NANCY RAMIREZ - 10.800kW DC, 10.000kW AC

SHEET CATALOG

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S-02	STRUCTURAL DETAIL
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PL-01	WARNING PLACARDS
PL-02	DIRECTORY PLACARD
PL-03	SAFETY PLANS-1
PL-04	SAFETY PLANS-2
SS	SPEC SHEET(S)

SCOPE OF WORK

GENERAL SYSTEM INFORMATION:
SYSTEM SIZE:
10800W DC, 10000W AC
MODULES:
(27)HANWHA QCELLS Q.PEAK DUO BLK ML-G10PLUS 400W
INVERTER:
(1)SOLAREDGE TECHNOLOGIES SE10000H-US(240V)
OPTIMIZER:
(27)SOLAREDGE P401 POWER OPTIMIZER

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

APPLICABLE CODES

- NORTH CAROLINA ELECTRIC CODE:NCEC 2017
- NORTH CAROLINA FIRE CODE:NCFC 2018
- NORTH CAROLINA BUILDING CODE:NCBC 2018
- NORTH CAROLINA RESIDENTIAL CODE: NCRC 2018

NOTE: NO GATE OR FENCE

ENGINEERING SCOPE OF WORK

1. ILLUMINE INDUSTRIES INC. HAS ONLY PROVIDED DRAFTING SERVICES FOR THE PERMIT DRAWINGS. NO ACTUAL ENGINEERING WORK, ENGINEERING REVIEW OR ENGINEERING.
APPROVAL HAS BEEN CONDUCTED BY ILLUMINE INDUSTRIES INC UNLESS NOTED OTHERWISE.
2. WHEN A PROFESSIONAL ENGINEER APPROVES AND SEALS THE DESIGN FOR COMPONENTS OF THEIR RESPECTIVE DISCIPLINE (STRUCTURAL/ELECTRICAL) SHOWN ON THESE PERMIT. DRAWINGS, HE/SHE:
a. TAKES FULL DIRECT CONTROL OF THE ENGINEERED DESIGN.
b. IS GIVEN ACCESS TO PERSONALLY SUPERVISE AND RECTIFY ANY ASPECT OF THE ENGINEERED DESIGN.
c. HAS FULLY ACCEPTED RESPONSIBILITY FOR THE ENGINEERED DESIGN.

