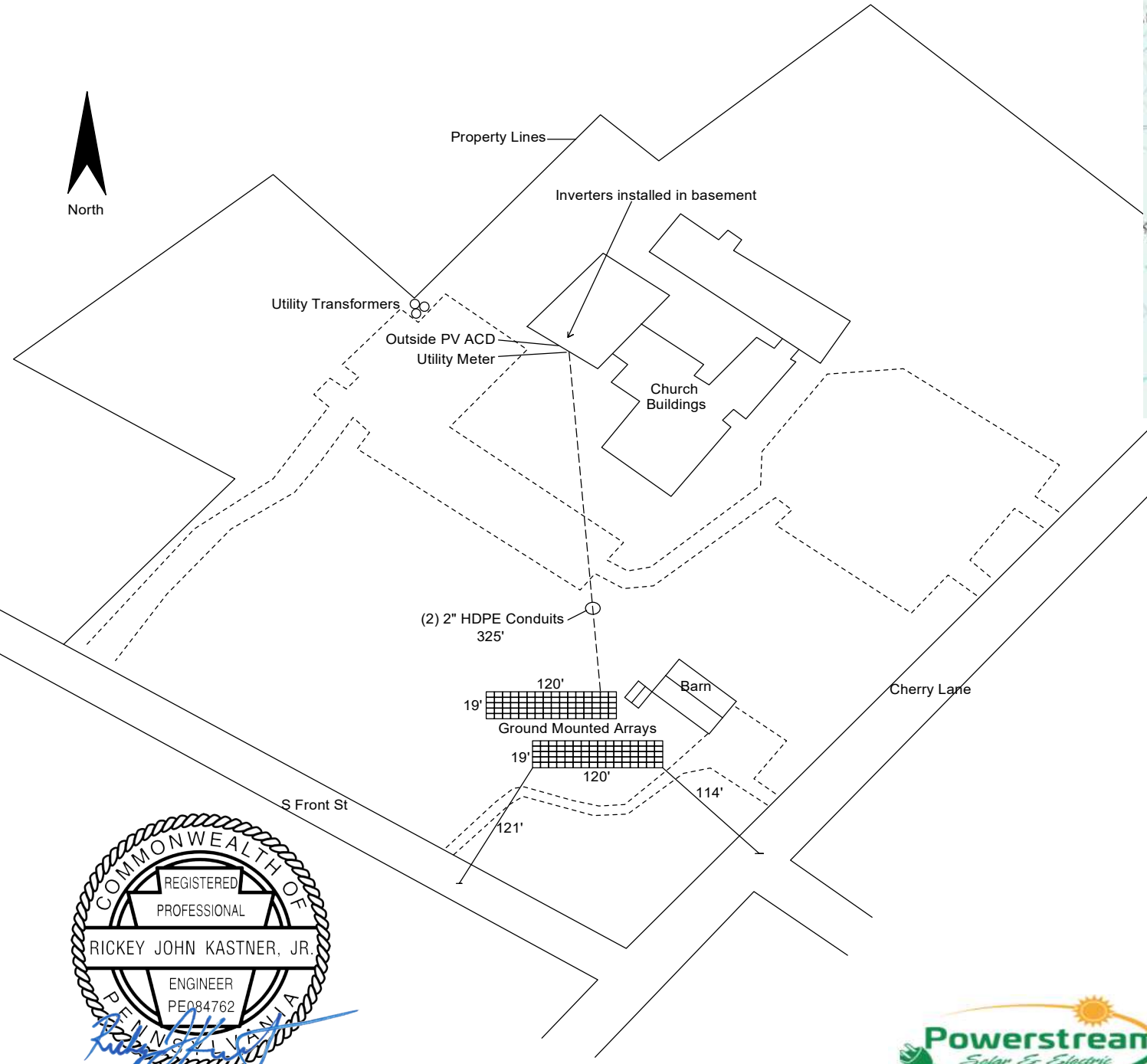
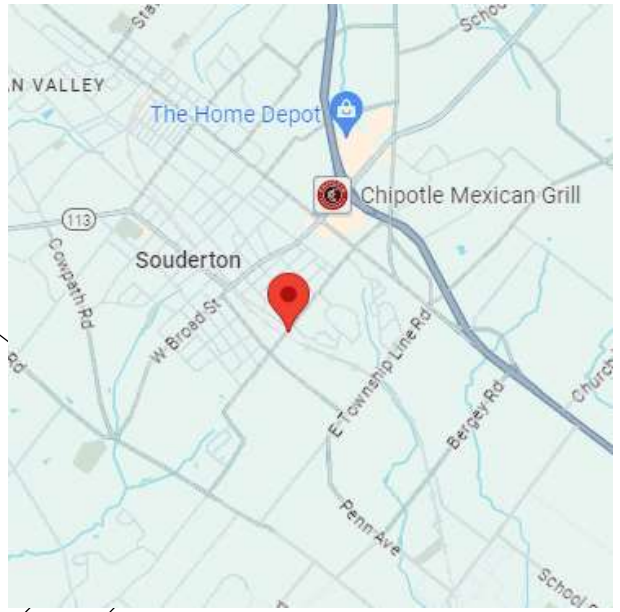




	Customer	James Gunden
Zion Mennonite Church		88.0 KW DC, 67.3 KW AC
149 Cherry Lane		jmgunden@gmail.com
Souderton PA 18964		215 760 7356
Utility Company		PPL Electric
County		Montgomery
Municipality		Borough of Souderton
Third Party Agency		
Applicable codes and standards		
2017	National Electric Code	
2018	IBC (PA UCC)	
Design Criteria		
Design wind load	105 MPH	
Design snow load	25 PSF	
Exposure Category	C	
Seismic Category	D	
High Temp (ASHREA 2% High)		33C
Low Temp (ASHRAE Extreme Low)		-15C
Array Azimuth	180	
Array tilt	24	

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
RICKEY JOHN KASTNER, JR.
ENGINEER
PE084762

