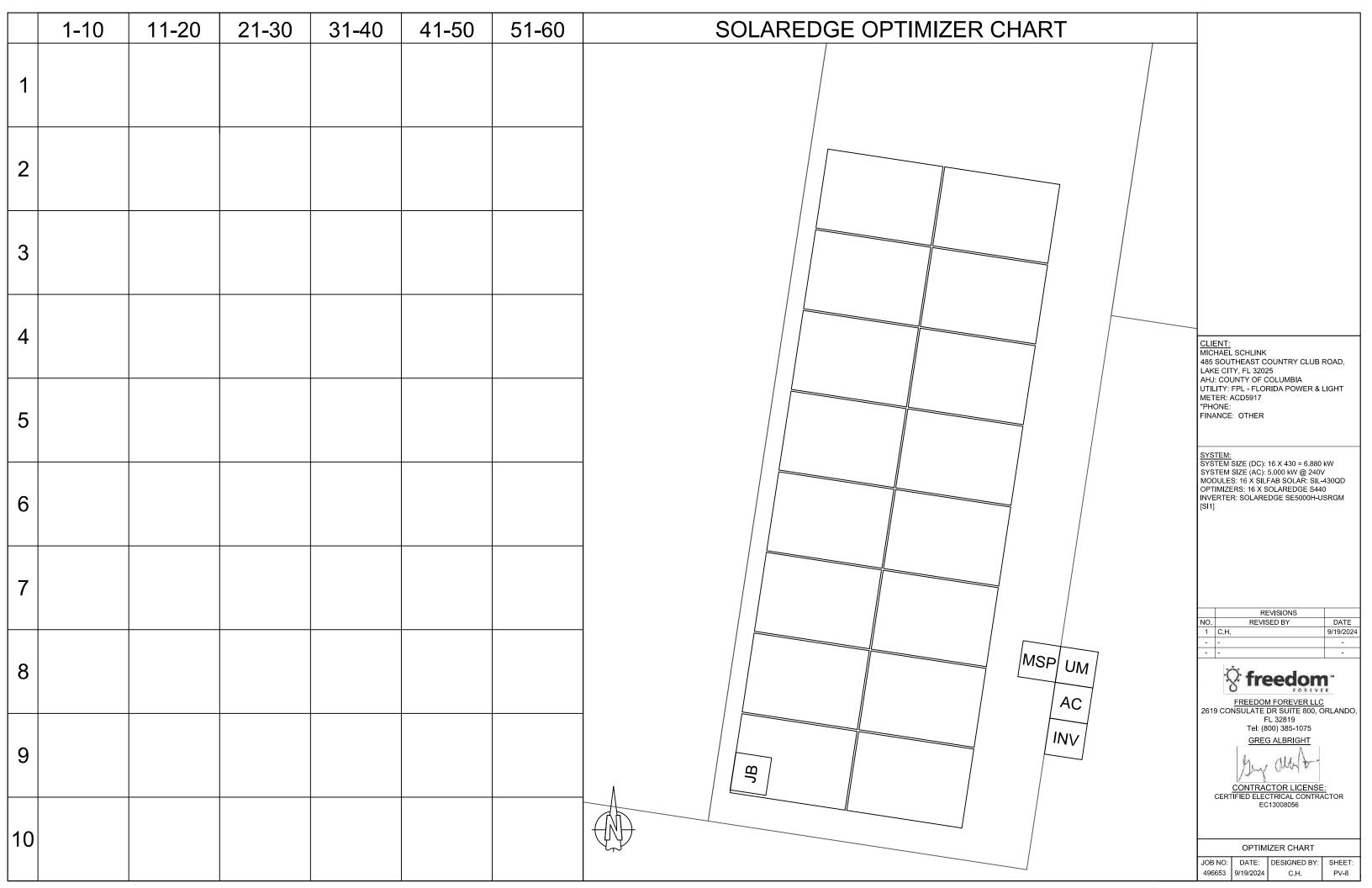


2619 CONSULATE DR SUITE 800, ORLANDO FL 32819 Tel: (800) 385-1075

CONTRACTOR LICENSE EC13008056

SITE PLACARD

DATE: DESIGNED BY: 496653 9/19/2024



SAFETY PLAN

INSTRUCTIONS:

- USE SYMBOLS IN KEY TO MARK UP THIS SHEET.
- SAFETY PLAN MUST BE MARKED BEFORE JOB STARTS AS PART OF THE
- DOCUMENT ALL ADDITIONAL HAZARDS ON THIS PAGE & MAKE NOTES ON THE JHA SHEET

INCIDENT REPORTING:

