

BARBEAU RESIDENCE

9.12 kW SOLAR PHOTOVOLTAIC SYSTEM

2205 NW JOHNSON ST. PORTLAND, OR. 97210



5506 SE INTERNATIONAL WAY
MILWAUKIE, OR 97222

P 503.477.9585 F 503.477.8340
INFO@IMAGINEENERGY.NET

CCB #: 167963
WA LIC #: IMAGIEL934PT

BARBEAU RESIDENCE

PROJECT DESCRIPTION
9.12 kW SOLAR PV PROJECT

PROJECT ADDRESS
2205 NW JOHNSON ST.
PORTLAND, OR 97210

CONTACT INFORMATION
JOE & JORDAN BARBEAU
650-278-9788
barbeaujoseph1970@gmail.com

COVER

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

DRAWN BY
JUSTIN GUADAGNI

DRAWN ON
7/29/2021

SCALE
1/128" = 1'

SHEET
NUMBER
PV-0

GENERAL NOTES

SYSTEM DESCRIPTION:
SYSTEM AC CAPACITY IS 7.6 kWac RATED AT MAXIMUM
COMBINED OUTPUT AT THE INVERTER(S) TERMINALS. PV
CAPACITY IS 9.12 kWdc RATED AT STANDARD TEST CONDITIONS.

(24) SILFAB SIL-380 BK, 380 WATT PHOTOVOLTAIC MODULES IEC
61215 CERTIFIED AND UL 1703 LISTED.
(24) SOLAREDGE P401 DC OPTIMIZERS
(1) SOLAREDGE ENERGY HUB SE7600H-US INVERTER LISTED TO
UL 1741 AND COMPLYING WITH IEEE 1547.

MODULE MOUNTING SHALL BE SUNMODO SMR SOLAR RACKING
COMPLYING WITH UL 2703.

INTERCONNECTION:
THIS PV SYSTEM SHALL CONNECT WITH THE EXISTING
ELECTRICAL SYSTEM AT ONE PLACE SPECIFIED AS THE POINT
OF INTERCONNECTION, WHICH WILL BE AT THE UTILITY METER.
THE PV SYSTEM IS INTENDED TO OPERATE IN PARALLEL WITH
THE ELECTRIC UTILITY SERVICE PROVIDER. ANTI-ISLANDING
PROTECTION AND HARMONIC LIMITS SHALL COMPLY WITH UL
1741, IEEE 1547 AND IEEE 519.
PERMISSION TO OPERATE THE PV SYSTEM IS NOT AUTHORIZED
UNTIL FINAL INSPECTIONS AND APPROVALS ARE OBTAINED
FROM THE AUTHORITY HAVING JURISDICTION AND THE
ELECTRIC UTILITY SERVICE PROVIDER.

SYSTEM PARAMETERS
1. HIGH TEMPERATURE: 32° C
2. LOW TEMPERATURE: -8° C
3. WIND SPEED: 98 MPH
4. SNOW LOAD: 25 PSF
5. EXPOSURE CATEGORY: B
6. ARRAY TILT: 37°, 18°, 15°
7. ARRAY AZIMUTH: 90°, 270°
8. RACKING: SUNMODO SMR
9. ROOF MATERIAL: ARCH COMP
10. ROOF STRUCTURE: 2x8 RAFTERS AT 24" O.C.
11. ROOF PITCH: 37°, 18°, 15°
12. ROOF ORIENTATION: 90°, 270°

PROJECT INFORMATION

PRIMARY CONTACT:
JOE & JORDAN BARBEAU
PH: 650-278-9788
E: barbeaujoseph1970@gmail.com

CONTRACTOR:
IMAGINE ENERGY
5506 SE INTERNATIONAL WAY
MILWAUKIE OR. 97222
CONTACT:
PAT SCHELLERUP
PH: 503.593.2828
CCB# 167963