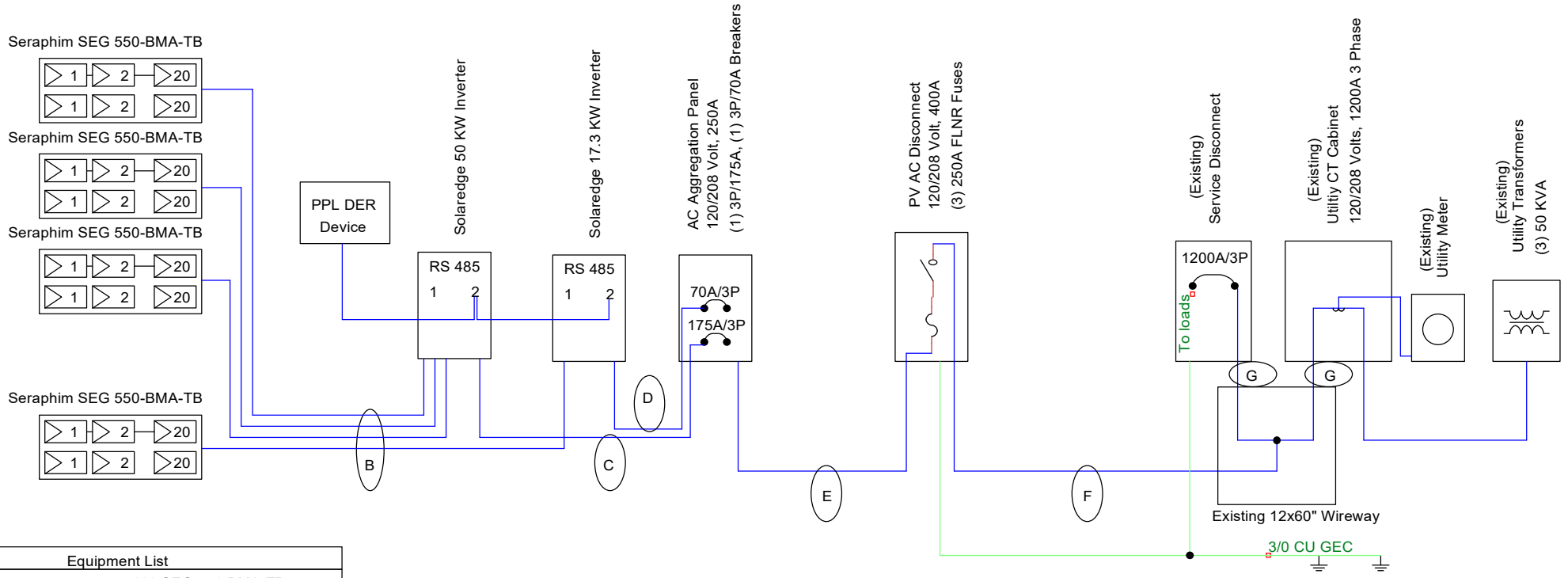
04/25/2024

Wire mesh to be installed on array to protect module wiring

Powerstream Solar & Electric LLC

Title: Zion Mennonite Church		
Author: J King ICC134395 Powerstream Solar & Electric		
File		Document: Plot
Revision: 1.0	Date: 3/27/24	Sheets: 1 of 1

Title Zion Mennonite Church		
Author J King ICC134395 Powerstream Solar & Electric		
File		Document Plot
Revision 1.0	Date 3/27/24	Sheets 2



Equipment List	
Modules	160 SEG 550 BMA-TB
Inverter	1= Solaredge SE17.3K-US
	1= Solaredge SE50K-US
MLPE	80- Solaredge S1200 Optimizers
Combiner Subpanel	Siemens 250A ML
PV AC Disconnect	Siemens HF325NRA
Racking	Solar Foundations
Roof Attachments	N/A
Array	
Seraphim SEG 550 BMA-TB	
VOC 49.7	VMP 42.05
ISC 14.0	IMP 13.08
Array VOC 600	Array VMP 450
Maximum String Length is 23 Modules	
Mimimum String Length is 19 Modules	
Inverter	
17.3K Output 48.25 AAC @208 Volts	
50K Output 139.5 AAC @208 Volts	
Combined Output 187.75 AAC	

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REGISTERED PROFESSIONAL
RICKEY JOHN KASTNER, JR.
ENGINEER
PE084762

04/25/2024

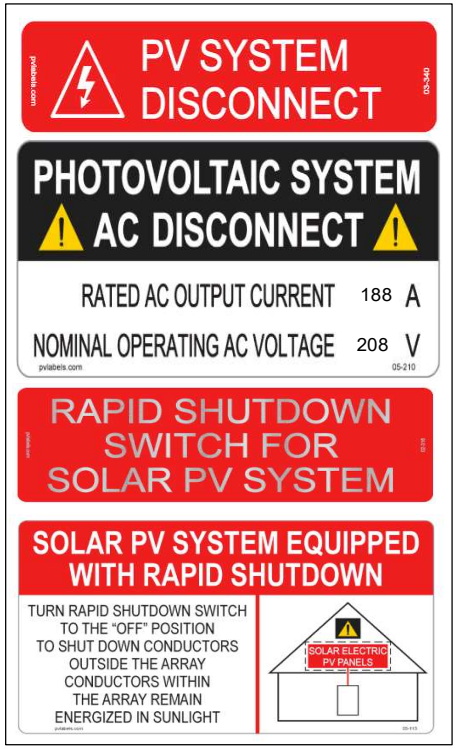
Wire Key	
A	10 Awg PV Wire (modules to roof junction box)
B	(2) 4 Sets 8 Awg Thwn, #8 Ground in 2" HDPE Conduit
C	3- 2/0 Awg Thwn, 6 Awg neutral, #6 ground in 1.5" EMT
D	3- 4 Awg Thwn, 8 Awg neutral, #8 ground in 1" EMT
E	3- 250 Kcm Thwn, 4 Awg neutral, #4 ground in 2.5" EMT
F	3- 250 Kcm Thwn, 2 Awg neutral in 2.5" EMT
G	(3) 3- 500 Kcm Thwn, 500 Kcm neutral in 4" PVC (Existing)

Powerstream Solar & Electric LLC

Notes
Conductors to be CU unless otherwise noted
PV system to be grounded per NEC 690.47
Labels to be installed per NEC 690, see label sheet
Installer may use piercing tap connectors for supply side connection
Installer must observe maximum module string length as noted
EMT type conduit to be galvanized steel unless noted.

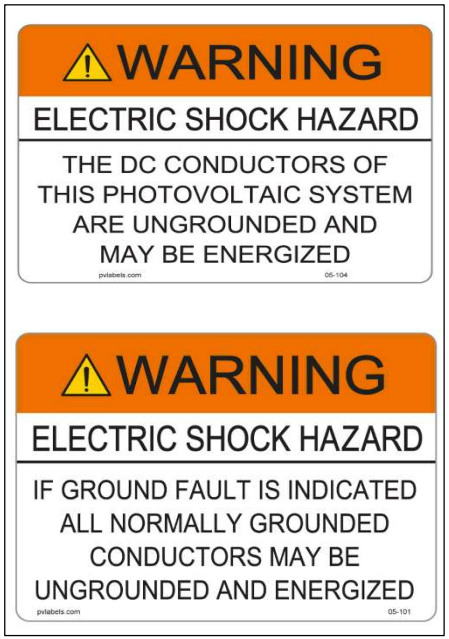
Title Zion Mennonite Church		
Author J King ICC134395 Powerstream Solar & Electric		
File		Document SLD
Revision 1.0	Date 3/27/24	Sheets 3