INJURIES - CALL INJURY HOTLINE

(855) 400-7233

*If injury is life threatening, call 911 first THEN the Injury Hotline

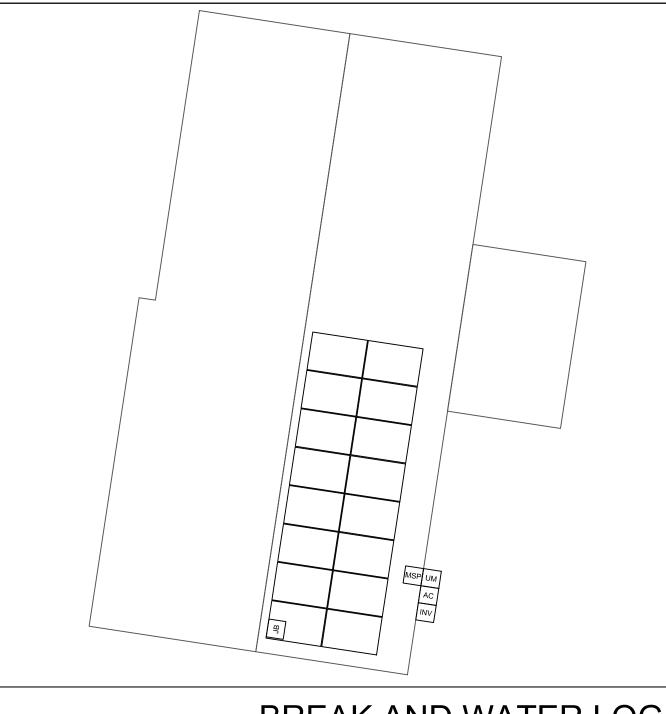
NON-INJURIES - USE MOBILE INCIDENT REPORTING (Auto, Property Damage, Near Miss)

NEAREST OCCUPATIONAL/INDUSTRIAL CLINIC:



NAME:
ADDRESS:
NEAREST HOSPITAL:
NAME:
ADDRESS:
SAFETY COACH CONTACT INFORMATION:
NAME:
PHONE NUMBER:
ALL EMPLOYEES ON SITE SHALL BE MADE AWARE OF THE SAFETY PLAN AN SIGN INDICATING THAT THEY ARE AWARE OF THE HAZARDS ON-SITE AND T PLAN FOR WORKING SAFELY.



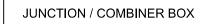


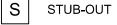
MARK UP KEY

PERMANENT ANCHOR

TEMPORARY ANCHOR

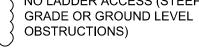






SKYLIGHT





RESTRICTED ACCESS

GAS SHUT OFF

CONDUIT

WATER SHUT OFF

SERVICE DROP

POWER LINES

INSTRUCTIONS:

1. SCAN QR LINK BELOW TO ACCESS ALL FREEDOM FOREVER SAFETY POLICIES AND PROGRAMS.

POLICIES



MICHAEL SCHLINK 485 SOUTHEAST COUNTRY CLUB ROAD, LAKE CITY, FL 32025 AHJ: COUNTY OF COLUMBIA UTILITY: FPL - FLORIDA POWER & LIGHT METER: ACD5917 "PHONE: FINANCE: OTHER

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SYSTEM:
SYSTEM SIZE (DC): 16 X 430 = 6.880 kW
SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 16 X SILFAB SOLAR: SIL-430QD OPTIMIZERS: 16 X SOLAREDGE S440 INVERTER: SOLAREDGE SE5000H-USRGM

REVISIONS REVISED BY 9/19/2024

BREAK AND WATER LOG

THIS LOG IS TO BE FILLED OUT ANY TIME THE TEMP EXCEEDS 90 DEGREES. THE CREW LEAD AND ROOF LEAD ARE RESPONSIBLE FOR ENSURING THIS IS COMPLETED AND UPLOADED AT THE END OF EVERYDAY WHEN TEMPS EXCEED 90 DEGREES

										4
NAME	0800HRS	0900HRS	1000HRS	1100HRS	1200HRS	1300HRS	1400HRS	1500HRS	1600HRS	
										2619
										JOB



19 CON<mark>SULATE DR SUITE 800, O</mark>RLANDO FL 32819 Tel: (800) 385-1075

CONTRACTOR LICENSE EC13008056

SAFETY PLAN

B NO: DATE: DESIGNED BY: 496653 9/19/2024

JOB HAZARD ANALYSIS

Crew leader to fill out all sections below, hold a pre-job safety meeting with all personnel, and upload this completed document and the Safety Plan to Site Capture

Ladder Access

- Ladders must be inspected before each use.
- Extension ladders must be set up on a firm and level surface at a 4-to-1 rise to run angle (or 75 degrees) and the top must be secured to the structure. Extension style ladders placed on uneven, loose or slippery surfaces must additionally have the base firmly anchored or lashed so the base will not slip out.
- Extension ladders must be used with walk-through devices or the ladder must extend 36" above the stepping off point.
- A-frame ladders must only be climbed with the ladder spreader bars locked in the open position; A-frame ladders shall not be climbed while in the closed position (ex, closed and used while leaned against a structure).
- Additional notes:

Mobile Equipment

- Only Qualified operators will operate equipment; operators must maintain a certification on their person for the equipment being operated
- Type(s) of mobile equipment (Type/Make/Model):
- Qualified operator(s):

Material Handling and Storage

 Materials will be staged/stored in a way that does not present a hazard to client, personnel or public. Materials stored on the roof will be physically protect from failing or sliding off.