AUTHORITY HAVING JURISDICTION:
CITY OF PORTLAND, OREGON

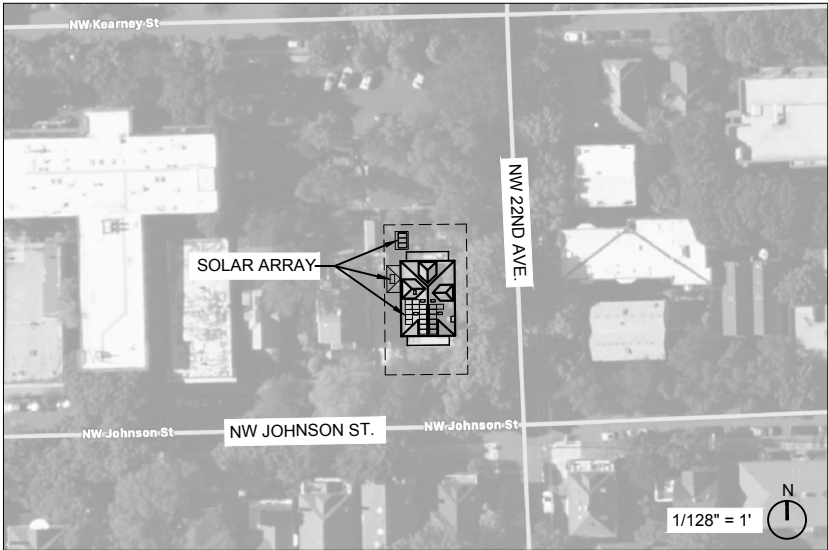
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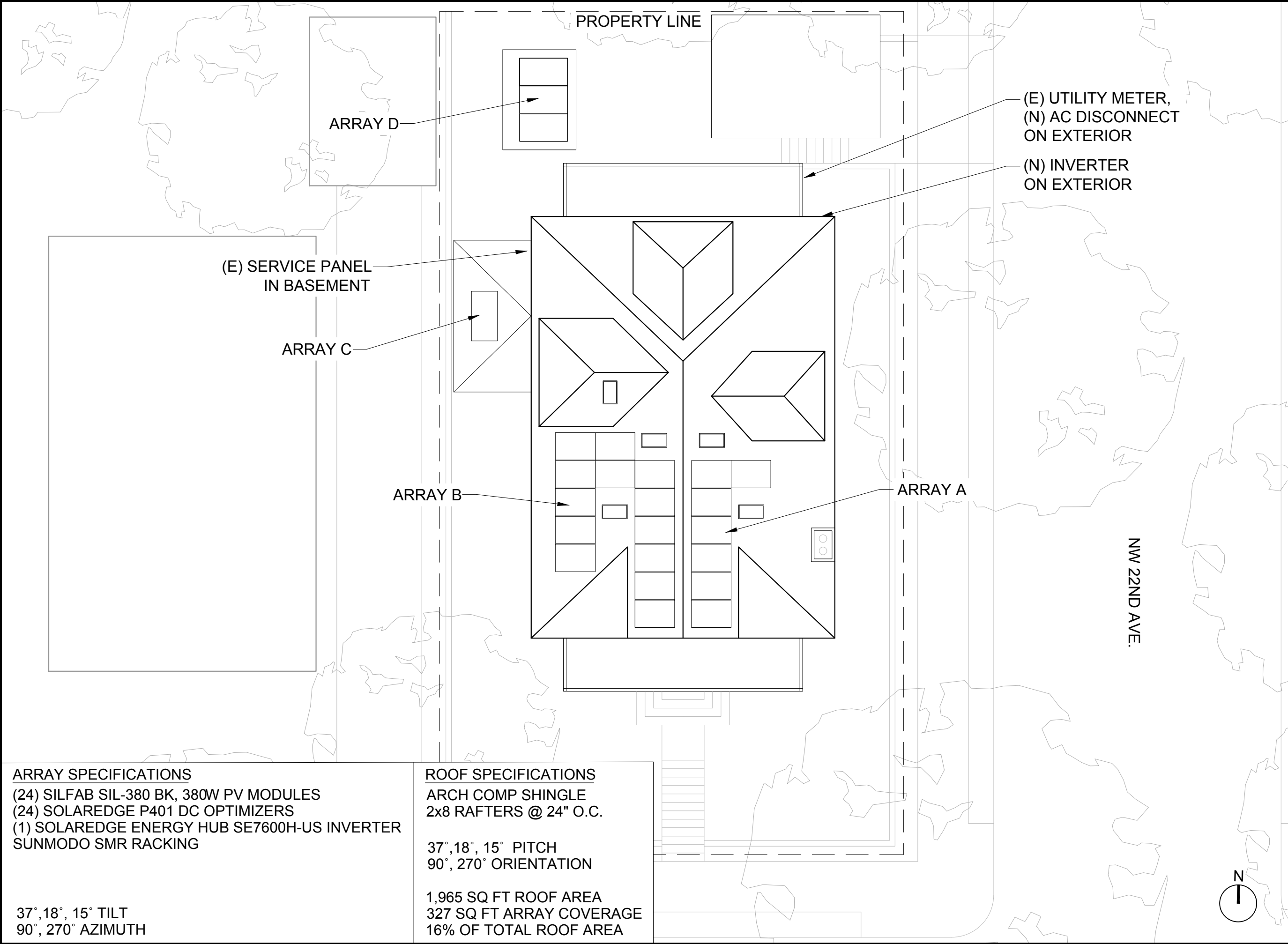
PV-0	COVER SHEET
PV-1	SITE PLAN
PV-2	SOUTH ELEVATION
PV-2.1	EAST ELEVATION
PV-3	RACKING DETAILS
PV-3.1	RACKING DETAILS
PV-4	DATA SHEETS - INVERTER
PV-5	DATA SHEETS - MODULE
PV-6	DATA SHEETS - OPTIMIZER

CODES AND STANDARDS

CONSTRUCTION TYPE: SINGLE FAMILY DWELLING
OCCUPANCY: RESIDENTIAL
PATHWAY CODE SUMMARY: 2019 OSSC: 12" PATHWAY
ALONG RIDGE
2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
2014 OREGON SOLAR INSTALLATION SPECIALTY CODE
(OSISC)
NATIONAL ELECTRICAL CODE 2017 ED
INSTITUTE OF ELECTRICAL AND ELECTRONIC
ENGINEERS (IEEE)
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
(NEMA)
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 70E)
UNDERWRITERS' LABORATORIES, INC. (UL)
INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)
AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
NATIONAL BUREAU OF STANDARDS
SAFETY ORDERS OF INDUSTRIAL ACCIDENT
COMMISSION
RULES OF THE NATIONAL BOARD OF FIRE
UNDERWRITERS
LOCAL ORDINANCES OF THE STATE
LOCAL ORDINANCES OF THE COUNTY OR CITY.

SITE MAP





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SITE PLAN

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

DRAWN BY
JUSTIN GUADAGNI

DRAWN ON
7/29/2021

SCALE
3/32" = 1'

SHEET
NUMBER
PV-1

ARRAY SPECIFICATIONS

- (24) SILFAB SIL-380 BK, 380W PV MODULES
- (24) SOLAREEDGE P401 DC OPTIMIZERS
- (1) SOLAREEDGE ENERGY HUB SE7600H-US INVERTER
- SUNMODO SMR RACKING

37°,18°, 15° TILT
90°, 270° AZIMUTH

ROOF SPECIFICATIONS

ARCH COMP SHINGLE
2x8 RAFTERS @ 24" O.C.

37°,18°, 15° PITCH
90°, 270° ORIENTATION

1,965 SQ FT ROOF AREA
327 SQ FT ARRAY COVERAGE
16% OF TOTAL ROOF AREA

T.O. ROOF
34'-6"

T.O. ARRAY
33'-10"

ARRAY B

ARRAY A

ARRAY C

GRADE
0'-0"

STREET LEVEL
-10'-0"

SOUTH ELEVATION
SCALE: 3/16" = 1'



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ELEVATION

REVISION	DATE	REASON

DESIGNED BY
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DRAWN ON
7/26/2021

SCALE
3/16" = 1'