PV AC Disconnect



04/25/2024

Inverters

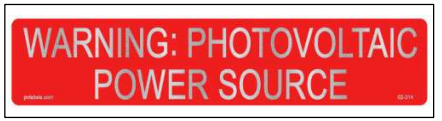


Utility Meter & MSP

AC combiner

DC J Box

PV Output Conduit

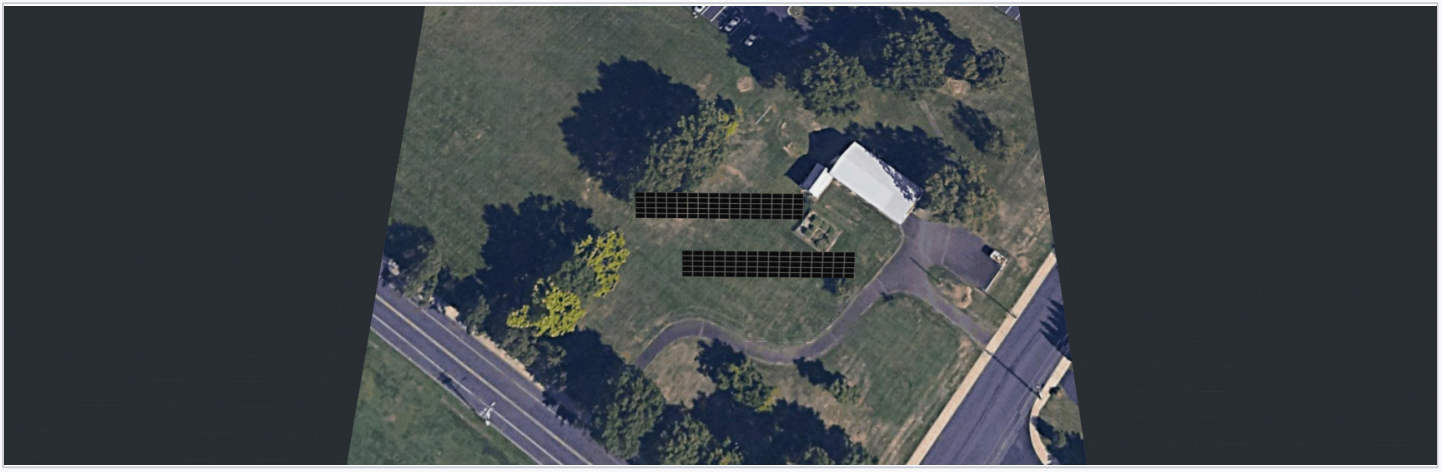


Powerstream Solar & Electric LLC

Title Zion Mennonite Church		
Author J King ICC134395 Powerstream Solar & Electric		
File		Document Labels
Revision 1.0	Date 3/27/24	Sheets 4

ZION MENNONITE CHURCH

South Front Street 233, Souderton, Pennsylvania, 18964, United States | James Gunden | Mar 28, 2024



SYSTEM OVERVIEW

160 PV modules | 2 Inverters | 80 Optimizers

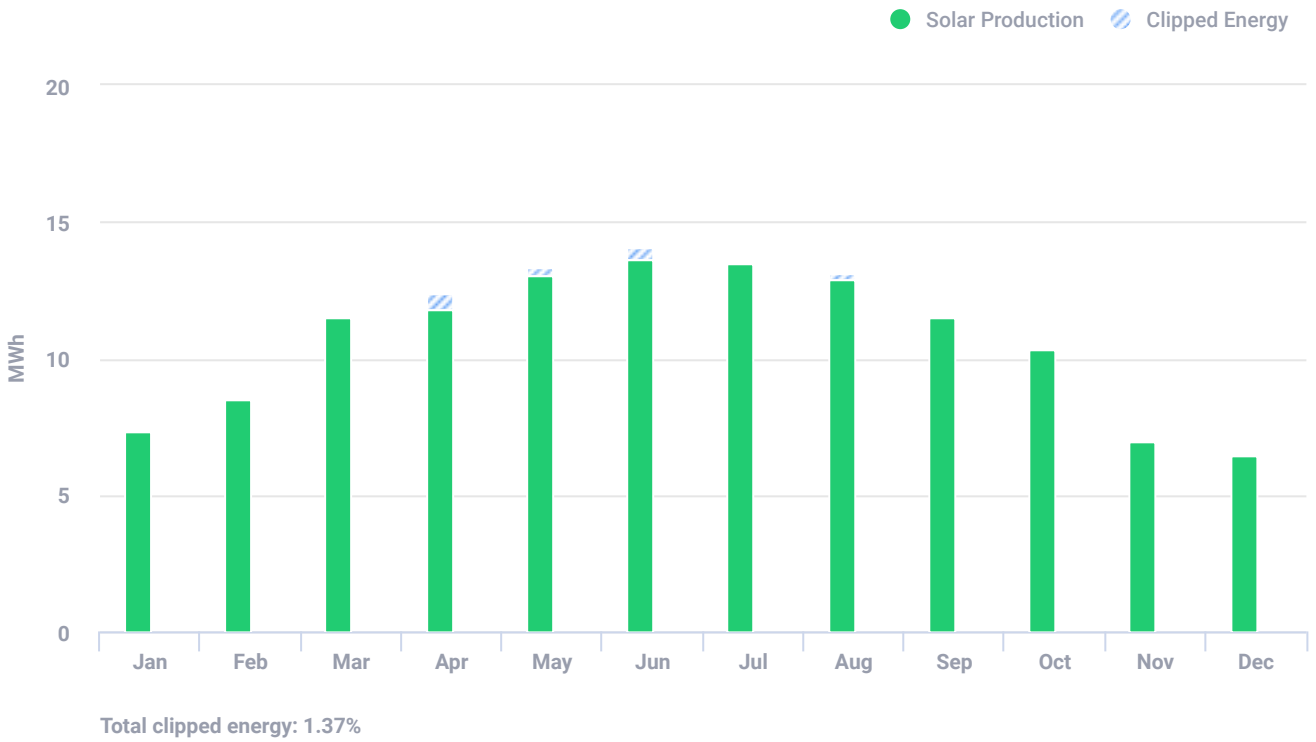
SIMULATION RESULTS

Installed DC Power	Max Achieved AC Power	Annual Energy Production	CO2 Emission Saved (Annually)	Equivalent Trees Planted (Annually)
88.00 kWp	67.30 kW	127.38 MWh	90.06 t	4,136

ZION MENNONITE CHURCH

South Front Street 233, Souderton, Pennsylvania, 18964, United States | James Gunden | Mar 28, 2024

ESTIMATED MONTHLY ENERGY



Total clipped energy: 1.37%

PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
160	SEG SOLAR INC, SEG-550-BMA-TB (user-defined)	88 kWp			180°	24°
Total: 160		88 kWp				

BILL OF MATERIALS (BOM)

Items	Part Number	Quantity	Price ($)	Total ($)
SE17.3K-US		1		
SE50K Synergy Manager		1		
S1200 (Ground mount only)		80		

ZION MENNONITE CHURCH

South Front Street 233, Souderton, Pennsylvania, 18964, United States | James Gunden | Mar 28, 2024

BILL OF MATERIALS (BOM) (CONTINUED)

