

PV SYSEEM

STRUCTURAL PLAN

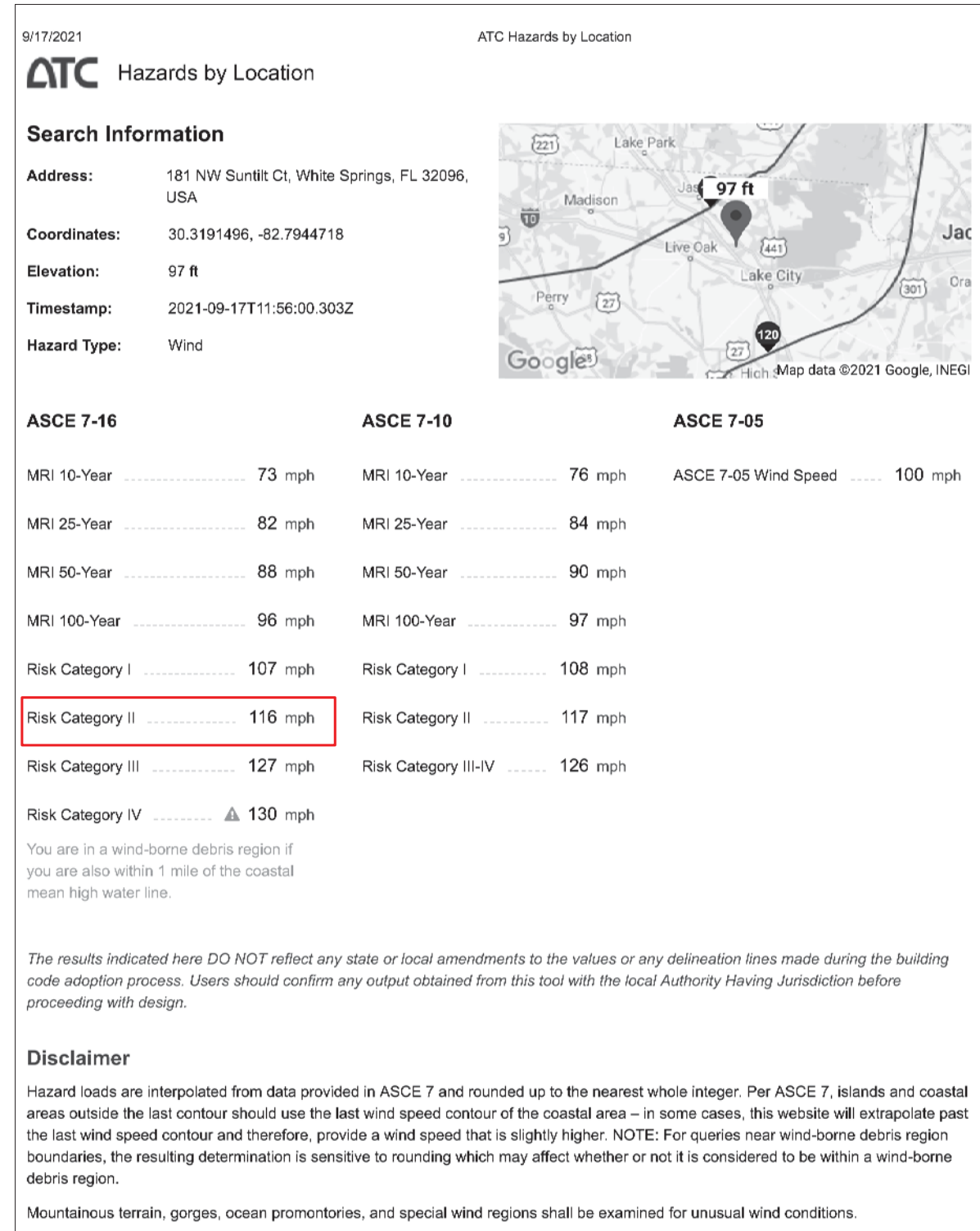
Contractor is responsible to verify the fit of this array prior to installation. The solar module array shown is based on the field data provided by the contractor. Contractor shall contact the engineer if the array may not fit as projected. Satellite imagery shown may not correctly indicate potential current shading of property. Contractor is responsible to verify sun exposure and shading of installation prior to installation.

INSTALLATION NOTES

- THIS PAPER PLAN IS INTENDED TO PROVIDE THE ESSENTIAL INFORMATION NEEDED BY AHJ (AUTHORITY HAVING JURISDICTION) AND INSTALLERS.
- THIS IS A COMBINED SET OF STRUCTURAL AND ELECTRICAL PLANS.
- SOLAR EQUIPMENT ADDS LESS THAN 3 PSF (UNFACTORED) GRAVITY LOAD TO STRUCTURE.
- MODULE GRAVITY & WIND LOADS SHALL BE TRANSMITTED TO RIBS OF PURLIN BEARING 'R' (PBR) ROOFING METAL OR STANDING SEAMS OF ROOFING METAL USING S-5 CLAMPS/BRAKETS SHOWN HEREON.
- SEE DRAWINGS FOR MEANS & METHODS INFORMATION IN ADDITION TO THESE NOTES.
- CONTRACTOR SHALL INSTALL S5 CLAMPS PER OEM INSTRUCTIONS.
- CONTRACTOR SHALL INSTALL RAILS PERPENDICULAR TO STANDING SEAMS OR PBR RIBS ON IRONRIDGE XR100 RAILS ON TOP OF S5 CLAMPS.
- CONTRACTOR TO ENSURE CONTINUITY OF ALL METAL PARTS AND CONNECTIONS OF THIS INSTALLATION TO BE ELECTRICALLY GROUNDED AND BONDED TOGETHER. TORQUE ALL S-5 SET SCREWS TO 115-INCH-POUNDS.
- ADJUST C-C SPACING PLUS MINUS UP TO 4-INCHES TO HIT PBR METAL ROOF RIDGES.
- CONTRACTOR SHALL NOT INSTALL ROOF ATTACHMENTS ON ROOF AREAS OVER OVERHANGS.
- THERE SHALL BE A PV MODULE TO RAIL MOUNTING CLAMP AT EVERY MODULE/RAIL CROSSING POINT WITH MINIMUM 4 CLAMPS PER MODULE.
- ADJOINING MODULES ON SAME RAIL SHALL SHARE CLAMPS.
- MODULES SHALL BE PORTRAIT.
- ROOF IS ASSUMED TO BE COMPLIANT WITH FBC (FLORIDA BUILDING CODE) AS OF TIME OF CONSTRUCTION.
- THERE SHALL BE A MINIMUM OF TWO RAILS UNDER EACH PV MODULE.
- ROOF ATTACHMENT SPACING SHALL BE AS SHOWN IN FIGURE 08.
- RAILS SHALL NOT CANTILEVER BEYOND OUTSIDE END OF ROOF ATTACHMENT BY MORE THAN 1-FOOT.
- CONTRACTOR/INSTALLER SHALL COMPLY WITH OEM INSTALLATION INSTRUCTIONS.
- IF A CONFLICT SHOULD OCCUR BETWEEN A DRAWING AND/OR SPECIFICATION HEREON AND AN OEM DETAIL, OEM SHALL PREVAIL.
- CONTRACTOR SHALL PROVIDE AHJ WITH ADDITIONAL INFORMATION AS REQUIRED.
- ENGINEER OF RECORD (EOR) PREFERS EMAIL COMMUNICATION: alper@iceli-pe.com

