

**AMBROSAT, KATHLEEN PV SYSTEM
13444 W ORANGE CT.
LITCHFIELD PARK AZ 85340
APN: 501-62-702
JURISDICTION: MARICOPA COUNTY**

GENERAL INFORMATION

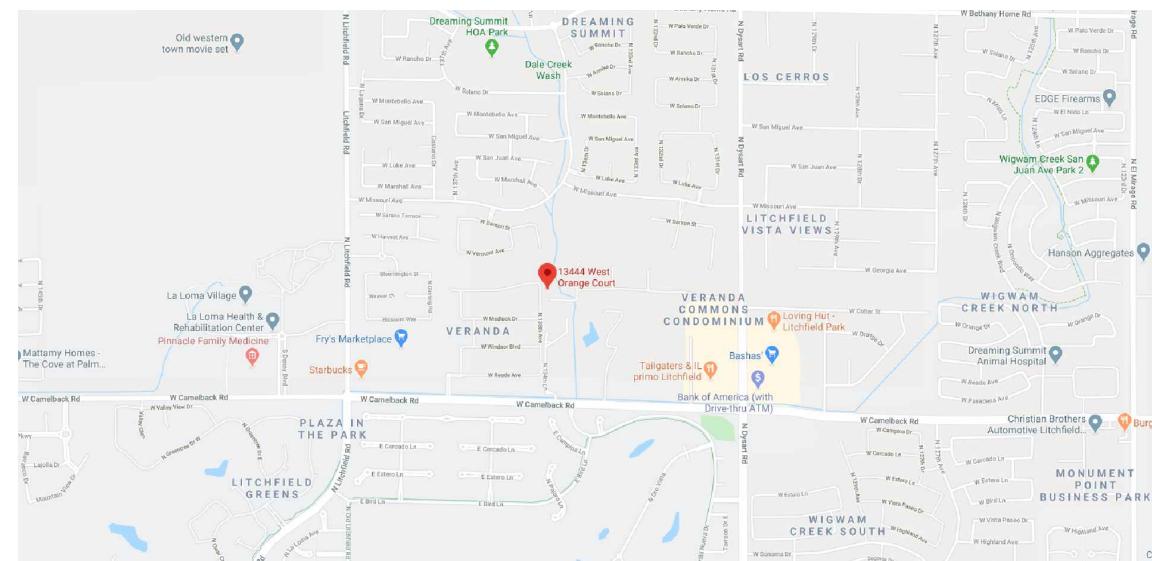
SYSTEM SIZE:	17.490 kW-DC-STC 15.200 kW-AC
ROOF PITCHED:	18 DEGREES
INVERTER:	(2) SOLAREDGE SE7600H-US RGM W/ P340 OPTIMIZERS
MODULES:	(53) SILFAB SIL-330 BL
STRINGS:	INV 1: (2)x15 MODULE SERIES STRINGS INV 2: (1)x13, (1)x10 MODULE SERIES STRINGS
ELECTRICAL SERVICE RATING:	400A
PV SYSTEM OVERCURRENT RATING:	80A
PV SYSTEM DISCONNECT SWITCH:	EATON DG223URB (100A / 2P) OR EQUIV.
ROOF TYPE:	FLAT TILE
ROOF FRAMING:	MANUFACTURED/ENGINEERED TRUSS
RACKING:	EVEREST
ATTACHMENT METHOD:	MIN. 5/16" x 3 1/2 LAG SCREWS EA. STANDOFF

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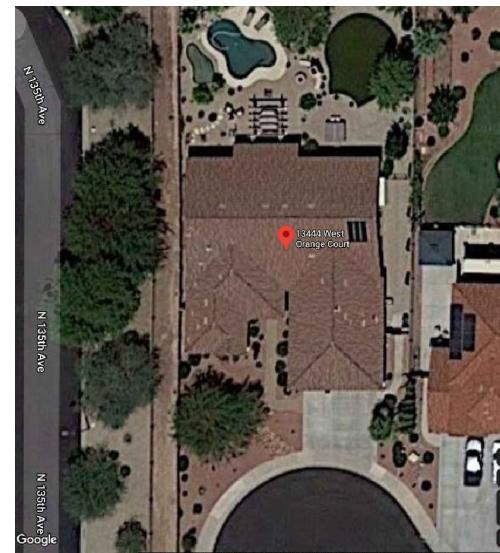
VICINITY MAP

SCALE: NTS



AERIAL MAP

SCALE: NTS



NOTES

EQUIPMENT LOCATION

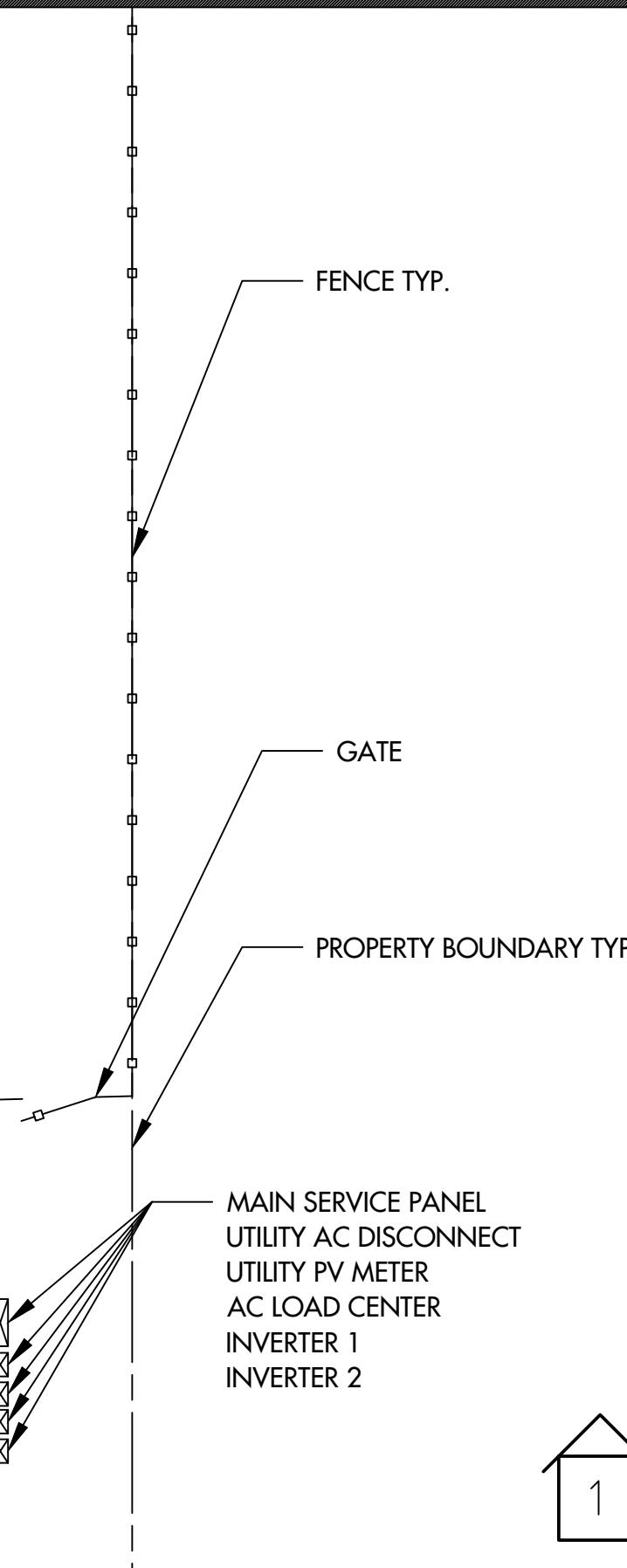
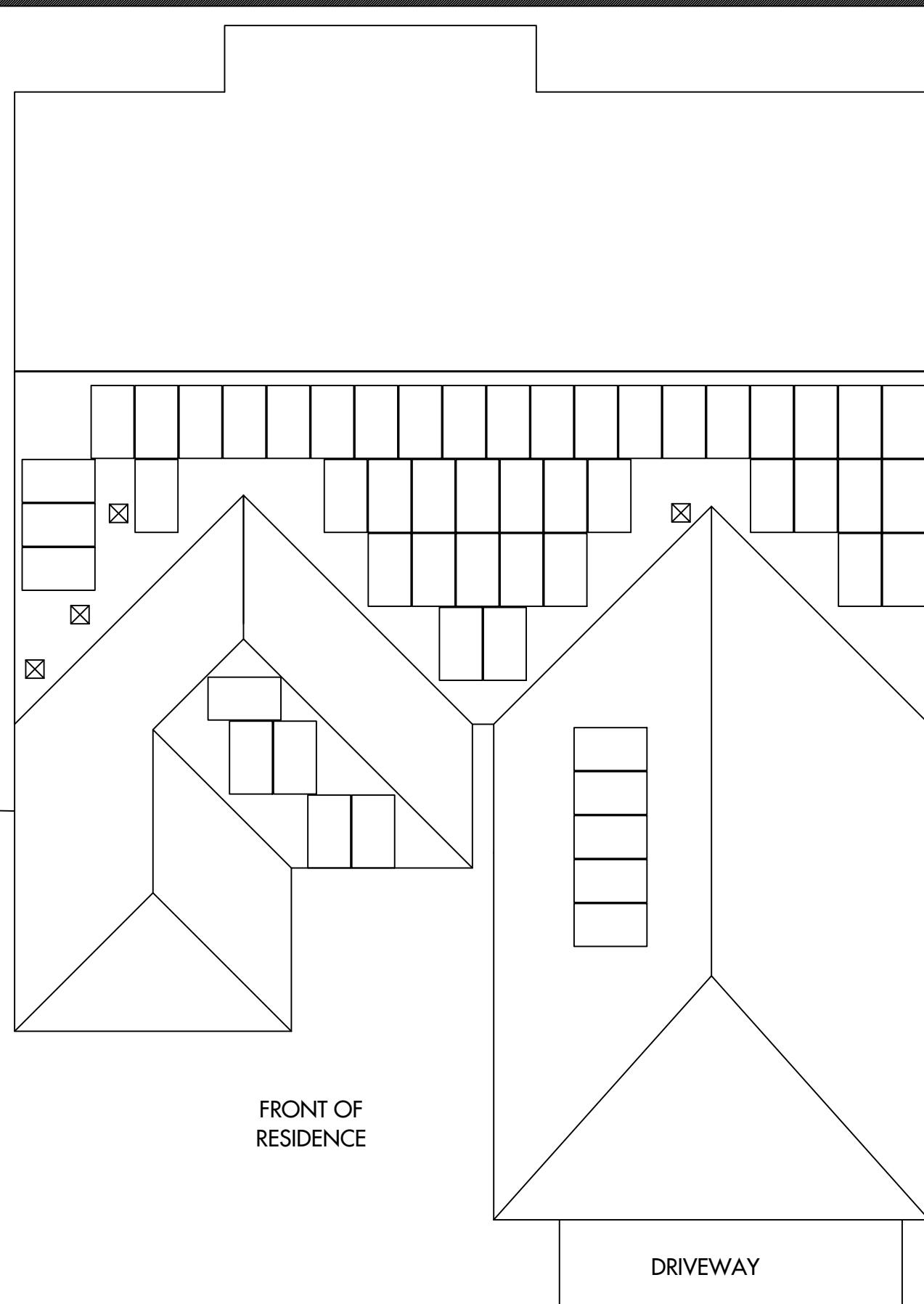
- ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.
- WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31(A),(C) AND NEC TABLES 310.15(B)(2)(A) AND 310.15(B)(3)(C).
- JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
- ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
- ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
- ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