Fall Protection

- A site-specific plan for fall prevention and protection is required prior to starting work and must remain onsite at all times until work is complete; a fall rescue plan must be outlined and discussed among the crew prior to work start.
- First-person-Up (FPU) must install their anchor and connect before any other task, including installing other anchors. The Last-Person-Down (LPD) must be the only person on a roof uninstalling fall protection.
- FPCP (name and title):
- FPU and LPD (name and title):

Electrical Safety

- The Electrical Qualified Person (EQP) is required onsite to perform electrical work.
- All electrical work will be performed with equipment in an electrically safe condition (de-energized) unless approval has been granted prior to work.
- Service drops and overhead electrical hazards will be indentified and protected from contact, as neccessary.
- EQP (name and tile):

Public Protection

- The safety of the Client and Public must be maintained at all times.
- The Client and the Public shall be prevented from entering the work zone through the use of barriers and/or signage, as required.
- Company, Client and Public property shall be protected from falling objects.
- Pets (including dogs) shall be secured by their owners prior to work start.
- The Client should not leave pets, family members, or others in charge or care of Employees, Contractors, or Temporary Workers.

- Crew leader responsible for communication with the client:
- Client and public is excluded from work area by barricades (N/A, Yes, No):

Training and Pre-Job Safety Briefing

- All employees onsite shall be made aware of the specific hazards
 of this project and review this HJA during a pre-job briefing, and
 their signature indicates awareness of site conditions and the
 plan to eliminate any hazards identified prior to and during the
 project.
- Crew leader (name/title):
- Crew member (name/title):

Airborne Contaminants:

- Asbestos-containing (Transite) piping (ACP) Do not disturb (move, drill, cut fracture, etc.)
- Asbestos-containing thermal insulation (ACI) and Asbestos-containing duct wrapping (ACW) - do not disturb, no attic or crawlspace access is allowed if work to be performed could cause exposure to personnel, client or public.
- If yes, list specific tasks and protection in place:

Weather and Environment

- The site supervisor shall forecast the weather conditions at the job site, prior to crew arrival, in order to mitigate any hazards associated with inclement weather (heat, cold, wind, rain, etc.)
- The site supervisor will utilized a portable wind meter (anemometer) to verify actual onsite wind conditions, by checking at the ground and on any elevated work surface (ex, rooftop) prior to work start, at midday and prior to solar panel staging on a roof.
- Elevated work involving the moving or maneuvering of solar panels shall cease at 25mph (sustained wind) until wind subsides.
- Forecasted weather maximum temp (degrees f):

Heat Related Illness Prevention

- Employees shall have access to potable drinking water that is fresh, pure, and suitably cool. The water shall be located as close as practicable to the areas where employees are working. Water shall be supplied in sufficient quantity at the beginning of the work shift to provide at least one quart per employee per hour for drinking for the entire shift. Employees may begin the shift with smaller quantities of water if they identify the location and have effective means for replenishment during the shift to allow employees to drink on quart or more per hour. The frequent drinking of water shall be encouraged.
- Shade shall be present when temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work exceeds 80 degrees Fahrenheit, employees shall have and maintain one or more areas with shade at all times.
- New employees must be acclimatized. New employees will be monitored by their Crew Leader (site supervisor) for the first two (2) weeks of employment or longer when necessary.
- Employees will be allowed and encouraged to implement scheduled breaks during each shift. Employees must take cool-down breaks in the shade any time they feel the need to do so to protect them from overheating. Supervisors are REQUIRED to allow employees any break period they need during high heat conditions.
- Cool Vests are encouraged for all employees at all times during periods of high heat.
- Identify the location of the closet Occupational/Industrial Clinic or Hospital in case a crew member becomes ill.

What is the specific plan to provide and replenish sufficient water for all employees on site?

- If offsite replenish is necessary, where will you go to replenish water (location/address):
- Who will replenish the drinking water (name):

Restroom facilities

- Employees shall have access to restroom facilities with hand-washing stations. Use of onsite restroom is at the client's discretion (location is annotated below). If client does not give permission, location of suitable restroom facilities with hand-washing stations offsite will be provided. The onsite supervisor will identify location and make arrangements to ensure all employees have access at any point.
- Restroom facilities will be (circle one): Onsite Offsite
- If Offsite, add location name and address:

Incident Reporting Procedure

Contact your Site Supervisor

INAIII	'

Phone:

Contact your Manager Name:

Phone:

• Contact your Site Supervisor

Name:

Phone:

With: Your full name, phone number, office location, brief description of what happen and when.

NOTE ADDITIONAL HAZARDS NOT ADDRESSED ABOVE

(add as many as necessary by using additional sheets)

Define the Hazard:	Method/steps to prevent incident:
Define the Hazard:	Method/steps to prevent incident:
Define the Hazard:	Method/steps to prevent incident:
Define the Hazard:	Method/steps to prevent incident:

CLIENT:
MICHAEL SCHLINK
485 SOUTHEAST COUNTRY CLUB ROAD,
LAKE CITY, FL 32025
AHJ: COUNTY OF COLUMBIA
UTILITY: FPL - FLORIDA POWER & LIGHT
METER: ACD5917
"PHONE:
FINANCE: OTHER

SYSTEM:
SYSTEM SIZE (DC): 16 X 430 = 6.880 kW
SYSTEM SIZE (AC): 5.000 kW @ 240V
MODULES: 16 X SILFAB SOLAR: SIL-430QD
OPTIMIZERS: 16 X SOLAREDGE S440
INVERTER: SOLAREDGE SE5000H-USRGM
[SI1]

REVISI	ONS
NO. REVISED I	BY DATE
1 C.H.	9/19/20
- -	-
- -	-



2619 CONSULATE DR SUITE 800, ORLANDO, FL 32819 Tel: (800) 385-1075 GREG ALBRIGHT

CONTRACTOR LICENSE:

SAFETY PLAN

JOB NO: DATE: DESIGNED BY: 496653 9/19/2024 C.H.