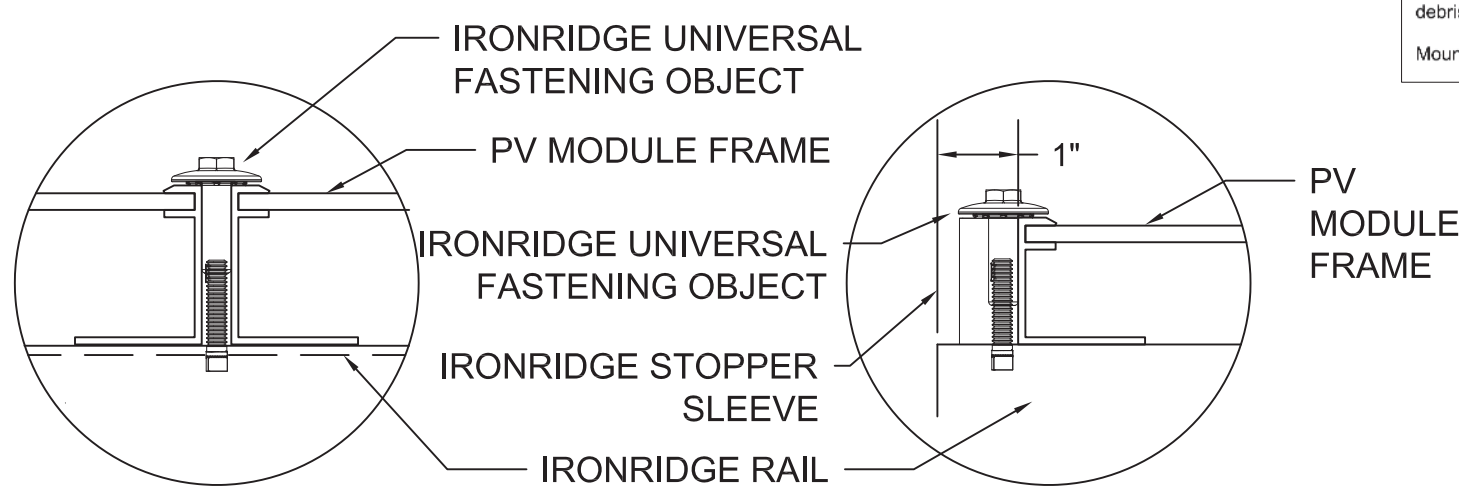
01 NOTES
SCALE: N/A

ASCE 7-16, 29.4-7		GABLE ROOF 7 < Θ < 20		Θ	12	*		·13.26 kW DC SYSTEM. ·39-69," X 40," PV MODULES. ·753 SF PV ARRAY INSTALLATION ·PV MODULE UPLIFT LOAD CAPACITY: 55 PSF (AS REPORTED BY MANUFACTURER) ·UNFACTORED AVERAGE ADDITIONAL GRAVITY LOAD: 2.5 PSF ·TOTAL NUMBER OF ROOF ATTACHMENTS: 85
Exposure Category:		B		h2	0.38	FT.		
Risk Category:	2			Lp	5.71	FT.		
Mean Roof Height:	h	12	FT.	1.5 Lp	8.56	FT.		
Basic Wind Speed (mph):	V	116	MPH	Wp	3.38	FT.		
Ground elevation factor:	Ke	1		ω	0	*		
Topographic Factor:	Kzt	1		B	30	FT.		
Gust Effect Factor:	G	0.85		L	65	FT.		
Directionality Factor:	Kd	0.85		A	19.3	SF.		
Velocity Pressure Exposure Coefficient:	Kz	0.57		Ya	0.67			
	qh	16.7	PSF	a	5	FT.		
ZONE	d1 (ft.)	d2 (ft.)						p (PSF)
ALL	-	-	-	GCp	0.45	YE	1	5.0
1, 2e	1	0.25	d1<h/2	GCp	-2.00	YE	1	-22.4
2n, 2r, 3e	10	0.25	d1>h/2	GCp	-2.60	YE	1.5	-43.6
3r	3	0.25	d1<h/2	GCp	-3.15	YE	1	-35.2

