

# PROJECT DESIGN DATA:

WORK SHALL BE COMPLETED AS PER 2020 RESIDENTIAL CODE OF NEW YORK STATE. PUBLICATION DATE: NOVEMBER 2019, NFPA 70, 2020 NATIONAL ELECTRICAL CODE AND 2018 WOOD FRAME CONSTRUCTION MANUEL LOAD CRITERIA AS FOLLOWS EXPOSURE CATEGORY: "B" GROUND SNOW LOAD: 50 PSF WIND SPEED: 120 MPH, 35SPF

### **GENERAL NOTES:**

- ALL SOLAR MODULES TO BE REC420W AND SHALL
- BE INSTALLED AS PER REC INSTALLATION MANUAL. ALL INVERTERS TO BE SOLAR EDGE INVERTERS ALL 2. RACKING AS PER DETAILS FOR GROUND MOUNT INSTALLATION



# ARRAY NOTES:

THERE AISRE (1) GROUND MOUNT ARRAYS FOR A TOTAL OF 913.88 SQ.FT.

# GROUND MOUNT LOCATION SURVEY:

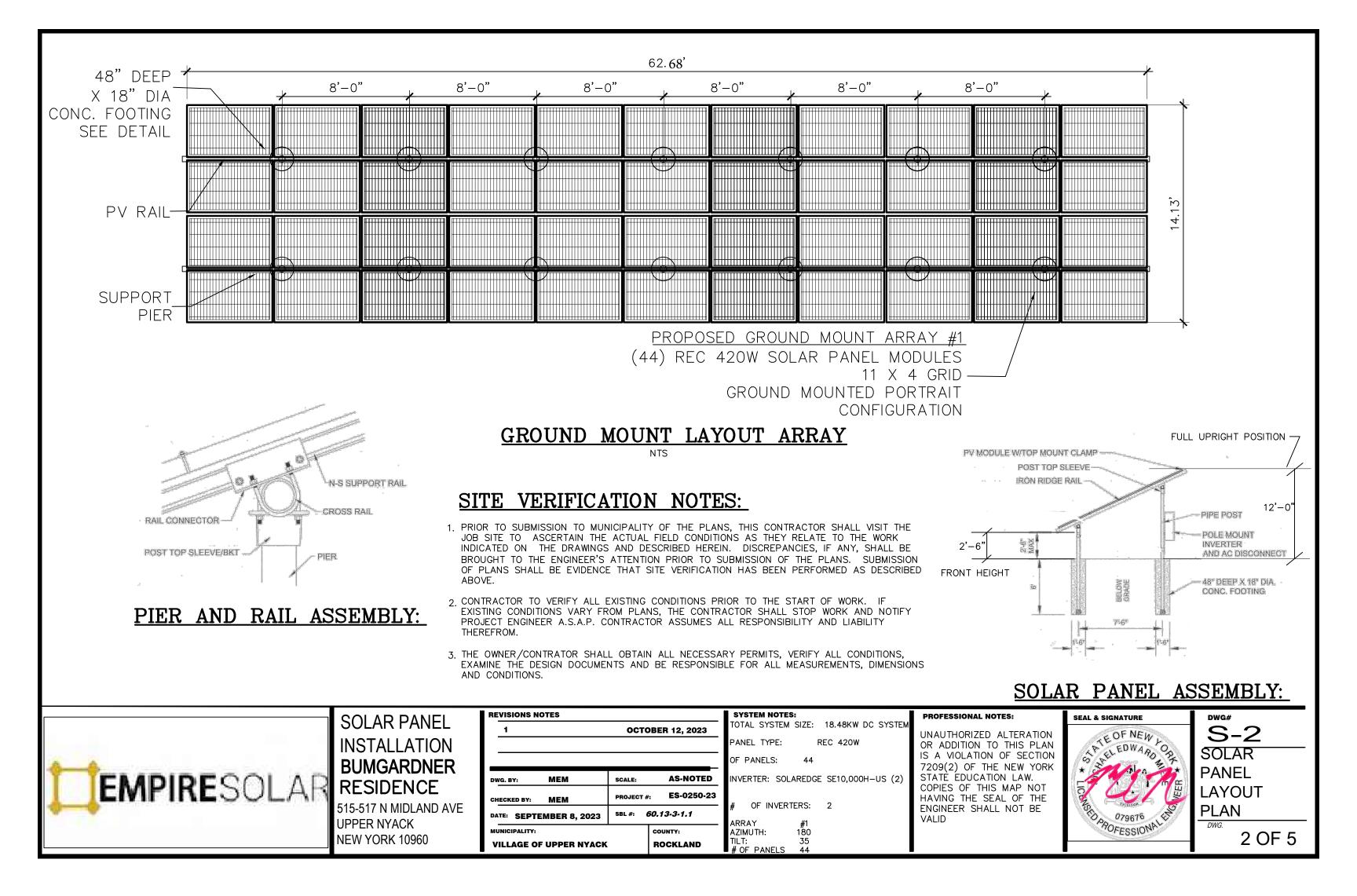
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\*\* GROUND MOUNT ARRAY SHALL BE STAKED OUT BY A LICENSED PROFESSIONAL SURVEYOR PRIOR TO INSTALLATION

