# NANCY M HERRERA - 6.800kW DC, 5.000kW AC

## SHEET CATALOG

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| E-2 | THREE LINE DIAGRAM |
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| PL-1 | WARNING PLACARDS |
| PL-2 | SAFETY PLANS |
| SS | SPEC SHEET(S) |

## SCOPE OF WORK

GENERAL SYSTEM INFORMATION:
SYSTEM SIZE:
6800W DC, 5000W AC
MODULES:
(20)TITAN SOLAR SIL-340NL
INVERTER:
(1)SOLAREDGE TECHNOLOGIES
SE5000H-US(240V)
OPTIMIZER:
(20)SOLAREDGE P340 POWER OPTIMIZER

## APPLICABLE CODES

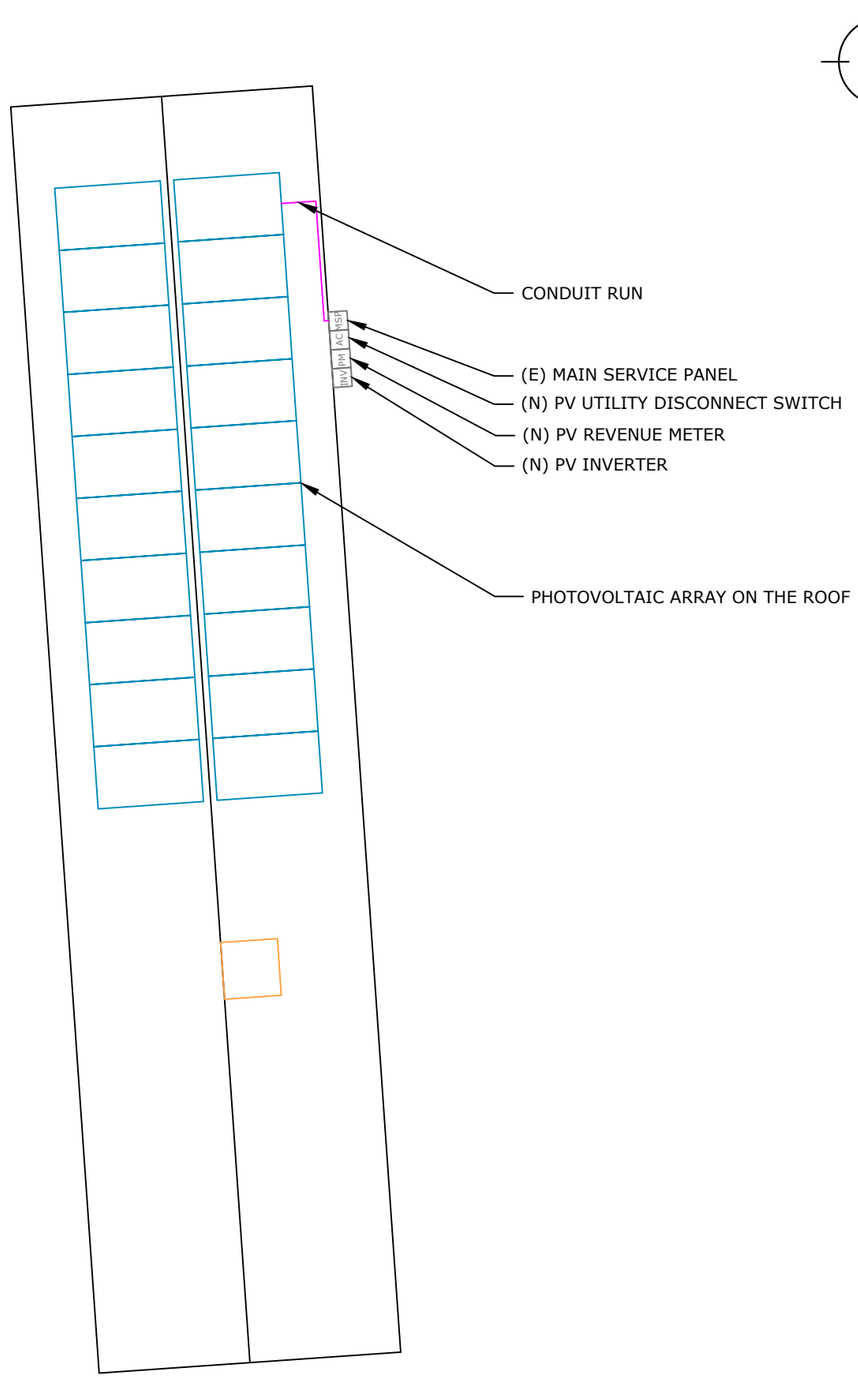
- ELECTRIC CODE:NEC 2017
- FIRE CODE:IFC 2018
- BUILDING CODE:IBC 2018
- RESIDENTIAL CODE:IRC 2018

## GENERAL NOTES

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

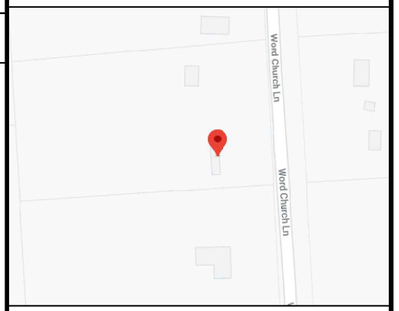
## SITE PLAN LAYOUT

NOTE: NO GATE OR FENCE




SCALE:1/8" = 1'-0"

## VICINITY MAP




TITAN SOLAR POWER

**ADDRESS:** 525W, BASELINE RD
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## CUSTOMER INFORMATION

NAME:NANCY M HERRERA

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LILLINGTON,NC 27546

35.310730, -78.997987
APN: 030-507-021-523

AHJ:NC- COUNTY HARNETT

UTILITY:CENTRAL EMC

PRN NUMBER: TPS-016754

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| DATE:11/21/2020 | T-1 |

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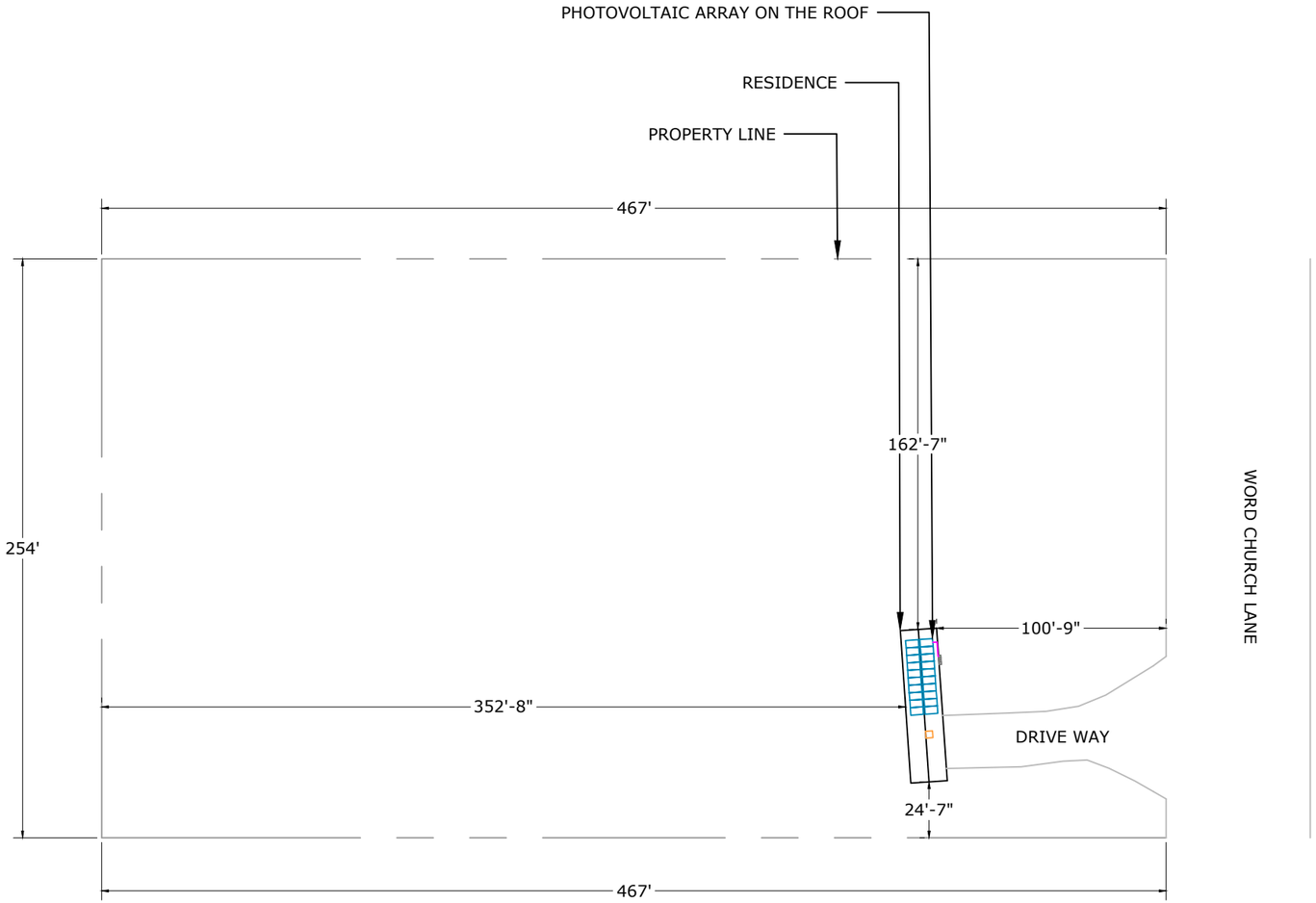
## SITE PLAN LAYOUT

