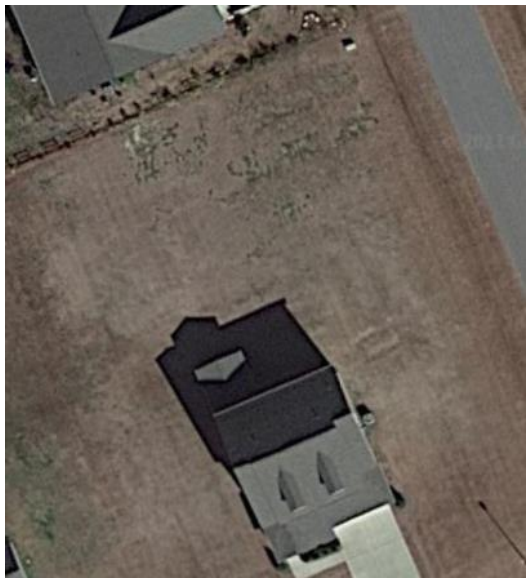
PROJECT DETAILS	
PV Modules	33 x SILFAB ELITE SIL-380 BK
Optimizers	33 x P401
Inverter	1 x SE11400H-US
Roof Type	Ground Mount
Racking	SunModo
Mounting Type	SunTurf
DC SIZE	12.54 kW
AC SIZE	11.4 kVA

DRAWING INDEX			
Item	Drawing #	Rev	Description
1	21235ML00-0	A	Drawing Index
2	21235ML00-1	A	Site Layout
3	21235ML00-2	A	String Mapping
4	21235ML00-3	A	Electrical One Line Diagram
5	21235ML00-4	A	Detailed Electrical Wiring Schematic
6	21235ML00-5	A	PV Labels
7	21235ML00-6	A	Bill of Materials

TOP VIEW OF BUILDING



DRAWING INDEX

SCALE: NTS

N

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Morgan M Ledford
22 Squire Street
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NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32

1	09/20/2021	A

JOB NUMBER
21-235-ML00

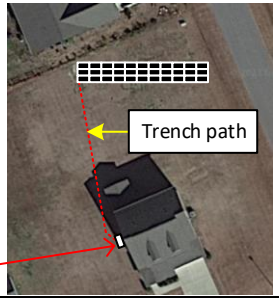
DATE ISSUED
09/20/2021

PROJECT STATUS
PERMITTING

SHEET
DRAWING INDEX

ML
21235ML00-0

Trench: 100ft. (approx.)



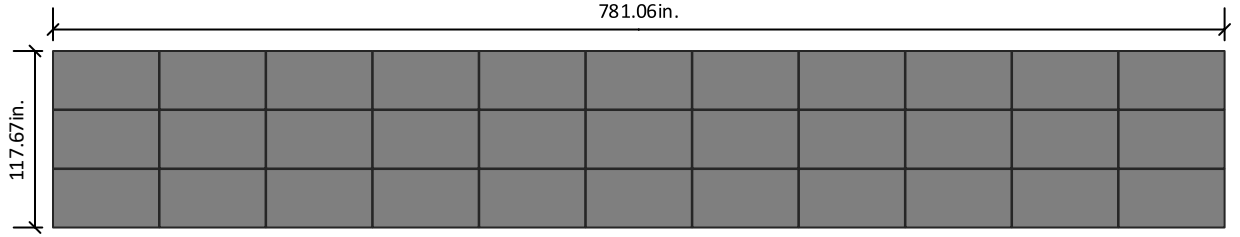
Module Dimension	70.67 in × 38.98 in

Arrays	Tilt	Azimuth
A	30°	180°

SYSTEM DETAILS

NUMBER OF PANELS : 33
PANELS MODEL : SILFAB ELITE SIL-380 BK
DC SIZE : 12.54 kW
AC SIZE : 11.4 kVA

Array A
33 Modules



Distance between array and boundary Line is 30ft from North and 25ft from East approximately

SITE LAYOUT
SCALE: 3/32" - 1' 0"

N

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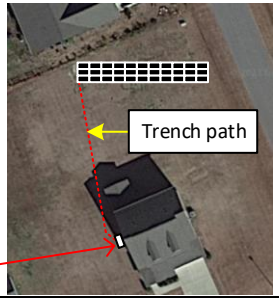
21-235-ML00
DATE ISSUED
09/20/2021
PROJECT STATUS
PERMITTING
SHEET
SITE LAYOUT

ML
21235ML00-1

String Layout					
Inverter SE11400H-US					
Strings #	No. of Modules	Color Code	Strings #	No. of Modules	Color Code
String 1	11				
String 2	11				
String 3	11				



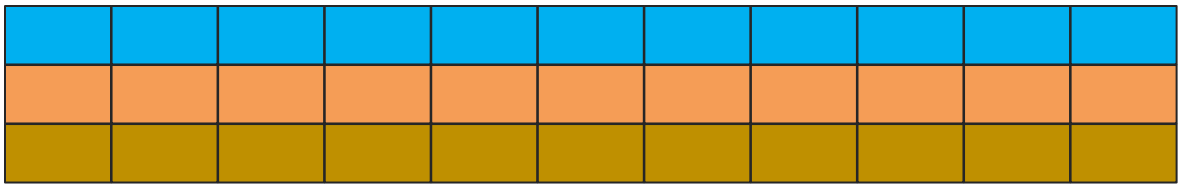
Module Dimension	70.67 in, 38.98 in

Arrays	Tilt	Azimuth
A	30°	180°

SYSTEM DETAILS

NUMBER OF PANELS : 33
PANELS MODEL : SILFAB ELITE SIL-380 BK
DC SIZE : 12.54 kW
AC SIZE : 11.4 kVA

Array A
33 Modules



STRING MAPPING
SCALE: 3/32" - 1' 0"