Items	Part Number	Quantity	Price ($)	Total ($)
SEG-550-BMA-TB		160		

ELECTRICAL DESIGN

Inverters & Storage	Strings per inverter	Optimizers per string	PV modules per string
1 xSE50K Synergy ManagerCenter Unit 66kW | 132% Oversizing	2 x strings	10 x S1200 (Ground mount only) (2:1)	20
Left Unit	2 x strings	10 x S1200 (Ground mount only) (2:1)	20
Right Unit	2 x strings	10 x S1200 (Ground mount only) (2:1)	20
1 xSE17.3K-US 22kW | 127% Oversizing	2 x strings	10 x S1200 (Ground mount only) (2:1)	20

ZION MENNONITE CHURCH

South Front Street 233, Souderton, Pennsylvania, 18964, United States | James Gunden | Mar 28, 2024

SYSTEM LOSS DIAGRAM

SIMULATION PARAMETERS

LOCATION & GRID

Time zone	EDT (New_York)
Weather station	Doylestown (16.84 km away)
Station altitude	130 m
Station data source	Meteonorm 7.1
Grid	208V L-L, 120V L-N

LOSS FACTORS

Near shading	Enabled
Albedo	0.20
Bi-Facial Albedo	0.30
Soiling/Snow	0%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor Uc (const) Flush mount	20
Thermal loss factor Uc (const) Tilted	29
LID loss factor	0%
System unavailability	0%

ZION MENNONITE CHURCH

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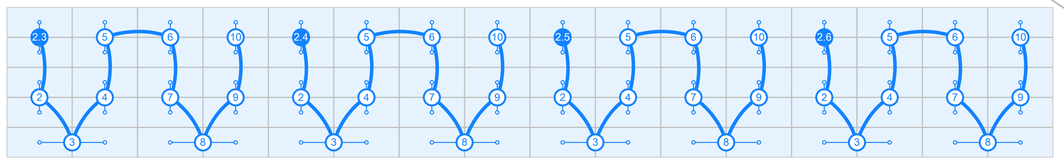
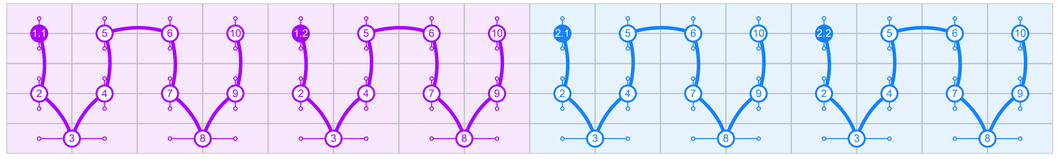
NOTES

Ground Mount





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ZION MENNONITE CHURCH
STRING DESIGN REPORT

Address: South Front Street 233, Souderton, Pennsylvania, 18964, United States | James Gunden | Mar 28, 2024

1 SE17.3K-US 127%
- 1.1 10 x S1200 (Ground mount only)
- 1.2 10 x S1200 (Ground mount only)

2 SE50K Synergy Manager 132%

Center:
- 2.1 10 x S1200 (Ground mount only)
- 2.2 10 x S1200 (Ground mount only)

Left:
- 2.3 10 x S1200 (Ground mount only)
- 2.4 10 x S1200 (Ground mount only)

Right:
- 2.5 10 x S1200 (Ground mount only)
- 2.6 10 x S1200 (Ground mount only)

Three Phase Inverters for the 120/208V Grid

For North America

SE10KUS / SE17.3KUS

INVERTERS

The best choice for SolarEdge enabled systems

- Specifically designed to work with power optimizers
- Quick and easy inverter commissioning directly from a smartphone using SolarEdge SetApp
- Fixed voltage inverter for superior efficiency and longer strings
- Built-in type 2 DC and AC Surge Protection, to better withstand lightning events
- Small, lightest in its class, and easy to install outdoors or indoors on provided bracket
- Integrated arc fault protection and rapid shutdown for NEC 2014, 2017, and 2020, per article 690.11 and 690.12
- Built-in module-level monitoring with Ethernet, wireless or cellular communication for full system visibility
- Integrated Safety Switch
- UL1741 SA and SB certified, for CPUC Rule 21 grid compliance

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Three Phase Inverters for the 120/208V Grid[1]

For North America

SE10KUS / SE17.3KUS

Model Number	SE10KUS	SE17.3KUS	
Applicable to inverters with part number	SEXXK-USX2IXXXX		
OUTPUT			
Rated AC Power Output	10000	17300	W
Maximum Apparent AC Output Power	10000	17300	VA
AC Output Line Connections	3W + PE, 4W + PE		
AC Output Voltage Minimum-Nominal-Maximum[2] (L-N)	105 – 120 – 132.5		Vac
AC Output Voltage Minimum-Nominal-Maximum[2] (L-L)	183 – 208 – 229		Vac
AC Frequency Minimum-Nominal-Maximum[2]	59.3 – 60 – 60.5		Hz
Continuous Output Current (per Phase)	27.8	48.25	Aac
GFDI Threshold	1		A
Utility Monitoring, Islanding Protection, Country Configurable Set Points	Yes		
THD	≤ 3		%
Power Factor Range	+/- 0.85 to 1		
INPUT			
Maximum DC Power (Module STC)	17500	30275	W
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage DC+ to DC-	600		Vdc
Operating Voltage Range	370 – 600		Vdc
Maximum Input Current	27.8	48.25	Adc
Maximum Input Short Circuit Current	55		Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	167kΩ Sensitivity[3]		
CEC Weighted Efficiency	97	97.5	%
Night-time Power Consumption	< 4		W
ADDITIONAL FEATURES			
Supported Communication Interfaces	2 x RS485, Ethernet, Cellular (optional)		
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection		
Rapid Shutdown	NEC2014, NEC2017 and NEC2020 compliant/certified		
RS485 Surge Protection Plug-in	Supplied with the inverter, Built-in		
AC, DC Surge Protection	Type II, field replaceable, Built-in		
DC Fuses (Single Pole)	25A, Built-in		
Smart Energy Management	Export Limitation		
DC SAFETY SWITCH			
DC Disconnect	Integrated		
STANDARD COMPLIANCE			
Safety	UL1741, UL1741 SA, UL1741 SB, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07		
Grid Connection Standards	IEEE1547-2018, Rule 21, Rule 14 (HI)		
Emissions	FCC part15 class A		
INSTALLATION SPECIFICATIONS			
AC Output Conduit size /AWG range	¾" or 1" / 6 - 10 AWG		
DC Input Conduit size / AWG range	¾" or 1" / 6 - 12 AWG		
Number of DC inputs pairs	4		
Dimensions with Safety Switch (H x W x D)	31.8 x 12.5 x 11.8 / 808 x 317 x 300		in / mm
Weight with Safety Switch	78.2 / 35.5		lb / kg
Cooling	Fans (user replaceable)		
Noise	< 62		dBA
Operating Temperature Range	-40 to +140 / -40 to +60(4)		°F / °C
Protection Rating	NEMA 3R		
Mounting	Bracket provided		

(1) For 277/480V inverters refer to the Three Phase Inverters for the 277/480V Grid for North America datasheet.
(2) For other regional settings please contact SolarEdge support.
(3) Where permitted by local regulations.
(4) For power de-rating information refer to the Temperature De-rating - Technical Note (North America).