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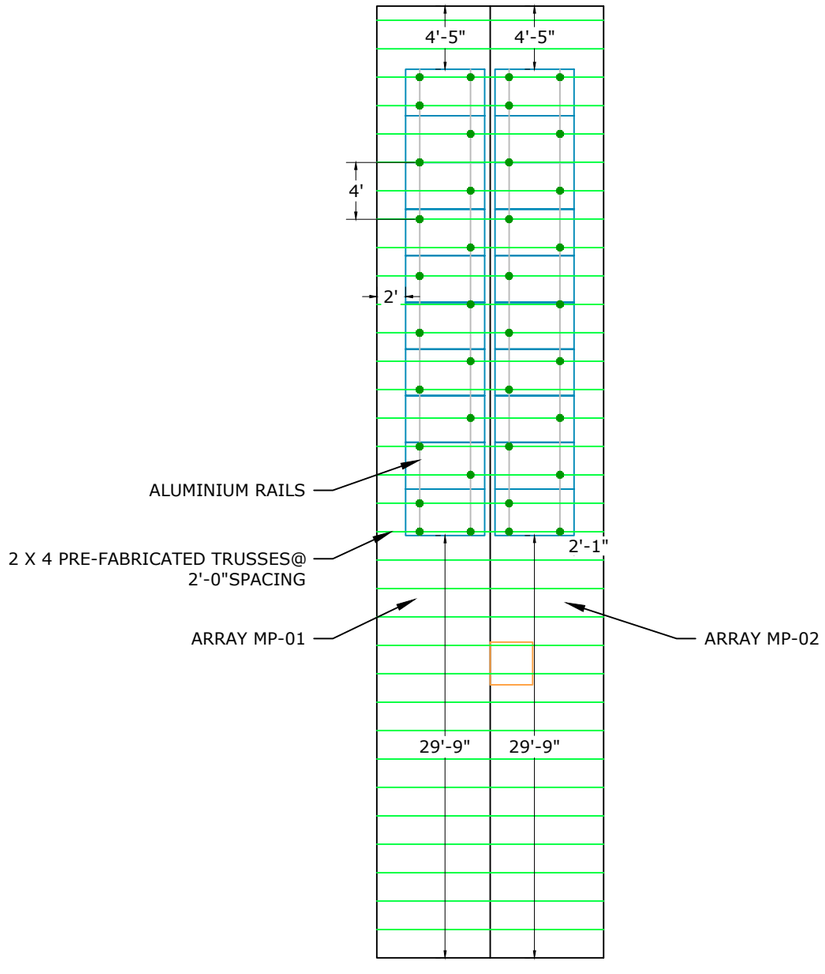
## INSTALLATION NOTES

1.STRUCTURAL ROOF MEMBER LOCATIONS ARE ESTIMATED AND SHOULD BE LOCATED AND VERIFIED BY THE CONTRACTOR WHEN LAG BOLT PENETRATION OR MECHANICAL ATTACHMENT TO THE STRUCTURE IS REQUIRED.
2.ROOFTOP PENETRATIONS FOR SOLAR RACKING WILL BE COMPLETED AND SEALED WITH APPROVED SEALANT PER CODE BY A LICENSED CONTRACTOR.
3.LAGS MUST HAVE A MINIMUM 2.5" THREAD EMBEDMENT INTO THE STRUCTURAL MEMBER.
4.ALL PV RACKING ATTACHMENTS SHALL BE STAGGERED BY ROW BETWEEN THE ROOF FRAMING MEMBERS AS NECESSARY.
5.ROOF MOUNTED STANDARD RAIL REQUIRES ONE THERMAL EXPANSION GAP FOR EVERY RUN OF RAIL GREATER THAN 40'.
6.ALL CONDUCTORS AND CONDUITS ON THE ROOF SHALL BE MINIMUM 2.5" ABOVE THE ROOF SURFACE (INCLUDING CABLES UNDERNEATH MODULES AND RACKING).
7.THE PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL OR BUILDING ROOF VENTS.

**SITE INFORMATION -** WIND SPEED: 118 MPH AND SNOW LOAD: 10 PSF

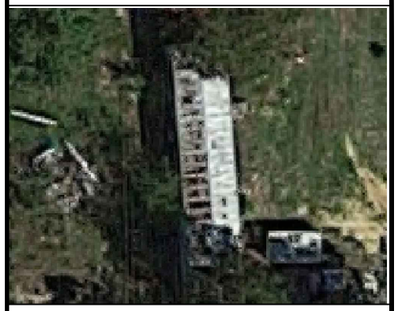
| SR. NO | AZIMUTH | PITCH | NO. OF MODULES | ARRAY AREA (SQ. FT.) | ROOF TYPE | ATTACHMENT | ROOF EXPOSURE | FRAME TYPE | FRAME SIZE | FRAME SPACING | MAX RAIL SPAN | OVER HANG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MP-01 | 86° | 20° | 10 | 183.0 | COMPOSITION SHINGLE | QUICK MOUNT | ATTIC | PRE-FABRICATED TRUSSES | 2 X 4 | 2'-0" | 4'-0" | 2'-0" |
| MP-02 | 266° | 20° | 10 | 183.0 | COMPOSITION SHINGLE | QUICK MOUNT | ATTIC | PRE-FABRICATED TRUSSES | 2 X 4 | 2'-0" | 4'-0" | 2'-0" |

NOTE:PENETRATIONS ARE STAGGERED




SCALE:3/32" = 1'-0"