N

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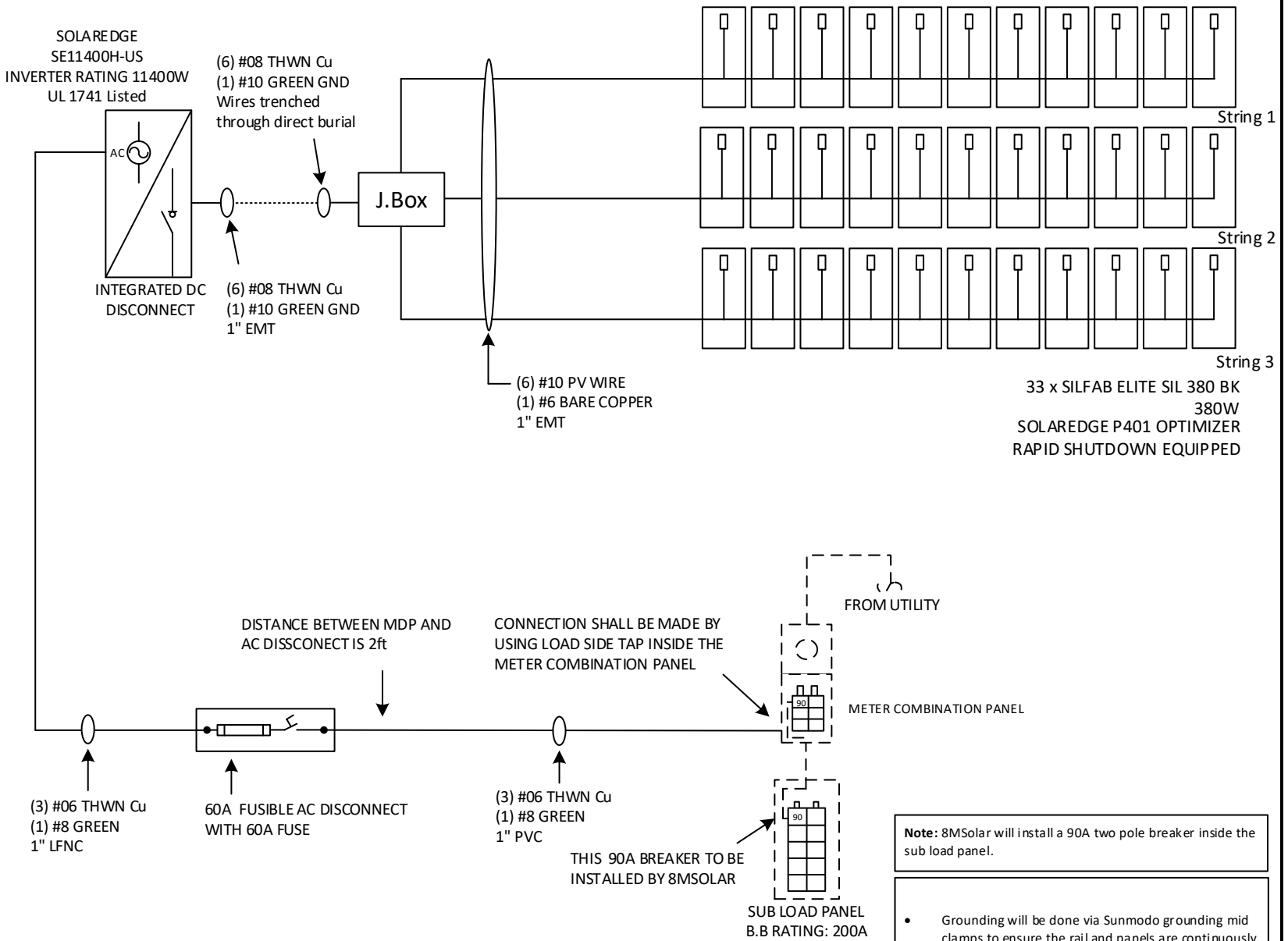
1	09/20/2021	A

JOB NUMBER
21-235-ML00
DATE ISSUED
09/20/2021
PROJECT STATUS
PERMITTING
SHEET
STRING MAPPING

ML
21235ML00-2



Note: 8MSolar will install a 90A two pole breaker inside the sub load panel.

- Grounding will be done via Sunmodo grounding mid clamps to ensure the rail and panels are continuously grounded.
- Rapid Shutdown is included in the Inverter, refer to inverter & optimizer attached datasheets.
- The load center / disconnect will be visible, lockable accessible to utility linesmen and will be properly labelled as per NEC requirements. It will be located on the exterior wall of the building, next to the utility meter.

ELECTRICAL NOTES

- System Size: 12,540 W DC
- (33) SILFAB ELITE SIL 380BK
- (33) SOLAREDGE P401 OPTIMIZERS
- (01) SOLAREDGE SE11400H-US
- Inverter Output: 47.5A max @ 240 VAC
- 11.4 kVA AC output max

STRING 1,2 & 3:
11 x 380W = 4,180W ea
I mpp = 10.45 Adc
I max = 23.4 Adc
V mpp = 400 Vdc
V oc = 11 Vdc

Voltage Drop Calculation:

- Voltage Drop: 3.65V
- Voltage Drop Percentage: 0.91%
- Voltage at End: 396.35V
- Trench Path: 100' approximately

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1	09/20/2021	A

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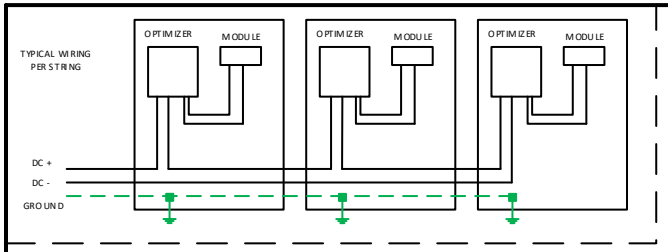
21-235-ML00