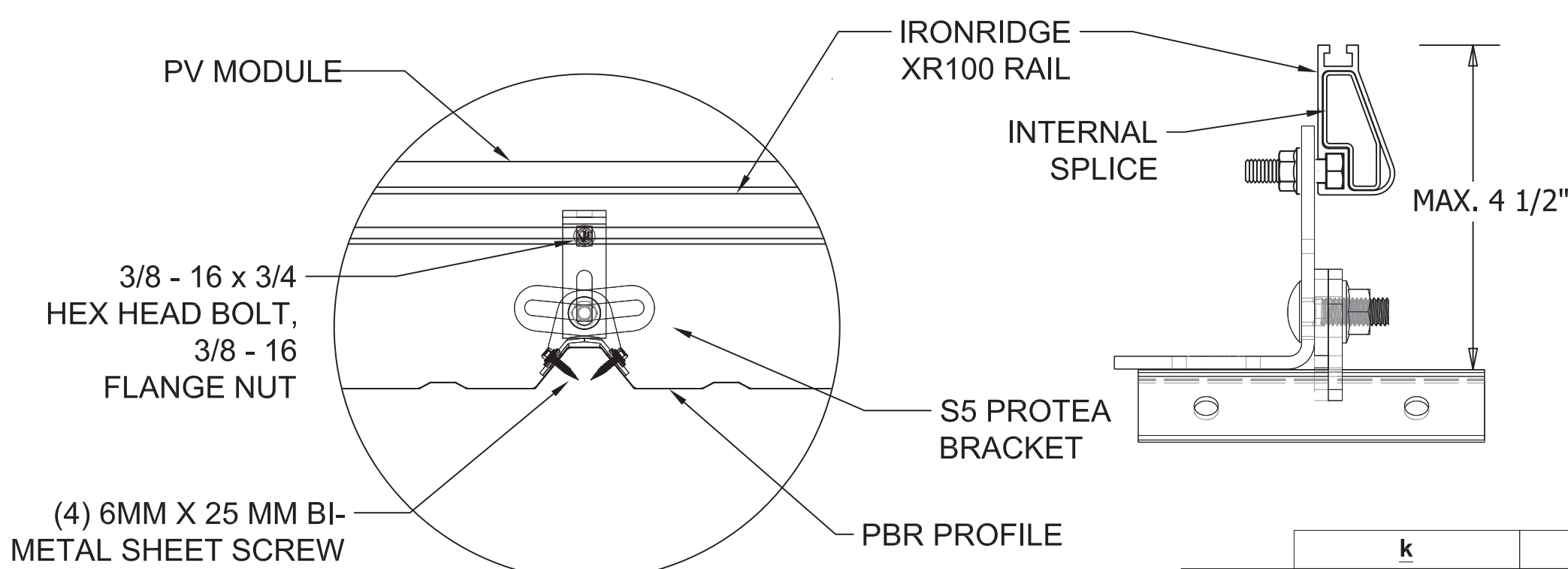


02 WIND LOAD CALCULATIONS

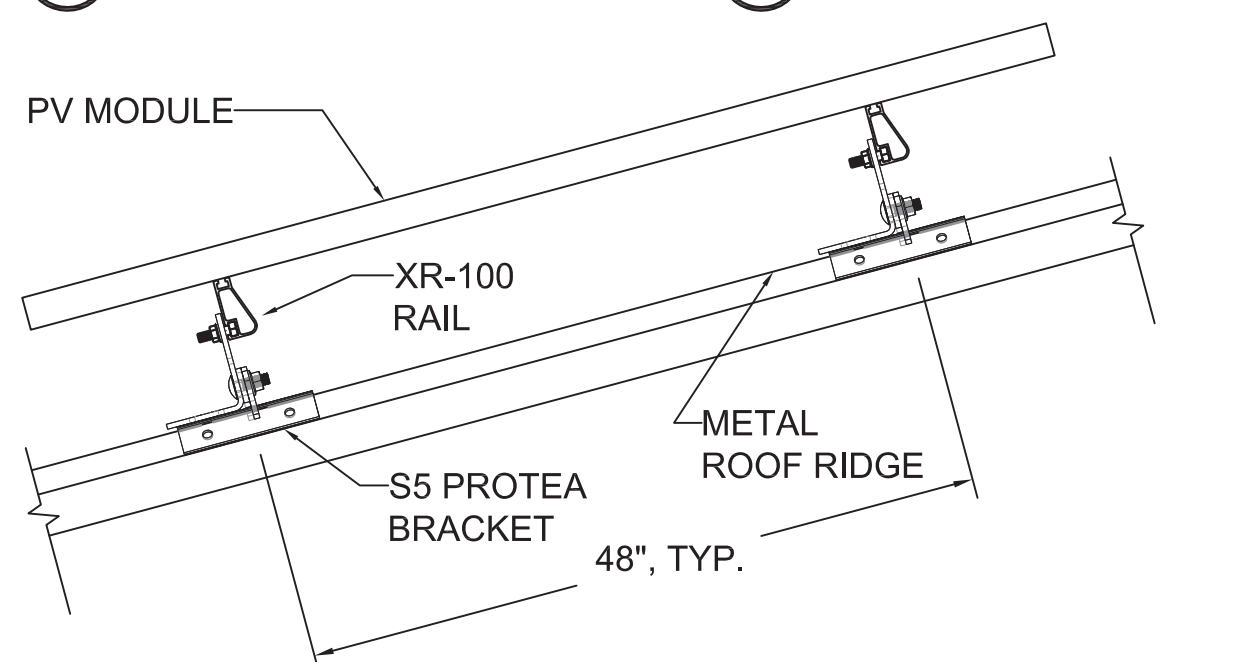
SCALE: N/A



05 DESIGN WIND SPEED
SCALE: NTS

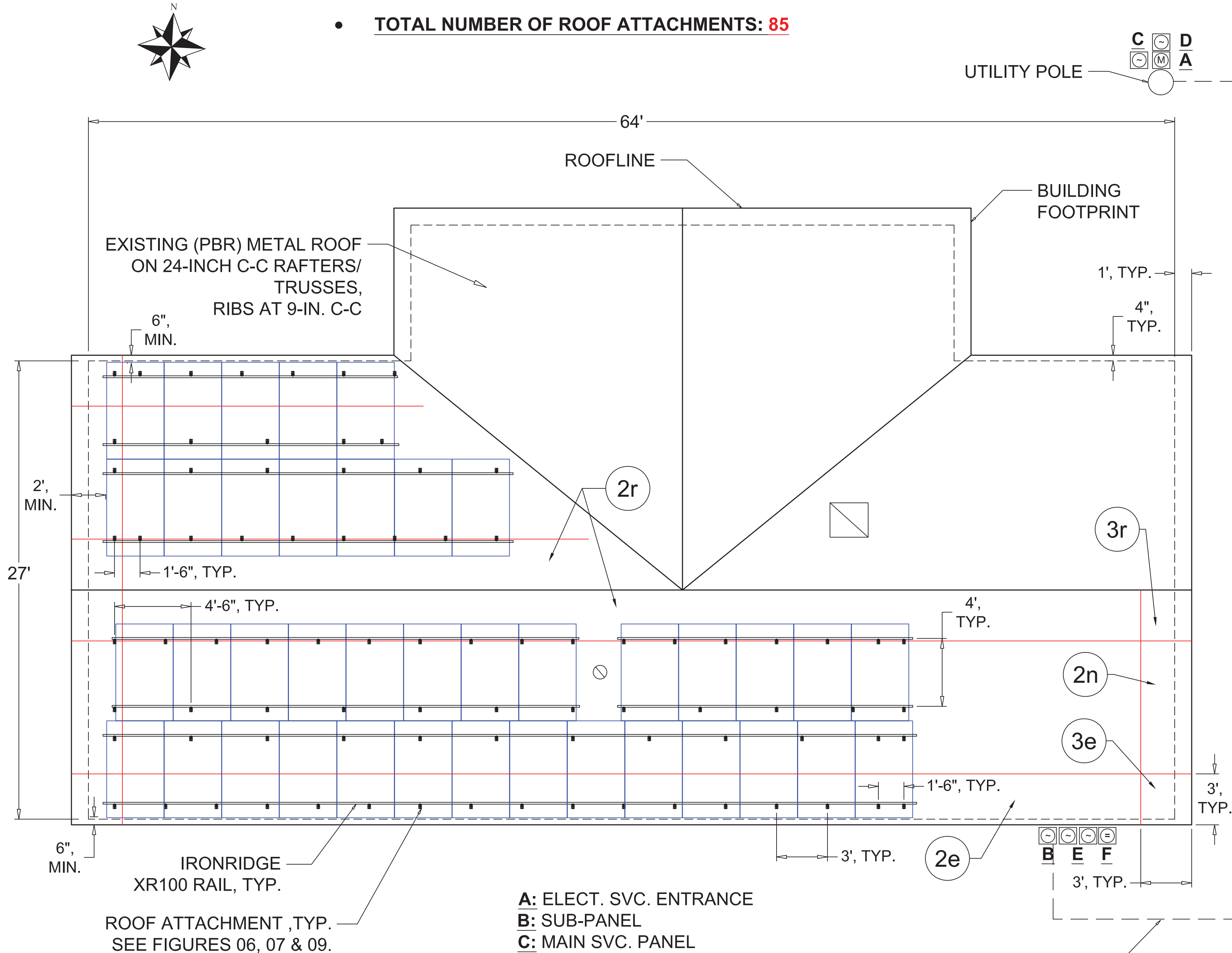


03 DETAIL, MID CLAMP FRONT
SCALE: NTS



04 DETAIL, END CLAMP FRONT
SCALE: NTS

07 ROOF ATTACHMENT DETAIL
SCALE: NTS



A: ELECT. SVC. ENTRANCE

B: SUB-PANEL

C: MAIN SVC. PANEL

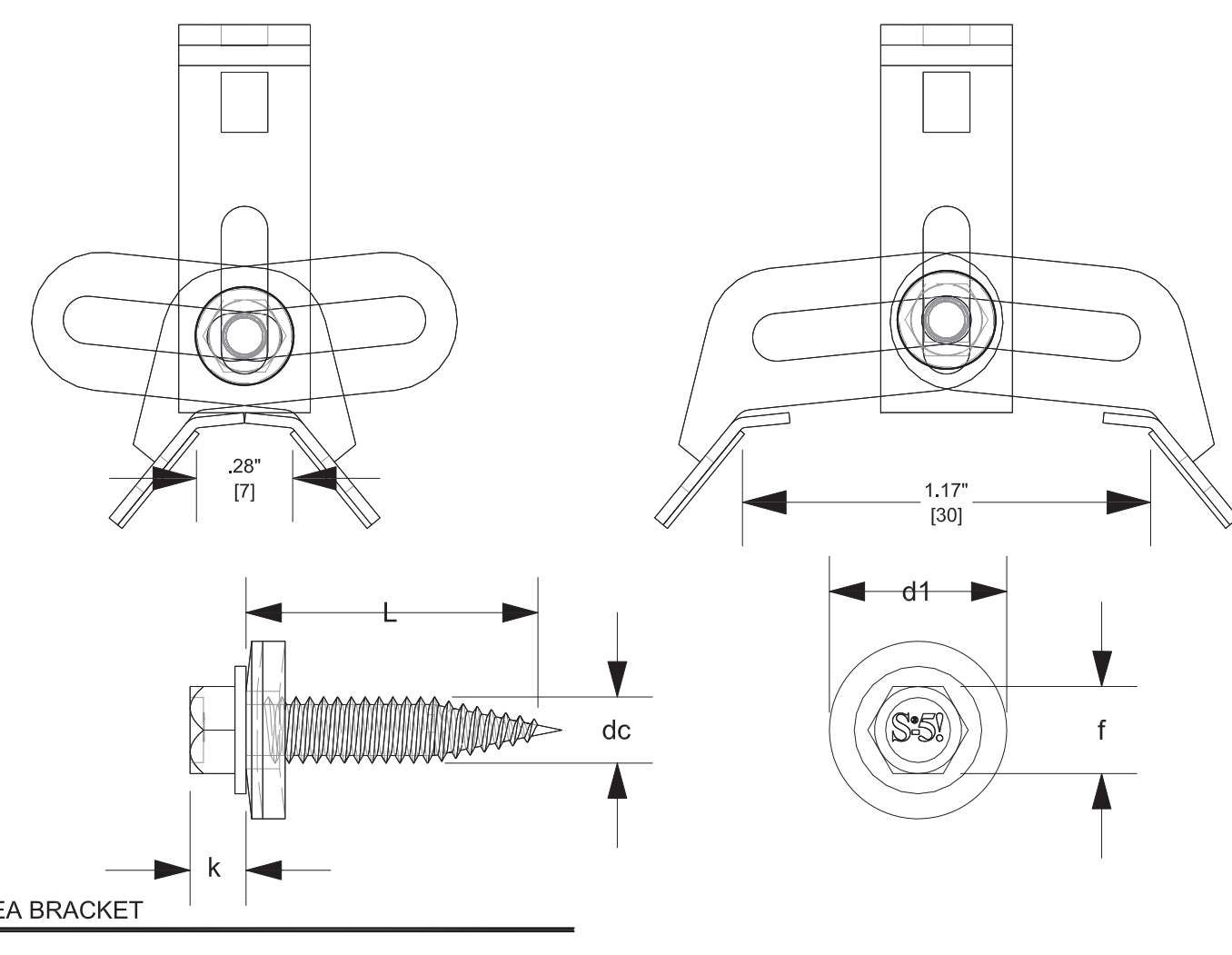
D: AC DISCON

E: INVERTERS

F: BATTERY

SCH. 80 PVC IN MIN. 18-IN. DEEP TRENCH,
~200-FT LONG.

08 PLAN VIEW
SCALE: 1/4" = 1'-0"



09 S5 PROTEA BRACKET
SCALE: NTS

* METAL PANEL
APPEARANCE MAY VARY.

	<u>k</u>	<u>dc</u>	<u>L</u>	<u>d1</u>	<u>f</u>
MM	5.5	6	25	16	8
INCH	.22	.24	1	.63	.30

6mm X 25mm (8mm Hex W/16mm Washer)

ENGINEER
ALPER ICELI
FL 90469
3753 LOCKRIDGE DR.
LAND O LAKES, FL 34638
(813) 406-7060
alper@iceli-pe.com

NAME OF OWNER:ZIMMERMAN ROBERT A
ADDRESS:181 NW SUNTILT CT
WHITE SPRINGS, FL 32096
PROPERTY ID#:14-2S-15-00053-000 (99)

CONTRACTOR:

Sky Solar Energy Inc.
40415 Chancey Rd.
Unit #104 Zephyrhills, FL
33542
352-443-6580
EC 13010029

SKYSOLAR-
ZIMMERMAN

STRUCTURAL
OCT.22-21