## AERIAL VIEW



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MOUNTING DETAIL

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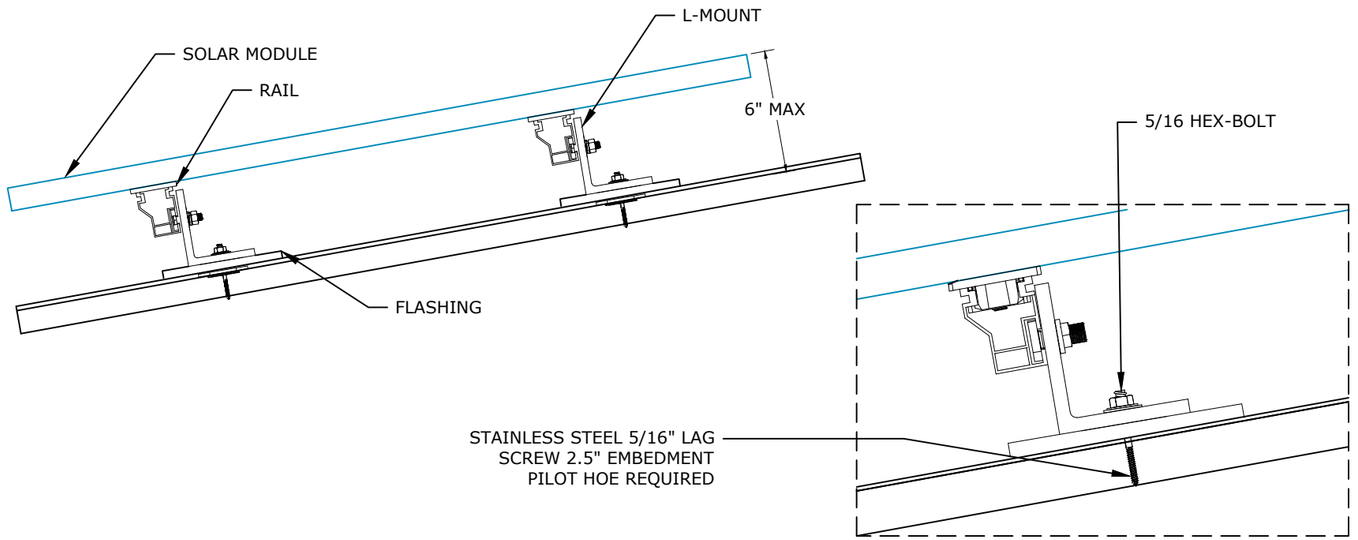
## DEAD LOAD CALCULATIONS

| BOM | QUANTITY | LBS/UNIT | TOTAL WEIGHT (LBS) |
|---|---|---|---|
| MODULES | 20 | 41.4 | 828.00 |
| MID-CLAMP | 36 | 0.300 | 10.80 |
| END-CLAMP | 8 | 0.310 | 2.48 |
| RAIL LENGTH | 133 | 0.560 | 74.48 |
| SPLICE BAR | 8 | 0.650 | 5.20 |
| QUICK MOUNT | 38 | 1.04 | 39.52 |
| **TOTAL WEIGHT OF THE SYSTEM (LBS)** | | | 960.48 |
| **TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)** | | | 366.09 |
| **WEIGHT PER SQ. FT.(LBS)** | | | 2.62 |
| **WEIGHT PER PENETRATION (LBS)** | | | 25.28 |

## ATTACHMENT DETAIL-L MOUNT(QUICK MOUNT)



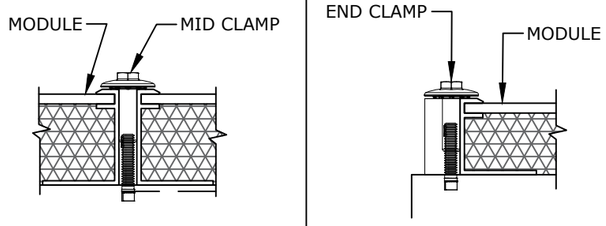

## MODULES DATA

| TITAN SOLAR SIL-340NL | |
|---|---|
| MODULE DIMS | 66.9"x39.4"x1.5" |
| LAG SCREWS | 5/16"x3.5":2.5"MIN EMBEDMENT |

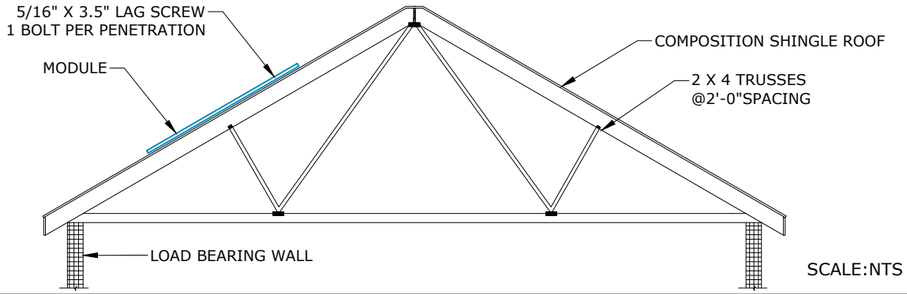
## UPLIFT CALCULATIONS

| | | |
|---|---|---|
| UPLIFT | 10982.8 | LBS |
| PULL OUT STRENGTH | 23370 | LBS |
| POINT LOADING | 22 | LBS |

## MID-CLAMP AND END-CLAMP ANATOMY




## ROOF FRAMING DETAILS

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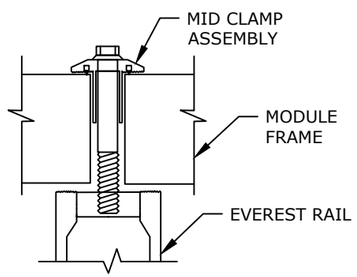
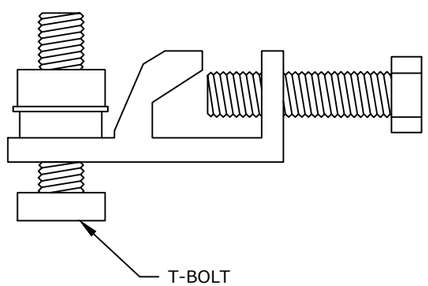
## GROUNDING DETAILS

### MODULE TO MODULE & MODULE TO RAIL

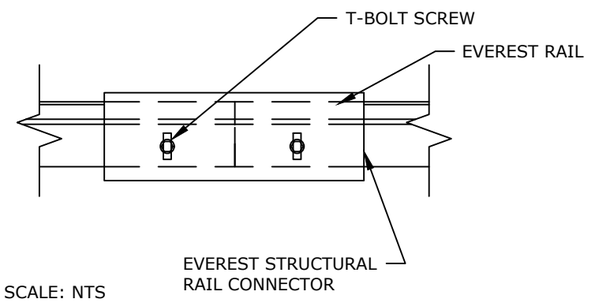



GROUNDING MID-CLAMP
SCALE: NTS

### GROUNDING LUG




### RAIL TO RAIL

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STRUCTURAL DETAIL

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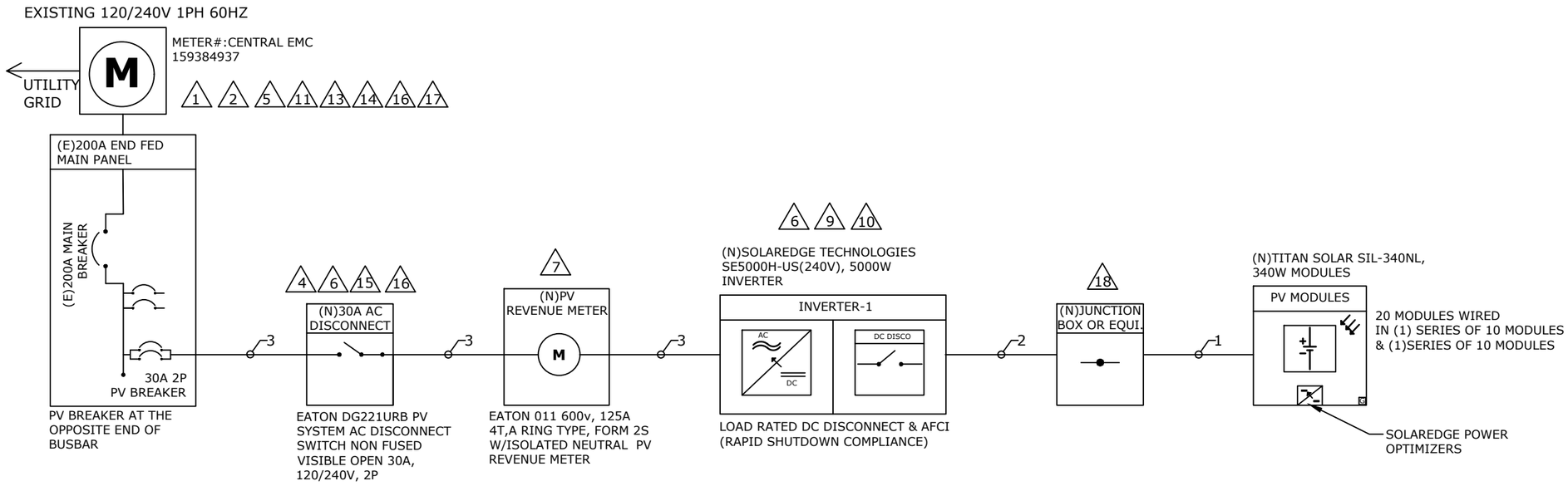
# SINGLE LINE DIAGRAM: DC SYSTEM SIZE - 6800W, AC SYSTEM SIZE - 5000W