SHEET
NUMBER

PV-2



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ELEVATION

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

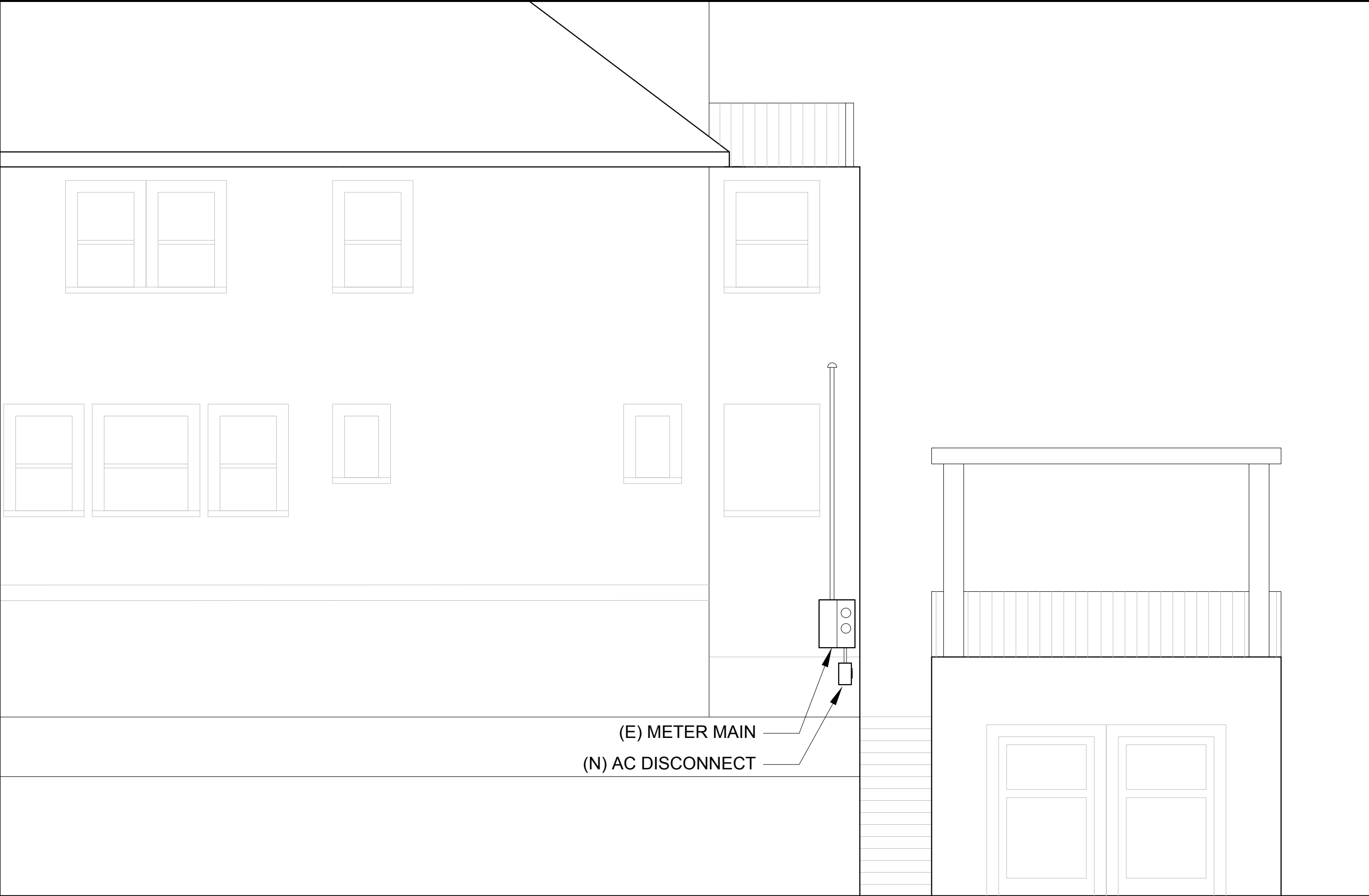
DRAWN BY
JUSTIN GUADAGNI

DRAWN ON
7/29/2021

SCALE
1/4" = 1'

SHEET
NUMBER

PV-2.1



EAST ELEVATION
SCALE: 1/4" = 1'

STRUCTURE SPECIFICATIONS

#2 2x8 RAFTERS @ 24" O.C.
1/2" SHEATHING

ROOF SPECIFICATIONS

ARCH COMP SHINGLE
<1 YEAR OLD

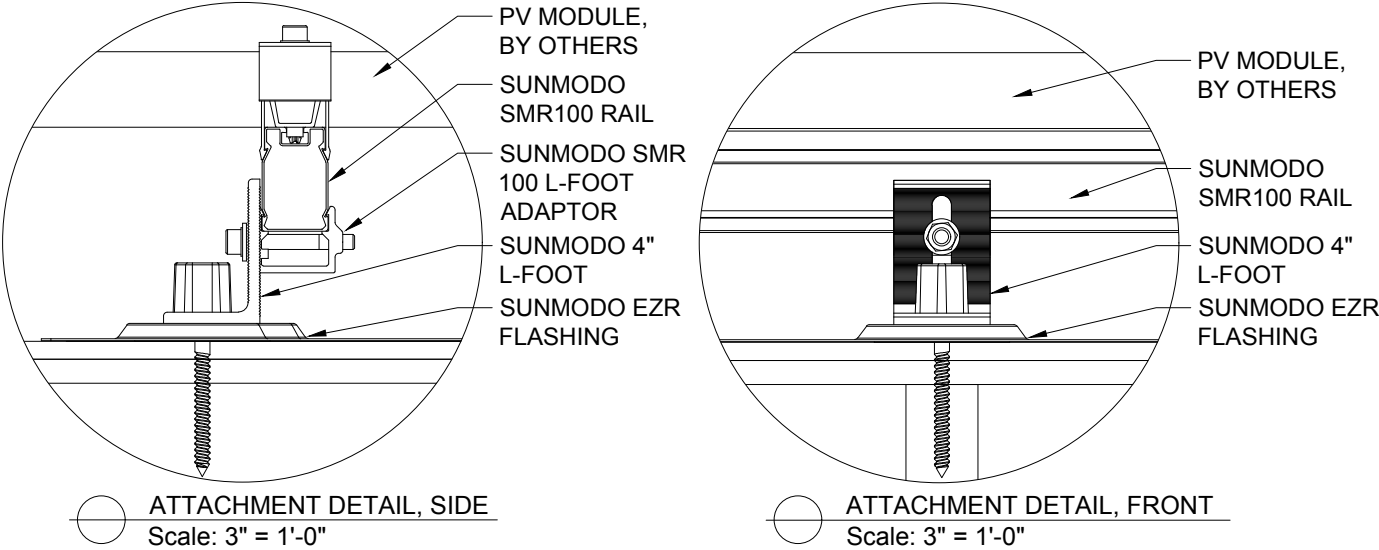
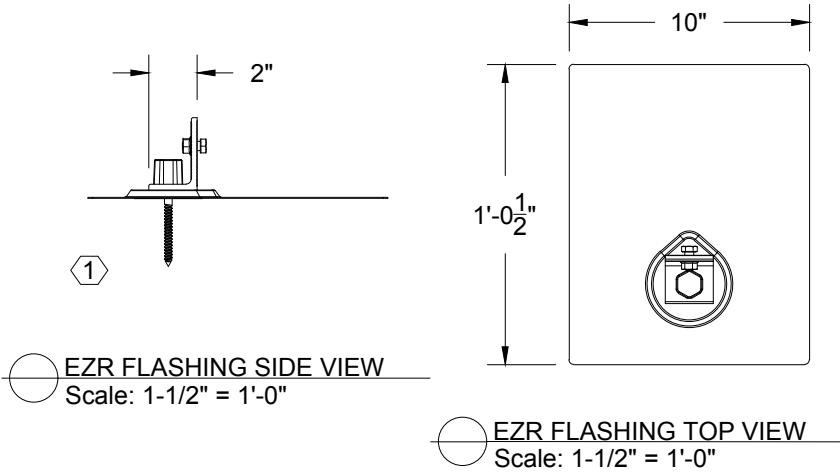
MOUNTING SPECIFICATIONS