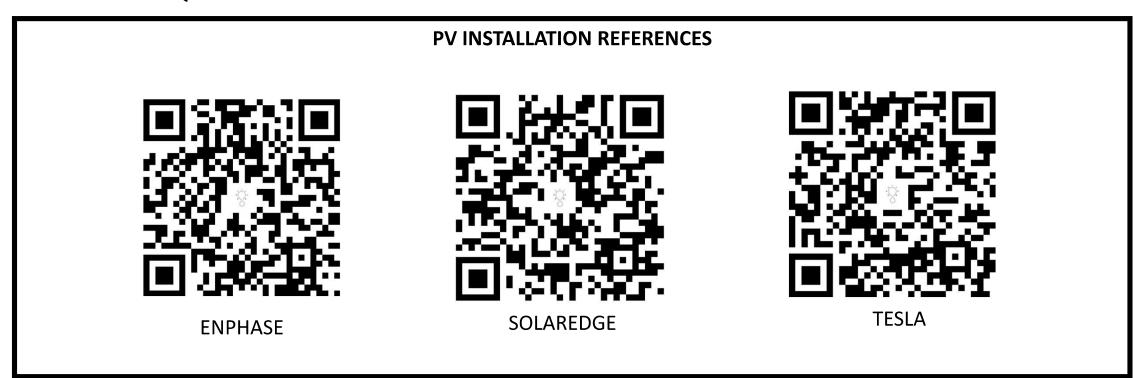
IED BY: SHEET: H. PV-10

FOR INSTALLATION REFERENCE ONLY

SCAN QR CODE TO ACCESS REFERENCE LINK



Enphase Storage Systems













SOLAREDGE Storage Systems

TESLA Storage Systems

NON-BACKUP Battery Systems

Misc. Quick Guide

SILFAB NTC



SIL-430 QD



INTRODUCING NEXT-GENERATION N-TYPE CELL TECHNOLOGY

- Improved Shade Tolerance
- Improved Low-Light Performance
- Increased Performance in **High Temperatures**
- Enhanced Durability
- Reduced Degradation Rate
- Industry-Leading Warranty

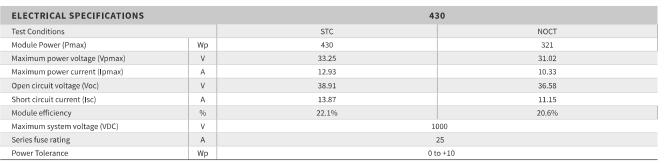












 $Measurement conditions: STC\ 1000\ W/m^2 \bullet AM\ 1.5 \bullet Temperature\ 25\ ^\circ C \bullet NOCT\ 800\ W/m^2 \bullet AM\ 1.5 \bullet Measurement uncertainty \le 3\% AM\ 1.5 \bullet Measurement uncertainty = 10\% AM\ 1.5 \bullet Measurement uncerta$

 $Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by \pm 5\% and power by 0 to +10 W.$

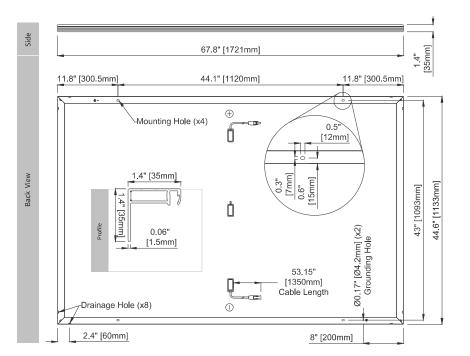
MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL	
Module weight	21 kg ± 0.2 kg	46.3 lbs ± 0.4 lbs	
Dimensions (H x L x D)	1721 mm x 1133 mm x 35 mm	67.8 in x 44.6 in x 1.37 in	
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load	83.5 lb/ft² rear load / 112.8 lb/ft² front load	
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph	
Cells	108 Half cells - N-Type Silicon solar cell 182 mm x 91 mm	108 Half cells - N-Type Silicon solar cell 7.16 in x 3.58 in	
Glass	3.2 mm high transmittance, tempered, antireflective coating	0.126 in high transmittance, tempered, antireflective coating	
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4 from Staubli	53.1 in, ø 0.22 in (12 AWG), MC4 from Staubli	
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet		
Frame	Anodized aluminum (Black)		
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated, 3 diodes		

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	0.04 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.24 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.29 %/°C		≥ 98% end 1st yr ≥ 94.7% end 12th yr
NOCT (± 2 °C)	45 °C		≥ 94.7% end 12th yr ≥ 90.8% end 25th yr
Operating temperature	-40/+85 °C		≥ 89.3% end 30th yr

CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IEC 61730, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listed, UL Fire Rating: Type 2	Modules Per Pallet:	26 or 26 (California)
Product		Pallets Per Truck	32 or 30 (California)
Factory	ISO9001:2015	Modules Per Truck	832 or 780 (California)

A Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.