CE

INVERTERS

Three Phase Inverter with Synergy Technology

For the 208V Grid for North America

SE50KUS

Powered by unique pre-commissioning process for rapid system installation

- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy 2-person installation with lightweight, modular design (each inverter consists of 3 Synergy units and one Synergy Manager)
- Independent operation of each Synergy unit enables higher uptime and easy serviceability
- Built-in thermal sensors detect faulty wiring ensuring enhanced protection and safety
- Built-in arc fault protection and rapid shutdown
- Built-in PID mitigation for maximized system performance
- Monitored* and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

*Applicable only for DC and AC SPDs

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/ Three Phase Inverter with Synergy Technology

For the 208V Grid for North America

SE50KUS

Applicable to inverter with Part Numbers	SExxK-US02Ixxxx SE50KUS	
OUTPUT		
Rated AC Active Output Power	50000	W
Maximum AC Apparent Output Power	50000	VA
AC Output Line Connections	3W + PE, 4W + PE	
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT	
AC Output Voltage Minimum-Nominal-Maximum(1) (L-N)	105-120-132.5	Vac
AC Output Voltage Minimum-Nominal-Maximum(1) (L-L)	183-208-229	Vac
AC Frequency Min-Nom-Max(1)	59.5 - 60 - 60.5	Hz
Maximum Continuous Output Current (per Phase, PF=1)	139.5	Aac
GFDI Threshold	1	A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes	
Total Harmonic Distortion	≤ 3	%
Power Factor Range	+/-0.2 to 1	
INPUT		
Maximum DC Power (Module STC) Inverter / Synergy Unit	87500 / 29165	W
Transformer-less, Ungrounded	Yes	
Maximum Input Voltage DC+ to DC-	600	Vdc
Operating Voltage Range	370 - 600	Vdc
Maximum Input Current	3 x 46.5	Adc
Reverse-Polarity Protection	Yes	
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit(2)	
CEC Weighted Efficiency	97	%
Nighttime Power Consumption	< 12	W
ADDITIONAL FEATURES		
Supported Communication Interfaces(3)	2 x RS485, Ethernet, Wi-Fi (optional), Cellular (optional)	
Smart Energy Management	Export Limitation	
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection	
Arc Fault Protection	Built-in, User Configurable (According to UL1699B)	
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 and 2020, Built-in	
PID Rectifier	Nighttime, built-in	
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated	
AC, DC Surge Protection	Type II, field replaceable, integrated	
DC Fuses (Single Pole)	25A, integrated	
DC SAFETY SWITCH		
DC Disconnect	Built-in	
STANDARD COMPLIANCE		
Safety	UL1699B, UL1741, UL1741 SA, UL1998, CSA C22.2#107.1, Canadian AFCI according to T.I.L. M-07	
Grid Connection Standards	IEEE 1547, Rule 21, Rule 14 (HI)	
Emissions	FCC part 15 class A	

(1) For other regional settings please contact SolarEdge support
(2) Where permitted by local regulations
(3) For specifications of the optional communication options, visit https://www.solaredge.com/products/communication or the Resource Library webpage: https://www.solaredge.com/downloads#, to download the relevant product datasheet

/ Three Phase Inverter with Synergy Technology

For the 208V Grid for North America

SE50KUS

Applicable to inverter with Part Numbers	SExxK-US02Ixxxx SE50KUS	
INSTALLATION SPECIFICATIONS		
Number of Synergy Units per Inverter	3	
AC Max Conduit Size	2 ½"	in
Max AWG Line / PE	4/0 / 1/0	
DC Max Conduit Size	1 x 3" ; 2 x 2"	in
DC Input Inverter / Synergy Unit	12 / 4 pairs; 6-12 AWG	
Dimensions (H x W x D)	Synergy Unit: 22 x 12.9 x 10.75 / 558 x 328 x 273 Synergy Manager: 14.17 x 22.4 x 11.6 / 360 x 560 x 295	in / mm
Weight	Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18	lb / kg
Operating Temperature Range	-40 to +140 / -40 to +60(4)	℉ / ℃
Cooling	Fan (user replaceable)	
Noise	< 67	dBA
Protection Rating	NEMA 3R	
Mounting	Brackets provided	

(4) For power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf

CE RoHS

Power Optimizer

S1000 / S1200

POWER OPTIMIZERS

SolarEdge's most advanced, cost-effective Power Optimizer for commercial and large field installations

- **Greater Energy Yields**
  - High efficiency (99.5%) with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
  - Supports high power and bifacial PV modules, and high string current for more power per string
- **Maximum Protection with Built-In Safety**
  - Designed to automatically reduce high DC voltage to touch-safe levels, upon grid/inverter shutdown, with SafeDC™
  - Includes SolarEdge Sense Connect, allowing continuous monitoring to detect overheating due to installation issues or connector-level wear and tear
- **Lower BoS Costs**
  - Flexible system design enables maximum space utilization and up to 2x longer string lengths, 50% less cables, fuses and combiner boxes
  - Supports connection of two PV modules in series with easy cable management and fast installation times
- **Simpler O&M**
  - Module-level system monitoring enabling pinpointed fault detection and remote, time-saving troubleshooting

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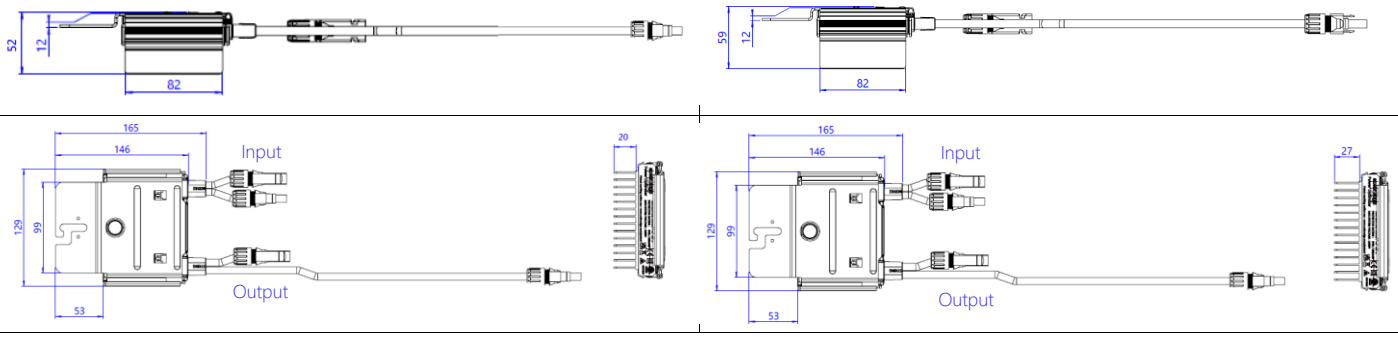
/ Power Optimizer