WIRING & CONDUIT NOTES

- ALL CONDUITS AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
- CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
- DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
- AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK, PHASE B OR L2 RED, OR OTHER CONVENTION IF THREE PHASE, PHASE C OR L3-BLUE, YELLOW, ORANGE, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH THE HIGHER VOLTAGE TO BE MARKED ORANGE NEC 110.15.

GENERAL NOTES

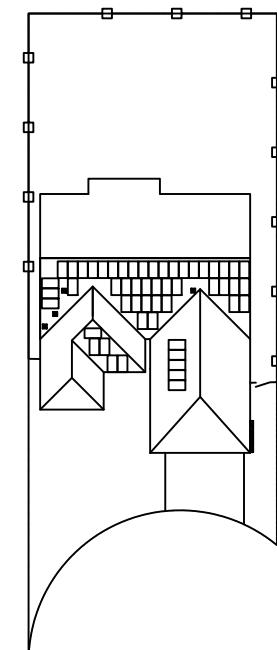
- MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
- INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
- DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
- WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC 110.26.
- ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/SERVICE COMPONENT.
- ALL CONDUCTORS SHALL BE 600V, 75° C STANDARD COPPER UNLESS OTHERWISE NOTED.
- WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
- ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREES, WIRES OR SIGNS.
- PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING.



PROJECT NOTES

1. UTILITY SHALL HAVE 24HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC COMPONENTS LOCATED AT SES EQUIPMENT
2. NO LOCKED GATES, DOGS, ETC SHALL IMPEDE ACCESS TO SES EQUIPMENT
3. WORKSPACE IN FRONT OF AC ELECTRICAL SYSTEM COMPONENTS SHALL BE IN ACCORDANCE WITH APS AND NEC REQUIREMENTS. FOR APS REQUIREMENTS, REFERENCE SECTION 300 OF THE APS ESRM AND SECTION 8.2 OF THE APS INTERCONNECTION REQUIREMENTS. REFERENCE SECTION 301.15 OF THE APS ESRM FOR ELECTRIC METER SEPARATION BETWEEN WATER AND GAS.

PROPERTY EXTENTS
SCALE: $\frac{1}{64}$ " = 1'-0"



ARRAY

AR-01

QUANTITY: 43

MOUNTING TYPE: FLUSH

ARRAY TILT: 18°

AZIMUTH: 180°

ATTACHMENT SPACING: 6'

ROOF TYPE: FLAT TILE



AR-02

QUANTITY: 5

MOUNTING TYPE: FLUSH

ARRAY TILT: 18°

AZIMUTH: 270°

ATTACHMENT SPACING: 6'

ROOF TYPE: FLAT TILE

AR-03

QUANTITY: 5

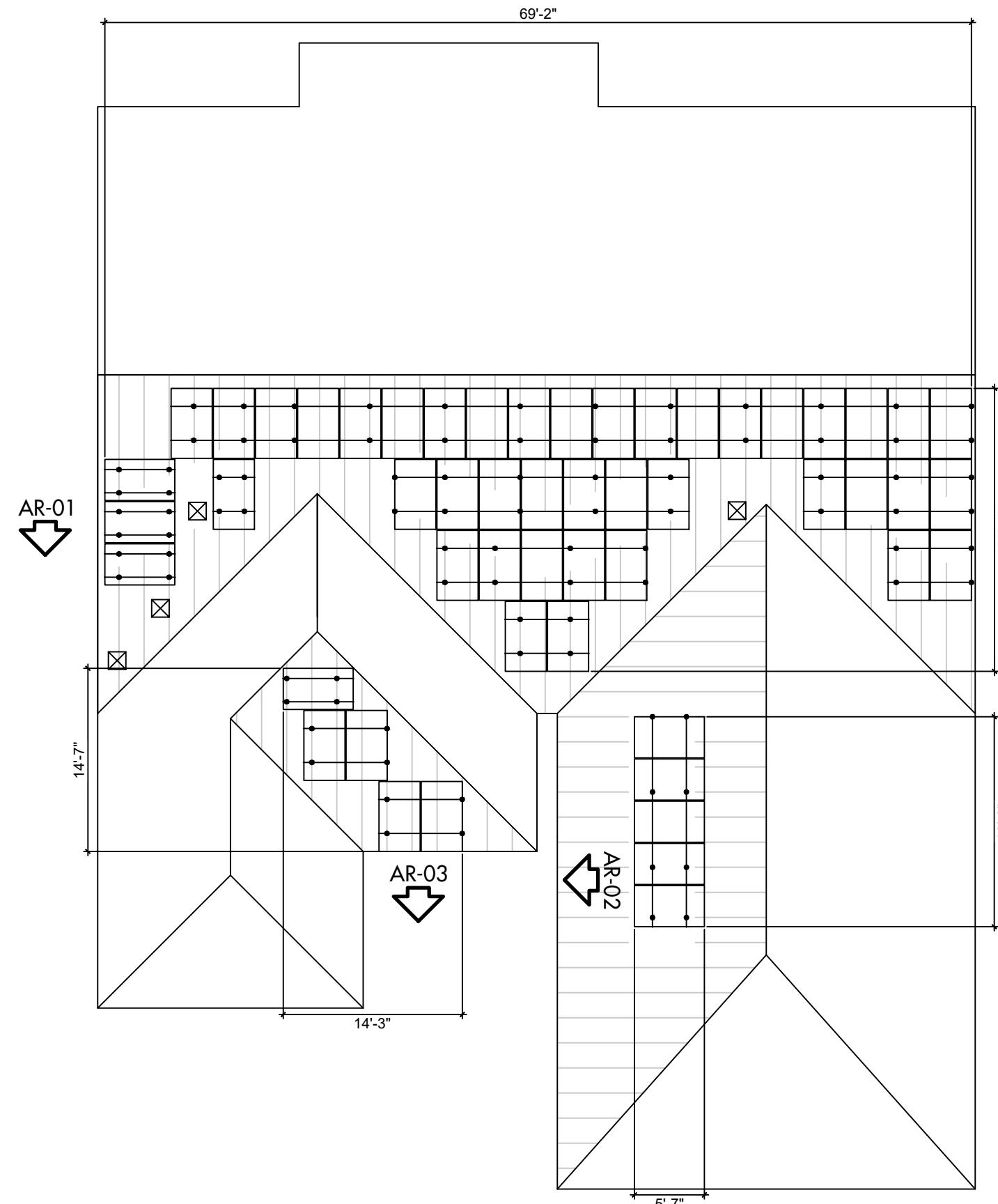
MOUNTING TYPE: FLUSH

ARRAY TILT: 18°

AZIMUTH: 180°

ATTACHMENT SPACING: 6'