DATE ISSUED
09/20/2021

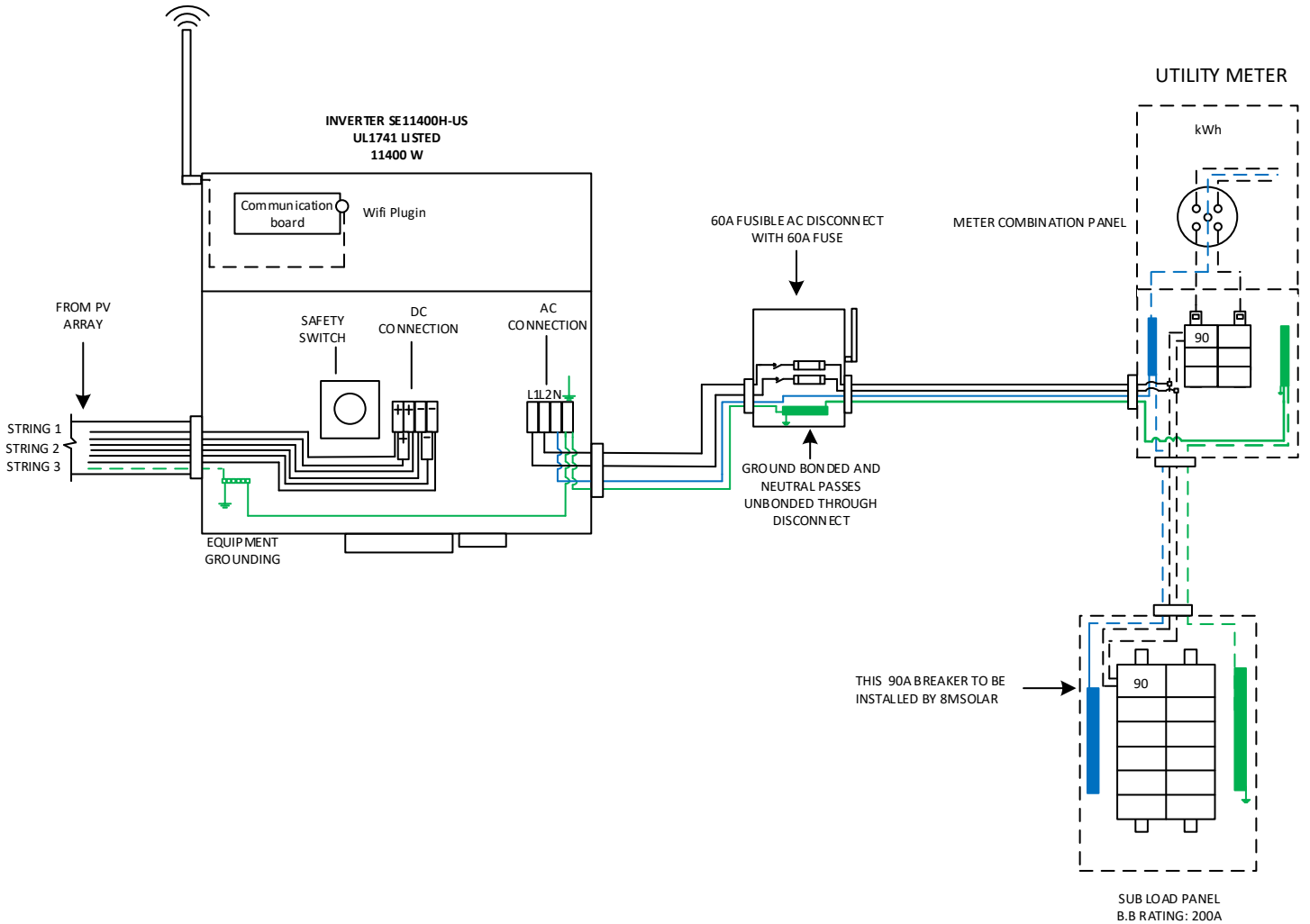
PROJECT STATUS
PERMITTING

SHEET
ELECTRICAL ONE LINE DIAGRAM

ML
21235ML00-3



Note: 8MSolar will install a 90A two pole breaker inside the sub load panel.



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1	09/20/2021	A

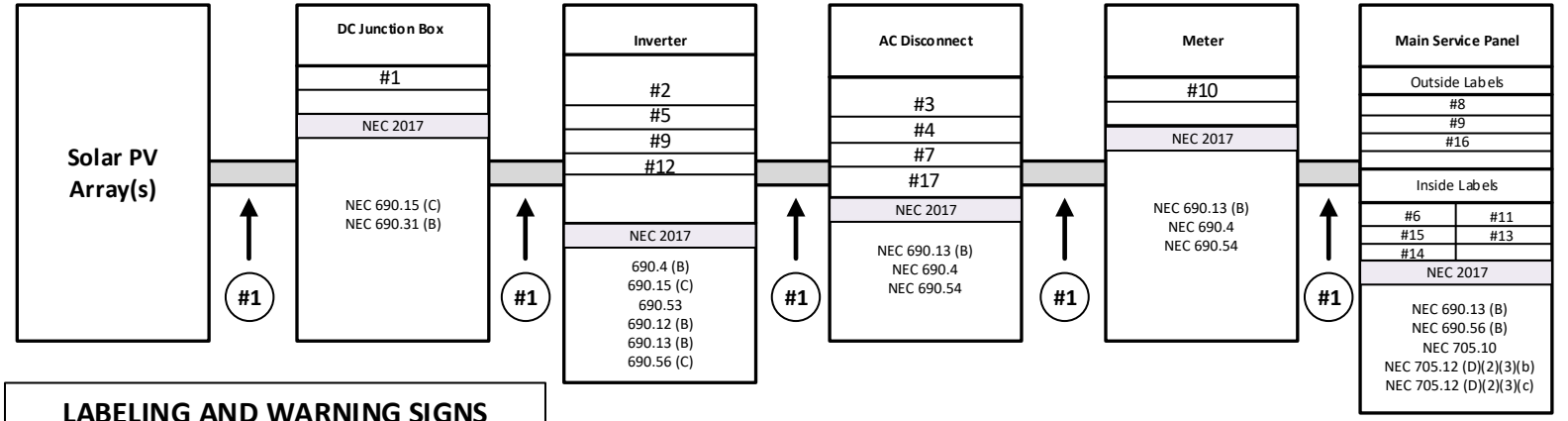
JOB NUMBER
21-235-ML00

DATE ISSUED
09/20/2021

PROJECT STATUS
PERMITTING

SHEET
DETAILED ELECTRICAL WIRING SCHEMATIC

ML
21235ML00-4



LABELING AND WARNING SIGNS

A. PURPOSE
PROVIDE EMERGENCY RESPONDERS WITH APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO ISOLATING THE SOLAR ELECTRIC SYSTEM. THIS CAN FACILITATE IDENTIFYING ENERGIZED ELECTRICAL LINES THAT CONNECT THE SOLAR PANELS TO THE INVERTER, AS SHOULD NOT BE CUT WHEN VENTING FOR SMOKE REMOVAL.

B. MAIN SERVICE DISCONNECT:

1. RESIDENTIAL BUILDINGS- THE MARKING MAY BE PLACED WITHIN THE MAIN SERVICE DISCONNECT. THE MARKING SHALL BE PLACED ON THE OUTSIDE COVER IF THE MAIN SERVICE DISCONNECT IS OPERABLE WITH THE SERVICE PANEL CLOSED.

2. COMMERCIAL BUILDINGS- THE MARKINGS SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECTCLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED

3. MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIAL

a. VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
b. FORMAT:

(1) WHITE LETTERING ON A RED BACKGROUND
(2) MINIMUM 3/8 INCH LETTER HEIGHT
(3) ALL LETTERS SHALL BE CAPITALIZED
(4) ARIAL OR SIMILAR FONT, NON-BOLD

c. MATERIAL:

(1) REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969) AS STANDARD FOR WEATHER RATING): DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

C. MARKING REQUIREMENTS ON DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, DC COMBINERS AND JUNCTION BOXES;

1. MARKING: PLACEMENT, VERBIAGE, FORMAT AND TYPE OF MATERIAL.

a. PLACEMENT: MARKINGS SHALL BE PLACED EVERY 10 (TEN) FEET ON ALL INTERIOR AND EXTERIOR DC CONDUITS, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES, AT TURNS ABOVE AND/OR BELOW PENETRATIONS, ALL DC COMBINERS AND JUNCTION BOXES.
b. VERBIAGE: CAUTION SOLAR CIRCUIT
c. THE FORMAT AND TYPE OF MATERIAL SHALL ADHERE TO SECTION B-3.B & C ABOVE

D. INVERTERS ARE NOT REQUIRED TO HAVE CAUTION MARKINGS

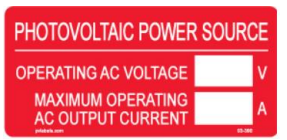
#1


#2


#3


#4


#5


#6


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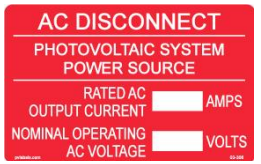

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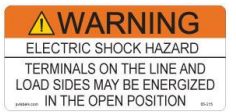

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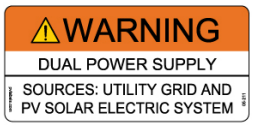
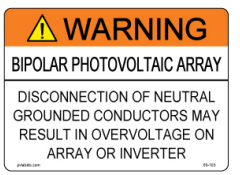


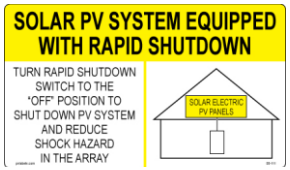
#10


#11


#12


#13


#14


#15


#16
SOLAR AC DISCONNECT LOCATED AT WEST SIDE WALL OF THE HOUSE BESIDE THE UTILITY METER

#17
SERVICE DISCONNECT LOCATED IN METER COMBINATION PANEL BESIDE THE UTILITY METER

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Ali Buttar
PVIP #031310-32

1	09/20/2021	A

JOB NUMBER
21-235-ML00

DATE ISSUED
09/20/2021

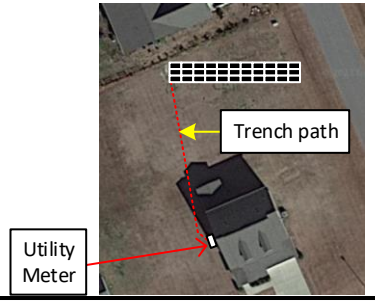
PROJECT STATUS
PERMITTING

SHEET
PV LABELS

ML
21235ML00-5

This location is in 105mph wind zone and 20psf snow load zone

Trench: 100ft. (approx.)