S1000 / S1200

	S1000	S1200	Units
INPUT			
Rated Input DC Power[1]	1000	1200	W
Absolute Maximum Input Voltage (Voc)	125		Vdc
MPPT Operating Range	12.5 – 105		Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	15		Adc
Maximum Efficiency	99.5		%
Weighted Efficiency	98.8		%
Overvoltage Category	II		
OUTPUT DURING OPERATION			
Maximum Output Current	18	20	Adc
Maximum Output Voltage	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1		Vdc
STANDARD COMPLIANCE			
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 – Class B, EN 55011		
Safety	IEC62109-1 (class II safety)		
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 165 x 52 / 5.08 x 6.49 x 2.047	129 x 165 x 59 / 5.08 x 6.49 x 2.32	mm / in
Weight (including cables)	1064 / 2.3	1106 / 2.4	gr / lb
Input Connector	MC4[2]		
Input Wire Length	Short Input: 0.1 / 0.32 Long Input: 1.3 / 4.26[3]	Short Input: 0.1 / 0.32 Long Input: 1.6 / 5.24[3]	m / ft
Output Connector	MC4		
Output Wire Length[4]	Option 1: (+) 4.7 (-) 0.10 / (+) 15.41 (-) 0.32 Option 2: (+) 2.7 (-) 0.10 / (+) 8.8 (-) 0.32	Option 1: (+) 5.3 (-) 0.10 / (+) 17.38 (-) 0.32 Option 2: (+) 2.7 (-) 0.10 / (+) 8.8 (-) 0.32	m / ft
Operating Temperature Range[5]	-40 to +85 / -40 to +185		°C / °F
Protection Rating	IP68 / NEMA6P		
Relative Humidity	0 – 100		%

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For other connector types please contact SolarEdge.
(3) For S-Series models with long input cables (1.3m / 4.26ft or 1.6m / 5.24ft), the Sense Connect feature is only enabled on the output cable connectors.
(4) Option 1 best fits when modules are placed in landscape orientation or in portrait orientation with power optimizers connected in leapfrog wiring method.
Option 2 best fits when modules are placed in portrait orientation.
(5) For ambient temperatures above +65°C / +149°F power de-rating is applied.

S1000 Mechanical Drawing	S1200 Mechanical Drawing



* When installing SolarEdge power optimizers, maintaining clearance is required. Refer to the Power Optimizer Clearance Application Note for more details.

/ Power Optimizer

S1000

PV System Design Using a SolarEdge Inverter[1][2][3][4]		230/400V Grid SE16K, SE17K, SE25K*	230/400V Grid SE27.6K*	230/400V Grid SE30K*	230/400V Grid SE33.3K*	277/480V Grid SE40K*	Units
Compatible Power Optimizers		S1000					
Minimum String Length	Power Optimizers	14	14	15	14	15	
	PV Modules	27	27	29	27	29	
Maximum String Length	Power Optimizers	30	30	30	30	30	
	PV Modules	60	60	60	60	60	
Maximum Continuous Power per String [W]		13,500	13,950	15,300	13,500	15,300	W
Maximum Allowed Connected Power per String[4]		1 string – 15,750	1 string – 16,200	1 string – 17,550	2 strings – 15,750	1 – 2 strings – 17,550	
		2 strings or more – 18,500	2 strings or more – 18,950	2 strings or more – 20,300	3 strings or more – 18,500	3 strings or more – 20,300	
Parallel Strings of Different Lengths or Orientations		Yes					
Maximum Difference in Number of Power Optimizers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit		5 Power Optimizers					

*The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter.
(1) S1000 cannot be mixed with S1200 in the same string. For P-series compatibility please refer to the SolarEdge Power Optimizer Inter-Compatibility Technical Note.
(2) For each string, a Power Optimizer may be connected to a single PV module if:
1) Each Power Optimizer is connected to a single PV module (the entire string has a 1:1 configuration).
2) It is the only Power Optimizer connected to a single PV module.
(3) For SE16K and above, the minimum STC DC connected power should be 11KW.
(4) To connect more STC power per string, design your project using SolarEdge Designer.

S1200

PV System Design Using a SolarEdge Inverter[5][6][7][8]		230/400V Grid SE16K, SE17K, SE25K*	230/400V Grid SE27.6K*	230/400V Grid SE30K*	230/400V Grid SE33.3K*[9]	277/480V Grid SE40K*	Units
Compatible Power Optimizers		S1200					
Minimum String Length	Power Optimizers	14	14	15	15	15	
	PV Modules	27	27	29	29	29	
Maximum String Length	Power Optimizers	30	30	30	30	30	
	PV Modules	60	60	60	60	60	
Maximum Continuous Power per String [W]		15,000	15,500	17,000	17,000	17,000	W
Maximum Allowed Connected Power per String[8]		1 string – 17,250	1 string – 17,750	1 string – 19,250	1 string – 19,250	1 – 2 strings – 19,250	
		2 strings or more – 20,000	2 strings or more – 20,500	2 strings or more – 23,000	2 strings or more – 23,000	3 strings or more – 23,000	
Parallel Strings of Different Lengths or Orientations		Yes					
Maximum Difference in Number of Power Optimizers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit		5 Power Optimizers					

*The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter.
(5) S1200 cannot be mixed with any other power optimizer in the same string.
(6) For each string, a Power Optimizer may be connected to a single PV module if:
1) Each Power Optimizer is connected to a single PV module (the entire string has a 1:1 configuration).
2) It is the only Power Optimizer connected to a single PV module.
(7) For SE16K and above, the minimum STC DC connected power should be 11KW.
(8) To connect more STC power per string, design your project using SolarEdge Designer.
(9) To connect an S1200 power optimizer with an SE33K inverter, you must toggle the Fixed String Voltage from 750Vdc to 850Vdc via SolarEdge SetApp. For details, see this application note.