Scott Wyssling, PE

Digitally signed by Scott Wyssling, PE
DN: C=US, S=Utah, L=Alpine, O=Wyssling Consulting, OU=Owner, CN="Scott Wyssling, PE", E=swyssling@wysslingconsulting.com
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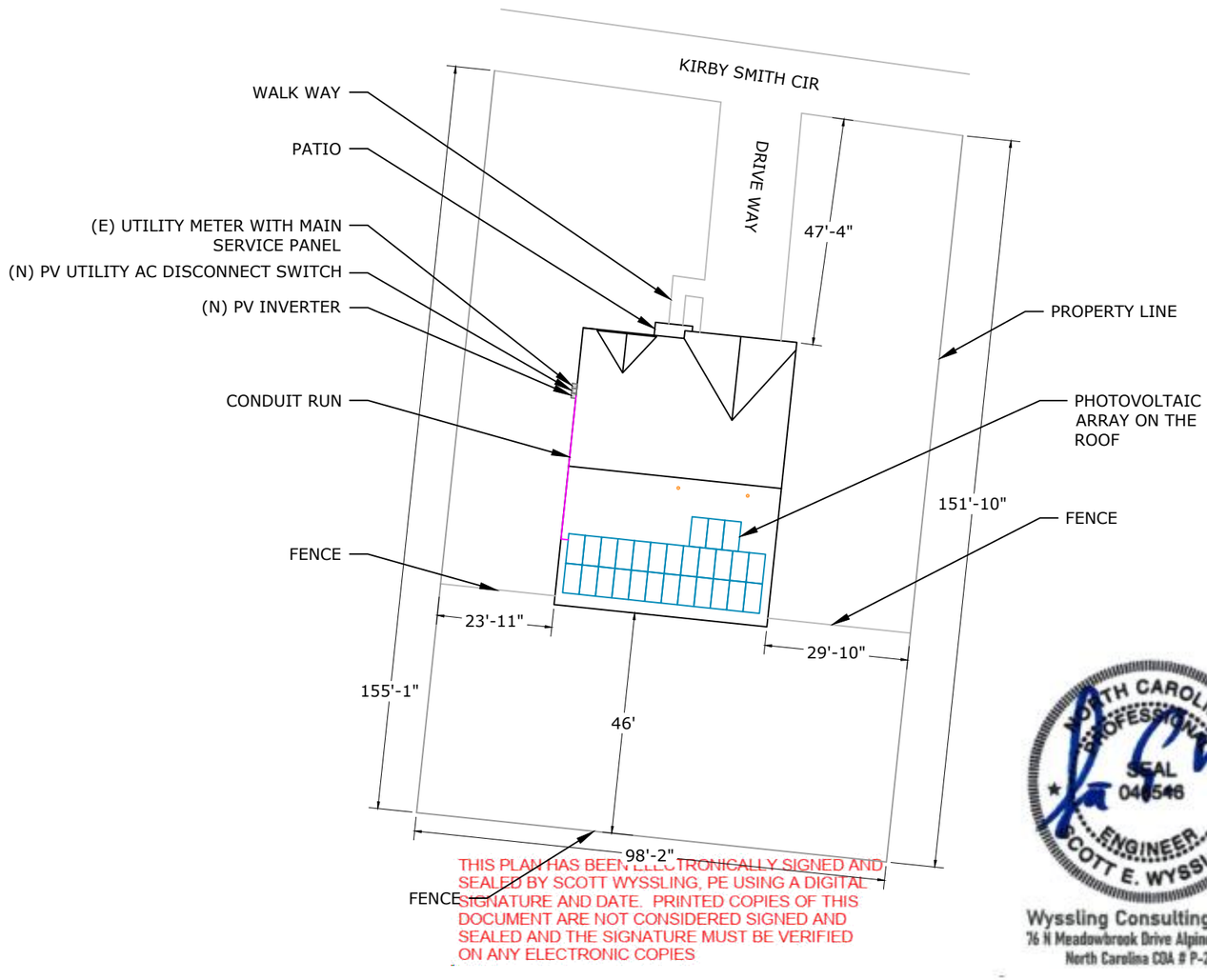


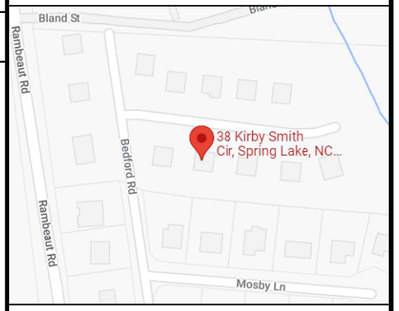
NORTH CAROLINA PROFESSIONAL SEAL 046546 ENGINEER SCOTT E. WYSSLING

Wyssling Consulting, PLLC
76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2308

Date Signed 7/14/2022

SCALE:1"=30'-0"

VICINITY MAP



TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD MESA AZ,85210
LICENSE#'S GC:84439 EC:U.34445

CUSTOMER INFORMATION

NAME:NANCY RAMIREZ

ADDRESS:38 KIRBY SMITH CIR, SPRING LAKE, NC 28390

35.233667, -78.941037
APN: 010-513-000-464

TITAN'S PRN NO: TSP130202

AHJ:NC-COUNTY HARNETT

UTILITY:SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

PRN NUMBER: TPS-54899

ILLUMINE

COVER PAGE

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
DATE:7/13/2022	T-01

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: 119 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	188°	27°	27	570.3	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 4	2'-0"	4'-0"	1'-6"