### **PROFESSIONAL NOTES:**

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE

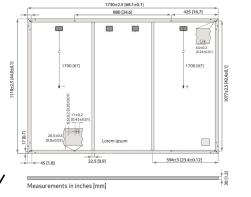




### REC ALPHA PURE-R SERIES PRODUCT SPECIFICATIONS



GENERAL D	ATA
Cell type:	80 half-cut REC bifacial, heterojunction cells with lead-free, gapless technology
Glass:	0.13 in (3.2 mm) solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	4-part, 4 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm²) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG (4 mm²) PV wire, 67 + 67 in (1.7 + 1.7 m) in accordance with EN 50618
Dimensions:	$68.1 \times 44.0 \times 1.2 \text{ in} (20.77 \text{ ft}^2) / 1730 \times 1118 \times 30 \text{ mm} (1.93 \text{ m}^2)$
Weight:	47.4 lbs (21.5 kg)
Origin:	Made in Singapore



CERTIFICATIONS

IEC 62804

IEC 61701

IEC 62716

UL 61730

IEC 62782

IEC 62321

IEC 61215:2016, IEC 61730:2016, UL 61730

IEC 61215-2:2016 Hailstone (35mm)

ISO 14001, ISO 9001, IEC 45001, IEC 62941

**TEMPERATURE RATINGS\***  $Nominal\,Module\,Operating\,Temperature:$ 

Temperature coefficient of P<sub>MAX</sub>:

Temperature coefficient of  $V_{oc}$ :

Temperature coefficient of I<sub>cc</sub>:

PID

Salt Mist

Ammonia Resistance

Fire Type Class 2

Dynamic Mechanical Load

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Lead-free acc. to RoHS EU 863/2015

44°C (±2°C)

-0.26 %/°C

-0.24 %/°C

0.04 %/°C

33

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	ELECTRICAL DATA		Product Code*: RI	ECxxxAA PURE-F	२
	Power Output - P <sub>MAX</sub> (Wp)	400	410	420	430
	Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
	Nominal Power Voltage - V <sub>MPP</sub> (V)	48.8	49.4	50.0	50.5
STC	Nominal Power Current - I <sub>MPP</sub> (A)	8.20	8.30	8.40	8.52
S	Open Circuit Voltage - V <sub>oc</sub> (V)	58.9	59.2	59.4	59.7
	Short Circuit Current - I <sub>sc</sub> (A)	8.73	8.81	8.89	8.97
	Power Density (W/ft²)	207	212	218	223
	Panel Efficiency (%)	20.7	21.2	21.8	22.3
	Power Output - P <sub>MAX</sub> (Wp)	305	312	320	327
	Nominal Power Voltage - V <sub>MPP</sub> (V)	46.0	46.6	47.1	47.6
NMOT	Nominal Power Current - I <sub>MPP</sub> (A)	6.64	6.70	6.78	6.88
	Open Circuit Voltage - V <sub>oc</sub> (V)	55.5	55.8	56.0	56.3
	Short Circuit Current - I <sub>sc</sub> (A)	7.05	7.12	7.18	7.24

Values at standard test conditions (STC.air mass AM15, irradiance 10.75 W/sq ft (1000 W/m<sup>2</sup>), temperature 77°F (25°C), based on a production sprear with a tolerance of  $P_{\mu\alpha\nu} V_{\alpha\nu} \epsilon \delta l_{\alpha\nu} \epsilon 39 \kappa$  within one watt tests. Nominal module operating temperature (NMC) at a standard test temperature CRP (20°C), and a standard t