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

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

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

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

CE RoHS

solaredge

SEG SOLAR

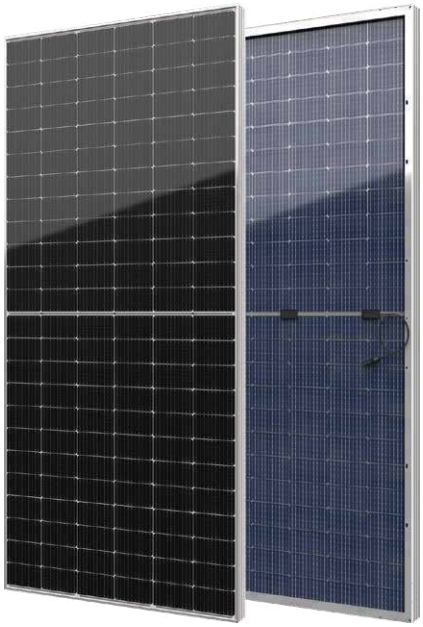
www.segsolar.com

YUKON Series

Half-Cell
Transparent Backsheet Module

540-555W
Module Power Output

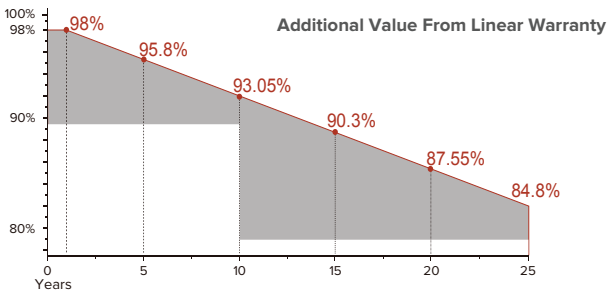
21.48%
Max Efficiency



Key Features

- High module conversion efficiency
- Better temperature coefficient
- Super multi busbar technology
- Low attenuation long warranty
- Superior load capacity
- Higher bifacially
- USA based liability insurance
- Houston, Texas based company

Warranty



15 <Years> Guarantee on product material and workmanship

25 <Years> Linear power output warranty

Product Certification

IEC61215:2016; IEC 61730:2016;	UL1703; UL61730/ETL/CEC
IEC62804	PID
IEC61701	Salt Mist
IEC62716	Ammonia Resistance
IEC60068	Dust and Sand
IEC61215	Hailstone
Fire Type (UL61730):Type1	
ISO14001:2015; ISO9001:2015; ISO45001:2018	

Intertek · PV CYCLE · CE · TÜV · FSEC · CALIFORNIA ENERGY COMMISSION

About SEG Solar

SEG Solar is a leading manufacturer of high-performance solar panels for residential, commercial, and utility applications. The company, headquartered in Houston,Texas, is committed to providing cost-effective and reliable solar solutions that help customers reduce their energy costs and carbon footprint.

Download Datasheet

YUKON Series SEG-XXX-BMA-TB(144Cells)

Electrical Characteristics

Module Type	SEG-540-BMA-TB			SEG-545-BMA-TB			SEG-550-BMA-TB			SEG-555-BMA-TB		
	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC
Maximum Power -Pmp(W)	540	406	378	545	409	382	550	414	385	555	418	389
Open Circuit Voltage -Voc(V)	49.50	46.18	49.48	49.60	46.32	49.58	49.70	46.40	49.68	49.80	46.47	49.78
Short Circuit Current -Isc(A)	13.81	11.16	9.74	13.90	11.23	9.80	14.00	11.32	9.87	14.10	11.40	9.94
Maximum Power Voltage -Vmp(V)	41.55	38.39	41.61	41.80	38.41	41.86	42.05	38.58	42.10	42.31	38.75	42.35
Maximum Power Current -Imp(A)	13.00	10.59	9.09	13.04	10.65	9.13	13.08	10.73	9.15	13.12	10.79	9.19
Module Efficiency STC-ηm(%)	20.90			21.10			21.29			21.48		
Power Tolerance(W)	(0, +3%)											
Maximum System Voltage	1500V DC											
Maximum Series Fuse Rating	25 A											

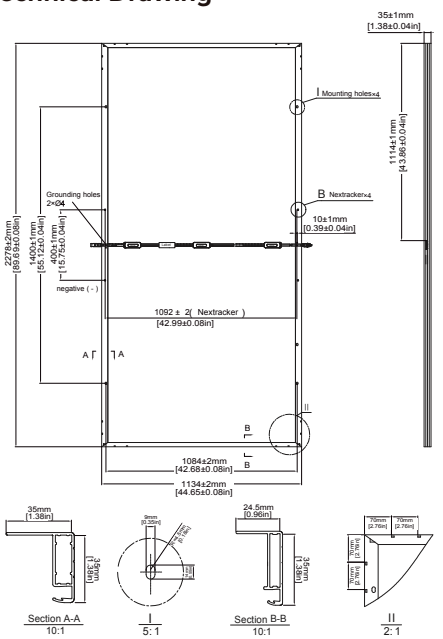
STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5 NOCT: Irradiance 800W/m² ambient temperature 20°C module temperature 45°C wind speed: 1m/s Power measurement tolerance: +/-3%

Mechanical Specifications

External Dimension	2278 x 1134 x 35 mm
Weight	27.0 kg
Solar Cells	PERC Mono 182 x 91mm(144 pcs)
Front Glass	3.2 / mm AR coating tempered glass / low iron
Frame	Anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Connector Type	QC4.10
Cable Type / Length	12 AWG PV Wire（UL）/1200 mm
Mechanical Load(Front)	5400 Pa / 113 psf*
Mechanical Load(Rear)	3600 Pa / 75 psf*

*Refer to SEG installation Manual for details

Technical Drawing

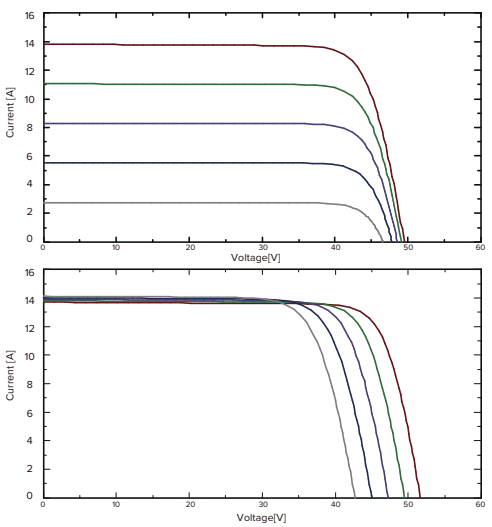


*Refer to SEG installation Manual for details

Packing Configuration

Container	20'GP	40'HQ
Pieces per Pallet	31	31
Pallets per Container	4	20
Pieces per Container	124	620

I-V Curve



Temperature Characteristics

Pmax Temperature Coefficient	-0.35 %/°C
Voc Temperature Coefficient	-0.27 %/°C
Isc Temperature Coefficient	+0.05 %/°C
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature (NOCT)	45±2 °C

Solar Foundations® USA

Innovative. Adaptable. Grounded.

SFUSA®

Ground Mount

Adaptable Ground Screw Fixed Tilt System

The SFUSA® Ground Mount system is the optimal solution for residential and light commercial solar projects. By custom designing and manufacturing components in-house, Solar Foundations' structure fits and functions together seamlessly, installs in far less time and with greater strength. The highest quality materials such as high-grade steel fully galvanized in accordance with ASTM standards and high-strength aluminum alloys for our panel support rails are utilized for long-term durability. Designed to withstand high snow and wind areas, the UL 2703 classified system has an expected lifespan that exceeds multiple panel lifecycles. Thus, Solar Foundations' product maximizes the residual investment of your ground mount structure.

Features

Solar Foundations' patented rail design offers a simple connection detail between the panel support rail and the horizontal support beams.