^{** 12} year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com. PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads.



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Silfab - SIL-430-QD-20240227

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SolarEdge Home Wave Inverter For North America

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





- Optimized installation with HD-Wave technology

 Specifically designed to work with power

 UL1741 SA certified
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014-2023 per articles 690.11 and 690.12

- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)



solaredge.com

/ SolarEdge Home Wave Inverter

For North America

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

Applicable to inverters with part number	SEXXXXH-XXXXXBXX4					SE11400H- XXXXXBXX5	
	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	Uni
OUTPUT							
Rated AC Power Output	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	V
AC Output Voltage MinNomMax. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	Vā
AC Output Voltage MinNomMax. (183 - 208 - 229)	✓	-	✓	-	-	✓	Vá
AC Frequency (Nominal)			59.3 - 60	- 60.5 ⁽¹⁾			Н
Maximum Continuous Output Current @240V	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	16	=	24	-	-	48.5	,
Power Factor			1, Adjustable -	0.85 to 0.85			
GFDI Threshold			1				,
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes						
INPUT							
Maximum DC Power @240V	5900	7750	9300	11800	15500	17650	1
Maximum DC Power @208V	5100	-	7750	_	-	15500	١
Transformer-less, Ungrounded			Yes	5			
Maximum Input Voltage			480)			V
Nominal DC Input Voltage			380)			V
Maximum Input Current @240V ⁽²⁾	10.5	13.5	16.5	20	27	30.5	А
Maximum Input Current @208V ⁽²⁾	9	-	13.5	=		27	А
Max. Input Short Circuit Current			45				А
Reverse-Polarity Protection			Yes	5			
Ground-Fault Isolation Detection			600k Ser	nsitivity			
Maximum Inverter Efficiency			99.7	2			(
CEC Weighted Efficiency	99 @ 240V 98.5 @ 208V						(
Nighttime Power Consumption			< 2.	5			١

⁽¹⁾ For other regional settings please contact SolarEdge support.

⁽²⁾ A higher current source may be used; the inverter will limit its input current to the values stated.

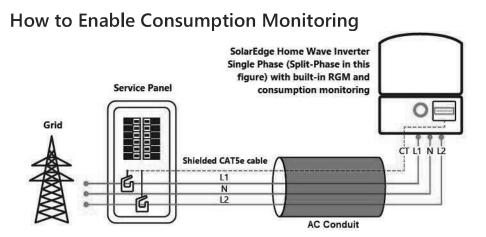
/ SolarEdge Home Wave Inverter

For North America

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

Applicable to inverters with part number		SEXXXXH-XXXXXBXX4 SE11400H- XXXXXBXX5					
	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES							
Supported Communication Interfaces		RS485, Ethernet, ZigBee (optional), wireless SolarEdge Home Network (optional) ⁽³⁾ , Wi-Fi (optional), Cellular (optional)					
Revenue Grade Metering, ANSI C12.20			Op	tional ⁽⁴⁾			
Consumption Metering			,				
Inverter Commissioning	Wit	n the SetApp mobile	application using E	Built-in Wi-Fi Access	Point for Local Conn	ection	
Rapid Shutdown - NEC 2014-2023 per articles 690.11 and 690.12		Autor	matic Rapid Shutdov	wn upon AC Grid Di	isconnect		
STANDARD COMPLIANCE							
Safety	UL17	'41, UL1741 SA, UL17-	41 SB, UL1699B, CSA	A C22.2, Canadian A	FCI according to T.I.L	M-07	
Grid Connection Standards		IEEE1	547-2018, Rule 21, R	Rule 14 (HI), CSA C22	2.3 No. 9		
Emissions			FCC Par	t 15 Class B			
INSTALLATION SPECIFICATION	S						
AC Output Conduit Size / AWG Range		1" Maximum	/ 14 – 6 AWG		1" Maximum	/ 14 – 4 AWG	
DC Input Conduit Size / # of Strings / AWG Range		1" Maximum / 1 – 2	strings / 14 – 6 AW	G		imum / / 14 – 6 AWG	
Dimensions with Safety Switch (H x W x D)		17.7 x 14.6 x 6.8	/ 450 x 370 x 174		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 ⁽⁵⁾	in / mn
Weight with Safety Switch	22 / 10	25.1 / 11.4	26.2	/ 11.9	38.8 / 17.6	44.9 / 20.4 ⁽⁵⁾	lb/kg
Noise		< 25 < 50					
Cooling		Natural Convection					
Operating Temperature Range		-40 to +140 / -40 to +60 ⁽⁶⁾					°F / °C
Protection Rating		NEMA 4X (Inverter with Safety Switch)					

⁽³⁾ For more information, refer to the $\underline{SolarEdge\ Home\ Network}$ datasheet



By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills.