MAXIMUM RATINGS		WARRANTY			
Operational temperature: -40+85°C			Standard	REC	ProTrust
System voltage:	1000 V	Installed by an REC Certified Solar Professional	No	Yes	Yes
Test load (front):	+ 7000 Pa (146 lbs/ft²)°	System Size	All	≤25 kW	25-500 kW
Test load (rear):	- 4000 Pa (83.5 lbs/ft²)°	Product Warranty (yrs)	20	25	25
Series fuse rating:	25 A	Power Warranty (yrs)	25	25	25
Reverse current:	25 A	Labor Warranty (yrs)	0	25	10
*See installation manual for mounting instructions. Design load = Test load /1.5 (safety factor)		Power in Year 1	98%	98%	98%
		Annual Degradation	0.25%	0.25%	0.25%
		Power in Year 25	92%	92%	92%
		See warranty docu	ments for d	etails. Cor	nditions apply

Available from:

ww.recgroup.con

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.



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with HD- SE3000H-US / SE7600H-US / MODEL NUMBER	SE3800 SE1000	)H-US / SI )0H-US / S	E5000H SE1140	-US / SE60	00H-US		S SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER			S	EXXXXH-XXXXB	XX4			
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	V
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	V
AC Output Voltage MinNomMax. (211 - 240 - 264)	~	*	~	1	~	~	~	Va
AC Output Voltage MinNomMax. (183 - 208 - 229)	-	~	-	*	-	-	~	V
AC Frequency (Nominal)				59.3 - 60 - 60.5 <sup>(1)</sup>		-		Н
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	4
Power Factor				1, Adjustable - 0.85 to 0	.85			
GFDI Threshold				1				1
Utility Monitoring, Islanding Protection, Country Configurable Thresholds		Yes						
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	V
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	V
Transformer-less, Ungrounded				Yes				1
Maximum Input Voltage				480				Vo
Nominal DC Input Voltage	380 400							Vo
Maximum Input Current @240V <sup>(2)</sup>	8.5	10.5	13.5	16.5	20	27	30.5	Ad
Maximum Input Current @208V <sup>(2)</sup>	-	9	-	13.5	-	-	27	Ad
Max. Input Short Circuit Current				45				A
Reverse-Polarity Protection				Yes				
Ground-Fault Isolation Detection				600kΩ Sensitivity				
Maximum Inverter Efficiency	99 99.2 99.2							
CEC Weighted Efficiency	99 @ 240V 99 @ 280V					%		
Nighttime Power Consumption				< 2.5				W

<sup>®</sup> For other regional settings please contact SolarEdge support
<sup>Ø</sup> A higher current source may be used; the inverter will limit its input current to the values stated

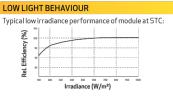


REVISIONS NOTES		SYSTEM NOTES: TOTAL SYSTEM SIZE: 18.48KW DC SYSTEM		
		PANEL TYPE: REC 420W	UN A OR	
		OF PANELS: 44	IS / 720	
DWG. BY: MEM	SCALE: AS-NOTED	INVERTER: SOLAREDGE SE10,000H-US (2)	STA COF	
CHECKED BY: MEM	PROJECT #: ES-0250-23	# OF INVERTERS: 2	HA	
DATE: SEPTEMBER 8, 2023	SBL #: 60.13-3-1.1	"	ENC VAL	
MUNICIPALITY:	COUNTY:	AZIMUTH: 180		
VILLAGE OF UPPER NYACK	ROCKLAND	TILT: 35 # OF PANELS 44		

\*The temperature coefficients stated are linear values DELIVERY INFORMATION

Panels per pallet:

Panels per 40 ft GP/high cube container: 858 (26 pallets)



#### FESSIONAL NOTES:

UTHORIZED ALTERATION ADDITION TO THIS PLAN VIOLATION OF SECTION 9(2) OF THE NEW YORK TÈ EDUCATION LAW. IES OF THIS MAP NOT ING THE SEAL OF THE INEER SHALL NOT BE ID