A two-man crew can typically install up to about a 25kW residential structure in a single day.

The patented telescopic design of the SFUSA Wind Brace allows quick and easily adaptable length changes to match installation conditions where significant adjustability is required.

SFUSA has developed processes and equipment that permits the installation of our patent pending ground screws in any soil conditions including solid rock.

Our foundations feature wider spans between support columns and stronger members. We engineered our system to obtain a better balance between all of the system components, resulting in less ground penetrations, a lower installed cost and has allowed us to offer further cost optimizations and array configurations that are not typically available in the industry.

✓ *Allows for mounting panels in four-, five- or six-high in landscape orientation and can be adapted to custom configurations*

✓ *Durable design enables any wind speed and snow load*

✓ *0° to 40° tilt with multiple inter-row spacing options*

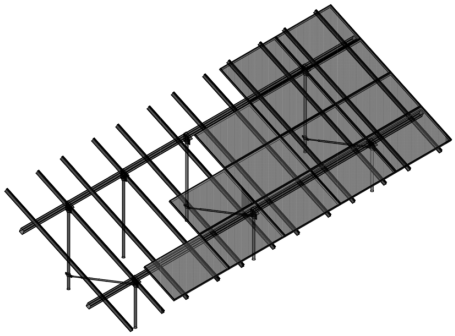
✓ *Compatible with a wide range of modules*

✓ *Pile verification report available after the installation has been completed*

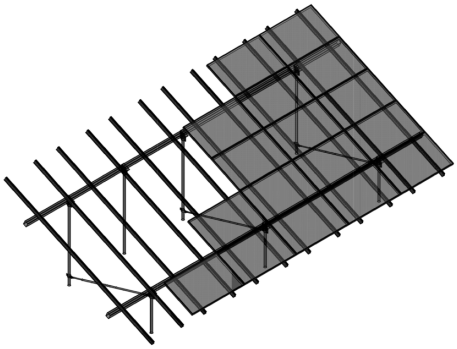
✓ *25-year guarantee against failure*

Let us simplify your ground mount structure process.

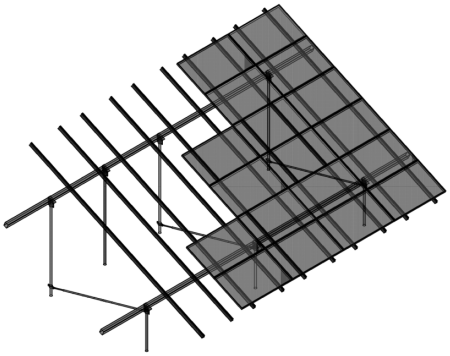
FT4L
Fixed Tilt 4 Landscape



FT5L
Fixed Tilt 5 Landscape

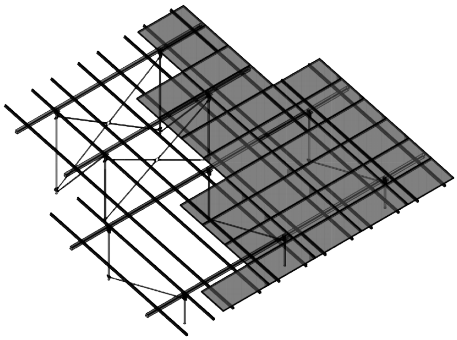


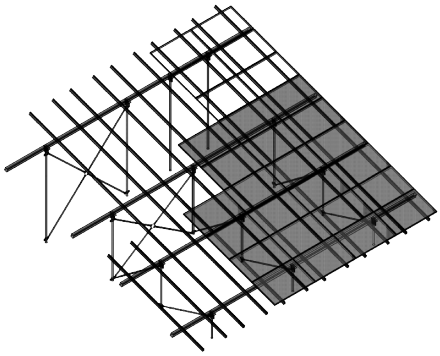
FT6L
Fixed Tilt 6 Landscape



Custom

SFUSA® has the ability to come up with creative structures and products outside of our standard systems for unique situations.





Materials	Hot-dipped galvanized steel, aluminum, stainless-steel mounting hardware
Tilt Angle	0° - 40°
Module Orientation	Landscape
Finishes	Galvanized
Foundation Options	Ground Screw - All soils including rock drilling
Grounding	Integrated or WEEB Bonding
Maximum Grade of Terrain	15°
Design Services	Signed & sealed structural drawings
Certifications	UL 2703
Warranty	25 years
Installation Services	Material, foundations, racking

LESS PILES
LARGER SPANS

UP TO 15°
TERRAIN SLOPES

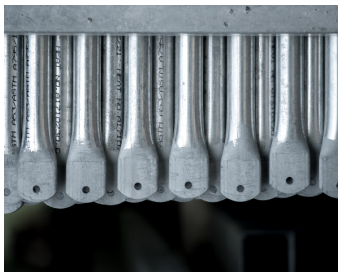
We're more than just a racking company.

Substructure Assembly

Horizontal Support Beam

We provide maximum support for our structure by utilizing high yield strength hollow structural steel sections on our racking systems.

Diagonal Wind Brace and Insert

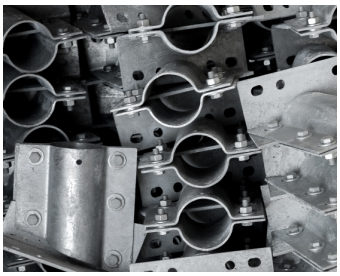


Our patented telescopic design allows quick and easily adaptable length changes to match installation conditions.

Diagonal Wind Brace Column Connector

Solar Foundations' hot-dipped galvanized custom Wind Brace Column Connectors fasten the Diagonal Wind Brace to a vertical column.

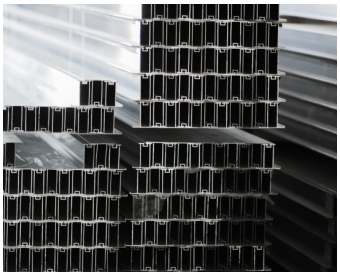
Column Caps



Our unique design allows a straightforward connection to the horizontal steel support beam.

Racking Assembly

Ground Mount Rail



Solar Foundations' patented rail design offers a simple connection detail between the panel support rail and the horizontal support beams, allowing 6 modules per column in landscape orientation.

Module End Clamp

Our end clamp design securely fastens the top and bottom edges of a column of solar panels to the SF Rail.

Module Mid Clamp

The mid clamp fastens two adjoining solar panels in a column of solar panels to the SF Rail. Our sleek design with multiple serrations increases the holding power of the modules to our SF Rails.

Grounding

Our UL 2703 Certification encompasses the rail to beam and beam to pile connections, permitting the use of a single grounding lug for the entire racking system.

Contact us at **info@solarfoundationsusa.com** or **(855) 738-7200**.

Solar Foundations USA®, Inc.
1142 River Road, New Castle, DE 19720
Phone (855) 738-7200
Fax (866) 644-5665
www.solarfoundationsusa.com

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