NOTE:PENETRATIONS ARE STAGGERED

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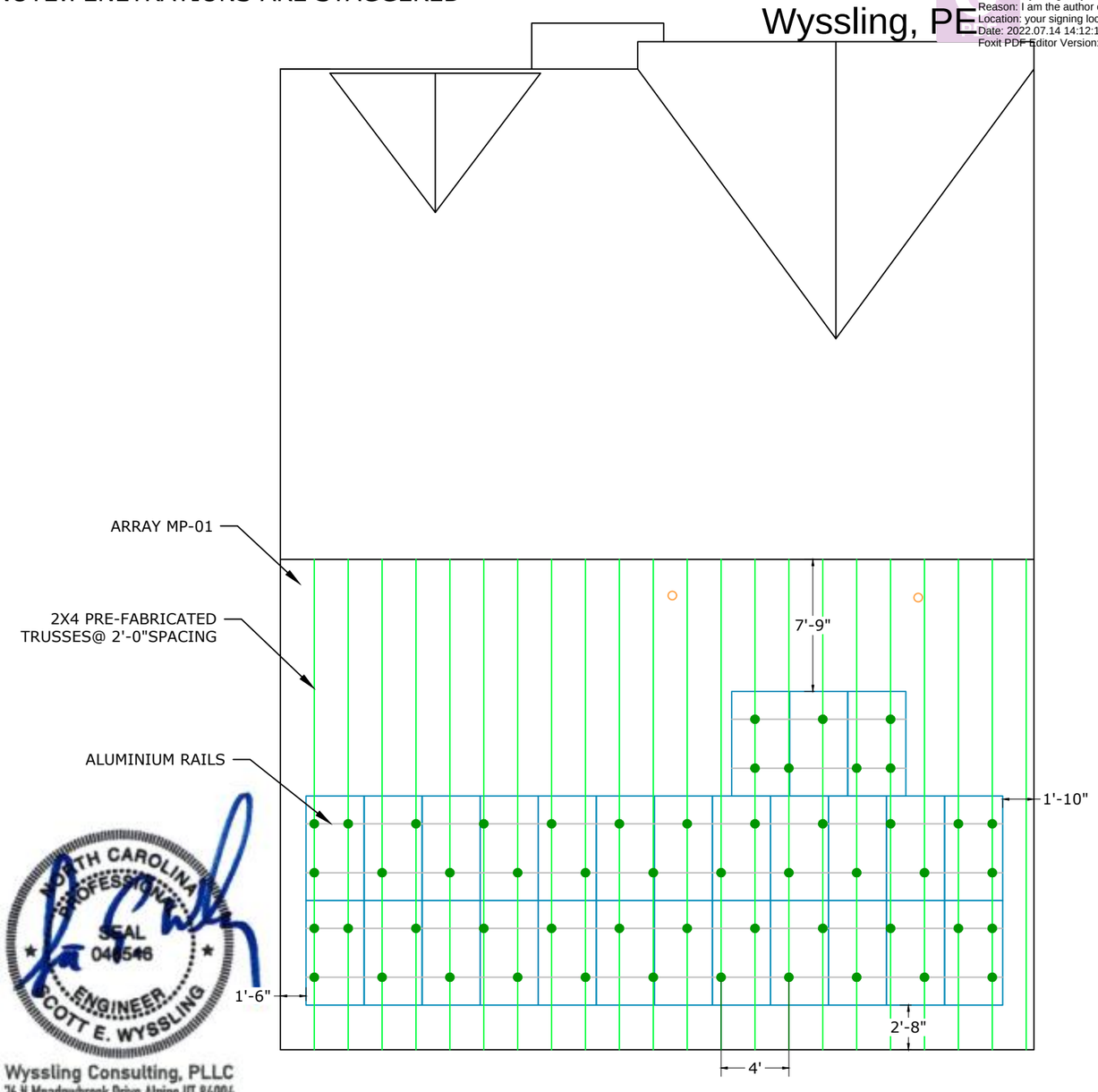

NORTH CAROLINA PROFESSIONAL SEAL 040546 ENGINEER SCOTT E. WYSSLING

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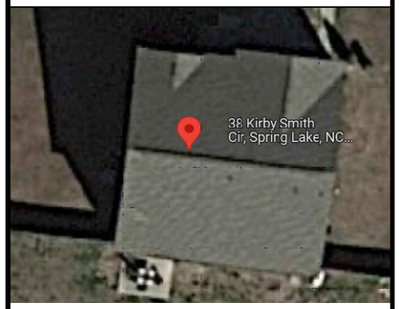
76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2388

THIS PLAN HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SCOTT WYSSLING, PE USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