ROOF TYPE: FLAT TILE

**NOTES**

- ROOF VENTS, SKYLIGHTS, WILL NOT BE COVERED UPON PV INSTALLATION
- TOTAL ROOF AREA = 5348 SQ-FT
- TOTAL ARRAY AREA = 969.70 SQ-FT
- ARRAY COVERAGE = 18.13%

MODULE & RACKING INFORMATION

MODULE: SILFAB SIL-330 BL
 MODULE WEIGHT: 42.99 LBS
 MODULE DIMENSIONS: 66.92" x 39.3701"
 $\times 1.5"$
 RACKING/RAIL: EVEREST / EVEREST

ROOF & FRAMING INFORMATION

MATERIAL: FLAT TILE
 RAFTER/TRUSS SIZE: 2" x 4"
 RAFTER/TRUSS SPACING: 2'

ARRAY INFORMATION:**ARRAY 01: 43 MODULES**

UPLIFT CALCULATION:
 PANEL GROUP AREA: = MODULE AREA: 18.30
 SQ.FT * MODULE QTY. 43 = 786.73 SQ.FT

TOTAL UPLIFT: = PANEL GROUP AREA:786.73
 SQ. FT. * WIND LOAD 30 PSF =
 TOTAL LOAD 23602.05 LBS.

POINT LOAD CALCULATION:

ARRAY WEIGHT: MODULE WEIGHT (42.99
 $+3.5)$ * MODULE QTY.43 = 1999.07 LBS / 72
 MOUNTING POINTS = 27.76 LBS. PER
 MOUNTING POINT

PULLOUT STRENGTH CALCULATION:

CONNECTOR TYPE: 5/16" LAG SCREW
 (EMBED MIN. 2.5")
PULLOUT STRENGTH: = OF MOUNTING
 POINTS: $72 * 2.5$ (EMBED DEPTH) * 210 LBS =
37800.00 LBS.

DISTRIBUTED LOAD CALCULATION:

ARRAY WEIGHT: 1999.07 LBS. / MODULE
 GROUP AREA: 786.73 SQ. FT. = 2.54 PSF

MODULE & RACKING WEIGHT:

(MODULE WEIGHT + 3.5LBS) * MODULE QTY.
 $(46.49 \text{ LBS}) * 43 = 1999.07 \text{ LBS}$

PULLOUT STRENGTH CALCULATION:

CONNECTOR TYPE: 5/16" LAG SCREW
 (EMBED MIN. 2.5")
PULLOUT STRENGTH: = OF MOUNTING
 POINTS: $8 * 2.5$ (EMBED DEPTH) * 210 LBS =
4200.00 LBS.

DISTRIBUTED LOAD CALCULATION:

ARRAY WEIGHT: 232.45 LBS. / MODULE
 GROUP AREA: 91.48 SQ. FT. = 2.54 PSF

MODULE & RACKING WEIGHT:

(MODULE WEIGHT + 3.5LBS) * MODULE QTY.
 $(46.49 \text{ LBS}) * 5 = 232.45 \text{ LBS}$

PULLOUT STRENGTH CALCULATION:

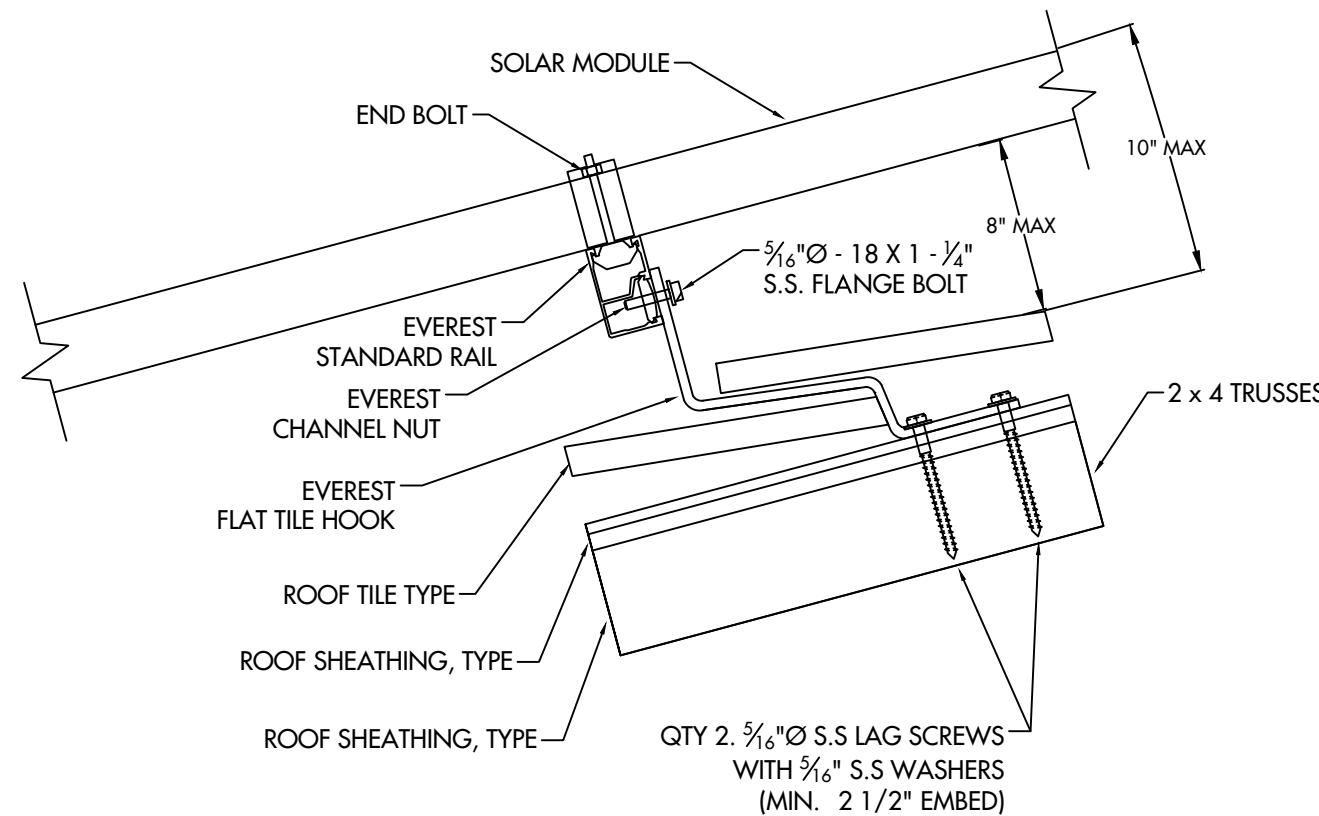
CONNECTOR TYPE: 5/16" LAG SCREW
 (EMBED MIN. 2.5")
PULLOUT STRENGTH: = OF MOUNTING
 POINTS: $12 * 2.5$ (EMBED DEPTH) * 210 LBS =
6300.00 LBS.

DISTRIBUTED LOAD CALCULATION:

ARRAY WEIGHT: 232.45 LBS. / MODULE
 GROUP AREA: 91.48 SQ. FT. = 2.54 PSF

MODULE & RACKING WEIGHT:

(MODULE WEIGHT + 3.5LBS) * MODULE QTY.
 $(46.49 \text{ LBS}) * 5 = 232.45 \text{ LBS}$