⁽⁴⁾ Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxH-US000BEI4. For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20

⁽⁵⁾ SE11400H-USxxx8xx5 is the updated PN, though SE11400H-USxxx8xx4 will still be available. All specifications are similar for both models, **EXCLUDING** the weight and dimensions [HxWxD]: The weight and dimensions of SE11400H-USxxx8xx4 are 17.6 [kg] and 21.06-14.6-7.3 / 535-370-185 [in/mm], accordingly.

(6) Full power up to at least 50°C / 122°F; for power de-rating information refer to the <u>Temperature De-rating Technical Note for North America</u>.

Power Optimizer For North America

S440, S500



PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- * Expected availability in 2022

- **✔** Faster installations with simplified cable management and easy assembly using a single bolt
- ✔ Flexible system design for maximum space utilization
- Compatible with bifacial PV modules
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)



/ Power Optimizer For North America

S440, S500

	S440	S500	Unit
INPUT			
Rated Input DC Power ⁽¹⁾	440	500	W
Absolute Maximum Input Voltage (Voc)		60	Vdc
MPPT Operating Range		8 - 60	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	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISC	ONNECTED FROM INVERTER (OR INVERTER OFF)	'
Safety Output Voltage per Power Optimizer		1+/-0.1	Vdc
STANDARD COMPLIANCE			
Photovoltaic Rapid Shutdown System	NEC 2014	, 2017 & 2020	
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3		
Safety	IEC62109-1 (class II safety), UL1741		
Material	UL94 V-(0, UV Resistant	
RoHS		Yes	
Fire Safety	VDE-AR-E	2100-712:2013-05	
INSTALLATION SPECIFICATIONS			
Maximum Allowed System Voltage		1000	Vdc
Dimensions (W x L x H)	129 x 153 x 30	/ 5.07 x 6.02 x 1.18	mm / in
Weight (including cables)	6	55 / 1.5	gr/lb
Input Connector		MC4 ⁽²⁾	
Input Wire Length	0.	1/0.32	m/ft
Output Connector		MC4	
Output Wire Length	(+) 2.3, (-) 0.10	0 / (+) 7.54, (-) 0.32	m/ft
Operating Temperature Range ⁽³⁾	-40	0 to +85	°C
Protection Rating	IP68	/ Туре6В	
Relative Humidity) - 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

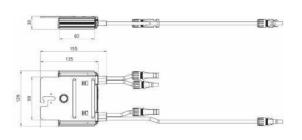
⁽³⁾ For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using Inverter	g a SolarEdge	Single Phase HD-Wave	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	S440, S500	8	14	18	
Maximum String Length (Power Optimizers)		25		50(4)	
Maximum Nominal Power per String		5700 (6000 with SE7600-US-SE11400-U)	6000	12750	W
Maximum Allowed Connected Power per String (5) (Permitted only when the difference in connected power between		Refer to Footnote 5	One String 7200W	15.000W	
strings is 1,000W or less)		Refer to Pootriote 5	Two strings or more 7800W	15,000 W	
Parallel Strings of Different Lengths or Orientations			Υ		

⁽⁴⁾ A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
(5) If the inverters rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to: https://www.solaredge.com/ (6) It is not allowed to mix S-series and P-series Power Optimizers in new installations









solaredge.com

Product specifications

Eaton DG221URB

Catalog Number: DG221URB

Eaton General duty non-fusible safety switch, single-throw, 30 A, 240 V, NEMA 3R, Rainproof, Painted galvanized steel, Two-pole, Two-wire

General specifications

Product Name Catalog Number Eaton general duty non-fusible safety DG221URB

782113120232

UPC

Product Length/Depth Product Height

10.81 in 6.88 in

Product Width Product Weight

6 lb 6.38 in

Certifications Warranty Eaton Selling Policy 25-000, one (1) year UL Listed

from the date of installation of the

Product or eighteen (18) months from the Catalog Notes

WARNING! Switch is not approved for date of shipment of the Product,

service entrance unless a neutral kit is whichever occurs first.

installed.



Product specifications

Product Category

General duty safety switch

Enclosure material

Painted galvanized steel

Type

Non-fusible, single-throw

Fuse configuration

Non-fusible

Number of wires

2

Enclosure NEMA 3R

Voltage rating

240V

Amperage Rating

30A

Number Of Poles

Two-pole

Resources

Catalogs

Eaton's Volume 2—Commercial Distribution

Multimedia

Double Up on Safety

Switching Devices Flex Center

Specifications and datasheets

Eaton Specification Sheet - DG221URB



Eaton Corporation plc Eaton House 30 Pembroke Road Dublin 4, Ireland Eaton.com

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The Right Way!™

ProteaBracket[™]

A versatile bracket for mounting solar PV to trapezoidal roof profiles

profiles!

roof

trapezoidal

t

P

attach solar

The right way to

ProteaBracket™ is now made in aluminum. Still the most versatile trapezoidal metal roof attachment solution on the market, the S-5! ProteaBracket just got better!

The bracket features an adjustable attachment base and module attachment options to accommodate different roof profile dimensions and mounting options.

Our pre-applied EPDM gasket with peel and stick adhesive makes installation a snap, ensuring accurate and secure placement the first time.