SCALE:1/8" = 1'-0" Date Signed 7/14/2022

AERIAL VIEW



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AHJ:NC-COUNTY HARNETT

UTILITY:SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

PRN NUMBER: TPS-54899

ILLUMINE

MOUNTING DETAIL

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
DATE:7/13/2022	S-01

DEAD LOAD CALCULATIONS

BOM	QUANTITY	LBS/UNIT	TOTAL WEIGHT (LBS)
MODULES	27	48.5	1309.50
MID-CLAMP	48	0.300	14.40
END-CLAMP	12	0.310	3.72
RAIL LENGTH	179	0.560	100.24
SPLICE BAR	8	0.650	5.20
K2 SPLICE FOOT X	53	1.45	76.85
TOTAL WEIGHT OF THE SYSTEM (LBS)			1509.91
TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)			570.26
WEIGHT PER SQ. FT.(LBS)			2.65
WEIGHT PER PENETRATION (LBS)			28.49

Scott Wyssling, PE

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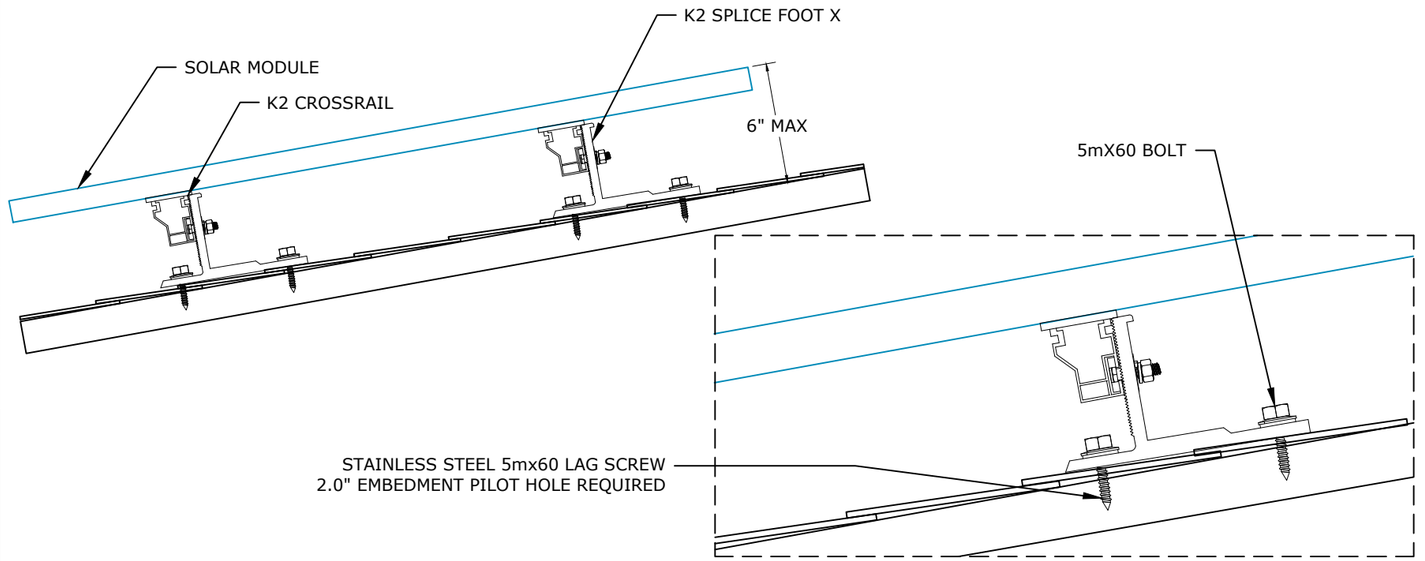
ATTACHMENT DETAIL-K2 SPLICE FOOT X



SCALE:NTS

MODULES DATA

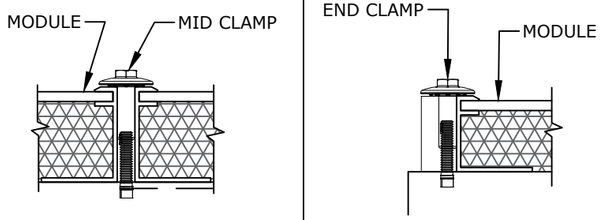
HANWHA QCELLS Q.PEAK DUO BLK ML-G10PLUS 400W