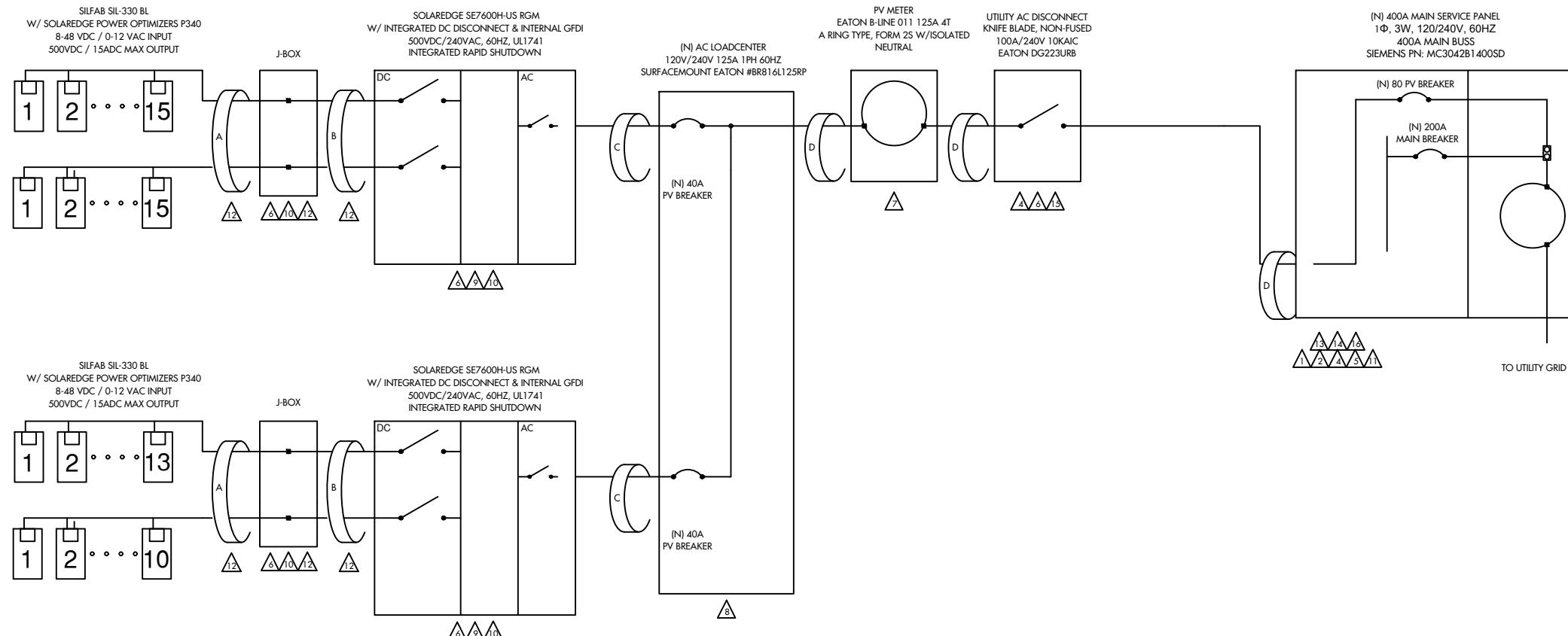


PV MODULE
SILFAB SIL-330 BL
ISC = 9.98 ADC
VOC = 42.1 VDC
IMP = 9.65 ADC
VMP = 34.2 VDC
TVOC = -0.13051 % / °C

WIRE SCHEDULE
A - (4) #10 AWG-CU PV WIRE (HR)
- (1) #10 AWG-CU BARE COPPER WIRE (GND)
IN FREE AIR
B - (4) #10 AWG-CU THWN-2 WIRE (HR)
- (1) #10 AWG-CU THWN-2 WIRE (GND)
3/4"EMT
C - (3) #8 AWG-CU THWN-2 WIRE (HR)
- (1) #8 AWG-CU THWN-2 WIRE (GND)
3/4" EMT

D - (3) #3 AWG-CU THWN-2 WIRE (HR)
- (1) #8 AWG-CU THWN-2 WIRE (GND)
1" EMT

MAIN SERVICE PANEL
TOTAL PANEL RATING = 400A
BUS M1 SLOT = 200A
SOLAR BREAKER = 80A
M1 RATING > SOLAR BREAKER 200A > (80A)



WIRE SIZE CALCULATIONS

TEMP CORRECTION FACTOR: 0.82 (114-122° AMBIENT)
 ROOF TOP TEMP CORRECTION FACTOR: 0.58 (154 - 162°)
 (2" ABOVE ROOFTOP / 40° TEMP ADDERS - AS OCCURS)

DC WIRING
 CONDUIT FILL FACTOR = 0.8
 OPTIMIZER MAX. CURRENT = 15ADC
 #10 - AWG CU. AMPACITY = 45.1A (55A X 1.0 X 0.82) FREE AIR
 #10 - AWG CU. AMPACITY = 18.56A (40A X 0.8 X 0.58) ROOFTOP CONDUIT

AC WIRING: INVERTER 1 (SOLAREDGE SE7600H-US RGM)

CONDUIT FILL FACTOR = 1 (3) CONDUCTORS
 MAX. INVERTER CURRENT = 32A (PER INVERTER SPECS)
 MIN. INVERTER OCP = 40A (32A X 1.25)
 INVERTER OCP = 40A
 #8 - AWG CU AMPACITY = 45.1A (55A X 1.0 X 0.82)

AC WIRING: INVERTER 2 (SOLAREDGE SE7600H-US RGM)

CONDUIT FILL FACTOR = 1 (3) CONDUCTORS
 MAX. INVERTER CURRENT = 32A (PER INVERTER SPECS)
 MIN. INVERTER OCP = 40A (32A X 1.25)
 INVERTER OCP = 40A
 #8 - AWG CU AMPACITY = 45.1A (55A X 1.0 X 0.82)

AC WIRING: INVERTER 1 & 2 COMBINED

MAX. INVERTER 1 MAX INVERTER CURRENT = 32A
 MAX. INVERTER 2 MAX INVERTER CURRENT = 32A
 MAX. INVERTER 1& 2 COMBINED MAX CURRENT = 64A
 MIN. COMBINED INVERTER OCP = (32A + 32A) x 1.25 = 80
 INVERTER OCP COMBINED = 80A
 #3 - AWG CU AMPACITY = 94.3A (115A X 1.0 X 0.82)

PV MODULE

SILFAB SIL-330 BL
 ISC = 9.98 ADC
 VOC = 42.1 VDC
 IMP = 9.65 ADC
 VMP = 34.2 VDC
 TVOC = -0.13051 % / °C

WIRE SCHEDULE

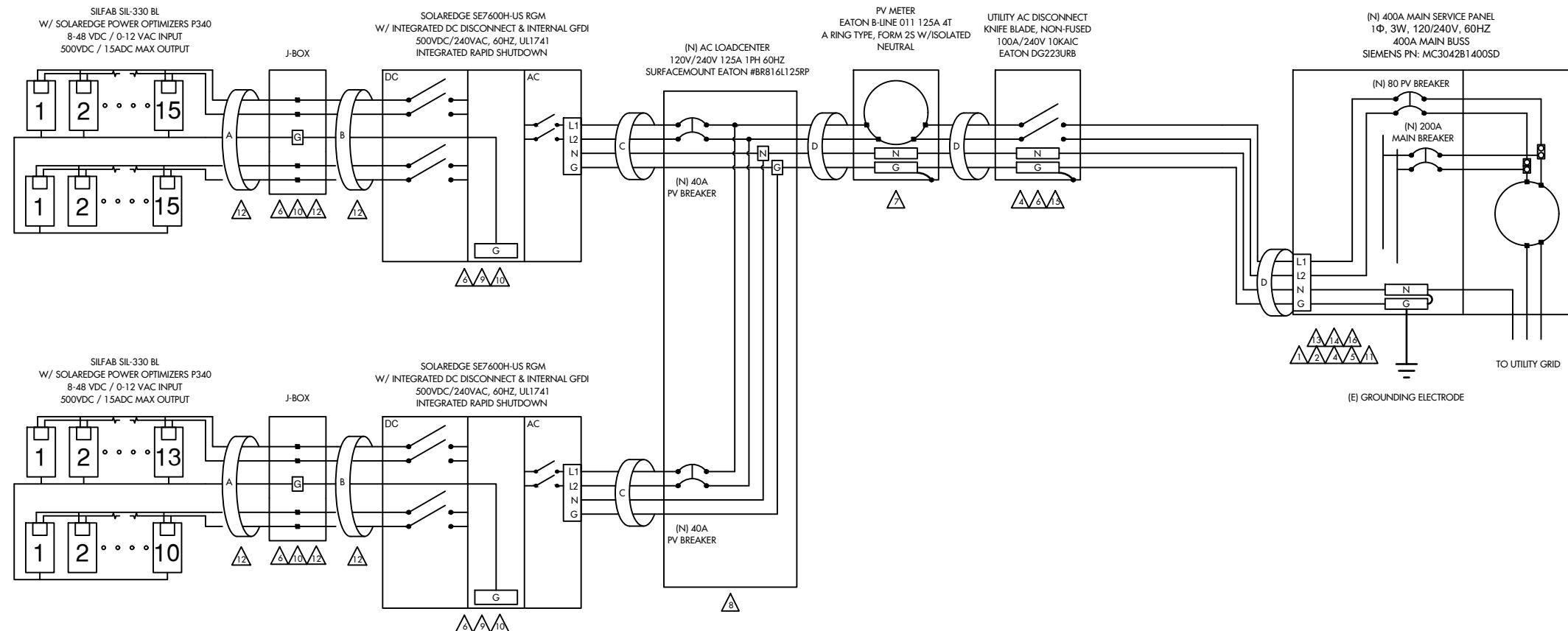
- A - (4) #10 AWG-CU PV WIRE (HR)
 - (1) #10 AWG-CU BARE COPPER WIRE (GND)
 IN FREE AIR
- B - (4) #10 AWG-CU THWN-2 WIRE (HR)
 - (1) #10 AWG-CU THWN-2 WIRE (GND)
 3/4"EMT