Module Dimension	70.67 in × 38.98 in

Arrays	Tilt	Azimuth
A	30°	180°

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Fuquay-Varina, NC 27526

PV LABELS

Sr No	Code	Qty
01	02-314	10
02	03-301	01
03	03-302	01
04	02-316	01
05	03-308	01
06	03-390	01
07	03-306	01
08	05-215	01
09	05-211	02
10	07-359	01
11	05-372	01
12	05-103	01
13	05-342	01
14	05-108	01
15	07-111	01
16	8M-001	01
17	8M-002	01

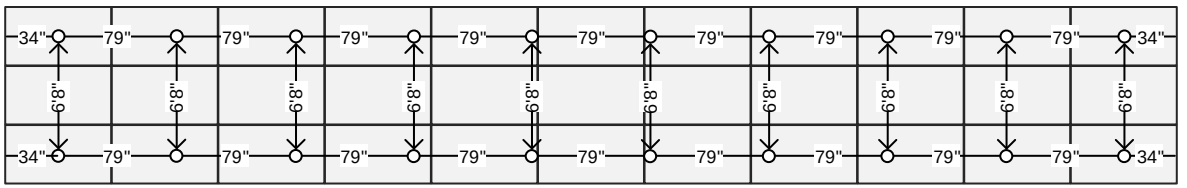
SOLAR MODULES
- 33 x SILFAB ELITE SIL-380 BK

INVERTER & SUPPORTING ITEMS
- 01 x SolarEdge SE11400H-US
- 33 x SolarEdge Power Optimizer P401
- 01 x SE-WFGW-B-S1-NA with Antenna Kit

WIRE
- 1000 ft x #8 THWN PV WIRE BLK (Cu)

- 22 x A20288-168: Helio Rail HR300, 168"
- 14 x A21168-112: 2.875" OD E/W Pipe Beam, 112"
- 10 x A21165-060: HSS 2.375" OD Front Pipe
- 10 x A21165-120: HSS 2.375" OD Rear Pipe
- 10 x A50164-092: HSS N/S Tube Brace
- 02 x A50164-066: HSS E/W Tube Brace
- 02 x K10222-001: 2.5" Pipe Clamp Kit
- 20 x K10423-080: Ground Screw, 80"
- 20 x K10341-002: 2.5" Pipe T-Cap Kit
- 22 x K10219-001: 2" Pipe Clamp Kit
- 44 x K10343-001: 2.5" Pipe U-Clamp Kit
- 12 x K10448-001: 2.5" Pipe Splice Kit
- 44 x K10180-001: Universal Mid Clamp Kit
- 44 x K10224-138: End Clamp Kit
- 01 x K10179-002: Grounding Lug
- 44 x A20297-001: Rail End Cap
- 33 x K10363-001: Microinverter Hardware Kit
- 04 x A20380-001: 2.5" Pipe End Cap

Array A
33 Modules



PIER DIAGRAM

Distance between array and boundary Line is 30ft from North and 25ft from East approximately

BILL OF MATERIAL
SCALE: 3/32" - 1' 0"

N

NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32

1	09/20/2021	A

JOB NUMBER
21-235-ML00

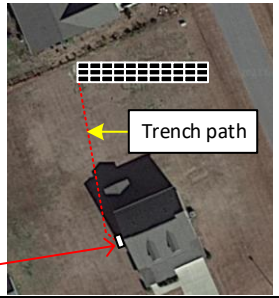
DATE ISSUED
09/20/2021

PROJECT STATUS
PERMITTING

SHEET
BILL OF MATERIAL

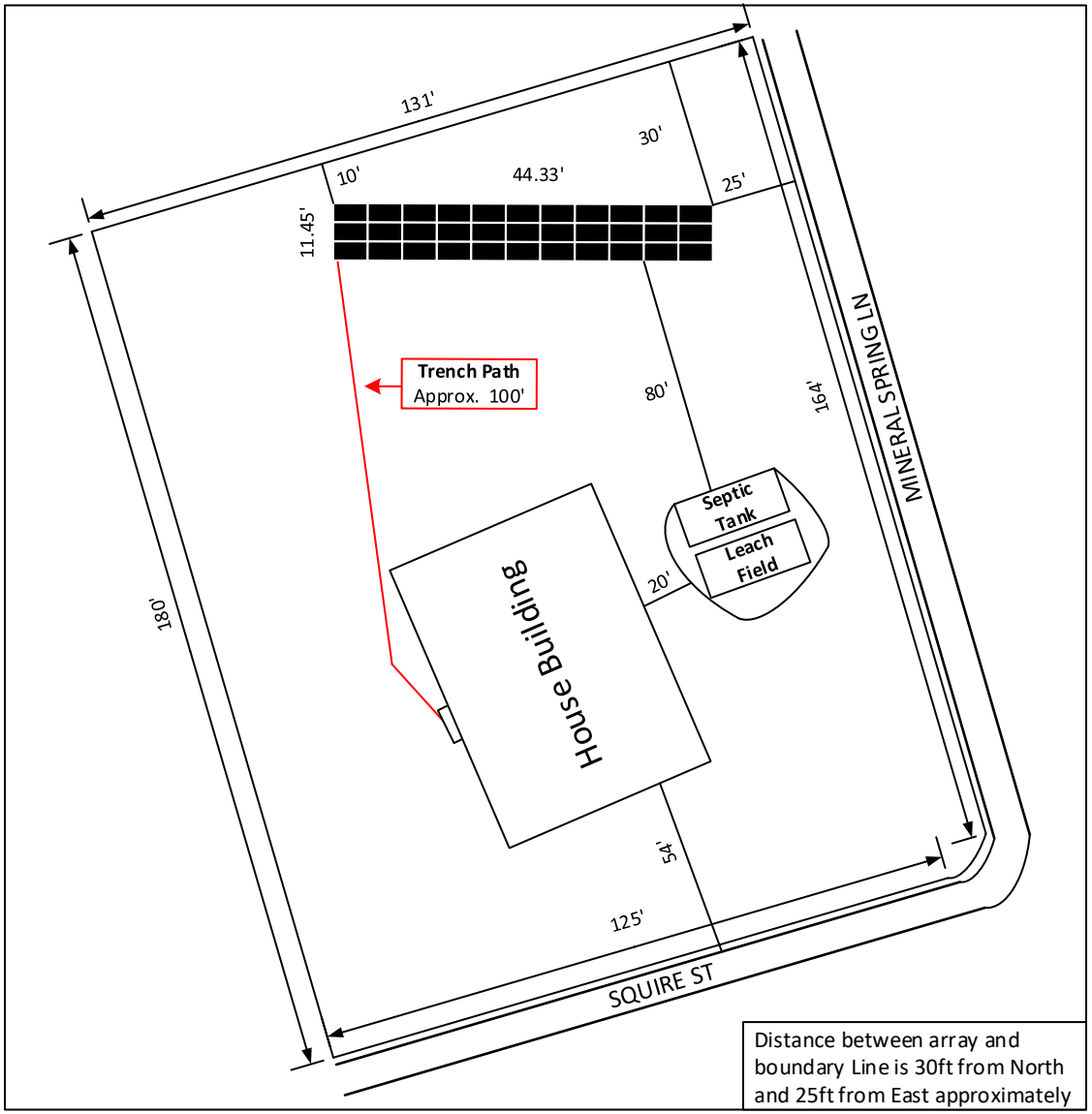
ML
21235ML00-6

Trench: 100ft. (approx.)