| INVERTER-1 SPECIFICATIONS | |
|---|---|
| MODEL | SOLAREDGE TECHNOLOGIES SE5000H-US(240V) |
| POWER RATING | 5000W |
| MAX OUTPUT CURRENT | 21A |
| CEC WEIGHTED EFFICIENCY | 99% |
| MAX INPUT CURRENT | 13.5A |
| MAX DC VOLTAGE | 480V |

| MODULE SPECIFICATION | |
|---|---|
| MODEL | TITAN SOLAR SIL-340NL |
| MODULE POWER @ STC | 340W |
| OPEN CIRCUIT VOLTAGE:**Voc** | 40.9V |
| MAX POWER VOLTAGE:**Vmp** | 33.7V |
| SHORT CIRCUIT VOLTAGE:**Isc** | 10.5A |
| MAX POWER CURRENT:**Imp** | 10.1A |

| OPTIMIZER CHARACTERISTICS | |
|---|---|
| MODEL | **P340** |
| MIN INPUT VOLTAGE | 8 VDC |
| MAX INPUT VOLTAGE | 48 VDC |
| MAX INPUT CURRENT | 11 ADC |
| MAX OUTPUT CURRENT | 15 ADC |

| SYSTEM CHARACTERISTICS | |
|---|---|
| DC SYSTEM SIZE | 6800 W |
| INVERTER STRING VOLTAGE:**Vmp** | 380V |
| MAX INVERTER SYSTEM VOLTAGE: **Voc** | 480V |
| MAX SHORT CIRCUIT CURRENT | 15A |
| OPERATING CURRENT | 8.95A |




| CONDUIT SCHEDULE | | | | |
|---|---|---|---|---|
| TAG ID | CONDUIT SIZE | CONDUCTOR | NEUTRAL | GROUND |
| 1 | NONE | (4) 10AWG PV WIRE | NONE | (1) 10 AWG BARE COPPER |
| 2 | 3/4"EMT OR EQUIV | (4) 10AWG THHN/THWN-2 | NONE | (1) 10 AWG THHN/THWN-2 |
| 3 | 3/4"EMT OR EQUIV | (2) 8 AWG THHN/THWN-2 | (1) 8 AWG THHN/THWN-2 | (1) 10 AWG THHN/THWN-2 |

**NOTE:**
MAIN PANEL RATING:200A, MAIN BREAKER RATING:200A
120% RULE: (200AX1.2)-200A=40A =>ALLOWABLE BACKFEED IS 40A

**OCPD CALCULATIONS:**
INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25)
=21x1.25=26.25A=>PV BREAKER = 30A
ALLOWABLE BACKFEED 40A =>30A PV BREAKER
**THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.**

## ELECTRICAL CALCULATIONS

**DC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS>>**
- REQUIRED CONDUCTOR AMPACITY: 125% PER 690.8(A)(1) X Isc(A) X #OF PARALLEL STRINGS = MAX CURRENT PER 690.8(A)(1) X 125% PER 690.8(B)(2)(a)=MAX CURRENT PER 690.8(B)(2)(a)
- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY

**AC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS >>**
- REQUIRED CONDUCTOR AMPACITY: INVERTER OUTPUT CURRENT X #OF INVERTERSXMAX CURRENT PER 690.8(A)(3)X125% PER 690.8(B)(2)(A)
- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY

DC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

| TAG ID | REQUIRED CONDUCTOR AMPACITY | | | | | | | | | | | CORRECTED AMPACITY CALCULATION | | | | | | | DERATED CONDUCTOR AMPACITY CHECK | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | X | 15 | X | 1 | = | 15 | X | 1.25 | = | 18.75A | 40 | X | 0.71 | X | 0.8 | = | 22.72A | 18.75A | < | 22.72A |
| 2 | 1 | X | 15 | X | 1 | = | 15 | X | 1.25 | = | 18.75A | 40 | X | 0.71 | X | 0.8 | = | 22.72A | 18.75A | < | 22.72A |

AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

| TAG ID | REQUIRED CONDUCTOR AMPACITY | | | | | | | | | CORRECTED AMPACITY CALCULATION | | | | | | | | DERATED CONDUCTOR AMPACITY CHECK | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 21 | X | 1 | = | 21 | X | 1.25 | = | 26.25A | 55 | X | 0.87 | X | 1 | = | 47.85A | | 26.25A | < | 47.85A |

## ELECTRICAL NOTES

1.CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2.CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
3.MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
4.ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
5.BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
6.AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
7.AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(C).
8.AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9.MAX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.
10.CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).

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| INVERTER-1 SPECIFICATIONS | |
|---|---|
| MODEL | SOLAREDGE TECHNOLOGIES SE5000H-US(240V) |
| POWER RATING | 5000W |
| MAX OUTPUT CURRENT | 21A |
| CEC WEIGHTED EFFICIENCY | 99% |
| MAX INPUT CURRENT | 13.5A |
| MAX DC VOLTAGE | 480V |

| MODULE SPECIFICATION | |
|---|---|
| MODEL | TITAN SOLAR SIL-340NL |
| MODULE POWER @ STC | 340W |
| OPEN CIRCUIT VOLTAGE:**Voc** | 40.9V |
| MAX POWER VOLTAGE:**Vmp** | 33.7V |
| SHORT CIRCUIT VOLTAGE:**Isc** | 10.5A |
| MAX POWER CURRENT:**Imp** | 10.1A |

| OPTIMIZER CHARACTERISTICS | |
|---|---|
| MODEL | **P340** |
| MIN INPUT VOLTAGE | 8 VDC |
| MAX INPUT VOLTAGE | 48 VDC |
| MAX INPUT CURRENT | 11 ADC |
| MAX OUTPUT CURRENT | 15 ADC |

| SYSTEM CHARACTERISTICS | |
|---|---|
| DC SYSTEM SIZE | 6800 W |
| INVERTER STRING VOLTAGE:**Vmp** | 380V |
| MAX INVERTER SYSTEM VOLTAGE: **Voc** | 480V |
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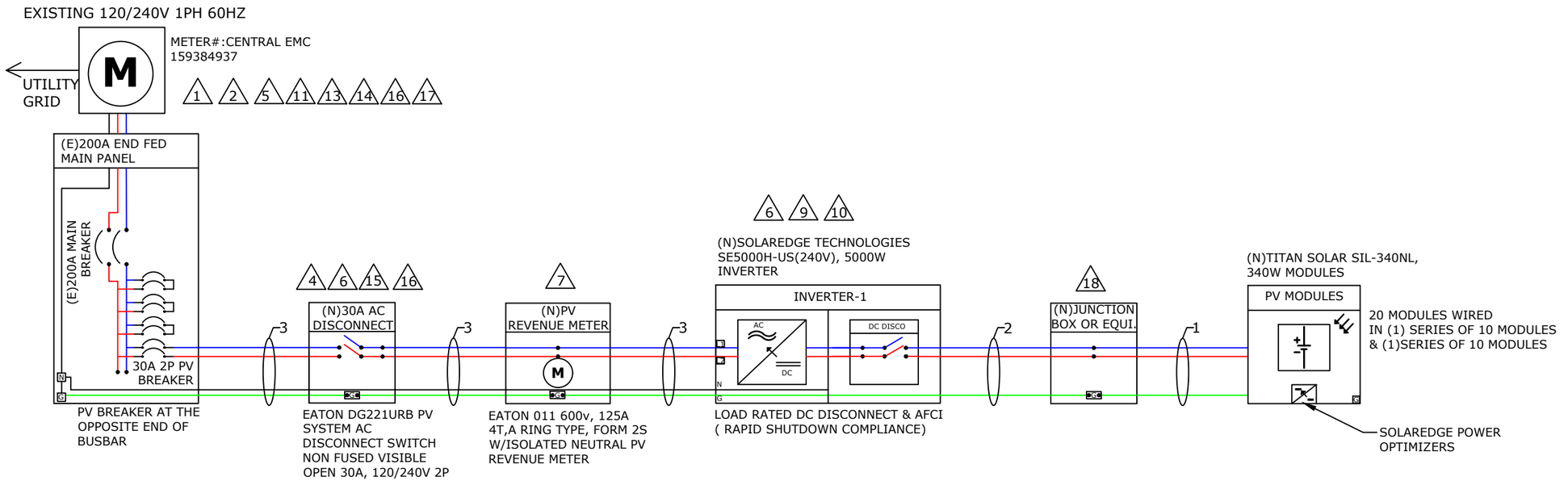
| OPERATING CURRENT | 8.95A |