With no messy sealants, faster installation, and a weather-proof fit, ProteaBracket offers you the most versatile solar attachment solution available.

ProteaBracket* can be used for rail mounting or "direct-attach" with S-5! PVKIT™

*When ProteaBracket is used in conjunction with the S-5! PVKIT, an additional nut is required during installation



NOW AVAILABLE IN ALUMINUM



Features and Benefits

- 34% lighter saves on shipping
- Stronger L-Foot™
- Load-tested for engineered application
- **Corrosion-resistant materials**
- Adjustable Fits rib profiles up to 3"
- Peel-and-Stick prevents accidental shifting during installation
- Fully pre-assembled
- 25-year warranty*

*See www.S-5.com for details



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

ProteaBracket™

Bottom Mount Rail



(rail-less)

The Right Way!"

ProteaBracket™ is the perfect solar attachment solution for most trapezoidal rib, exposed-fastened metal roof profiles!

ProteaBracket[™]

0.35" x 1.00" Slotted Hole

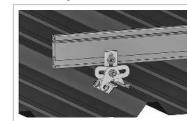
ProteaBracket™ is compatible with common metal roofing materials and comes with a pre-applied EPDM gasket on

Note: All four pre-punched holes must be used to achieve tested strength. Fasteners are provided.

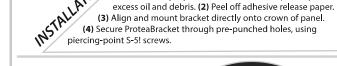
For design assistance, ask your distributor, or visit www.S-5.com for the independent lab test data that can be used for load-critical designs and applications. Also, please visit our website for more information including metallurgical compatibilities and specifications.

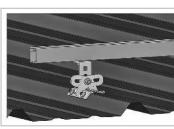
S-5!® holding strength is unmatched in the industry.

Multiple Attachment Options:

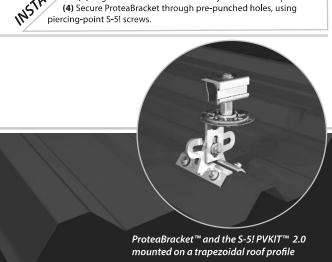


Side **Mount Rail**





w/S-5!**PVKIT**TM



ProteaBracket fits profiles

up to 3 inches

No surface preparation needed. (1) Wipe away

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

Products are protected by multiple U.S. and foreign patents. For published data regarding holding

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NXT HORIZON®



#UNIRAC

DISCOVER YOUR **NXT** HORIZON[®]

The culmination of over two decades of experience. Thoughtful design, rigorous engineering, world-class support, and a reliable supply chain are the foundation of what makes us confident that NXT HORIZON° is the NXT Level of DESIGN, SIMPLICITY, and VALUE.

NXT HORIZON COMBO CLAMP

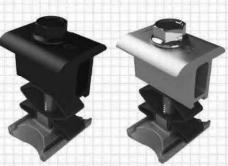
DARK: CCLAMPD1 MILL: CCLAMPM1

1/2 inch module spacing for efficiency.

mid and end clamps.

Unirac-quality bonding that works both as

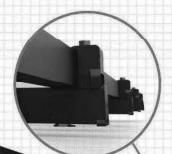
Clicks into rail anywhere (even where there are cables!) Self-standing clamp with spring combines as both mid and end clamp Clamps 30-40 mm modules





DARK: SHCLMPD1 MILL: SHCLMPM1

Adaptable rail connection to attachments allows click-in feature compatibility with almost all of Unirac's attachments.



NXT HORIZON CAP KIT

ENDCAPD1

Make the install look clean with the end cap kit designed to complement the module end clamp and rail ends.



FlashLoc technology combined with new features: click-in rail & open slot L-Foot for the best flash-less install experience.



NXT HORIZON' RAIL

DARK: 168RLD1 MILL: 168RLM1

Strong, lightweight open channel rail with invisible, easy, unfailing and integrated wire managemen



WIRE MANAGEMENT OPTONS

NXT HORIZON MLPE & LUG CLAMP

Works as either MLPE Mount or Grounding

Lug connection to the rail. Why source two

parts when one can do the job?

LUGMLPET



NXT HORIZON' WIRE MANAGEMENT CLIP

WRMCLPD1

Aesthetic, yet functional accessory that works to help installers keep wires inside the rail. No zip-ties required. Optional zip tie loop for extra wire management capabilities!



NXT HORIZON NORTH/SOUTH WIRE

WRMCNSD1

An elegant solution to help installers get to the home run. The same hardware works to provide both easy entry to rail and adjustability for cable thickness.

STRONGHOLD" ATTACHMENT KIT

DARK: SHCPKTD1 MILL: SHCPKTM1

Rail clicks into the clamps attached to the Stronghold™ base. Open slot in L-foot allows drop-in rail clamp.



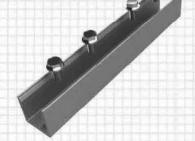




NXT HORIZON' RAIL SPLICE

RLSPLCM1

Structural internal splice that does not interfere with roof connection nor module connection. Pre-assembled thread cutting bolts.