- C - (3) #8 AWG-CU THWN-2 WIRE (HR)
 - (1) #8 AWG-CU THWN-2 WIRE (GND)
 3/4" EMT

- D - (3) #3 AWG-CU THWN-2 WIRE (HR)
 - (1) #8 AWG-CU THWN-2 WIRE (GND)
 1" EMT

MAIN SERVICE PANEL

TOTAL PANEL RATING = 400A
 BUS M1 SLOT = 200A
 SOLAR BREAKER = 80A
 M1 RATING > SOLAR BREAKER 200A > (80A)



WIRE SIZE CALCULATIONS

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AC WIRING: INVERTER 1 (SOLAREDGE SE7600H-US RGM)

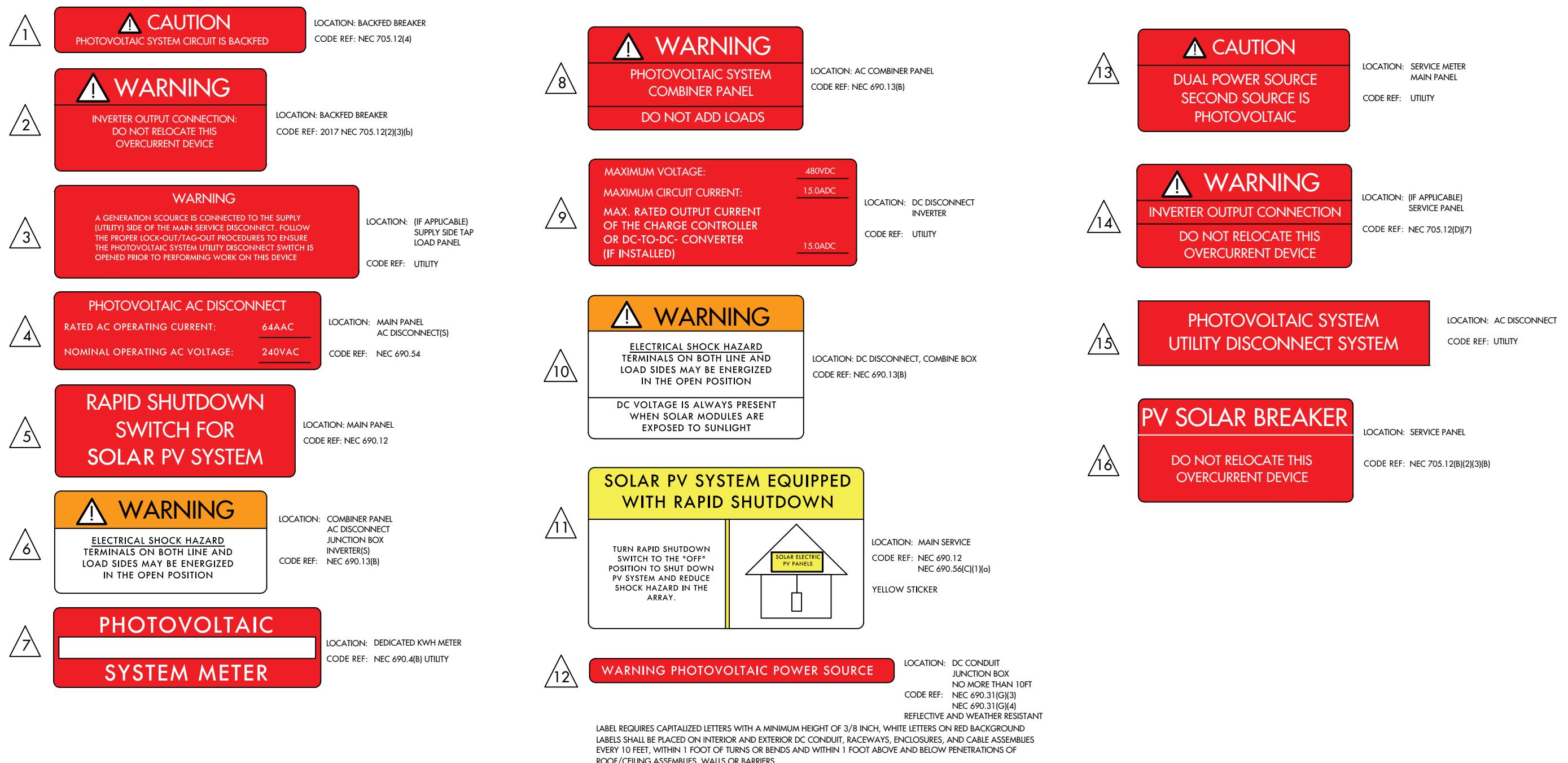
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 INVERTER OCP = 40A
 #8 - AWG CU AMPACITY = 45.1A (55A X 1.0 X 0.82)

AC WIRING: INVERTER 2 (SOLAREDGE SE7600H-US RGM)

CONDUIT FILL FACTOR = 1 (3) CONDUCTORS
 MAX. INVERTER CURRENT = 32A (PER INVERTER SPECS)
 MIN. INVERTER OCP = 40A (32A X 1.25)
 INVERTER OCP = 40A
 #8 - AWG CU AMPACITY = 45.1A (55A X 1.0 X 0.82)

AC WIRING: INVERTER 1 & 2 COMBINED

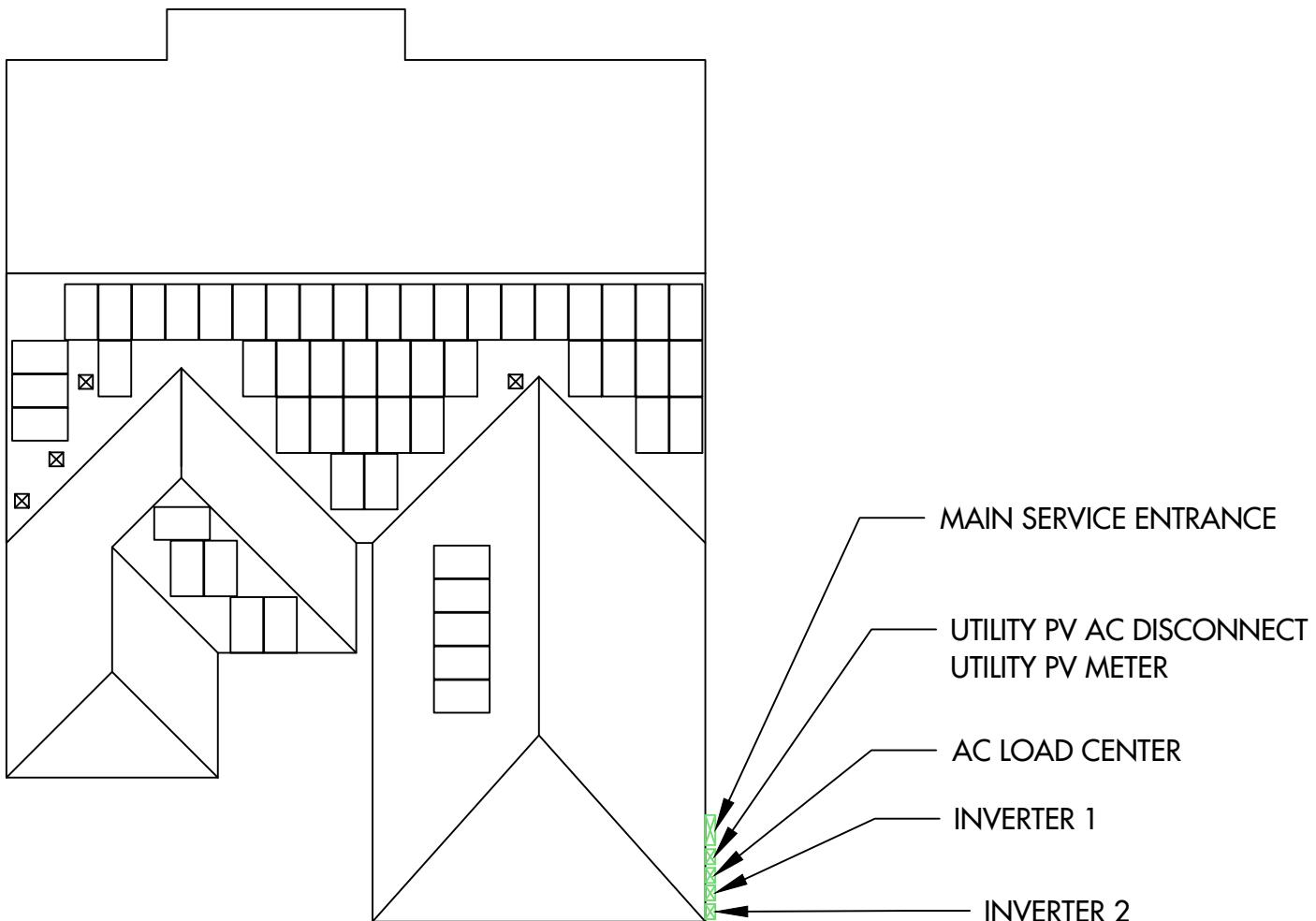
MAX. INVERTER 1 MAX INVERTER CURRENT = 32A
 MAX. INVERTER 2 MAX INVERTER CURRENT = 32A
 MAX. INVERTER 1 & 2 COMBINED MAX CURRENT = 64A
 MIN. COMBINED INVERTER OCP = (32A + 32A) x 1.25 = 80
 INVERTER OCP COMBINED = 80A
 #3 - AWG CU AMPACITY = 94.3A (115A X 1.0 X 0.82)