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**PV SYSYEM W/ BATTERY BACKUP
ELECTRICAL PLAN**

THIS PLAN IS CERTIFIED BY ENGINEER OF RECORD AS CODE COMPLIANT & APPROVED
FOR FLORIDA USE IN ACCORDANCE WITH HB 1021 ON ELECTRICAL PLANS.

<https://www.flsenate.gov/Session/Bill/2017/01021>

1. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR RESPONSIBLE FOR COMPLYING WITH ALL LOCAL OR NATIONAL CODE REQUIREMENTS AND EQUIPMENT INSTALLATION INSTRUCTIONS.
2. ALL COMPONENTS MUST BE GROUNDED PER ARTICLES NEC (2017) 250 AND 690.
3. ALL EQUIPMENT SHALL BE LISTED PER NEC 690.4(B).
4. PER NEC 690.17, PROVIDE A WARNING SIGN AT ALL LOCATIONS WHERE TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION. SIGN SHALL READ "WARNING- ELECTRIC SHOCK HAZARD- DO NOT TOUCH TERMINALS- OR EQUIVALENT.
5. PER NEC 690.56, PROVIDE A PERMANENT PLAQUE OR DIRECTORY SHOWING ALL ELECTRIC POWER SOURCES ON THE PREMISES AT SERVICE ENTRANCE.
6. INTERCONNECTION METHOD SHALL COMPLY WITH NEC (2017) 705.12.
7. PV PERFORMANCE METER MAY OR MAY NOT BE REQUIRED BY THE AHJ AND/OR UTILITY FOR INTERCONNECTION.
8. ALL CONDUCTORS MUST BE COPPER, RATED FOR 600 V, 90 C° WET ENVIRONMET, TERMINALS ARE RATED FOR 75 C°.