MODULE DIMS	74"x41.1"x1.26"
LAG SCREWS	5mx60x2.3":2.0"MIN EMBEDMENT

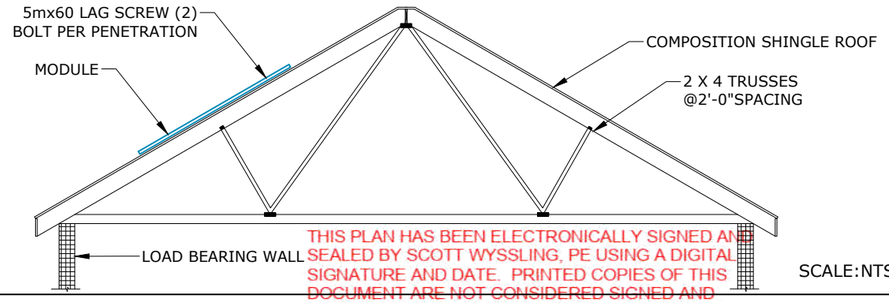
UPLIFT CALCULATIONS

UPLIFT	17107.9	LBS
PULL OUT STRENGTH	32595	LBS
POINT LOADING	25	LBS

MID-CLAMP AND END-CLAMP ANATOMY



ROOF FRAMING DETAILS



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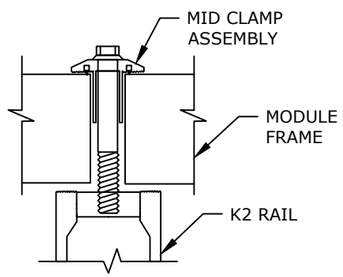
Date Signed 7/14/2022