Module Dimension	70.67 in × 38.98 in

Arrays	Tilt	Azimuth
A	30°	180°



Distance between array and boundary Line is 30ft from North and 25ft from East approximately

PLOT PLAN
SCALE: 3/32" - 1' 0"

SYSTEM DETAILS

NUMBER OF PANELS : 33
PANELS MODEL : SILFAB ELITE SIL-380 BK
DC SIZE : 12.54 kW
AC SIZE : 11.4 kVA

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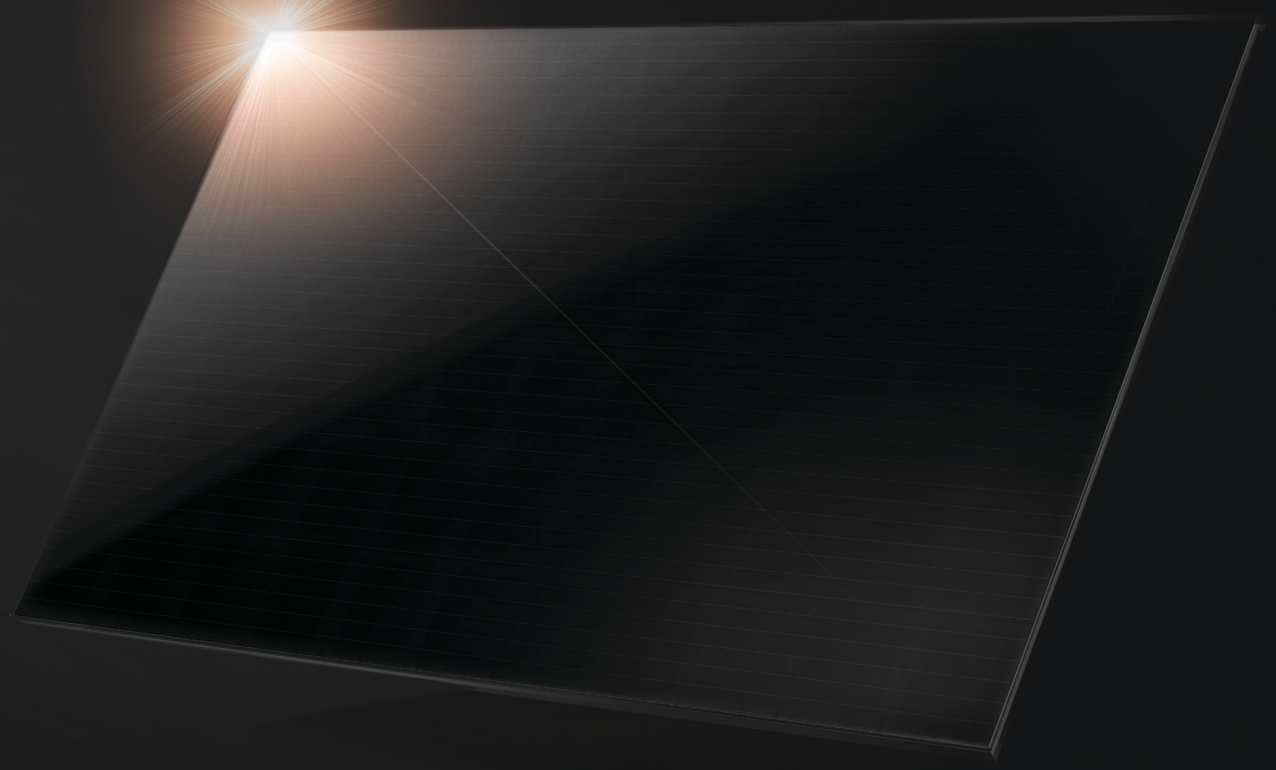
JOB NUMBER
21-235-ML00
DATE ISSUED
09/20/2021
PROJECT STATUS
PERMITTING
SHEET
PLOT PLAN

ML
21235ML00-7

SILFAB ELITE

SIL - 370/375/380 BK

SILFAB SOLAR™



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CHUBB*

* 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/m^2 • 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/ft^2
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	

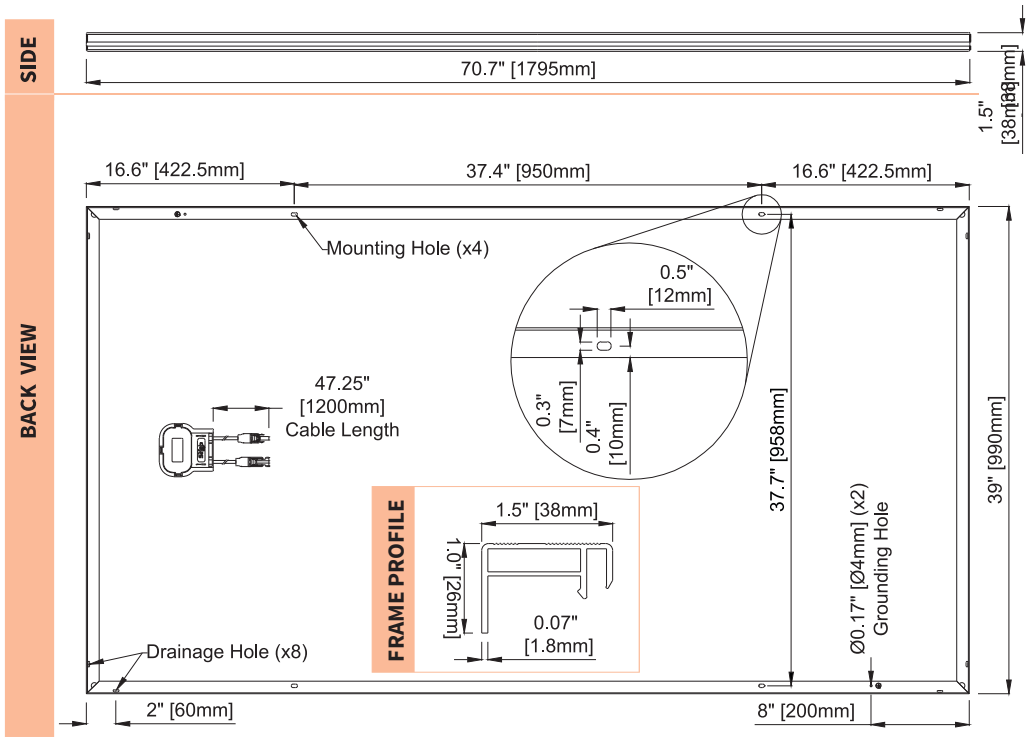
TEMPERATURE RATINGS	
Temperature Coefficient Isc	+0.046 %/°C
Temperature Coefficient Voc	-0.279 %/°C
Temperature Coefficient Pmax	-0.377 %/°C
NOCT (± 2°C)	43.5 °C
Operating temperature	-40/+85 °C