9. UTILITY CONNECTION SHALL BE MADE BY LINE-SIDE TAP PER NEC ARTICLE 705.12(A) AND 705.31, LOCATED INSIDE PANEL BOARD ENCLOSURE USING UNUSED TERMINALS, TERMINALS THAT ARE SUITABLE FOR DOUBLE LUGGING, OR USING OTHER LOCALLY-APPROVED METHODS AND HARDWARE, IN COMPLIANCE WITH NEC 705.12(A). THE PANEL BOARD SHALL HAVE SUFFICIENT SPACE TO ALLOW FOR ANY TAP HARDWARE AS REQUIRED BY NEC 110.3 AND NEC 312.8(A).
10. PV SYSTEM DISCONNECT SHALL BE A VISIBLE KNIFE-BLADE TYPE DISCONNECT THAT IS ACCESSIBLE AND LOCKABLE BY THE UTILITY. THE DISCONNECT SHALL BE LOCATED WITHIN 5 FT OF UTILITY METER. DISCONNECT SHALL BE GROUPED IN ACCORDANCE WITH NEC 230.72
11. ALL CONDUCTORS MUST BE COPPER.
12. ALL CONDUCTORS AND RACEWAYS SHALL BE SUPPORTED ON INTERVALS AND BY METHODS REQUIRED BY NEC (2017).
13. CONTRACTOR SHALL PROVIDE ADDITIONAL INFORMATION IF REQUIRED BY AHJ.
14. EOR PREFERS EMAIL COMMUNICATIONS
alper@icell-pe.com

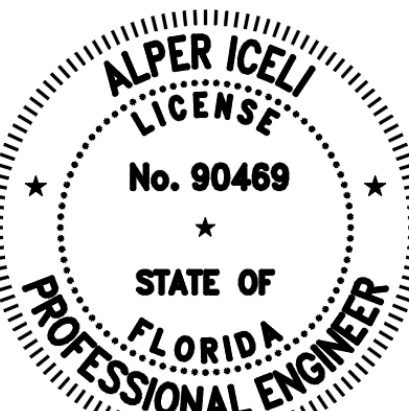
SYSTEM: 39-Q CELLS Q.PEAK DUO BLK-G6+ 340 PV MODULES
2-GENERAC PWRCELL X7602 INVERTERS
1-GENERAC PWRCELL 18 KWH BATTERY

CONTRACTOR SHALL COMPLY WITH SOLAR PROVISIONS 2018 NFPA 1.

NATIONAL ELECTRICAL
CODE, NEC (2017)
ENGINEER

ALPER ICELI
FL 90469

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This item has been digitally
signed and sealed by Alper
Iceli, PE, on date shown
above.

Printed copies of this
document are not considered
signed and sealed and the
signature must be verified on
any electronic copies.

NAME OF OWNER: ZIMMERMAN ROBERT A
ADDRESS: 181 NW SUNTILT CT
WHITE SPRINGS, FL 32096
PROPERTY ID#: 14-2S-15-00053-000 (99)

CONTRACTOR:

Sky Solar Energy Inc.
40415 Chancey Rd.
Unit #104 Zephyrhills, FL
33542
352-443-6580
EC 13010029

SKYSOLAR-
ZIMMERMAN

ELECTRICAL
OCT.22-21

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01 ELECTRICAL NOTES.

SCALE: NTS

**WARNING: PHOTOVOLTAIC
POWER SOURCE**

- ALL PLAQUES AND SIGNAGE REQUIRED BY 2017 NEC AND 2018 NFPA 1 WILL BE INSTALLED AS REQUIRED.
- LABELS, WARNING(S) AND MARKING SHALL COMPLY WITH ANSI Z535.4, WHICH REQUIRES THAT DANGER, WARNING, AND CAUTION SIGNS USED THE STANDARD HEADER COLORS, HEADER TEXT, AND SAFETY ALERT SYMBOL ON EACH LABEL. THE ANSI STANDARD REQUIRES A HEADING THAT IS AT LEAST 50% TALLER THAN THE BODY TEXT, IN ACCORDANCE WITH NEC 110.21(B).
- A PERMANENT PLAQUE OR DIRECTORY SHALL BE INSTALLED PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION IN ACCORDANCE WITH NEC 690.56(B)
- LABEL(S) WITH MARKING, "TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM," SHALL BE LOCATED WITHIN 3 FT OF SERVICE DISCONNECTING MEANS THE TITLE SHALL UTILIZE CAPITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8" IN BLACK ON A RED BACKGROUND, AND REMAINING TEXT SHALL BE CAPITALIZED WITH A MINIMUM HEIGHT OF 3/16" IN BLACK ON WHITE BACKGROUND.

WARNING
ELECTRICAL SHOCK HAZARD.
IF A GROUND FAULT IS INDICATED, NORMALLY
GROUNDED CONDUCTORS
MAY BE UNGROUNDED AND ENERGIZED.

LABEL PLACEMENT:
COMBINER & INVERTER

WARNING
ELECTRICAL SHOCK HAZARD.
DO NOT TOUCH TERMINALS.
TERMINALS ON BOTH LINE AND LOAD
SIDES MAY BE ENERGIZED IN THE OPEN
POSITION.

LABEL PLACEMENT:
AC DISCONNECT, NEAR BREAKER,
(FRONT OF PANEL / DEAD FRONT)

WARNING
DUAL POWER SOURCES.
SECOND SOURCE IS PHOTOVOLTAIC
SYSTEM.

LABEL PLACEMENT:
MAIN PANEL NEAR METER

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM IS
EQUIPPED WITH RAPID SHUTDOWN

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

LABEL PLACEMENT:
PV AC DISCONNECT, INTERCONNECTION,
MAIN SERVICE PANEL

WARNING
ELECTRIC SHOCK HAZARD.
THE DC CONDUCTORS OF THIS
PHOTOVOLTAIC SYSTEM ARE
UNGROUNDED
AND MAY BE ENERGIZED

LABEL PLACEMENT:
DC DISCONNECT, INVERTER

**IN CASE OF EMERGENCY
CALL
SKYSOLAR, INC.**

352-443-6580

LABEL PLACEMENT:
PV AC DISCONNECT, INTERCONNECTION,
MAIN PANEL

WARNING
DC SHOCK HAZARD.
V_{max}: 420 V
V_{mp}: 380 V
I_{max}: 30 A
I_{imp}: 15 A
I_{mp2}: 24 A

LABEL PLACEMENT:
COMBINER BOX

WARNING
ELECTRICAL SHOCK HAZARD.
NO USER-SERVICABLE PARTS INSIDE.
CONTACT AUTHORIZED SERVICER FOR
ASSISTANCE.