CAUTION

POWER TO THIS BUILDING IS
SUPPLIED FROM THE FOLLOWING
SOURCES WITH DISCONNECTS AS
SHOWN:



DIRECTORY PLAQUE IN
ACCORDANCE WITH
NEC690.56(A)(B), 705.10

TITAN
SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# CR-11 284331

AMBROSAT, KATHLEEN RESIDENCE
13444 W ORANGE CT, LITCHFIELD PARK AZ 85340
LAT:33.512189, LON:-112.349374
TSP-42962

(53) SILFAB SIL-330 BL
(2) SOLAREDGE SE7600H-US RGM
17.490 kW DC SYSTEM SIZE
15.200 kW AC SYSTEM SIZE

DATE: 6/15/2020
REV:A
DRAWN BY: TC

PLACARD
PV 8

Single Phase Inverter with HD-Wave Technology for North America

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



Optimized installation with HD-Wave technology

- ✓ Specifically designed to work with power optimizers
- ✓ Record-breaking efficiency
- ✓ 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
- ✓ Extremely small
- ✓ Built-in module-level monitoring
- ✓ Outdoor and indoor installation
- ✓ Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

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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

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
OUTPUT							
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓
AC Frequency (Nominal)				59.3 - 60 - 60.5(1)			Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5
GFDI Threshold				1			A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds				Yes			
INPUT							
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650
Maximum DC Power @208V	-	5100	-	7750	-	-	15500
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
Maximum Input Current @208V(2)	-	9	-	13.5	-	-	27
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
ADDITIONAL FEATURES							
Supported Communication Interfaces			RS485, Ethernet, ZigBee (optional), Cellular (optional)				
Revenue Grade Data, ANSI C12.20			Optional(3)				
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			-13 to +140 / -25 to +60(4) (-40°F / -40°C option)(5)				°F / °C
Protection Rating			NEMA 4X (Inverter with Safety Switch)				

⁽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

⁽³⁾ Revenue grade inverter P/N: SExxxxH-US000NMC2

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

⁽⁵⁾ 4.0 version P/N: SExxxxH-US000NNU4

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RoHS

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505



POWER OPTIMIZER

PV power optimization at the module-level

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

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Power Optimizer For North America

P320 / P340 / P370 / P400 / P405 / 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)	P405 (for thin film modules)	P505 (for higher current modules)	
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INPUT							
Rated Input DC Power(1)	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)		48	60	80	125(2)	87(2)	Vdc
MPPT Operating Range (Isc)	8 - 48		8 - 60	8 - 80	12.5 - 105	12.5 - 87	Vdc
Maximum Short Circuit Current (Isc)		11		10.1	14	Adc	
Maximum DC Input Current		13.75		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	Vdc

OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)

Safety Output Voltage per Power Optimizer	1 ± 0.1	Vdc
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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		
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
Weight (including cables)	630 / 1.4	750 / 1.7
Input Connector	MC4(3)	Single or dual MC4(3)(4)
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
Operating Temperature Range(5)	-40 - +85 / -40 - +185	
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 the P405. In the case of an odd number of PV modules in one string, installing one P405 dual version power optimizer

(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 208V	Three Phase 480V
Minimum String Length (Power Optimizers)	8		10	18
P405 / 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)
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/P505 with P320/P340/P370/P400 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 SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W

(10) For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W

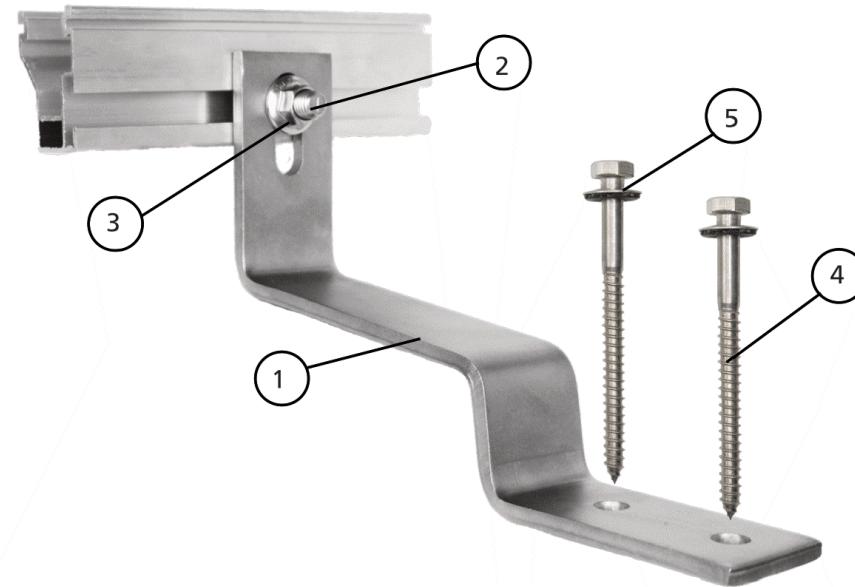
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RoHS



Flat Tile Hook



Flat Tile Hook, Set | 4000034

Item No.	Description	Product No.
1	Flat Tile Hook	4000010
2	T-Bolt	4000571
3	1/2" Nut	4000042
4	Lag Bolts	4000359
4	Sealing Washers	N/A

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Flat Tile Hook



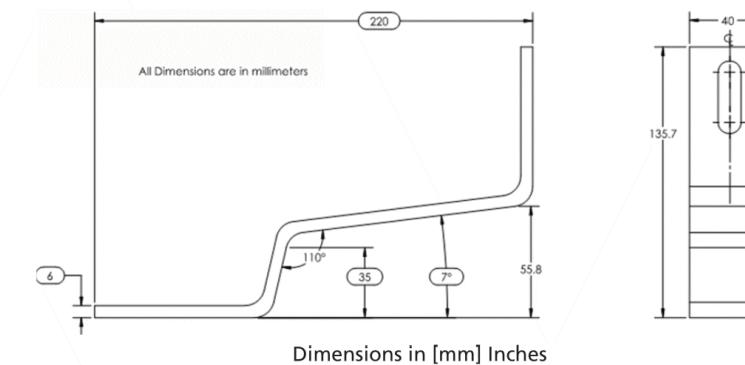
Mechanical Properties

Flat Tile Hook	
Material	304 Stainless Steel
Ultimate Compression Load	807 lbs
Ultimate Tensile Load	1474 lbs
Allowable Compression Load	350 lbs
Allowable Tensile Load	350 lbs
Weight	1.4 lbs

Dimensional Properties

Flat Tile Hook	
Height from Roof	56 mm / 4.8 in
Total Length	220 mm / 8.7 in
Width	40 mm / 1.6 in

General Dimensions:



www.everest-solarsystems.com

Flat Tile Hook Technical Sheet US01 | 0419 · Subject to change · Product illustrations are exemplary and may differ from the original.



TITAN

SOLAR PANEL



60 Cell Monocrystalline PV Module

BCSeries
SIL-330 BL



BAA / ARRA COMPLIANT

Silfab panels are designed and manufactured to meet Buy American Act Compliance. The US State Department, US Military and FAA have all utilized Silfab panels in their solar installations.

LIGHT AND DURABLE

Engineered to accommodate low load bearing structures up to 5400Pa. The light-weight frame is exclusively designed for wide-ranging racking compatibility and durability.

LOWEST DEFECT RATE

Total automation ensures strict quality controls during the entire manufacturing process at our ISO certified facilities. 48.18 ppm as per December 2018.

DOMESTIC PRODUCTION

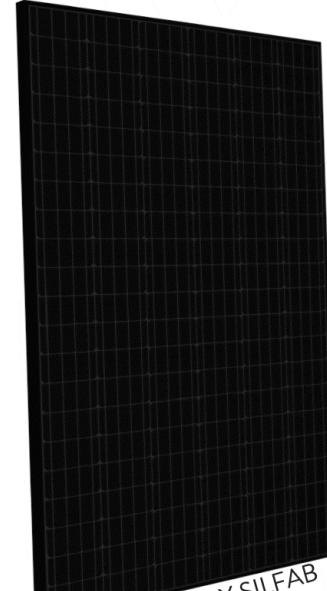
Silfab Solar manufactures our PV modules in two automated locations within North America. Our 300+ North American team is ready to help our partners win the hearts and minds of customers, providing customer service and product delivery that is direct, efficient and local.