WARRANTIES	
Module product workmanship warranty	25 years**
Linear power performance guarantee	30 years
	≥ 97.1% end 1st yr ≥ 91.6% end 12th yr ≥ 85.1% end 25th yr ≥ 82.6% end 30th yr

CERTIFICATIONS	
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 Certifed, UL Fire Rating: Type 1
Factory	ISO9001:2015

SHIPPING SPECS	
Modules Per Pallet:	26 or 26 (California)
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
PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads



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F +1 905.696.0267

Silfab - SIL-370/375/380-BK-20210803

INVERTERS

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

12-25 YEAR WARRANTY

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

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Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, Adjustable - 0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V[2]	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V[2]	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

[1] For other regional settings please contact SolarEdge support
[2] A higher current source may be used; the inverter will limit its input current to the values stated

Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

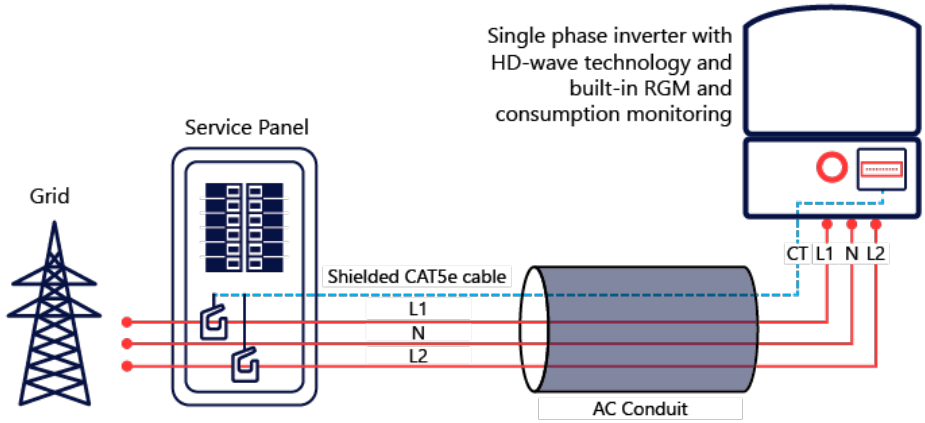
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Metering, ANSI C12.20	Optional[3]							
Consumption metering								
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG					1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG					1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4	26.2 / 11.9		38.8 / 17.6		lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -40 to +60[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

[3] Inverter with Revenue Grade Meter P/N: SExxxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BNI4 . For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box

[4] 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

How to Enable Consumption Monitoring

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



RoHS

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

/ 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 DC Input Current	13.75			12.5	14.65	12.5		17.5	Adc
Maximum Efficiency	99.5								%
Weighted Efficiency	98.8							98.6	%
Overvoltage Category	II								
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)									
Maximum Output Current	15								Adc
Maximum Output Voltage	60					85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE 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 P485-4NMDMRM. 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	8		10	18	
	P405, P485, P505	6		8	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 6,500W 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

Intertek RoHS

Intertek
3933 US Route 11
Cortland, NY 13045
Telephone: 607-753-7311
www.intertek.com

Subject: ETL Evaluation of SolarEdge Products to NEC 2017 Rapid Shutdown Requirements

To, whom it may concern

This letter represents the testing results of the below listed products to the requirements contained in the following standards:

The evaluation was done on the PV Rapid Shutdown System (PVRSS), and covers installations consisting of optimizers and inverters with part numbers listed below.

The testing done has verified that controlled conductors are limited to:

- Not more than 30 volts and 240 voltamperes within 30 seconds of rapid shutdown initiation outside the array.
- Not more than 80 volts and 240 voltamperes within 30 seconds of rapid shutdown initiation inside the array.

The rapid shutdown initiation is performed by either disconnecting the AC feed to the inverter, or – if the inverter DC Safety switch is readily accessible – by turning off the DC Safety switch.

Applicable products:

(1) Power optimizers:

PB followed by 001 to 350; followed by -AOB or -TFI.
OP followed by 001 to 500; followed by -LV, -MV, -IV or -EV.
P followed by 001 to 860.
SP followed by 001 to 350.
When optimizers are connected to 2 or more modules in series, the max input voltage may exceed 80V. Following the implementation of the NEC 2017 rapid shutdown value of 80V max inside of the array at the beginning of 2019, modules exceeding this combined input max voltage will be required to use optimizers with parallel inputs.

(2) 1 -PH Inverters

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US / SE7600A-US / SE10000A-US / SE11400A-US / SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US when the following label is labeled on the side of the inverter:

Inverter part number may be followed by a suffix.

(3) 3 -PH Inverters

SE9KUS / SE10KUS / SE14.4KUS / SE20KUS / SE30KUS / SE33.3KUS /SE43.2KUS / SE66.6KUS / SE100KUS; when the following label is labeled on the side of the inverter:

Please note, this Letter Report does not represent authorization for the use of any Intertek certification marks.

Intertek
3933 US Route 11
Cortland, NY 13045
Telephone: 607-753-7311
www.intertek.com

Brand Name(s)	SolarEdge
Relevant Standard(s)	UL 1741, UL 1741 CRD for rapid shutdown National Electric Code, 2017, Section 690.12 requirement for rapid shutdown
Verification Issuing Office	3933 US Route 11, Cortland, NY 13045

Signature:

Name: Mukund Rana
Position: Engineering Team Leader
Date: 2/11/2020

SUNMODO®

GO BIG ON TURF

SunTurf™ Ground Mount System

SunModo offers the next generation Ground Mount System with SunTurf™. The streamlined design combines the strength of Helio Rails with steel pipes to create the perfect ground mount solution.

SurTurf™ is ideal for solar installers looking for a durable and cost-effective system that can accommodate a wide variety of soil conditions.

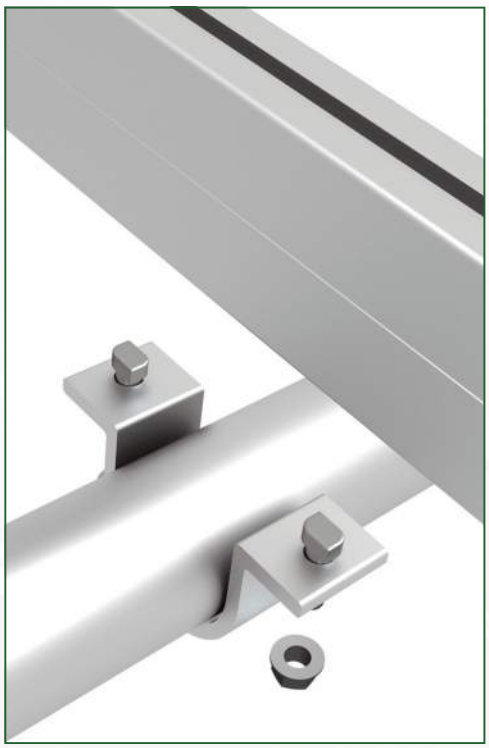
The SunTurf™ Ground Mount Advantage

- ✓ Easily scalable from kilowatts to multimegawatts PV Arrays.
- ✓ Foundation design solution for every soil condition.
- ✓ Online configuration tool available to streamline design process.
- ✓ Components optimized for strength, durability and fast installation.
- ✓ UL 2703 Listed by Intertek.