#### SEAL & SIGNATURE



ELECTRIC SHOCK HAZARD !         THE DIRECT CURRENT CIRCUIT CONDUCTORS OF         THIS PHOTOVOLTAIC POWER SYSTEM ARE         UNGROUNDED BUT MAY BE ENERGIZED WITH         RESPECT TO GROUND DUE TO LEAKAGE PATHS         AND/OR GROUND FAULTS		/ARNING RTER OUTPUT DNNECTION RELOCATE THIS URRENT DEVICE	SOLAR EL SYSTEM CO	CAUTION SOLAR ELECTRIC YSTEM CONNECTED		
PHOTOVOL         INVERTER         DC DISCON         WMM         VARNIN         MMM         ELECTRIC         SHOCK HAZZ         DO NOT TOUCH TERMINALS:         BOTH THE LINE AND LOAD         ENERGIZED IN THE OPE         INTERACTIVE SOLAR PV SY         RATED DC CURRENT         RATED DC VOLTAGE         MAXIMUM SYSTEM VOLTAGE         SHORT CIRCUIT CURRENT         SYSTEM INSTALLER:         FOR SERVICE CALL:         DC INPUT WARNIN         INVERTER         BY	INPUT NECT G RD ! TERMINALS ON SIDES MAY BE N POSITION STEM RATING VDC VDC AMP VDC AMP	U DO BO IN RAT NOR SYS FOR	OTOVOLTAIC S DISCONNECT F TILITY OPERAT WARNING ELECTRIC SHOCK HAZARD NOT TOUCH TERMINALS. TER OTH THE LINE AND LOAD SIDE ENERGIZED IN THE OPEN PO TERACTIVE SOLAR PV SYSTEM ED OPERATING CURRENT MAL OPERATING VOLTAGE	OR TION 1/8" 1/8" O ! MINALS ON IS MAY BE SITION M RATING AMP 240 VAC 1/8" 3/16'	INS BR/ IT I CON INS CON RAC ALI → PRI PRI FIN INS	
WARNING DC SOLAR CIRCU DC CIRCUIT LABEL	JIT	WARNING THIS METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM	SHALL BE OTHER	CIRCUITS ONLY NO OTHER LOADS E APPLIED TO THIS PANEL THAN PV COMPONENTS AS PER NEC ARTICLE 690		
EMPIRESOLAR	SOLAR PANEL INSTALLATION BUMGARDNER RESIDENCE 515-517 N MIDLAND AVI UPPER NYACK NEW YORK 10960	REVISIONS NOTES	COUNTY:	SYSTEM NOTES: TOTAL SYSTEM SIZE: 18.48KW DC PANEL TYPE: REC 420W OF PANELS: 44 INVERTER: SOLAREDGE SE10,000H- # OF INVERTERS: 2 ARRAY #1 AZIMUTH: 180 TILT: 35 # OF PANELS 44	UNAU OR A IS A 72090	

### ROUND MOUNT NOTES:

RAY RACK ASSEMBLY

LAR GROUND MOUNT RACKING SHOWN FOR ARRANGEMENT ONLY

CKING MANUFACTURER TO PROVIDE SEALED SHOP DRAWINGS OF FINAL CKING ASSEMBLY. STALL AS PER MANUFACTURER STANDARD INSTALLATION DETAILS.

DST SUPPORTED RACKING FOUNDATION AS SHOWN

"ØX 48" DEEP CONCRETE FOUNDATION WITH EMBEDDED POST.

STALLATION NOTES: ACKET TO POST INSTALLATION HEIGHT MAY VARY WITH SITE GRADING. IS NOT NECESSARY FOR ALL POST TOP BRACKETS TO ALIGN AT A MMON ELEVATION FOR EACH ROW (+/-2")

STALLATION CONTRACTOR SHALL ENSURE THAT ALL GRADING AND MPACTION OF SITE IS COMPLETED PRIOR TO INSTALLATION OF THE CKING SYSTEM TO AVOID POTENTIAL DISTURBANCE OF FOUNDATION AND IGNMENT.

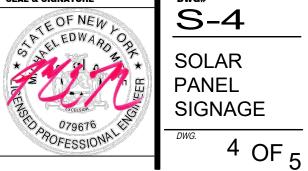
ALED SHOP DRAWINGS SHALL BE PROVIDED BY RACKING MANUFACTURER RIOR TO THE INSTALLATION OF THE PV ARRAY.

IS DRAWING IS DIAGRAMMATIC FOR THE MODULE/RACK ARRANGEMENT. NAL RACKING DETAILS AND ASSEMBLY MAY VARY WITH FINAL STALLATION.



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