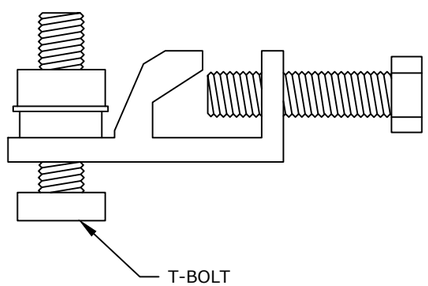
GROUNDING DETAILS

MODULE TO MODULE & MODULE TO RAIL

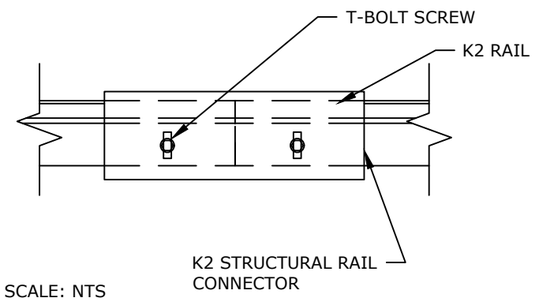


GROUNDING MID-CLAMP
SCALE: NTS

GROUNDING LUG



RAIL TO RAIL



SCALE: NTS

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ILLUMINE

STRUCTURAL DETAIL

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
DATE:7/13/2022	S-02

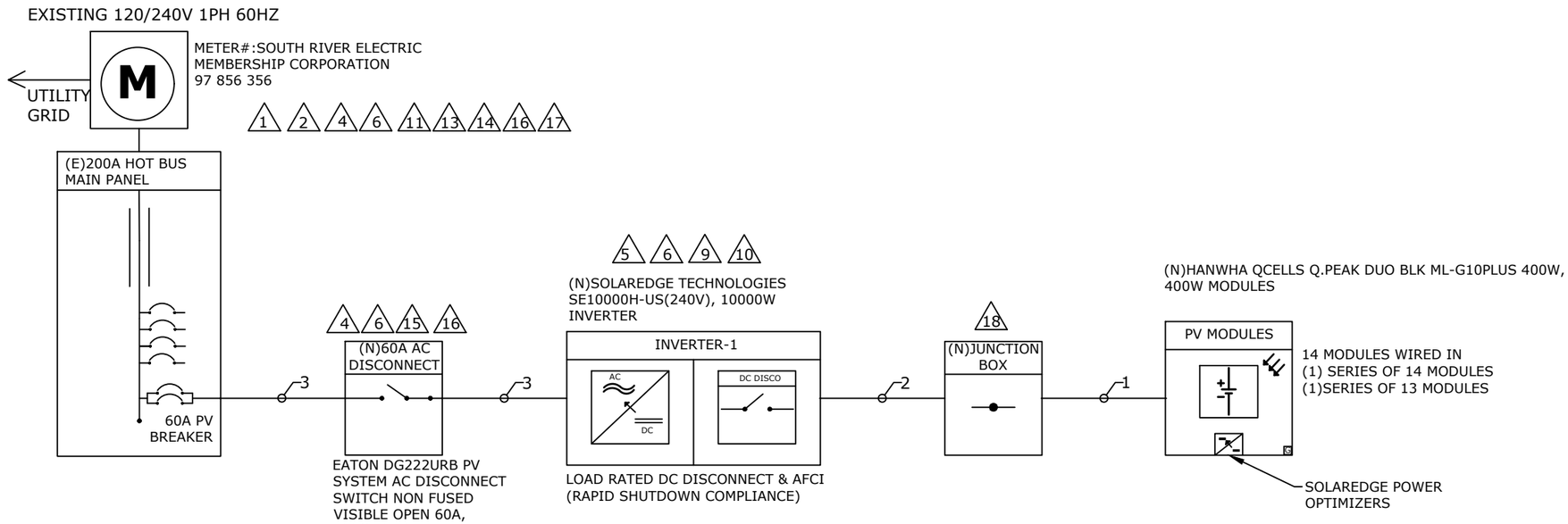
SINGLE LINE DIAGRAM: DC SYSTEM SIZE - 10800W, AC SYSTEM SIZE - 10000W

INVERTER-1 SPECIFICATIONS	
MODEL	SOLAREDGE TECHNOLOGIES SE10000H-US(240V)
POWER RATING	10000W
MAX OUTPUT CURRENT	42A
CEC WEIGHTED EFFICIENCY	99%
MAX INPUT CURRENT	27A
MAX DC VOLTAGE	480V

MODULE SPECIFICATION	
MODEL	HANWHA QCELLS Q.PEAK DUO BLK ML-G10PLUS 400W
MODULE POWER @ STC	400W
OPEN CIRCUIT VOLTAGE:**Voc**	45.30V
MAX POWER VOLTAGE:**Vmp**	37.13V
SHORT CIRCUIT CURRENT:**Isc**	11.14A
MAX POWER CURRENT:**Imp**	10.77A

OPTIMIZER CHARACTERISTICS	
MODEL	**P401**
MIN INPUT VOLTAGE	8 VDC
MAX INPUT VOLTAGE	60 VDC
MAX INPUT CURRENT	11.75 ADC
MAX OUTPUT CURRENT	15 ADC

SYSTEM CHARACTERISTICS	
DC SYSTEM SIZE	10800 W
INVERTER STRING VOLTAGE:**Vmp**	400V
MAX INVERTER SYSTEM VOLTAGE: **Voc**	480V
MAX SHORT CIRCUIT CURRENT	15A
OPERATING CURRENT	14.00A



CONDUIT SCHEDULE				
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(4) 10AWG PV WIRE	NONE	(1) 6AWG BARE COPPER
2	3/4"EMT	(4) 10AWG THHN/THWN-2	NONE	(1) 10AWG THHN/THWN-2
3	3/4"EMT	(2) 6AWG THHN/THWN-2	(1) 6AWG THHN/THWN-2	(1) 10AWG THHN/THWN-2

NOTE:
MAIN PANEL RATING:200A
ALLOWABLE BACKFEED IS =200A

OCPD CALCULATIONS:
INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25)
=42x1.25=52.50A=>PV BREAKER = 60A
TOTAL REQUIRED PV BREAKER SIZE =>60A PV BREAKER