Key Features of SunTurf™ Ground Mount System

SUNMODO
We've Got Your Rack!

SunTurf™ Ground Mount System easily integrate Helio Rails with 2-inch Schedule 40 steel pipes. No drilling is required to attach the aluminum rails to the horizontal pipe. Optional bracing can provide additional structural rigidity for sites with high snow or wind load conditions. Anchor any ground mount installation using one of our fountain types including helical piles, precast ballasts and concrete piers.



Technical Data

Application	Ground Mount
Material	High grade aluminum, galvanized steel and 304 stainless steel hardware
Module Orientation	Portrait and landscape
Tilt Angle	Range between 10 to 50 degrees
Foundation Types	Post in concrete, helical earth auger, ground screw anchor and ballast
Structural Integrity	Stamped engineering letters available
Certification	UL 2703 Listed by ETL
Warranty	20 Years

SunModo, Corp. Vancouver, WA., USA • www.sunmodo.com • 360.844.0048 • info@sunmodo.com

GROUND SCREW ANCHORS & HELICAL EARTH AUGERS

Don't fret over your next PV ground mount installation; Screw It!

SunModo is proud to offer heavy-duty Ground Screws and Earth Augers as a foundational option for your Ground Mount PV racking system.

These anchors are used for securing installer-supplied 2 inch Schedule 10 or 40 galvanized steel pipe. Our anchors are popular because they are strong, economical, and easily to install.

To install simply turn/screw the anchor into the ground using a rotary head backhoe and a drive adaptor. The drive adaptor bolts quickly through the anchor's reinforced eyelet efficiently transferring torque.

These heavy-duty ground screws and earth augers are made of structural carbon steel with a hot-dipped galvanized corrosion resistant finish. Both anchors are available in 63" and 84" lengths with a 36" long extension coupler available.

Features:

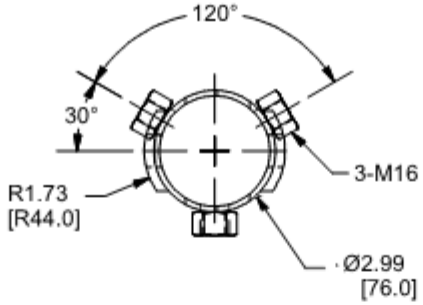
- Predictable capacity
- Cost-effective method
- Easy to store, reusable
- Pre-engineered system
- Labor-saving, keeps crew small
- Screws into place (not predrilled)
- Site-specific to conditions and loads
- Extendable with bolted joint connection

Benefits:

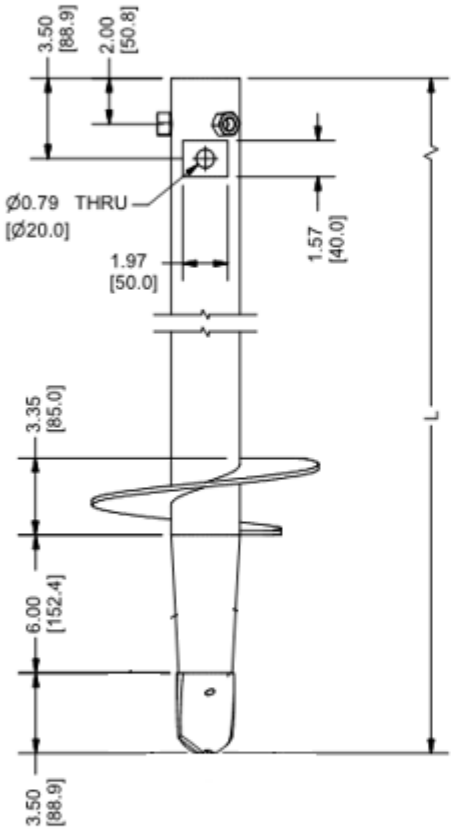
- Fast installation
- Clean installation
- Immediate loading
- No spoils to remove
- Lower installed costs
- One-trip convenience
- Installs in limited access areas

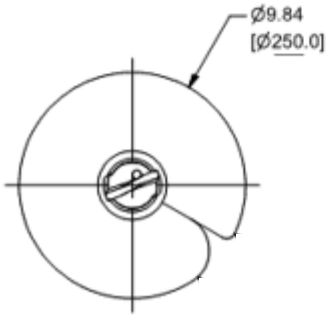
Basic Information	
Part Number	A21146-XXX
Description	10” Helix Blade Auger
Lengths (-063 | -080)	63 inches | 80 inches
Auger Outside Diameter	76mm
Attachment Hardware	3X M16 Set Screws
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	8,2 kg | 10,5 kg

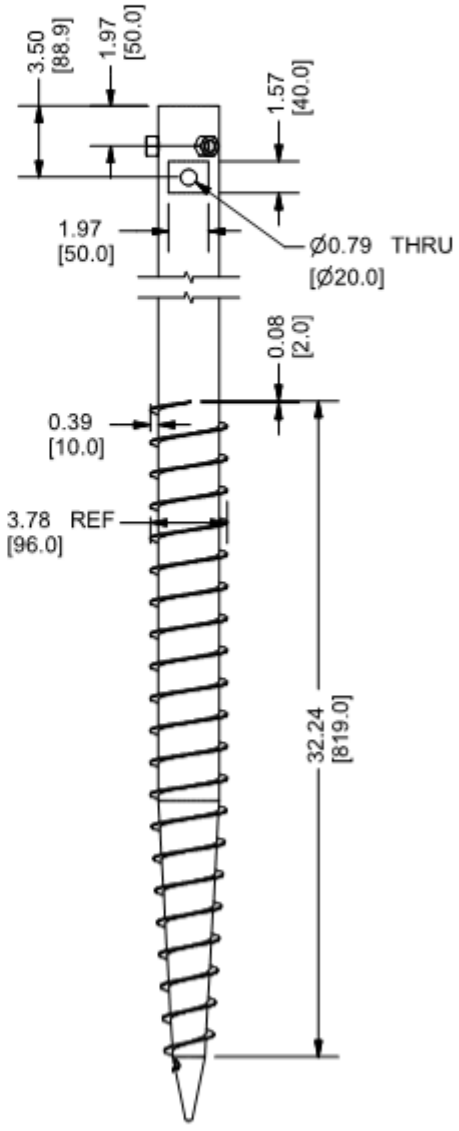
Basic Information	
Part Number	A21147-XXX
Description	Screw Anchor
Lengths (-063 | -080)	63 inches | 80 inches
Auger Outside Diameter	76mm
Attachment Hardware	3X M16 Set Screws
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	8,2 kg | 10,5 kg



TYPICAL DETAIL







A21146-XXX

A21147-XXX

SUNMODO®

THE SWIVEL™ PIPE CAP KIT CAN HANDLE ANY TWIST OR TURN YOUR SLOPED TERRAIN HAS TO OFFER

SunModo has added the Swivel Pipe Cap to its expanding SunTurf® Ground Mount PV racking system.