LABEL PLACEMENT:
AC DISCONNECT, PCP

**PV AC
DISCONNECT**

V_{OPT}: 240 V
I_{OPT}: 64 A

LABEL PLACEMENT:
PV AC DISCONNECT

**PHOTOVOLTAIC SYSTEM
EQUIPPED WITH RAPID
SHUTDOWN**

LABEL PLACEMENT:
DC DISCONNECT, INVERTER

WARNING
ELECTRIC SHOCK HAZARD
THE DC CONDUCTORS OF THIS
PHOTOVOLTAIC SYSTEM ARE
UNGROUNDED
AND MAY BE ENERGIZED

LABEL PLACEMENT:
DC DISCONNECT, INVERTER

LABEL PLACEMENT:
PV AC DISCONNECT, INTERCONNECTION,
MAIN PANEL

**PHOVOLTAIC POWER
SOURCE**

LABEL PLACEMENT:
RACEWAY & COMBINER BOX

03 LABELS

SCALE: NTS

02 SPECIFICATIONS, CALCULATIONS

SCALE: NTS

VOLTAGE DROP CALCULATIONS (39 PV MODULES)											
VD=2*L*R*1 / 1000											
PV LINK	MODULES	WIRE RUN	Vmp	Imp (AMPS)	Ampacity (AMPS)	R (ohms)	L (ft)	VD	% VD	AWG WIRE SIZE	OCPD (AMPS)
#1 (INV. #1)	7	BRANCH TO COMBINER	380	7.00	8.75	2.01	50	1.41	0.37	#12	N/A
#2, (INV. #1)	8	BRANCH TO COMBINER	380	8.00	10.00	2.01	50	1.61	0.42	#12	N/A
#3, #4, #5 (INV. #2)	15	COMBINER TO INVERTER	380	15.00	18.75	0.786	20	0.47	0.12	#8	1x30
(INV. #1) MPP1	24	COMBINER TO INVERTER	380	24.00	30.00	0.786	20	0.75	0.20	#8	1x30
(INV. #2)	32	INVERTER TO SUB-PANEL	240	32.00	40.00	0.786	10	0.50	0.21	#8	50
(INV. #1 & #2)	64	SUB PANEL TO AC DISCONNECT	240	64.00	80.00	0.160	200	4.10	1.71	#1	100
	64	AC DISCONNECT TO INTERCONNECTION	240	64.00	80.00	0.160	10	0.20	0.09	#1	80

PV MODULE RATINGS	
MODULE MAKE	Q CELLS
MODULE MODEL	Q.PEAK DUO BLK-G6+ 340
MAX. POWER	340 W
OPEN CIRCUIT VOLTAGE	40.24 V
VOLTAGE AT MPP	33.45 V
CURRENT AT MPP	10.16 A
SHORT CURCUIT CURRENT	10.68 A

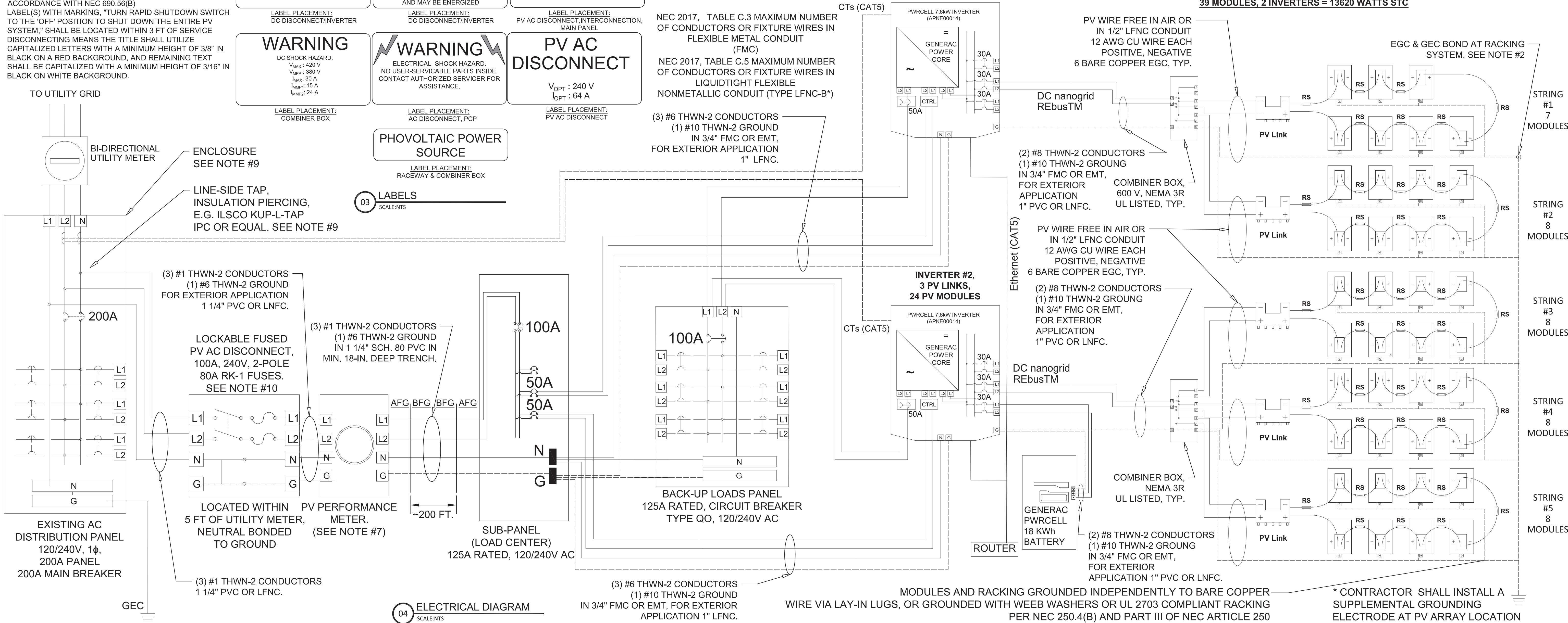
INVERTER RATINGS		
INVERTER MAKE	GENERAC	
INVERTER MODEL	PWRCELL X7602	
RATED OUTPUT POWER	7600 W	
MAX. INPUT POWER	15000 WDC	
NOMINAL AC VOLTAGE	240 V	
MAX. INPUT VOLTAGE	420 V	
MAX. CONT. OUTPUT CURRENT	32 A	
MPPT VOLTAGE RANGE	360-420 V	
CEC INVERTER EFFICIENCY	96.5 %	

PHOTOVOLTAIC DC PER OPTIMIZER (PV LINK)		
RATED MPP CURRENT	8 A	
RATED MPP VOLTAGE	60-360 V	
MAX. OUTPUT VOLTAGE	420 V	
NOMINAL OUTPUT VOLTAGE	380 V	
MAX INPUT SHORT CURCUIT CURRENT	18 A	

PHOTOVOLTAIC DC OUTPUT INVERTER #1		
NOMINAL DC VOLTAGE	380 V	
PV LINK 1 AC OUTPUT CURRENT	7 A	
PV LINK 2 AC OUTPUT CURRENT	8 A	