## CONDUIT SCHEDULE

| TAG ID | CONDUIT SIZE | CONDUCTOR | NEUTRAL | GROUND |
|---|---|---|---|---|
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**NOTE:**
MAIN PANEL RATING:200A, MAIN BREAKER RATING:200A
120% RULE: (200AX1.2)-200A=40A =>ALLOWABLE BACKFEED IS 40A

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=21x1.25=26.25A=>PV BREAKER = 30A
ALLOWABLE BACKFEED 40A =>30A PV BREAKER
**THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.**

## ELECTRICAL CALCULATIONS

**DC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS>>**
- REQUIRED CONDUCTOR AMPACITY: 125% PER 690.8(A)(1) X Isc(A) X #OF PARALLEL STRINGS = MAX CURRENT PER 690.8(A)(1) X 125% PER 690.8(B)(2)(a)=MAX CURRENT PER 690.8(B)(2)(a)
- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY

**AC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS >>**
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- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY

DC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

| TAG ID | REQUIRED CONDUCTOR AMPACITY | | | | | | | | | | | CORRECTED AMPACITY CALCULATION | | | | | | | DERATED CONDUCTOR AMPACITY CHECK | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | X | 15 | X | 1 | = | 15 | X | 1.25 | = | 18.75A | 40 | X | 0.71 | X | 0.8 | = | 22.72A | 18.75A | < | 22.72A |
| 2 | 1 | X | 15 | X | 1 | = | 15 | X | 1.25 | = | 18.75A | 40 | X | 0.71 | X | 0.8 | = | 22.72A | 18.75A | < | 22.72A |

AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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1.CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2.CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
3.MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
4.ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
5.BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
6.AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
7.AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(C).
8.AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9.MAX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.
10.CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).

TITAN SOLAR POWER

**ADDRESS:** 525W, BASELINE RD MESA AZ,85210

## CUSTOMER INFORMATION

NAME:NANCY M HERRERA

ADDRESS:576 WORD CHURCH LN, LILLINGTON,NC 27546

35.310730, -78.997987
APN: 030-507-021-523

AHJ:NC- COUNTY HARNETT

UTILITY:CENTRAL EMC

PRN NUMBER: TPS-016754

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THREE LINE DIAGRAM

| | |
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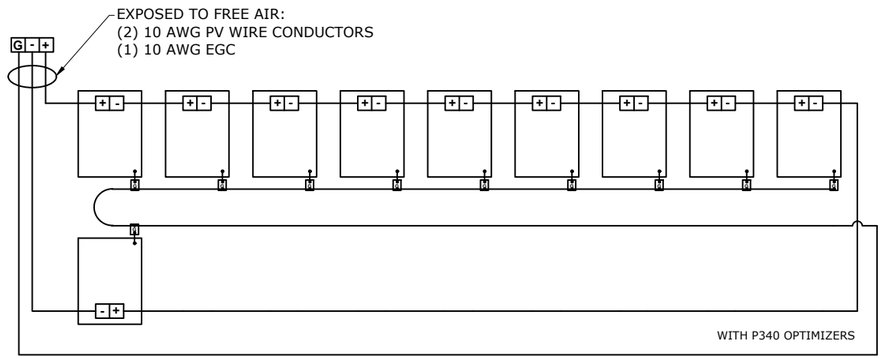
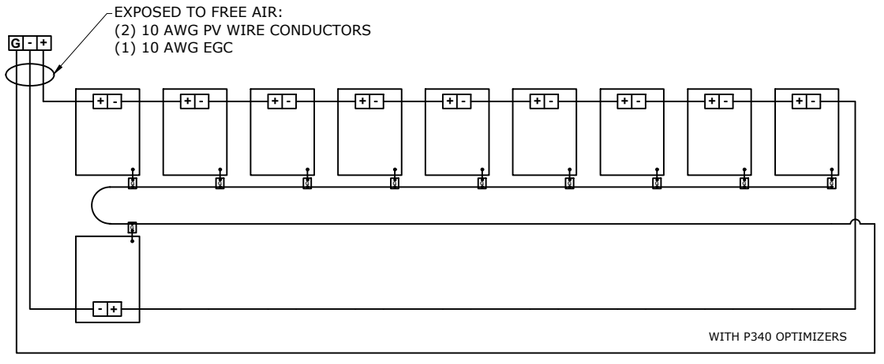
# STRING WIRING DIAGRAM

1 STRING OF 10 MODULES




1 STRING OF 10 MODULES

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STRING WIRING DIAGRAM

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# WARNING PLACARD

1

**⚠ CAUTION**

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LABEL LOCATION
BACKFED BREAKER [PER CODE: NEC 705.12(4)]

2

**⚠ WARNING**

INVERTER OUTPUT CONNECTION:
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL LOCATION: BACKFED BREAKER
[PER CODE: 2017 NEC 705.12(2)(3)(b)]

3

**WARNING**

A GENERATION SOURCE IS CONNECTED TO THE SUPPLY (UTILITY) SIDE OF THE MAIN SERVICE DISCONNECT. FOLLOW THE PROPER LOCK-OUT/TAG-OUT PROCEDURES TO ENSURE THE PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH IS OPENED PRIOR TO PERFORMING WORK ON THIS DEVICE

LABEL LOCATION: (IF APPLICABLE) SUPPLY SIDE TAP LOAD PANEL
[PER CODE: UTILITY]

4

**PHOTOVOLTAIC AC DISCONNECT**

RATED AC OPERATING CURRENT 21.00 A
AC NOMINAL OPERATING VOLTAGE 240 VAC

LABEL LOCATION: MAIN PANEL AC DISCONNECT(S)
[PER CODE: NEC 690.54]

5

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

LABEL LOCATION: MAIN PANEL
[PER CODE: NEC 690.12,690.56(C)(3)]

6

**⚠ WARNING**

**ELECTRIC SHOCK HAZARD**

TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION: COMBINER PANEL
AC DISCONNECT JUNCTION BOX INVERTER(S)
[PER CODE: NEC 690.13(B)]

7

**PHOTOVOLTAIC**

**SYSTEM METER**

LABEL LOCATION: DEDICATED KWH METER
[PER CODE: NEC 690.4(B) UTILITY]

8

**⚠ WARNING**

PHOTOVOLTAIC SYSTEM
COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION: AC COMBINER PANEL
[PER CODE: NEC 690.13(B)]

9

**MAXIMUM VOLTAGE:** 480 VDC
**MAXIMUM CIRCUIT CURRENT:** 15 ADC
**MAX. RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC-CONVERTER (IF INSTALLED)** 15 ADC

LABEL LOCATION: DC DISCONNECT INVERTER
[PER CODE: NEC 690.53 UTILITY]