Installing solar arrays on an undulating hillside terrain is no longer a problem thanks to the Swivel Pipe Cap Kit. This pivoting pipe cap saves time and money by eliminating the need to grade the land before installing the PV array on sloped terrain. The Swivel Pipe Cap Kit, a part of the SunTurf system, can accommodate terrains up to 27% slope east-west and 120% slope north-south.

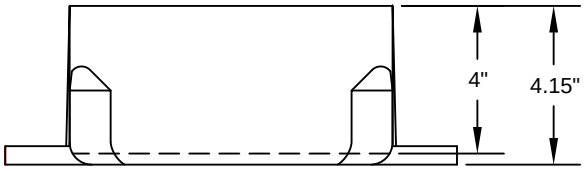
The Swivel Pipe Cap Kit (K10373-001) is a robust aluminum design with stainless steel hardware and integrated bonding for safety.

The solar array can now follow the east-west contour of the land, thus providing the highest possible output through increased density.

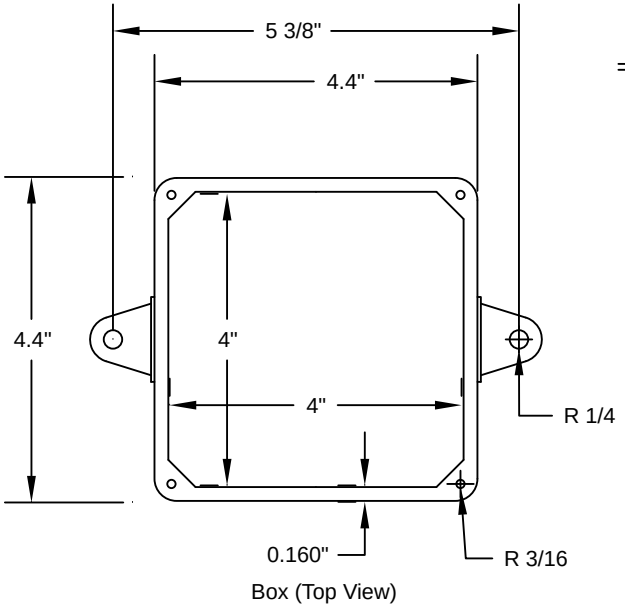
Features & Benefits:

- Accommodate terrains up to 27% slope east-west and 120% slope north-south.
- Heavy-duty aluminum construction.
- 3/8 stainless steel hardware with integrated bonding provided in every pipe cap.
- Eliminates the need to grade the land.

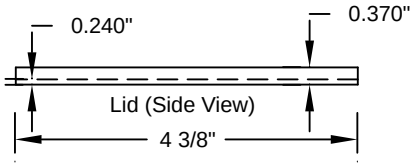
SLOPE CONVERSION TABLE		
DEGREES	**GRADIENT (Rise/Run)**	**PERCENT**
15	1 : 3.73	26.8%
50	1 : 0.84	119.2%



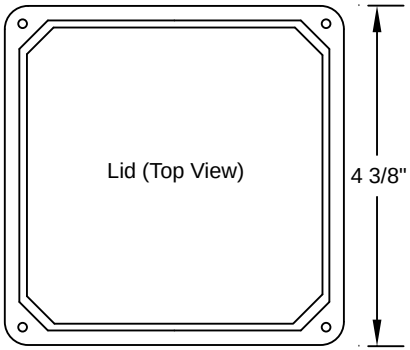
Box (Side View)

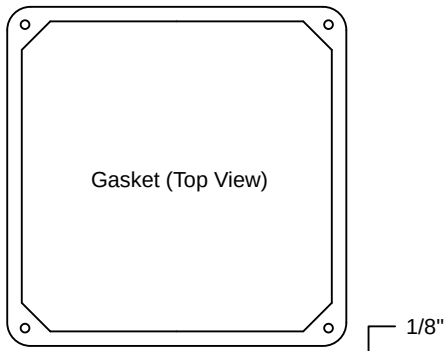


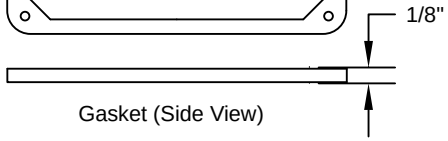
Box (Top View)



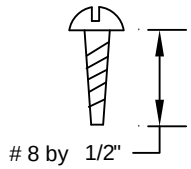
Lid (Side View)

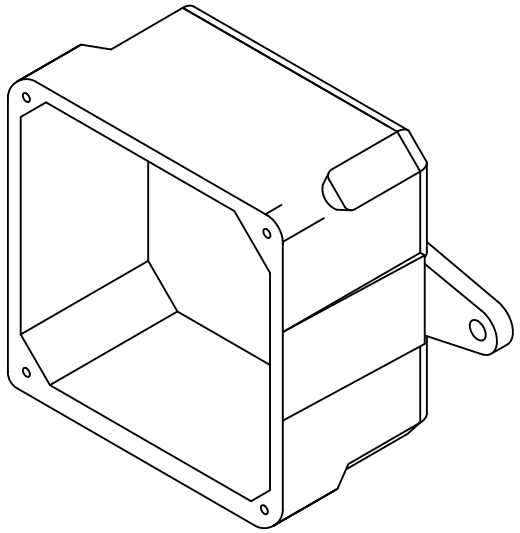






Gasket (Side View)





UL Listed
Marine Listed
UL File # E205935 (QCUP)
UL Control # 92CM
Material is Rigid PVC
61.9 cu in Volume (1015 cu cm)
Screws are Zinc Plated Steel
Gasket is neoprene

CANTEX INC.
Fort Worth, TEXAS

Junction Box 4 x 4 x 4

Drawn By: Scott Frank	Date: 8-12-2008	5133709

Product Data Sheet

D222NRB

Safety Switch , 60A, Fusible, Cartridge (Class H, K or R), 2-Pole

SQUARE D by Schneider Electric

List Price $326.00 USD

Availability **Stock Item: This item is normally stocked in our distribution facility.**

Technical Characteristics

Terminal Type	Lugs
Type of Duty	General Duty
Maximum Voltage Rating	240VAC
Wire Size	#10 to #2 AWG(Al) - #14 to #2 AWG(Cu)
Depth	4.83 Inches
Height	14.88 Inches
Width	6.63 Inches
Action	Single Throw
Ampere Rating	60A
Approvals	UL Listed File: E2875
Enclosure Rating	NEMA 3R
Enclosure Type	Rainproof and Sleet/Ice proof (Indoor/Outdoor)
Enclosure Material	Galvannealed Steel
Factory Installed Neutral	Yes
Fuse Type	Cartridge (Class H, K or R)
Disconnect Type	Fusible
Short Circuit Current Rating	100kA (max. depending on fuse type)
Mounting Type	Surface
Number of Poles	2-Pole

Shipping and Ordering

Category	00106 - Safety Switch, General Duty, 30 - 200 Amp, NEMA3R
Discount Schedule	DE1A
GTIN	00785901460640
Package Quantity	1
Weight	8.35 lbs.
Availability Code	Stock Item: This item is normally stocked in our distribution facility.
Returnability	Y
Country of Origin	US

As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this document.

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Schneider Electric