PHOTOVOLTAIC DC OUTPUT INVERTER #2		
NOMINAL DC VOLTAGE	380 V	
PV LINK 3 AC OUTPUT CURRENT	8 A	
PV LINK 4 AC OUTPUT CURRENT	8 A	
PV LINK 5 AC OUTPUT CURRENT	8 A	

PV MODULES @ 340 WATTS STC
39 MODULES, 2 INVERTERS = 13620 WATTS STC



04 ELECTRICAL DIAGRAM

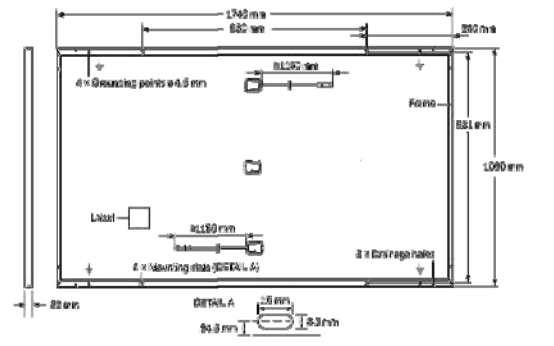
SCALE: NTS

MODULES AND RACKING GROUNDED INDEPENDENTLY TO BARE COPPER
WIRE VIA LAY-IN LUGS, OR GROUNDED WITH WEEB WASHERS OR UL 2703 COMPLIANT RACKING
PER NEC 250.4(B) AND PART III OF NEC ARTICLE 250

* CONTRACTOR SHALL INSTALL A
SUPPLEMENTAL GROUNDING
ELECTRODE AT PV ARRAY LOCATION

MECHANICAL SPECIFICATION

Format	1760mm x 1050mm x 32mm (including frame)
Weight	12.9kg
Front Cover	3.2mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Conductive film
Frame	Black anodized aluminum
Cell	6 x 20 monocrystalline Q-ANTUM solar half cells
Junction box	68-101 mm x 52-60 mm x 15-18 mm Protector class IP67, with bypass diodes
Cable	4 mm ² Solar cable (V ₁ ±110mm, V ₂ ±110mm)
Connector	Stäubli MC4, Asphand LTX, Rave OS-6, Tongsh TL-CableCL8, JMH-Y JMB01, IP68 or Friends IP67



ELECTRICAL CHARACTERISTICS

POWER CLASS	330	335	340	345	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC* (POWER TOLERANCE ±0.5 W)					
Power at MPP	P _{MPP} [W]	330	338	340	345
Short Circuit Current	I _{sc} [A]	10.41	10.47	10.52	10.58
Open Circuit Voltage ¹	V _{oc} [V]	40.16	40.41	40.66	40.92
Current at MPP	I _{MPP} [A]	8.81	9.97	10.02	10.07
Voltage at MPP	V _{MPP} [V]	33.29	33.82	33.84	34.25
Efficiency	η [%]	±18.4	±18.7	±19.0	±19.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²					
Power at MPP	P _{MPP} [W]	247.0	250.7	254.5	258.2
Short Circuit Current	I _{sc} [A]	8.39	8.43	8.48	8.52
Open Circuit Voltage	V _{oc} [V]	37.86	38.10	38.34	38.59
Current at MPP	I _{MPP} [A]	7.80	7.84	7.89	7.93
Voltage at MPP	V _{MPP} [V]	31.69	32.27	32.27	32.57
¹ Measurements tolerance P _{MPP} ±3%, I _{sc} V _{oc} ±5% at 57°C, AM 1.5 G according to IEC 60904-9, ² 1800 W/m ² , NMOT, repeat run AM 1.5 G					
Q CELLS PERFORMANCE WARRANTY					
At least 99% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 92.1% of nominal power up to 30 years. At least 98% of nominal power up to 25 years.					
All data within measurement tolerances. Full warranty also in accordance with the warranty terms of the Q CELLS sales organization of your respective country.					
Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m ²)					
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]	-0.58	Normal Module Operating Temperature	NMOT [°C]	49 ±3
PROPERTIES FOR SYSTEM DESIGN					
Maximum System Voltage	V _{sys} [V]	1000	Safety Class	II	
Maximum Reverse Current	I _r [A]	30	Fine Rating	C	
Max. Design Load, Push/Pull	[N]	3600/2867	Permitted Module Temperature on Continuous Duty	-40°C +85°C	
Max. Test Load, Push/Pull	[N]	8400/4000			
QUALIFICATIONS AND CERTIFICATES					
VDE Quality Tested, IEC 61215/2016, IEC 61730/2016, Application Class II. This data sheet complies with DIN EN 50380.					
					
Name: Q CELLS GmbH Sonnenstraße 3-23, 02769 Borsdorf-Wahren, Germany TEL: +49 (0)3404 68 99-234441 FAX: +49 (0)3404 68 99-230001 EMAIL: sales@q-cells.com WEB: www.q-cells.com					
Engineered in Germany					
					

01 PV MODULE SPEC. SHEET
SCALE: N/A



PV Link™

S2500 Series substrung optimizer

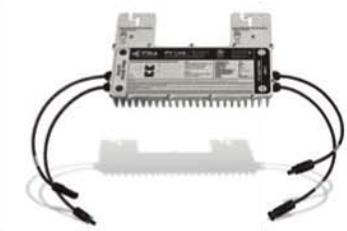


Advantages:

- Fast, simple installation
- Lower failure risk than module-level optimizers
- Rapid Shutdown compliant
- Accurate monitoring for each substrung
- Ground-fault protection
- Robust ceramic capacitors

Features:

- Quick connections with MC4 connectors
- 2500W capacity
- Compatible with high-voltage smart batteries
- Cost-effective solution for high-performance PV
- 25-year limited warranty



Fast. Flexible. Safe.

PV Link is the simple solar optimizer for quick installation and long-lasting performance. Connect as few as two or as many as nine PV modules to each PV Link to overcome shading and challenging roof lines.

Specification	PV Link Model S2501	Unit
Rated power	2500	W
Peak efficiency	99%	-
MPPT voltage range	60-360	VMP
Max input voltage	420; max when cold	VOC
Max output	420	VOC
Nominal output (REbus™)	380	VOC
Max output current	8	A
Standby power	<1	W
Topology	Boost converter	-
Protections	Ground-fault protection	-
Max operating temp	70	°C
Remote monitoring	Via REview™ web dashboard	-
Enclosure	Type 3R	-
Weight	7.3	Lb
Dimensions	2 x 15.4 x 9.6	In
Limited warranty	25 years	-

www.pika-energy.com / sales@pika-energy.com / made in the USA 

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03 POWER OPTIMIZER SPEC. SHEET
SCALE: N/A

GENERAC

PWRCELL





7.6kV 18 PV/Reall Inverter with CTs
Model #: XT902 (Growing SKU: APKE00014)
15.4 kV 20 PV/Reall Inverter with CTs
Model #: XT1402 (Growing SKU: APKE00015)

Solar + storage is simple with the Generac PWRcell™ Inverter. This bi-directional, REbus™-powered inverter offers a simple, efficient design for integrating smart batteries with solar. Ideal for self-supply, backup power, zero-export and energy cost management, the PWRcell Inverter is the industry's most feature-rich line of inverters, available in single-phase and three-phase models.