ELECTRICAL CALCULATIONS

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

AC WIRE SIZING CALCULATIONS BASED ON THE FOLLOWING EQUATIONS>>
- REQUIRED CONDUCTOR AMPACITY: INVERTER OUTPUT CURRENT X #OF INVERTERS = MAX CURRENT PER 690.8(A)(3) X 125% = MAX CURRENT PER 690.8(B)(1)
- CORRECTED AMPACITY CALCULATIONS: AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY PER 690.8(B)(2)
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(A)(3) < 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	42	X	1	=	42.00	X	1.25	=	52.50A	75	X	0.87	X	1	=	65.25A	52.50A	<	65.25A

TITAN SOLAR POWER
ADDRESS: 525W, BASELINE RD MESA AZ,85210
LICENSE#'S GC:84439 EC:U.34445

ELECTRICAL NOTES

1. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2. CONDUCTORS EXOPSED 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 PER NEC 240.
6. AC EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC 250.122.
7. AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(A).
8. AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9. MAX SYSTEM VOLTAGE CORRRECTION IS PER NEC 690.7.
10. CONDUCTORS ARE SIZED PER NEC TABLE 310.15(B)(16).

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ILLUMINE

SINGLE LINE DIAGRAM

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
DATE:7/13/2022	E-01

THREE LINE DIAGRAM: DC SYSTEM SIZE - 10800W, AC SYSTEM SIZE - 10000W

INVERTER-1 SPECIFICATIONS	
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POWER RATING	10000W
MAX OUTPUT CURRENT	42A
CEC WEIGHTED EFFICIENCY	99%
MAX INPUT CURRENT	27A
MAX DC VOLTAGE	480V

MODULE SPECIFICATION	
MODEL	HANWHA QCELLS Q.PEAK DUO BLK ML-G10PLUS 400W
MODULE POWER @ STC	400W
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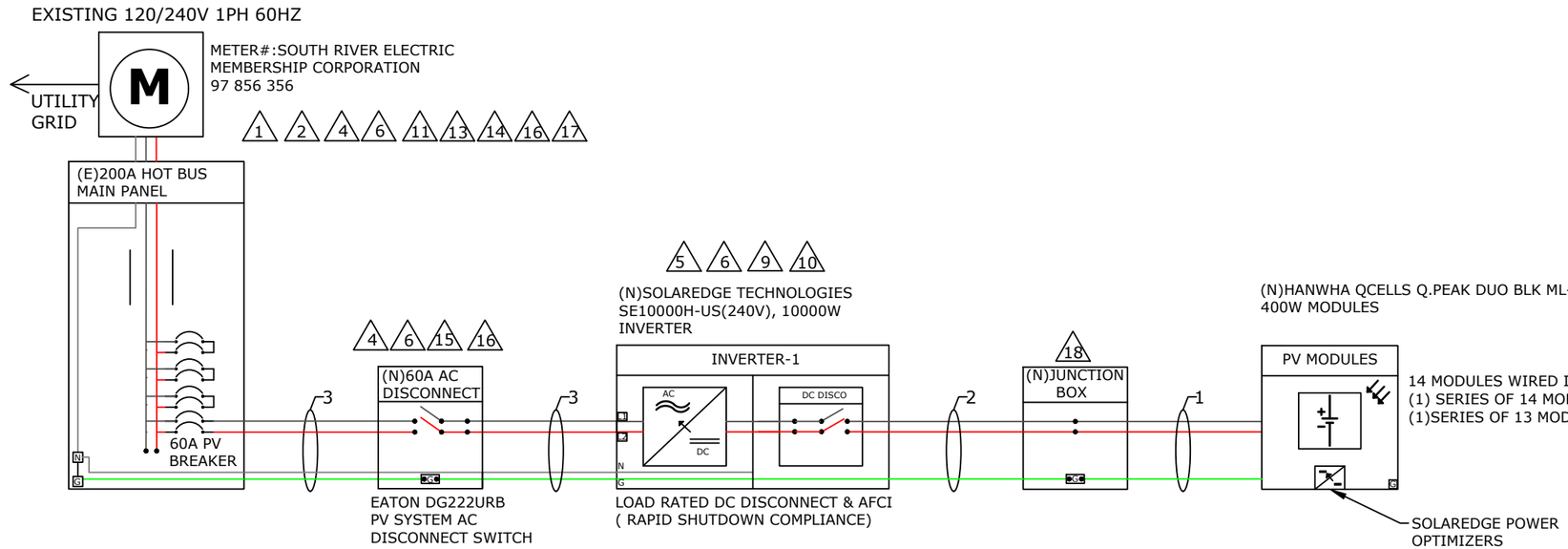