AESTHETICALLY PLEASING

All black sleek design, ideal for high-profile residential or commercial applications.

PID RESISTANT

PID Resistant due to advanced cell technology and material selection. In accordance to IEC 62804-1.



POWERED BY SILFAB

Electrical Specifications		SIL-330 BL mono PERC
Test Conditions		STC
Module Power (Pmax)	Wp	330
Maximum power voltage (V _{pmax})	V	33.3
Maximum power current (I _{pmax})	A	9.92
Open circuit voltage (V _{oc})	V	40.5
Short circuit current (I _{sc})	A	10.42
Module efficiency	%	19.4
Maximum system voltage (VDC)	V	1000
Series fuse rating	A	20
Power Tolerance	Wp	

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.

Temperature Ratings		SIL-330 BL mono PERC
Temperature Coefficient Isc		+0.064 %/°C
Temperature Coefficient Voc		-0.28 %/°C
Temperature Coefficient Pmax		-0.36 %/°C
NOCT (± 2°C)		45 °C
Operating temperature		-40/+85 °C

Mechanical Properties and Components		SIL-330 BL mono PERC	
		Metric	Imperial
Module weight			40.1±0.4 lbs
Dimensions (H x L x D)		1700 mm x 1000 mm x 38 mm	66.9 in x 39.4 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		60 - Si mono PERC - 5 busbar	60 - Si mono PERC - 5 busbar
Glass		158.75 x 158.75 mm	158.75 x 158.75 mm
Cables and connectors (refer to installation manual)		3.2 mm high transmittance, tempered, DSM anti-reflective coating	0.126 in high transmittance, tempered, DSM anti-reflective coating
Backsheet		MC4 compatible	ø 0.22 in, MC4 compatible
Frame		Anodized Aluminum (Black)	High durability, superior hydrolysis resistance, multi-layer dielectric film
Bypass diodes		3 diodes-30SQ045T (45V max DC blocking voltage, 30A max forward rectified current)	
Junction Box		UL 3730 Certified, IP67 rated	
Warranties		SIL-330 BL mono PERC	
Module product workmanship warranty		Linear	25 years**
power performance guarantee			30 years
	≥ 97% end 1 st year	≥ 90% end 12 th year	≥ 82% end 25 th year ≥ 80% end 30 th year

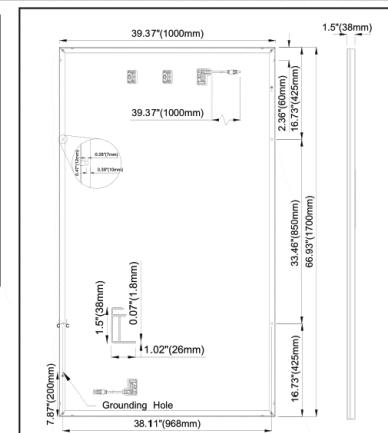
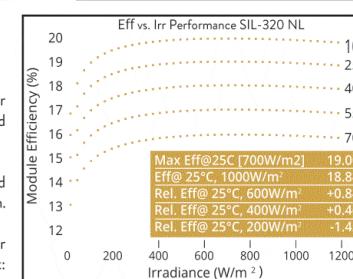
Certifications		SIL-330 BL mono PERC
Product		ULC ORD C1703, UL1703, CEC listed, IEC 62716 Ammonia Corrosion; IEC61701:2011 Salt Mist Corrosion Certified, UL Fire Rating: Type 2
Factory		ISO9001:2015

Modules Per Pallet: 26
Pallets Per Truck: 36
Modules Per Truck: 936

*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 www.silfabsolar.com.

Third-party generated pan files from Fraunhofer-Institute for Solar Energy Systems ISE are available for download at: www.silfabsolar.com/downloads.



POWERED BY SILFAB

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TITAN
SOLAR PANEL



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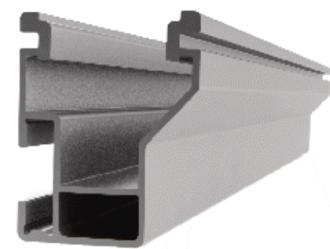
Silfab Solar Inc.
800 Cornwall Ave
Bellingham WA 98225 US
Tel +1 360-569-4733



(53) SILFAB SIL-330 BL
(2) SOLAREDGE SE7600H-US RGM
17.490 kW DC SYSTEM SIZE
15.200 kW AC SYSTEM SIZE

DATE: 6/15/2020
REV:A
DRAWN BY: TC

CrossRail 48-X

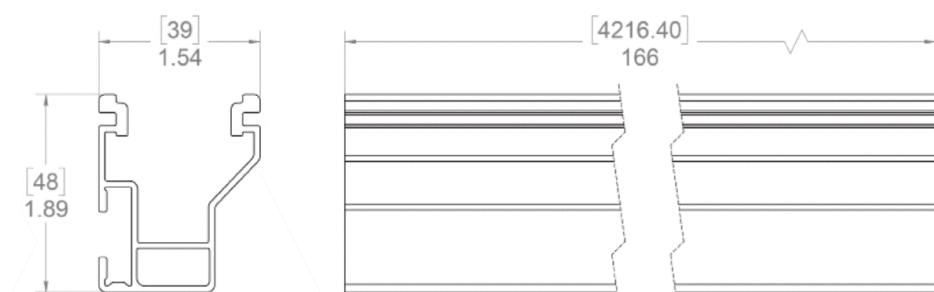


Mechanical Properties

CrossRail 48-X	
Material	6000 Series Aluminum
Ultimate Tensile Strength	37.7 ksi (260 MPa)
Yield Strength	34.8 ksi (240 MPa)
Weight	0.56 lbs/ft (0.833 kg/m)
Finish	Mill or Dark Anodized

Section Properties

CrossRail 48-X	
Sx	0.1980 in ³ (3.261 cm ³)
Sy	0.1510 in ³ (2.507 cm ³)
A (X-Section)	0.4650 in ² (3.013 cm ²)



Dimensions in [mm] Inches

Notes:

- Structural values and span charts determined in accordance with Aluminum Design Manual and ASCE 7-10
- UL2703 Listed System for Fire and Bonding

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Eaton BR main lug loadcenter

BR816L125RP

UPC:786676001472

Dimensions:

- Height: 13 IN
- Length: 3.56 IN
- Width: 11 IN

Weight:11.7 LB

Warranties:

- 10 year

Specifications:

- Special Features: Current design
- Type: Main lug
- Amperage Rating: 125A
- Box Size: 7r
- Bus Material: Aluminum
- Cover: Cover included
- Enclosure: NEMA 3R
- Enclosure Material: Metallic
- Interrupt Rating: 10 kAIC
- Main Circuit Breaker: BR
- Number Of Circuits: 16
- Number Of Spaces: 8
- Number Of Wires: Three-wire
- Phase: Single-phase
- Voltage Rating: 120/240V
- Wire Size: #14-1 AWG Cu/AI

Supporting documents:

- Loadcenters and Circuit Breakers
- Eatons Volume 1-Residential and Light Commercial
- Cutler-Hammer Type CH and BR Loadcenters - Instructions
- Type BR Arc Fault Circuit Breakers and Loadcenters

pe.eaton.com



- Eaton Specification Sheet - BR816L125RP

Certifications:

- UL 67
- UL 50

Product compliance:

No Data

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SIEMENS

Rainproof Combination Metering

Catalog Number

MC3042B1400SD/MC3042B1400FD

Class CTL Panelboard

Device Rating: 400 Amp, Max; 120/240 Volts ~, 1 phase, 3 wire

Meter Socket Rating: 400 Amp Max. 320 Amp Continuous

For installation by Qualified Person in accordance with all local electrical codes and/or the National Electrical Code.®

Suitable Only For Use As Service Equipment

For Underground Service Only

Terminals Suitable for 60°/75° C Copper or Aluminum Conductor

Unused neutral branch terminals may be used to terminate equipment grounding wires in the combinations indicated for equipment ground bar terminals.

General Information:

Circuit breaker trip position is indicated by handle position midway between ON and OFF. To reset, move handle to OFF position then turn ON.

Line Terminals:

Provisions for UL listed one or two hole NEMA mounting terminals.

Compression terminals to #750 kcmil, single conductor, ILSCO type ACl or 2ACl.