10

**⚠ WARNING**

**ELECTRIC SHOCK HAZARD**
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

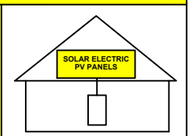
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

LABEL LOCATION
DC DISCONNECT INVERTER, COMBINE BOX
[PER CODE: NEC 690.13(B)]

11

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY




LABEL LOCATION: MAIN SERVICE
[PER CODE: NEC 690.12, NEC 690.56(C)(1)(a)]

13

**⚠ CAUTION**

DUAL POWER SOURCE
SECOND SOURCE IS
PHOTOVOLTAIC

LABEL LOCATION :SERVICE METER MAIN PANEL
[PER CODE: UTILITY]

14

**⚠ WARNING**

**INVERTER OUTPUT CONNECTION**

**DO NOT RELOCATE THIS OVER-CURRENT DEVICE**

LABEL LOCATION :(IF APPLICABLE) SERVICE PANEL
[PER CODE: NEC 705.12(D)(7)]

15

**PHOTOVOLTAIC SYSTEM**
**UTLITY DISCONNECT SWITCH**

LABEL LOCATION :AC DISCONNECT
[PER CODE: NEC 690.13(B)UTILITY]

16

**⚠ WARNING**

**ELECTRIC SHOCK HAZARD**

IF GROUND FAULT IS INDICATED ALL NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

LABEL LOCATION
AC DISCONNECT COMBINER BOX SERVICE METER
[PER CODE: NEC 690.5(C)]

17

**PV SOLAR BREAKER**

DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL LOCATION
MAIN PANEL DEAD FRONT
[PER CODE: NEC 705.12(B)(2)(3)(b)]

18

**WARNING PHOTOVOLTAIC POWER SOURCE**

LABEL LOCATION
DC CONDUIT JUNCTION BOX NO MORE THAN 10FT
[PER CODE: NEC 690.31(G)(3)NEC 690.31(G)(4)]

REFLECTIVE AND WEATHER RESISTANCE LABEL REQUIRES CAPITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8 INCH, WHITE LETTERS ON RED BACKGROUND LABELS SHALL BE PLACED ON INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURE, AND CABLE ASSEMBLIES EVERY 10 FEET, WITHIN 1 FOOT OF TURNS OR BENDS AND WITHIN 1 FOOT ABOVE AND BELOW PENETRATIONS OF ROOF/ CEILING ASSEMBLIES, WALLS OR BARRIERS

TITAN SOLAR POWER

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WARNING PLACARDS

| | |
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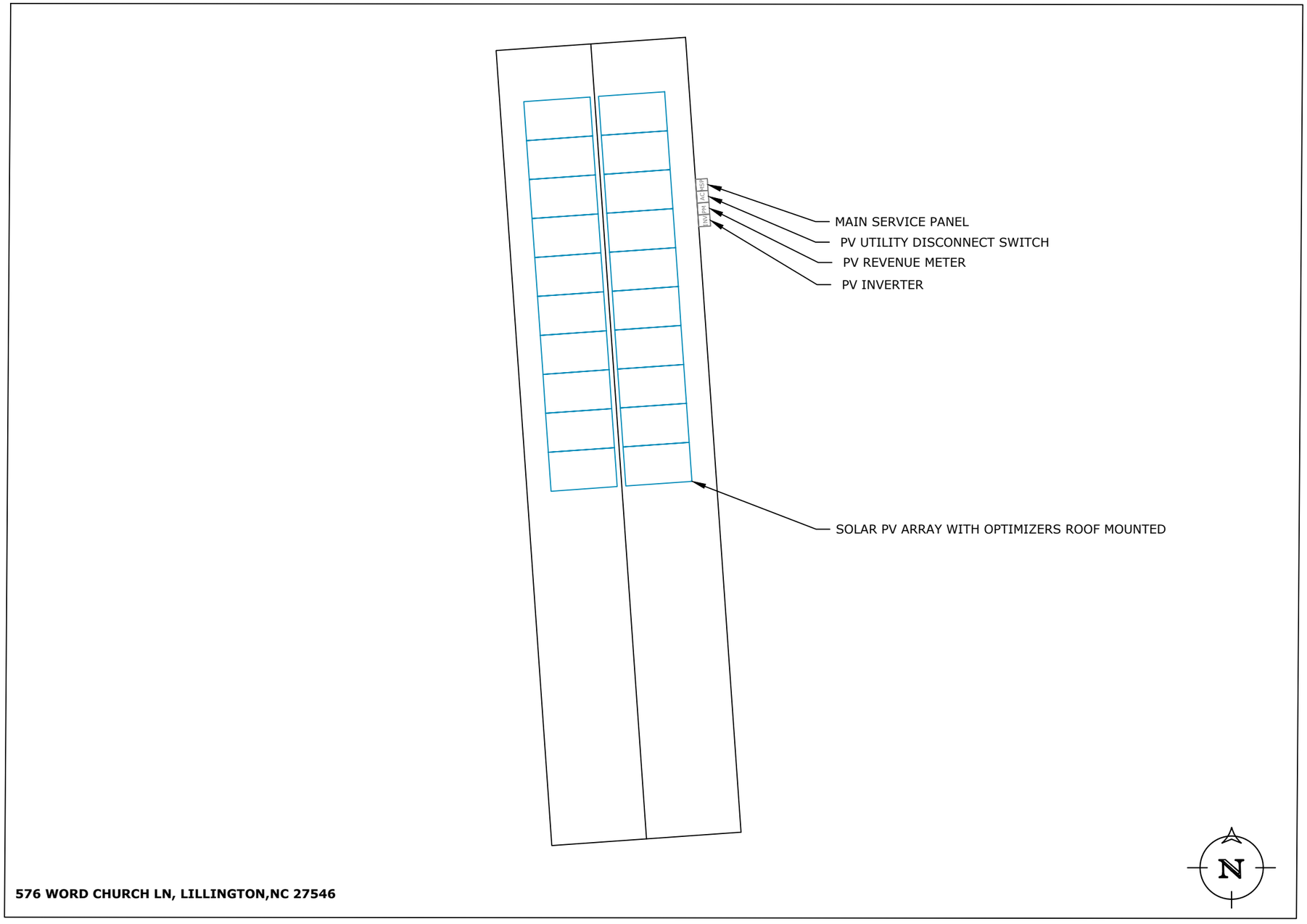
## SAFETY PLANS

NOTES:
1. INSTALLERS SHALL DRAW IN DESIGNATED SAFETY AREA AROUND HOME.
2. INSTALLERS SHALL UPDATE NAME ADDRESS AND PHONE NUMBER OF NEAREST.
3. URGENT CARE FACILITY RELATIVE TO THE SITE BEFORE STARTING WORK.

LOCATION OF NEAREST URGENT CARE FACILITY

NAME:
ADDRESS:
PHONE NUMBER:




**576 WORD CHURCH LN, LILLINGTON,NC 27546**

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SAFETY PLANS

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# SPEC SHEET

# TITAN SOLAR PANEL

## 60 Cell Monocrystalline PV Module

BAA ARRA · 25 YEAR PRODUCT WARRANTY · AUTOMATED MANUFACTURING · JUST-IN-TIME · PVEL DNV·GL TOP PERFORMER · TIER 1 BANKABLE $$$ · HIGH EFFICIENCY

CE · ETL Intertek · ETL Intertek · IEC · Fraunhofer ICP

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

**SIL-340 NL**
POWERED BY
SILFAB SOLAR

### INDUSTRY LEADING WARRANTY
The Titan Solar Panel is manufactured by Silfab Solar and includes an industry leading 25-year product workmanship and 30-year performance warranty.

### MAXIMUM ENERGY OUTPUT
Leveraging over 35+ years of worldwide experience in the solar industry, Silfab is dedicated to superior manufacturing processes and innovations such as Bifacial and Back Contact technologies, to ensure our partners, such as Titan Solar have the latest in solar innovation.