SUNMODO SMR RACKING
SMR100 RAIL

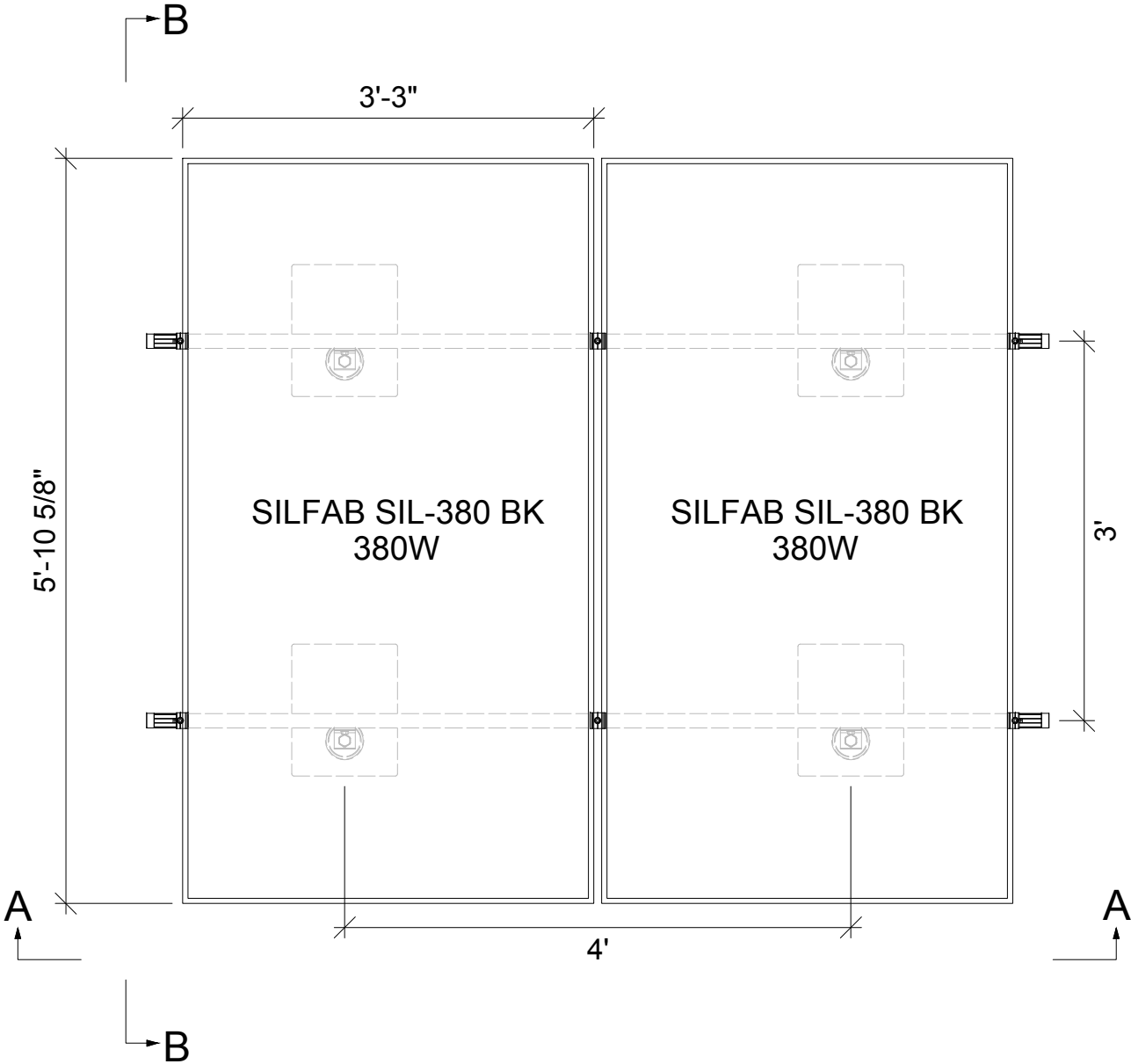
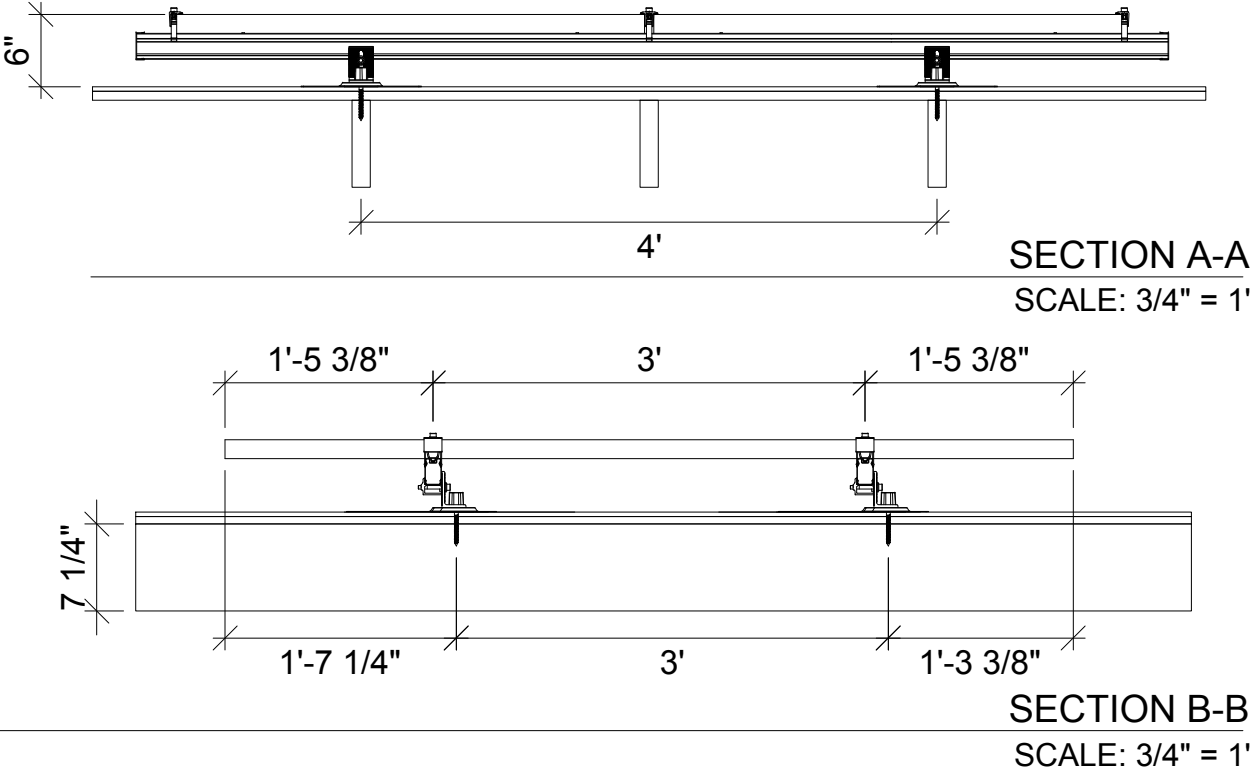
SUNMODO EZR FLASHING
ATTACHMENT
① 5/16" x 3" STAINLESS STEEL LAG SCREWS
FULLY SEALED W/ MIN. 2 1/2" EMBEDMENT