FEATURES & BENEFITS

- Single inverter for grid-tied solar with smart battery integration
- Simplified system design: No autotransformer or battery inverter needed
- User-selectable modes for backup power, self-supply, time-of-use, zero-import and export limiting
- Free system monitoring included via PWRview™ Web Portal and Mobile App

AC OUTPUT/GRID-TIE	MODEL XT902	MODEL XT1402
MAX. CONT. GRID-TIED AC POWER @ 50°C (122°F)	7800 W	11400 W
AC OUTPUT VOLTAGE	120/240, 1Ø VAC	120/208, 3Ø VAC
AC FREQUENCY	60 Hz	60 Hz
MAXIMUM CONTINUOUS OUTPUT CURRENT	33 A, RMS	33 A, RMS
GROUND-FAULT ISOLATION DETECTION	Included	Included
CHARGE BATTERY FROM AC	Yes	Yes
THD CURRENT	<2%	<2%
TYPICAL NIGHTTIME POWER CONSUMPTION	<7 W	<7 W

AC OUTPUT/ISLANDED	MODEL XT902	MODEL XT1402
MAX. CONT. AC POWER @ 40°C (104°F) W/ SINGLE 6 MODULE BATTERY CABINET	8,000 W	8,000 W
MAX. CONT. AC POWER @ 40°C (104°F) W/ 2 BATTERY CABINETS 6 MODULES MINIMUM	11,000 W	9,600-11,000 W ¹
MAX. CONT. AC POWER @ 50°C (122°F)	8,800 W	7,800-8,800 W ¹
PEAK MOTOR STARTING CURRENT (2 SEC)	50 A, RMS	
AC BACKUP OUTPUT VOLTAGE	120/240, 1Ø VAC	120/208, 3Ø VAC
AC FREQUENCY	60 Hz	60 Hz
THD VOLTAGE	<2%	<2%
AUTOMATIC SWITCHOVER TIME	<1 Seconds	<1 Seconds

DC INPUT	MODEL XT902	MODEL XT1402
DC INPUT VOLTAGE RANGE	350-420 VDC	350-420 VDC
NOMINAL DC BUS VOLTAGE	380 VDC	380 VDC
DC DISTRIBUTION INPUT BREAKERS	4 x 2P30 A	4 x 2P30 A
MAX INPUT CURRENT PER DC INPUT	30 A	30 A
REVERSE-POLARITY PROTECTION	Yes	Yes
TRANSFORMERLESS, UNBYPASSABLE	Yes	Yes
TYPICAL NIGHTTIME POWER CONSUMPTION	<7 W	<7 W
DC BUS EXPORT FUSES (1-5)	40 A	40 A
3-POLE DISCONNECTION	Yes	Yes

EFFICIENCY	MODEL XT902	MODEL XT1402
PEAK EFFICIENCY	97.9%	97.9%
CDC WEIGHTED EFFICIENCY	96.9%	97.9%

¹Peak Performance

In island mode XT1402 protected loads only supply 2 phases 120 VAC L-N, 208 L-L which results in lower power than in grid tied 3 phase mode. The low value of the range is for full L-L loading while high value of the range is full L-N loading

02 INVERTER SPEC. SHEET
SCALE: N/A

Specifications

PWRcell™ BATTERY CONFIGURATIONS

BATTERY MODULE SERIES:	3.0 kWh DCB			
BATTERY MODULES:	3	4	5	6
USABLE ENERGY:	9 kWh	12 kWh	15 kWh	18 kWh
NOMINAL CONT. AC POWER ¹	3.4 kW	4.5 kW	5.6 kW	6.7 kW
MAX. CONT. AC POWER ²	4.5 kW	6 kW	7.5 kW	9 kW
PEAK MOTOR STARTING CURRENT (2 SEC) - A, RMS	25	33	42	50
REbus™ VOLTAGE - INPUT/OUTPUT:	360-420 VDC			
NOMINAL VOLTAGE:	46.8 VDC			
DC-DC ROUND-TRIP EFFICIENCY:	96.5%			
MAXIMUM AMBIENT OPERATING TEMPERATURE:	14 TO 122 °F (-10 TO 50 °C)			
RECOMMENDED AMBIENT OPERATING TEMPERATURE:	41 to 104 °F (5 to 40 °C)			
MAXIMUM INSTALLATION ALTITUDE - FT (M):	8934 (3000)			
DIMENSIONS, L x W x H - IN (MM):	22" x 10" x 68" (559 x 254 x 1727)			
WEIGHT, ENCLOSURE - LB (KG):	115 (52)			
WEIGHT, INSTALLED - LB (KG):	280 (127)	335 (152)	390 (177)	445 (202)
WEIGHT, ACCESSORY MOUNTING HARDWARE - LB (KG):	21 (10)			
ENCLOSURE TYPE:	Type 3R			
WARRANTY - LITHIUM MODULES:	10 Years, (7.56MWh)			
WARRANTY - ELECTRONICS AND ENCLOSURE:	10 Years			
COMMUNICATION PROTOCOL:	REbus™ DC Nanogrid™			
COMPLIANCE:	UL 9540, UL 1973, UL 1642, CSA 22.2 #107.1			

¹Average AC power over a complete discharge cycle.

²Peak Performance, values provided for 40°C (104°F).

Note: Charge/discharge rates may be reduced at temperature extremes

PWRcell ACCESSORIES

Inside of the PWRcell Battery Cabinet, battery modules are stacked two deep on three levels, allowing for up to six modules to be connected in series. You can upgrade an existing PWRcell Battery Cabinet by adding Battery Modules and a Module Spacer (APKE00008). A Module Spacer is only required for battery configurations with an odd number of modules (i.e. 3 or 5).

Generac offers a convenient PWRcell Battery Upgrade Kit (APKE00009) to help replace lost or misplaced hardware.

PWRcell MODEL BUILDER

PRODUCT SERIES

ENCLOSURE TYPE

OF MODULES

BATTERY SERIES

PWRcell

OR

M3

OR

DCB

1R (Indoor-Rated) OR (Outdoor-Rated)

3 Modules 4 Modules 5 Modules 6 Modules

DCB

Sample Model Name: PWRcell OR M3 DCB

05 BATTERY SPEC. SHEET
SCALE: N/A

NATIONAL ELECTRICAL CODE, NEC (2017)

ENGINEER

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This item has been digitally signed and sealed by Alper Iceli, PE, on date shown above.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

NAME OF OWNER: ZIMMERMAN ROBERT A
ADDRESS: 181 NW SUNTILT CT
WHITE SPRINGS, FL 32096
PROPERTY ID#: 14-2S-15-00053-000 (99)

CONTRACTOR:

Sky Solar Energy Inc.
40415 Chancey Rd.
Unit #104 Zephyrhills, FL 33542
352-443-6580
EC 13010029

SKYSOLAR-ZIMMERMAN

DATA
SEP.17-21

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