### NORTH AMERICAN QUALITY
Silfab is the leading automated solar module manufacturer in North America. Utilizing premium quality materials and strict quality control management to deliver the highest efficiency, premium quality PV modules 100% made in North America.

### BAA / ARRA COMPLIANT
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 high wind load conditions for test loads validated up to 4000Pa uplift. The light-weight frame is exclusively designed for wide-ranging racking compatibility and durability.

### QUALITY MATTERS
Total automation ensures strict quality controls during the entire manufacturing process at ISO certified facilities.

### DOMESTIC PRODUCTION
Silfab Solar manufactures PV modules in two automated locations within North America. Our 500+ North American team is ready to help Titan Solar 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.

| Electrical Specifications | | SIL-340 NL mono PERC | |
|---|---|---|---|
| Test Conditions | | STC | NOCT |
| Module Power (Pmax) | Wp | 340 | 241 |
| Maximum power voltage (Vpmax) | V | 33.7 | 30.4 |
| Maximum power current (Ipmax) | A | 10.1 | 7.9 |
| Open circuit voltage (Voc) | V | 40.9 | 37.1 |
| Short circuit current (Isc) | A | 10.5 | 8.3 |
| Module efficiency | % | 20.0 | 17.7 |
| Maximum system voltage (VDC) | V | 1000 | |
| Series fuse rating | A | 20 | |
| Power Tolerance | Wp | +/-3% | |

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 +/-3%.

| Temperature Ratings | SIL-340 NL mono PERC |
|---|---|
| Temperature Coefficient Isc | 0.064 %/°C |
| Temperature Coefficient Voc | -0.28 %/°C |
| Temperature Coefficient Pmax | -0.36 %/°C |
| NOCT (± 2°C) | 46 °C |
| Operating temperature | -40/+85 °C |

| Mechanical Properties and Components | SIL-340 NL mono PERC |
|---|---|
| Module weight | 41 ±0.4 lbs |
| Dimensions (H x L x D) | 66.9 in x 39.4 in x 1.5 in |
| Maximum surface load (wind/snow)* | 83.5/112.8 lb/ft^2 |
| Hail impact resistance | ø 1 in at 51.6 mph |
| Cells | 60 - Si mono PERC - 5 busbar, 6.25 x 6.25 Inch |
| Glass | 0.126 in high transmittance, tempered, DSM anti-reflective coating |
| Cables and connectors (refer to installation manual) | 47.2 in, ø 0.22 in, MC4 from Staubli |
| Backsheet | High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, 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, IEC 62790 Certified, IP67 rated |

| Warranties | SIL-340 NL mono PERC | | | |
|---|---|---|---|---|
| Module product workmanship warranty | 25 years** | | | |
| Linear power performance guarantee | 30 years | | | |
| | ≥ 97.1% end 1st year | ≥ 91.6% end 12th year | ≥ 85.1% end 25th year | ≥ 82.6% end 30th year |

| Certifications | SIL-340 NL mono PERC |
|---|---|
| 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 2 |
| Factory | ISO9001:2015 |

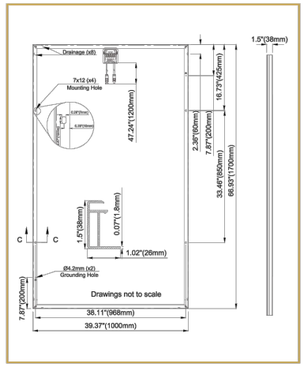
Modules Per Pallet: 26
Pallets Per Truck: 36
Modules Per Truck: 936

*⚠ 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.

***September 2020 expected completion date.

PAN files generated from 3rd party performance data are available for download at: www.silfabsolar.com/downloads





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MODULE SPEC SHEET

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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

INVERTERS

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)

solaredge.com

solaredge

# 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

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INVERTER SPEC SHEET

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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

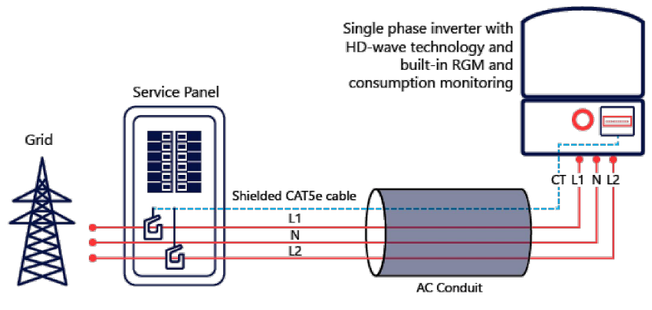
| MODEL NUMBER | SE3000H-US | SE3800H-US | SE5000H-US | SE6000H-US | SE7600H-US | SE10000H-US | SE11400H-US | |
|---|---|---|---|---|---|---|---|---|
| **ADDITIONAL FEATURES** | | | | | | | | |
| Supported Communication Interfaces | RS485, Ethernet, ZigBee (optional), Cellular (optional) | | | | | | | |
| 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

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RACKING SPEC SHEET

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# SPEC SHEET

# Power Optimizer

## For North America

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


POWEROPTIMIZER

## 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

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# Power Optimizer

## For North America

P320 / P340 / P370 / P400 / 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) | 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 | 125[2] | | 83[2] | Vdc |
| MPPT Operating Range | 8 - 48 | | 8 - 60 | 8 - 80 | 12.5 - 105 | | 12.5 - 83 | 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 | | | | 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 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 | 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 | 1.2 / 3.9 | 1.2 / 3.9 | | | 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 the P485. In the case of an odd number of PV modules in one string, installing one P485 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 for 208V grid | Three Phase for 277/480V grid | |
|---|---|---|---|---|---|---|
| Minimum String Length (Power Optimizers) | P320, P340, P370, P400 | 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 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 17,550W per string when the maximum power difference between each string is 2,000W



Intertek RoHS

TITAN SOLAR POWER

**ADDRESS:** 525W, BASELINE RD
MESA AZ,85210

## CUSTOMER INFORMATION

NAME:NANCY M HERRERA

ADDRESS:576 WORD CHURCH LN, LILLINGTON,NC 27546

35.310730, -78.997987
APN: 030-507-021-523

AHJ:NC- COUNTY HARNETT

UTILITY:CENTRAL EMC

PRN NUMBER: TPS-016754

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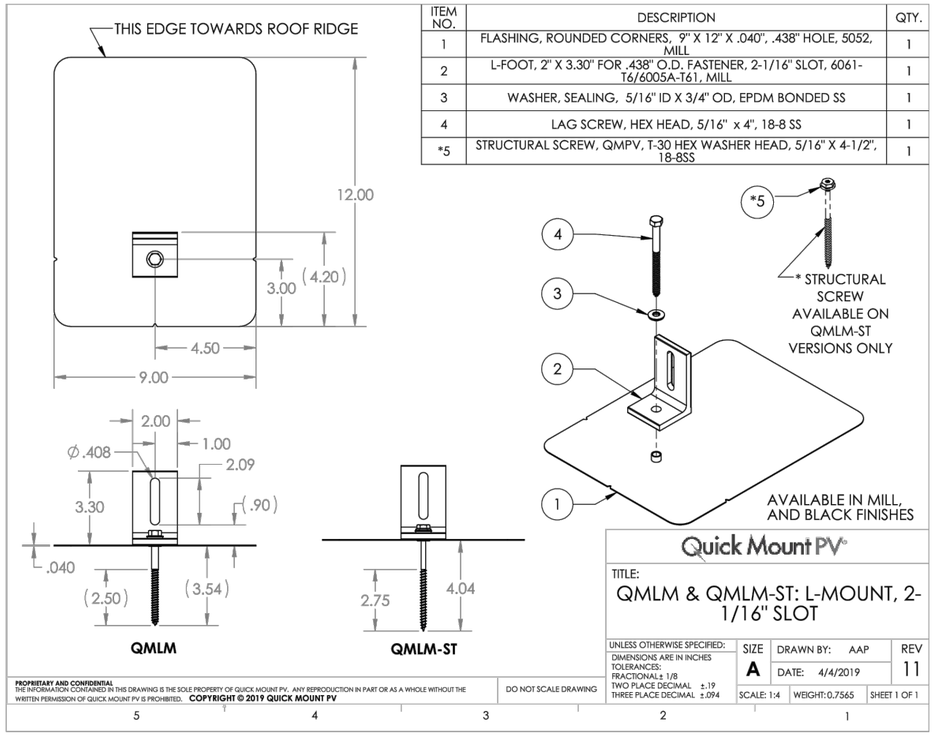
OPTIMIZER SPEC SHEET

| | |
|---|---|
| DESIGNER /CHECKED BY: VK/SN | PAPER SIZE:17"X11" |
| SCALE:AS NOTED | REV:A |
| DATE:11/21/2020 | SS-4 |