TORQUE SPECIFICATIONS

1/4-20 BOLTS & FLANGE NUT: 7.5 FT-LBS
1/4-20 GROUND LUG, FLANGE NUT: 7.5 FT-LBS
1/4-20 GROUND LUG, SETSCREW: 4.2 FT-LBS
1/4-20 MID & END CLAMP, STANDOFF: .5 FT-LBS
5/16 LAG BOLTS: 25 FT-LBS
3/8-16 BOLTS & FLANGE NUTS: 15 FT-LBS
3/8-16 T-BOLTS & FLANGE NUTS: 15 FT-LBS
1-1/16" HEX CAP: 15 FT-LBS



ATTACHMENTS WITHIN 3' OF ROOF EDGE, HIP, RIDGE, & EAVE WILL HAVE MOUNTINGS SPACED 24" O.C.



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RACKING DETAIL
PORTRAIT

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

DRAWN BY
JUSTIN GUADAGNI

DRAWN ON
7/9/2021

SCALE
VARIES

SHEET
NUMBER
PV-3

STRUCTURE SPECIFICATIONS

#2 2x8 RAFTERS @ 24" O.C.
1/2" SHEATHING

ROOF SPECIFICATIONS

ARCH COMP SHINGLE
<1 YEAR OLD

MOUNTING SPECIFICATIONS

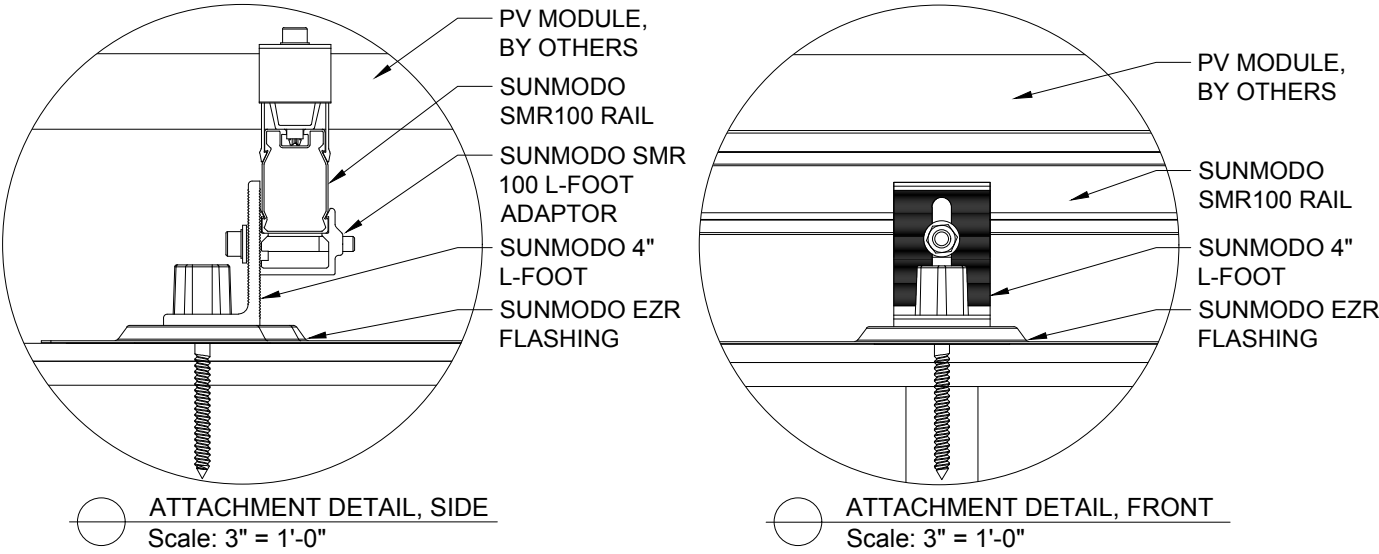
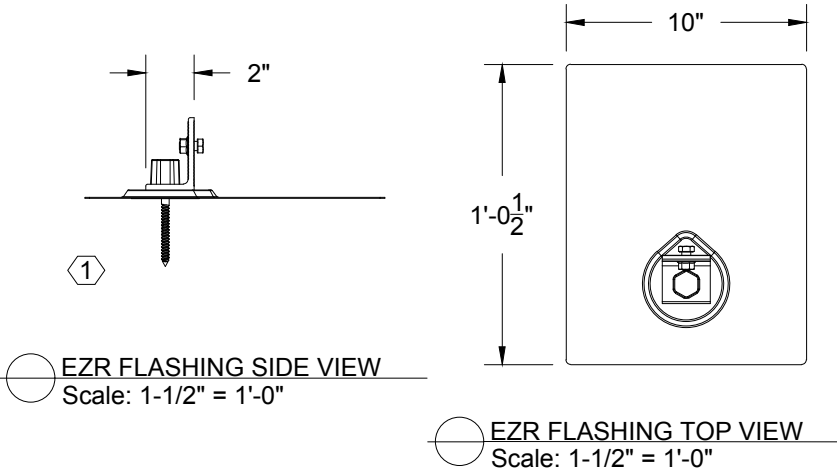
SUNMODO SMR RACKING
SMR100 RAIL