Installation Tool : THOMAS & BETTS #

TBM8 for #10-350kcmil(AL),#8-500kcmil(CU)

TBM8-750M-1 for #8-750kcmil(CU/AL)

Tightening Torques:

5/16" Nuts(1/2" Drive).....130-140 in-lbs

3/8" Nuts(9/16" Drive).....240-260 in-lbs

1/2" Nuts(3/4" Drive)490-540 in-lbs

Accessories:

Filler Plate QF3 or ECQF3

200 Amp Main Breaker QN2200RH

150 Amp Main Breaker QN2150RH

Flush Rail Kit ECFRK1

Mechanical Interlock ECQML12

Standby Interlock Kit ECSBPK05

Standby Interlock Kit ECSBPK07

LUG #6-350 kcmil SUK350TA

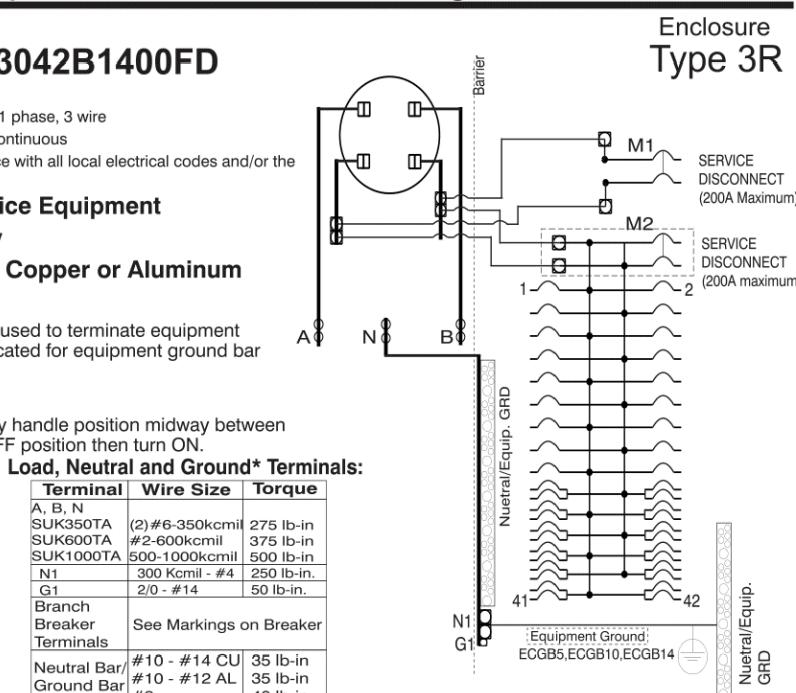
LUG #2-600 kcmil SUK600TA

LUG 500-1000 kcmil SUK1000TA

LUG KIT #2-2/0 ECLK2125

LUG KIT #8-2/0 ECLK2150

LUG KIT #2-300kcmil(200A MAX) ECLK2225



Load, Neutral and Ground* Terminals:

Terminal	Wire Size	Torque
A, B, N		
SUK350TA	(2) #6-350kcmil	275 lb-in
SUK600TA	#2-600kcmil	375 lb-in
SUK1000TA	500-1000kcmil	500 lb-in
N1	300 Kcmil - #4	250 lb-in.
G1	2/0 - #14	50 lb-in.
Branch Breaker	See Markings on Breaker	
Terminals		
Neutral Bar	#10 - #14 CU	35 lb-in
	#10 - #12 AL	35 lb-in
(1/0-14)	#8	40 lb-in
	1/0 - #6	45 lb-in
Neutral Bar	#10 - #14 CU	20 lb-in
	#10 - #12 AL	20 lb-in
(6-14)	#8	25 lb-in
	#6	35 lb-in
Ground Bar	#10 - #14 CU	35 lb-in
	#10 - #12 AL	35 lb-in
	#8	40 lb-in
	#6	45 lb-in

* Only Equipment Ground Terminals may use more than one wire per terminal.

Ground Terminal Size	Wire Range	Torque
1/0-#14	(2 or 3) #12-14 CU, (2 or 3) #10-12 AL, (2) #10 CU (3) #10 CU	35 lb-in
#6-#14	(2) #12-14 CU, (2) #12AL	20 lb-in
#4-#14	(1, 2 or 3) #14, (1 or 2) #12-#10	20 lb-in
(ECGB)	#8	25 lb-in
	#6-#4	35 lb-in

If hub is required, use the catalog numbers listed below:
Trade size (in) Catalog number
HD Type Hub (Top and Bottom Endwall)
(Top Hub Opening Available Only On Surface Mounted Devices)

2"	EC56854
2 1/2"	EC56855
3"	EC56856
3 1/2"	EC56857
4"	EC56858
Closure Plate	EC56933S

WARNING:

Removal of meter does not de-energize circuit when By-Pass provided.

Short Circuit Current Rating (Watthour Meter not included in short circuit rating)

This panelboard has a short circuit current rating of 22,000 Amps RMS symmetrical, 120/240 V~. The actual rating is dependent on the service disconnects and branch breakers installed in this panelboard. The correct Service disconnects, branch circuit breakers and main/branch breaker series combinations to be used for various short circuit current levels are listed in the tabulation below. Any circuit breaker installed, replaced, or added in this panelboard must be manufactured by Siemens and must be of the correct type as indicated in the tabulations below.

PANELBOARD SERVICE DISCONNECT M2 **	BRANCH BREAKER	SERVICE DISCONNECT M1	Then the maximum short circuit current rating in RMS symmetrical Amperes, 120/240 Vac is:
When the installed panelboard service disconnect is a Siemens Type	And the branch breakers installed are Siemens Type	And the second installed service disconnect is a Siemens Type	
QNRH	QP, QT, QPH, HQP, QPF, QPHF, QAF, QAFH, QE, QEH, QNR, QNRH, QG	QP, QNR	10,000
	QP, QT, QPH, HQP, QPF, QPHF, QAF, QAFH, QE, QEH, QNRH	QPH, QNRH	22,000

** The factory installed main is Type QNRH

Siemens Industry, Inc. Norcross, Georgia U.S.A.

MANUFACTURING DATE:

J2

4099916 REV. G

Important Do not spray or allow any petroleum based chemicals, solvents, or paint to contact interior components.

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MC3042B1400SD Alternate Application Information

For use when a Renewable Energy Source is connected to M1 circuit breaker.

Refer to wiring diagram above for information not shown on this label.

System installation must be by a Qualified Person and must meet all local utility and National Electrical Code® requirements.

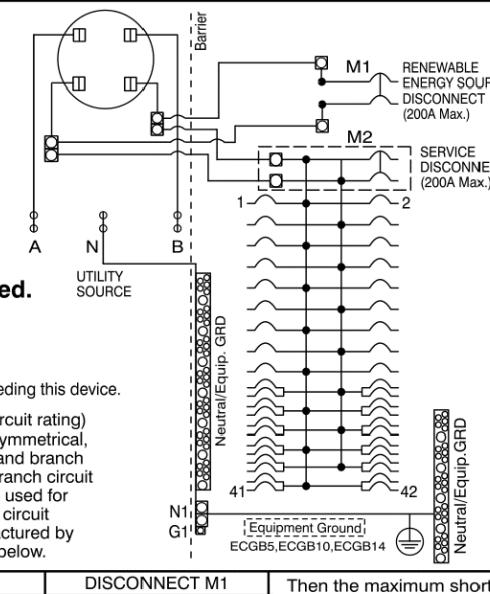
Upon loss of primary source (utility power), the Renewable Energy Source shall be automatically disconnected from all ungrounded conductors of the primary source and shall not be reconnected until the primary source is restored.

When M1 is used as a Renewable Energy Source Disconnect:
 Device Rating: 200 Amp, Max; 120/240 Volts ~, 1 Phase, 3 Wire
 Meter Socket Rating: 200 Amp Continuous

M1 disconnects Renewable Energy Source but does not disconnect power feeding this device.

Short Circuit Current Rating (Watthour Meter not included in short circuit rating)

This panelboard has a short circuit current rating of 22,000 Amps RMS symmetrical, 120/240 V~. The actual rating is dependent on the Service disconnects, branch circuit breakers and main/branch breaker series combinations to be used for various short circuit current levels are listed in the tabulation below. Any circuit breaker installed, replaced, or added in this panelboard must be manufactured by Siemens and must be of the correct type as indicated in the tabulations below.



PANELBOARD SERVICE DISCONNECT M2***	BRANCH BREAKER	DISCONNECT M1	Then the maximum short circuit current rating in RMS symmetrical Amperes, 120/240 Vac is:
When the installed panelboard service disconnect is a Siemens Type	And the branch breakers installed are Siemens Type	And the second installed disconnect is a Siemens Type	
QNRH	QP, QT, QPH, HQP, QPF, QPHF, QAF, QAFH, QE, QEH, QNR, QNRH, QG	QP, QNR	10,000
	QP, QT, QPH, HQP, QPF, QPHF, QAF, QAFH, QE, QEH, QNRH	QPH, QNRH	22,000

***The factory installed main is Type QNRH

Siemens Industry, Inc. Norcross, Georgia U.S.A.

409001540101 Rev.B

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