# L-Mount | QMLM / QMLM-ST

Elevated Water Seal Technology®




| ITEM NO. | DESCRIPTION | QTY. |
|---|---|---|
| 1 | FLASHING, ROUNDED CORNERS, 9" X 12" X .040", .438" HOLE, 5052, MILL | 1 |
| 2 | L-FOOT, 2" X 3.30" FOR .438" O.D. FASTENER, 2-1/16" SLOT, 6061-T6/6005A-T61, MILL | 1 |
| 3 | WASHER, SEALING, 5/16" ID X 3/4" OD, EPDM BONDED SS | 1 |
| 4 | LAG SCREW, HEX HEAD, 5/16" x 4", 18-8 SS | 1 |
| *5 | STRUCTURAL SCREW, QMPV, T-30 HEX WASHER HEAD, 5/16" X 4-1/2", 18-8SS | 1 |

Quick Mount PV®

TITLE: QMLM & QMLM-ST: L-MOUNT, 2-1/16" SLOT

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/8
TWO PLACE DECIMAL ±.19
THREE PLACE DECIMAL ±.094

SIZE A | DRAWN BY: AAP | DATE: 4/4/2019 | REV 11 | SCALE: 1:4 | WEIGHT: 0.7565 | SHEET 1 OF 1



DO NOT SCALE DRAWING

5 4 3 2 1

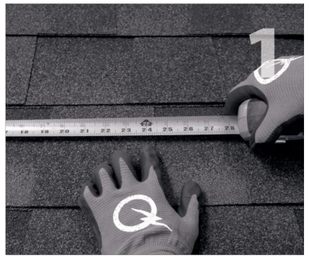
Quick Mount PV®
RESPECT THE ROOF



## L-Mount Installation Instructions

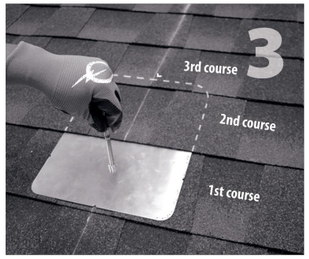
**Installation Tools Required:** tape measure, roofing bar, chalk line, stud finder, caulking gun, sealant compatible with roofing materials, drill with 7/32" or 1/8" bit, drill or impact gun with 1/2" socket.

**WARNING:** Quick Mount PV products are NOT designed for and should NOT be used to anchor fall protection equipment.



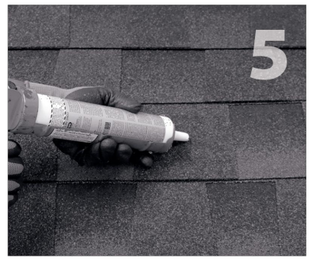

Locate, choose, and mark centers of rafters to be mounted. Select the courses of shingles where mounts will be placed.


Carefully lift composition roof shingle with roofing bar, just above placement of mount. Remove nails as required and backfill holes with aproved sealant. See "Proper Flashing Placement" on next page.



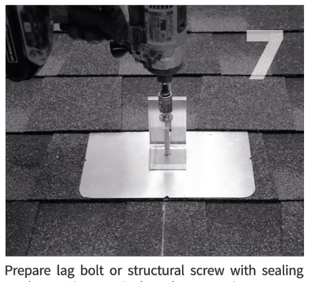

Insert flashing between 1st and 2nd course. Slide up so top edge of flashing is at least ¾" higher than the butt-edge of the 3rd course and lower flashing edge is above the butt-edge of 1st course. Mark center for drilling.


If attaching with lag bolt use a 7⁄32" bit (Lag). Use a ⅛" bit (ST) for attaching with the structural screw. Drill pilot hole into roof and rafter, taking care to drill square to the roof. Do not use mount as a drill guide. Drill a 2" deep hole into rafter.




Clean off any sawdust, and fill hole with sealant compatible with roofing materials.


Place L-foot onto elevated flute and rotate L-foot to desired orientation.




Prepare lag bolt or structural screw with sealing washer. Using a ½-inch socket on an impact gun, drive prepared lag bolt through L-foot until L-foot can no longer easily rotate. **DO NOT over-torque.** NOTE: Structural screw can be driven with T-30 hex head bit.


You are now ready for the rack of your choice. Follow all the directions of the rack manufacturer as well as the module manufacturer. NOTE: Make sure top of L-Foot makes solid contact with racking.

**All roofing manufacturers' written instructions must also be followed by anyone modifying a roof system. Consult the roof manufacturer's specs and instructions prior to working on the roof.**



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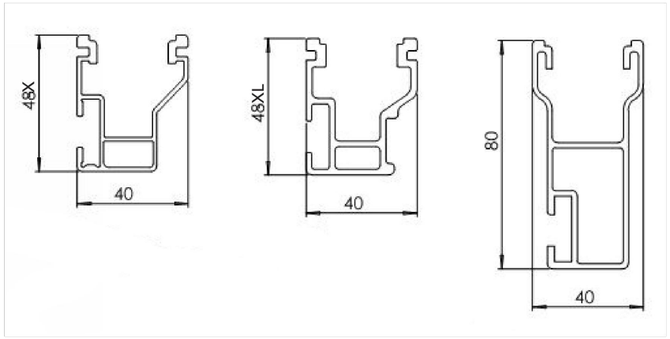
MOUNT SPEC SHEET

| | |
|---|---|
| DESIGNER /CHECKED BY: VK/SN | PAPER SIZE:17"X11" |
| SCALE:AS NOTED | REV:A |
| DATE:11/21/2020 | SS-5 |

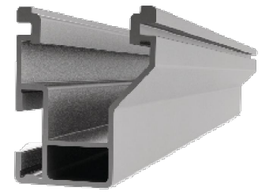



## Technical data

| | CrossRail System |
|---|---|
| **Roof Type** | Composition shingle, tile, standing seam |
| **Material** | High corrosion resistance stainless steel and high grade aluminum |
| **Flexibility** | Modular construction, suitable for any system size, height adjustable |
| **PV Modules** | For all common module types |
| **Module Orientation** | Portrait and landscape |
| **Roof Attachment** | Screw connection into rafter |
| **Structural Validity** | IBC compliant, stamped engineering letters available for all solar states |
| **Warranty** | 25 years |



# CrossRail 48-X

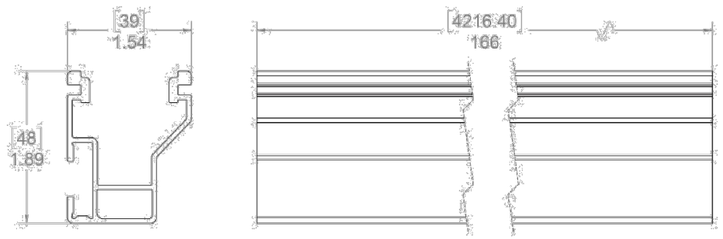


## Mechanical Properties

| | 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 in³ (3.261 cm³) |
| **Sy** | 0.1510 in³ (2.507 cm³) |
| **A (X-Section)** | 0.4650 in² (3.013 cm²) |




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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RAIL SPEC SHEET

| | |
|---|---|
| DESIGNER /CHECKED BY: VK/SN | PAPER SIZE:17"X11" |
| SCALE:AS NOTED | REV:A |
| DATE:11/21/2020 | SS-6 |