SUNMODO EZR FLASHING
ATTACHMENT

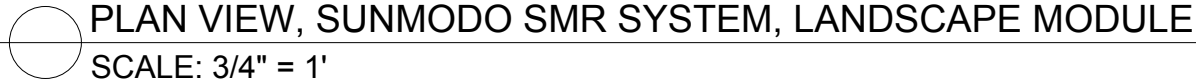
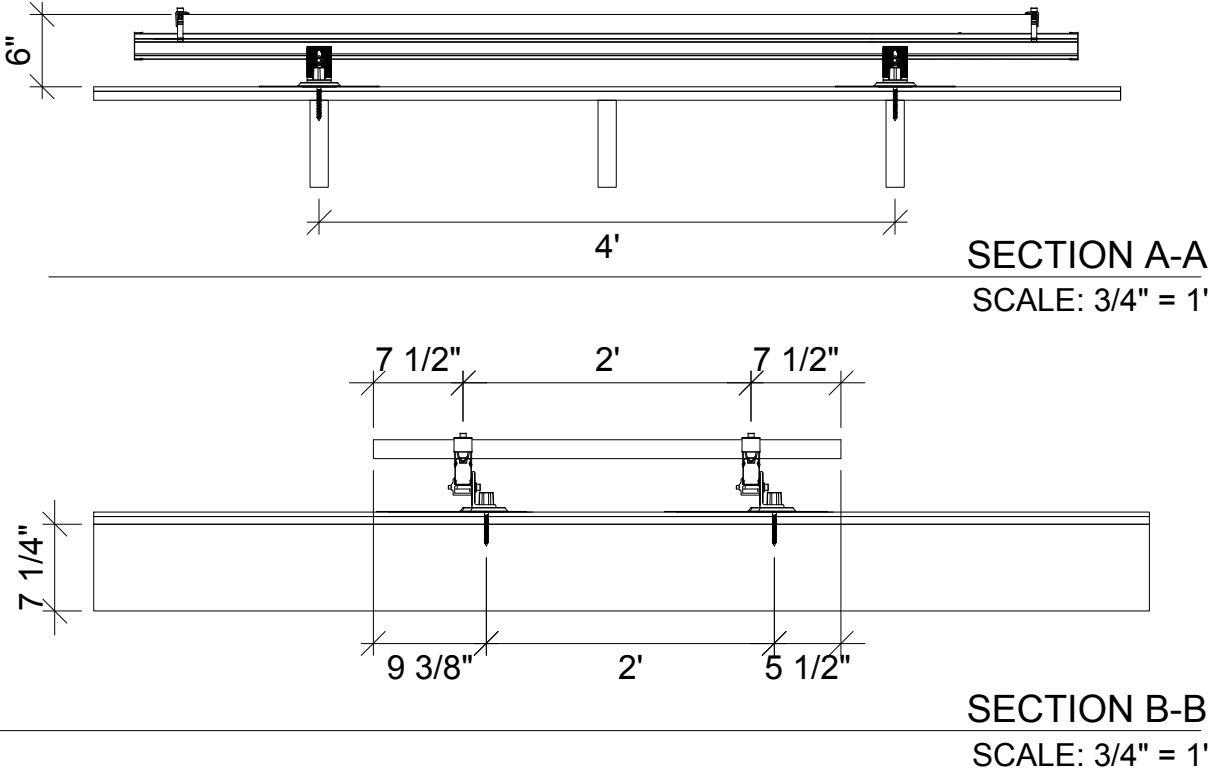
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RACKING DETAIL LANDSCAPE

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7/9/2021

SCALE
VARIES

SHEET NUMBER
PV-3.1

Single Phase Energy Hub Inverter with Prism Technology

for North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US

STOREDGE®



Optimized battery storage with HD-Wave technology

- Record-breaking 99% weighted efficiency with 200% DC oversizing
- Multi-inverter, scalable StorEdge® solution
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- 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 smart EV charger
- Embedded revenue grade production data, ANSI C12.20 Class 0.5

Single Phase Energy Hub Inverter with Prism Technology for North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US(1)

	SE3000H-US	SE3800H-US	SE6000H-US	SE7600H-US	UNITS
OUTPUT - AC ON GRID					
Rated AC Power	3000	3800	6000	7600	W
Maximum AC Power Output	3000	3800	6000	7600	W
AC Output Voltage Range	211-264				Vac
AC Frequency Range (min - nom - max)	59.3 - 60 - 60.5 ⁽²⁾				Hz
Maximum Continuous Output Current	12.5	16	25	32	A
GFDI Threshold	1				A
Total Harmonic Distortion (THD)	<3				%
Power Factor	1, adjustable -0.85 to 0.95				
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	2400	3050	4800	6100	W
Peak AC Power (<10 sec) in Backup Operation	2700	3400	5400	6900	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	10	12.7	20	25.5	A
Peak AC Current (<10sec) in Backup Operation	11.25	14.2	22.5	30	A
GFDI	1				A
THD	<5				%
OUTPUT - SMART EV CHARGER AC					
Rated AC Power	9,600				W
AC Output Voltage Range	211-264				Vac
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	400			Vdc
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	600kV Sensitivity				
INPUT - DC (PV)					
Maximum DC Power	6000	7600	12000	15600	W
Maximum Input Current ⁽⁴⁾	8.5	10.5	16.5	20	Adc
Max. Input Short Circuit Current	45				Adc
Maximum Inverter Efficiency	99.2				%
CEC Weighted Efficiency	99				%
2-pole Disconnection	Yes				
INPUT - DC (BATTERY)					
Supported Battery Types	LG Chem RESU10H				
Number of Batteries per Inverter	1 or 2 ⁽⁵⁾				
Maximum Battery Capacity per Inverter	19.6				kWh
Continuous Power Per Inverter	5000				W
Peak Power	6900				W
Max Input Current @240V	18				Adc
2-pole Disconnection	Yes				

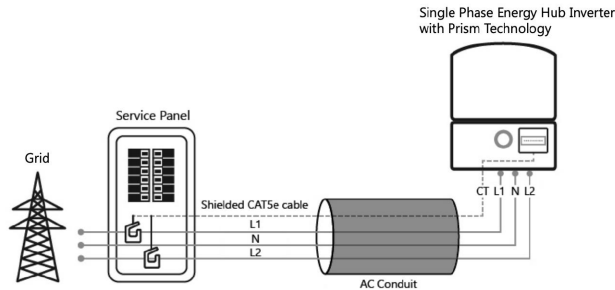
Single Phase Energy Hub Inverter with Prism Technology for North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US(1)