ALL NXT HORIZON' SYSTEMS INCLUDE A FREE PERMITTING PLANSET DESIGN - FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR EMAIL NXTPERMITS@UNIRAC.COM



Certificate: 70131735 **Project:** 80182385

Master Contract: 266909 Date Issued: 2023-11-29

Downward Design Load (lb/ft²)	33.9
Upward Design Load (lb/ft²)	33.9
Down-Slope Load (lb/ft²)	16.5

Mod	lel	NXT	-	Flush-to-Roof is an extruded aluminum rail PV racking system that is
		UMOUNT		installed parallel to the roof in landscape or portrait orientations.

NXT UMOUNT

The system listed is designed to provide bonding/grounding, and mechanical stability for photovoltaic modules. The system is secured to the roof with the L-Foot components through the roofing material to building structure. Modules are secured to the racking system with aluminum mid clamps and aluminum end clamps. The modules are bonded to the racking system with bonding mid and end clamps with piercing points. Fire ratings of Class A with Type 1, 2, 3 (with metallic frame), 10(with metallic frame), 19, 22, 25, 29, or 30 for steep and low slope. Tested at 5" interstitial gap which allows installation at any stand-off height.

The grounding of the system is intended to comply with the latest edition of the National Electrical Code, to include NEC 250 & 690. Local codes compliance is required, in addition to national codes. All grounding/bonding connections are to be torqued in accordance with the Installation Manual and the settings used during the certification testing for the current edition of the project report.

Latest Install Manual revision: PUB2023NOV10

UL 2703 Mechanical Load ratings for tested module area 21.86 sq ft:

NXT Systems without DTD Butyl Attachment P30817211, Rail Splice P30808218, or Rail Clamp P30817214				
Downward Design Load (lb/ft²) 113.7				
Upward Design Load (lb/ft²) 51.1				
Down-Slope Load (lb/ft²)	16.8			

NXT Systems with DTD Butyl Attachment P30817211, Rail Splice P30808218, or Rail Clamp P30817214				
Downward Design Load (lb/ft²) 51.1				
Upward Design Load (lb/ft²) 51.1				

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Certificate: 70131735 **Project:** 80182385

Master Contract: 266909 Date Issued: 2023-11-29

Down-Slope Load (lb/ft²)	16.8
--------------------------	------

UL 2703 and TIL Mechanical Load ratings tested module area 27.76 sq ft:

NXT Systems without DTD Butyl Attachment P30817211, Rail Splice P30808218, or Rail Clamp P30817214				
Downward Design Load (lb/ft²)	50.1			
Upward Design Load (lb/ft²)	22.2			
Down-Slope Load (lb/ft²)	8.0			

NXT Systems with DTD Butyl Attachment			
P30817211, Rail Splice P30808218, or Rail			
Clamp P30817214			
Downward Design Load (lb/ft²)	39.47		
Upward Design Load (lb/ft²)	22.2		
Down-Slope Load (lb/ft²)	8.0		

UL 2703 and TIL Mechanical Load ratings tested module area 29.49 sq ft:

NXT Systems with all components included in PUB2023NOV10 Install Manual				
Downward Design Load (lb/ft²)	37.06			
Upward Design Load (lb/ft²)	20.97			
Down-Slope Load (lb/ft²)	7.53			

Model	SM Ascender	One or two row elevated or non-elevated roof system is an extruded aluminum rail PV racking system that is installed to the roof in
		portrait orientation.

SM Ascender

The system listed is designed to provide bonding/grounding, and mechanical stability for photovoltaic modules. The system is secured to the roof with the L-Foot components through the roofing material to building structure. Modules are secured to the racking system with aluminum mid clamps and aluminum end clamps. Fire rating of Class A when installed over non-combustible roofing materials.

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February 5, 2024

Unirac, Inc. 1411 Broadway Boulevard NE Albuquerque, New Mexico 87102 TEL: (505) 242-6411

FAX: (505)242-6512

Re.: Innova Technologies No.: 124-099-1000

Unirac NXT U-Mount Design Tool - Florida

Attn: Engineering Services

Innova Technologies Inc. has reviewed Unirac's NXT U-Mount design tool and analysis, including the U-Builder online tool. NXT U-mount is a proprietary system to support Photovoltaic (PV) panels on a rooftop structure.

All analysis and information in the NXT design tool's formulas and tables comply with the following:

- <u>2009-2021 International Building Code</u> by International Code Council Inc. with provisions from SEAOC PV-2
- ASCE/SEI 7-05 through 7-22 Minimum Design Loads and Other Structures, by American Society of Civil Engineers.
- Florida Building Code 2020, and 2023 Editions
- 2005 2020 Aluminum Design Manual, by the Aluminum Association.

This letter certifies that the structural analysis of the racking members and their direct components comply with the above codes and methodologies. This Design tool does not review the existing roof structure, or the PV panels themselves.

The U-Builder tool should be used under review of a registered design professional where required by the authority having jurisdiction.

For more information, see the construction drawings, and manufacturer installation instructions.

Exp 02/28/2025

02/06/2024

Best Regards,

Adriana Gonorazky Sr. Vice President Innova Technologies, Inc.

1432 South Jones Blvd. Las Vegas, NV 89146 www.innovanv.com

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CONSTRUCTION ENGINEERING