SMART ENERGY CAPABILITIES			
Consumption Metering	Built-in ⁽⁶⁾		
Battery Storage	With Backup Interface for service up to 200A, Up to 3 inverters, 15kW backup power, and 60kWh backup capacity		
EV Charging	Direct connection to Smart EV charger		
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485, Ethernet, Wi-Fi (optional), Cellular		
Revenue Grade Metering, ANSI C12.20	Built - in ⁽⁶⁾		
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 and 2017 690.12		
STANDARD COMPLIANCE			
Safety	UL1741, UL1741 SA, UL1699B, UL1998, UL9540, CSA 22.2		
Grid Connection Standards	IEEE1547, Rule 21, Rule 14H		
Emissions	FCC part15 class B		
INSTALLATION SPECIFICATIONS			
AC Output Conduit Size / AWG Range	3/4" maximum / 14-8 AWG	1" maximum / 14-6 AWG	
EV AC Output Conduit Size / AWG Range	3/4" maximum / 14-8 AWG	1" maximum / 14-6 AWG	
DC Input (PV) Conduit Size / AWG Range	3/4" maximum / 14-8 AWG	1" maximum / 14-6 AWG	
DC Input (Battery) Conduit Size / AWG Range	3/4" maximum / 14-8 AWG	1" maximum / 14-6 AWG	
Dimensions with Connection Unit (HxWxD)	17.7 X 14.6 X 6.8 / 450 X 370 X 174		in / mm
Weight with Connection Unit	26 / 11.8	30.2 / 13.7	lb / kg
Noise	< 25		dBA
Cooling	Natural Convection		
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽⁷⁾		
Protection Rating	NEMA 4X		
			°F / °C

- (1) These specifications apply to inverters with part numbers SExxxxH-US3xxxxx or SE7600H-US55Hxxxx 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
- (4) A higher current source may be used; the inverter will limit its input current to the values stated
- (5) When connecting two LG Chem RESU batteries, each battery must have a different part number
- (6) For consumption metering current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20, 20 units per box.
- (7) Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

Connecting CTs to the Revenue Grade and Consumption Meter



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RoHS



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DATA SHEET INVERTER

REVISION	DATE	REASON

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DRAWN BY
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DRAWN ON
7/9/2021

SCALE
NTS

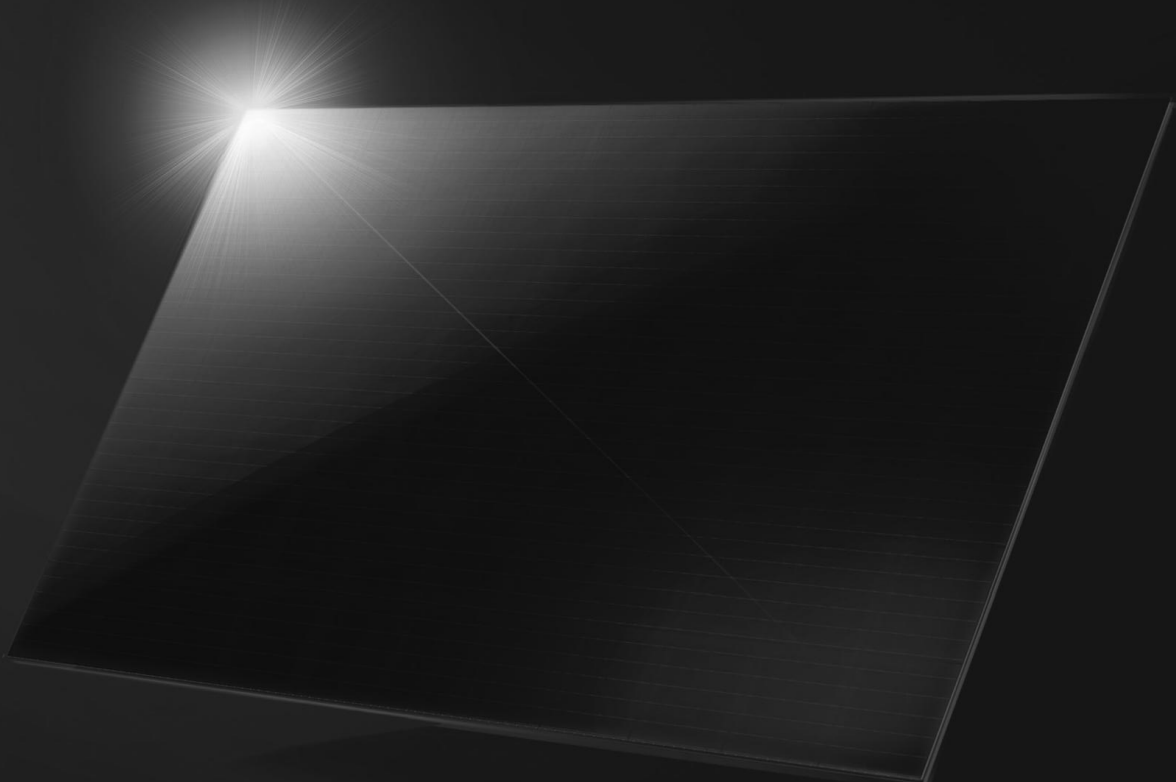
SHEET
NUMBER

PV-4

SILFAB ELITE

SIL-370/375/380 BK





NOT JUST ANOTHER SOLAR PANEL.

Introducing Silfab Elite.

The highest efficiency solar panel (up to 21.4%) manufactured exclusively in the United States.

SILFABELITE.COM

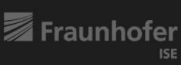
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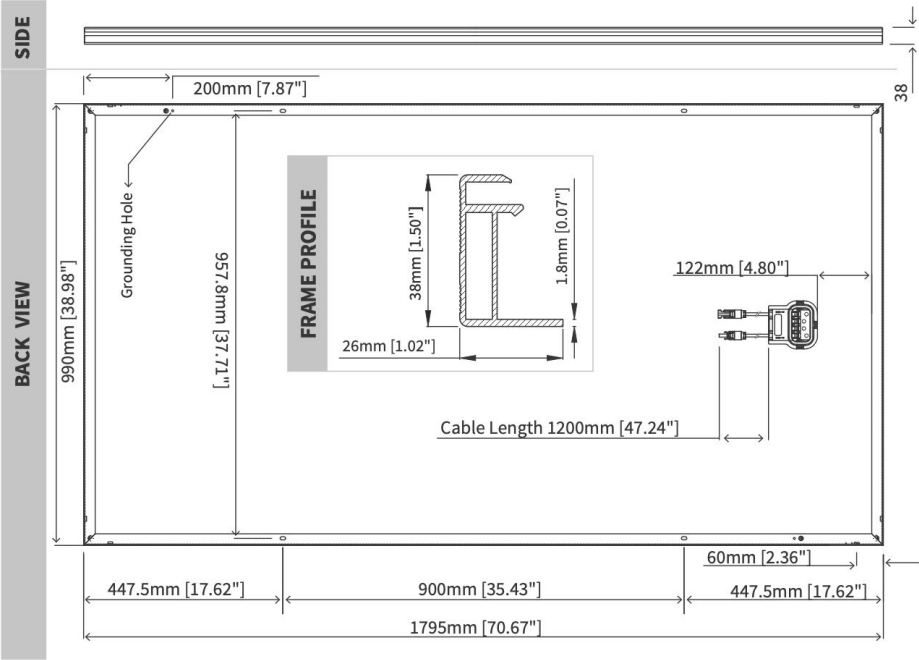



* Chubb provides error and omission insurance to Silfab Solar Inc.

ELECTRICAL SPECIFICATIONS		370		375		380	
Test Conditions		STC	NOCT	STC	NOCT	STC	NOCT
Module Power (Pmax)	Wp	370	277.78	375	282.05	380	284.6
Maximum power voltage (Vpmax)	V	38.34	35.90	38.61	36.15	38.88	36.41
Maximum power current (Ipmax)	A	9.69	7.74	9.77	7.80	9.79	7.82
Open circuit voltage (Voc)	V	44.76	42.01	44.94	42.18	45.13	42.36
Short circuit current (Isc)	A	10.33	8.32	10.41	8.39	10.50	8.46
Module efficiency	%	20.8	19.5	21.1	19.8	21.4	20.0
Maximum system voltage (VDC)	V	1000					
Series fuse rating	A	20					
Power Tolerance	Wp	0 to +10					
Measurement conditions: STC 1000 W/m2 • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3% Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.							

MECHANICAL PROPERTIES / COMPONENTS		METRIC	IMPERIAL
Module weight		19.0±0.2 kg	41.9±0.4 lbs
Dimensions (H x L x D)		1795 mm x 990 mm x 38 mm	70.67 in x 38.98 in x 1.5 in
Maximum surface load (wind/snow)*		4000 Pa rear load / 5400 Pa front load	83.5/112.8 lb/ft²
Hail impact resistance		ø 25 mm at 83 km/h	ø 1 in at 51.6 mph
Cells		66 high efficiency back contact mono-PERC c-Si cells	66 high efficiency back contact mono-PERC c-Si cells
Glass		3.2 mm high transmittance, tempered, DSM anti-reflective coating	0.126 in high transmittance, tempered, DSM anti-reflective coating
Cables and connectors (refer to installation manual)		1200 mm ø 5.7 mm, MC4 from Staubli	47.24 in, ø 0.22 in, MC4 from Staubli
Backsheet		Multilayer, integrated insulation film and electrically conductive backsheet, superior hydrolysis and UV resistance, fluorine-free PV backsheet	
Frame		Anodized Aluminum (Black)	
Bypass diodes		3 diodes-30SQ045T (45V max DC blocking voltage, 30A max forward rectified current)	
Junction Box		UL 3730 Certified, IP67 rated	
TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	+0.046 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.279 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.377 %/°C		≥ 97.1% end 1st yr ≥ 91.6% end 12th yr ≥ 85.1% end 25th yr ≥ 82.6% end 30th yr
NOCT (± 2°C)	43.5 °C		
Operating temperature	-40/+85 °C		
CERTIFICATIONS		SHIPPING SPECS	
Product	ULC ORD C1703, UL1703, CEC listed, UL 61215-1/-1-1/-2, UL 61730-1/-2, IEC 61215-1/-1-1/-2, IEC 61730-1/-2, CSA C22.2#61730-1/-2, IEC 62716 Ammonia Corrosion; IEC61701:2011 Salt Mist Corrosion Certified, UL Fire Rating: Type 1	Modules Per Pallet:	26 or 26 (California)
Factory	ISO9001:2015	Pallets Per Truck	34 or 32 (California)
		Modules Per Truck	884 or 832 (California)

* ⚠ 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



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Silfab - SIL-370-BK-20210310

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INFO@IMAGINEENERGY.NET

CCB #: 167963
WA LIC #: IMAGIEL934PT

BARBEAU RESIDENCE

PROJECT DESCRIPTION
9.12 kW SOLAR PV PROJECT

PROJECT ADDRESS
2205 NW JOHNSON ST.
PORTLAND, OR 97210

CONTACT INFORMATION
JOE & JORDAN BARBEAU
650-278-9788
barbeaujoseph1970@gmail.com

DATA SHEET MODULE

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

DRAWN BY
JUSTIN GUADAGNI

DRAWN ON
7/9/2021

SCALE
NTS

SHEET
NUMBER

PV-5

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505

POWER OPTIMIZER



PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge.com



Power Optimizer
For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72 cell modules)	P405 (for high-voltage modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
INPUT									
Rated Input DC Power ⁽¹⁾	320	340	370	400		405	485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	60	125 ⁽²⁾		83 ⁽²⁾	Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	8-60	12.5 - 105		12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11			10.1	11.75	11		14	Adc
Maximum Efficiency	99.5								%
Weighted Efficiency	98.8							98.6	%
Overvoltage Category	II								
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)									
Maximum Output Current	15								Adc
Maximum Output Voltage	60					85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)									
Safety Output Voltage per Power Optimizer	1 ± 0.1								Vdc
STANDARD COMPLIANCE									
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3								
Safety	IEC62109-1 (class II safety), UL1741								
Material	UL94 V-0 , UV Resistant								
RoHS	Yes								
INSTALLATION SPECIFICATIONS									
Maximum Allowed System Voltage	1000								Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters								
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9		129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	655 / 1.5	845 / 1.9		1064 / 2.3	gr / lb
Input Connector	MC4 ⁽³⁾						Single or dual MC4 ⁽³⁾⁽⁴⁾	MC4 ⁽³⁾	
Input Wire Length	0.16 / 0.52								m / ft
Output Wire Type / Connector	Double Insulated / MC4								
Output Wire Length	0.9 / 2.95		1.2 / 3.9						m / ft
Operating Temperature Range ⁽⁵⁾	-40 - +85 / -40 - +185								°C / °F
Protection Rating	IP68 / NEMA6P								
Relative Humidity	0 - 100								%

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed
(2) NEC 2017 requires max input voltage be not more than 80V
(3) For other connector types please contact SolarEdge
(4) For dual version for parallel connection of two modules use P485-4NMMDRM. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals.
(5) For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400, P401 P405, P485, P505	8 6	10 8	18 14	
Maximum String Length (Power Optimizers)		25	25	50 ⁽⁸⁾	
Maximum Power per String	5700 (6000 with SE7600-US - SE11400-US)	5250	6000 ⁽⁹⁾	12750 ⁽¹⁰⁾	W
Parallel Strings of Different Lengths or Orientations	Yes				

(6) For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf
(7) It is not allowed to mix P405/P485/P505 with P320/P340/P370/P400/P401 in one string
(8) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
(9) For 208V grid: it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W
(10) For 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W



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DATA SHEET
OPTIMIZER

REVISION	DATE	REASON

DESIGNED BY
HEATH KEARNS

DRAWN BY
JUSTIN GUADAGNI

DRAWN ON 7/26/2021	SHEET NUMBER PV-6
SCALE NTS	