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NOTE:
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ELECTRICAL CALCULATIONS

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- REQUIRED CONDUCTOR AMPACITY: 125% X Isc(A) X #OF PARALLEL STRINGS = MAX CURRENT PER 690.8(A)(1) X 125% = MAX CURRENT PER 690.8(B)(1)
- CORRECTED AMPACITY CALCULATIIONS: AMAPCITY X TEMPERATURE DERATE FACTOR X COUDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY PER 690.8(B)(2)
- DERATE CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(A)(1) < DERATED CONDUCTOR AMPACITY

AC WIRE SIZING CALCULATIONS BASED ON THE FOLLOWING EQUATIONS>>
- REQUIRED CONDUCTOR AMPACITY: INVERTER OUTPUT CURRENT X #OF INVERTERS = MAX CURRENT PER 690.8(A)(3) X 125% = MAX CURRENT PER 690.8(B)(1)
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- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(A)(3) < 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	42	X	1	=	42.00	X	1.25	=	52.50A	75	X	0.87	X	1	=	65.25A	52.50A	<	65.25A

ELECTRICAL NOTES

1. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2. CONDUCTORS EXOPSED 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 PER NEC 240.
6. AC EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC 250.122.
7. AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(A).
8. AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9. MAX SYSTEM VOLTAGE CORRRECTION IS PER NEC 690.7.
10. CONDUCTORS ARE SIZED PER NEC TABLE 310.15(B)(16).

TITAN SOLAR POWER
ADDRESS: 525W, BASELINE RD
MESA AZ,85210
LICENSE#'S GC:84439 EC:U.34445

CUSTOMER INFORMATION

NAME:NANCY RAMIREZ

ADDRESS:38 KIRBY SMITH CIR, SPRING LAKE, NC 28390

35.233667, -78.941037
APN: 010-513-000-464

TITAN'S PRN NO: TSP130202

AHJ:NC-COUNTY HARNETT

UTILITY:SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

PRN NUMBER: TPS-54899

ILLUMINE

THREE LINE DIAGRAM

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
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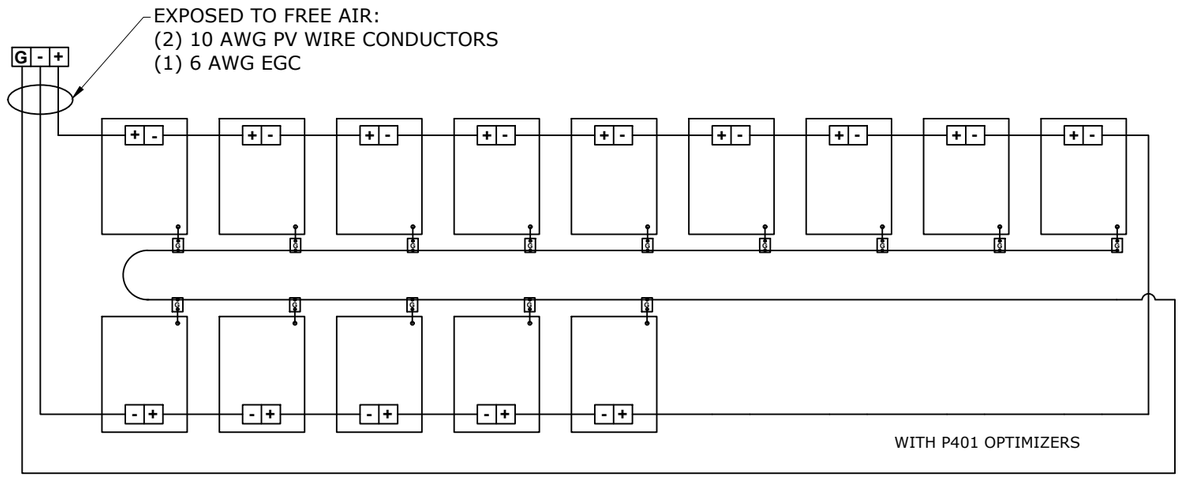
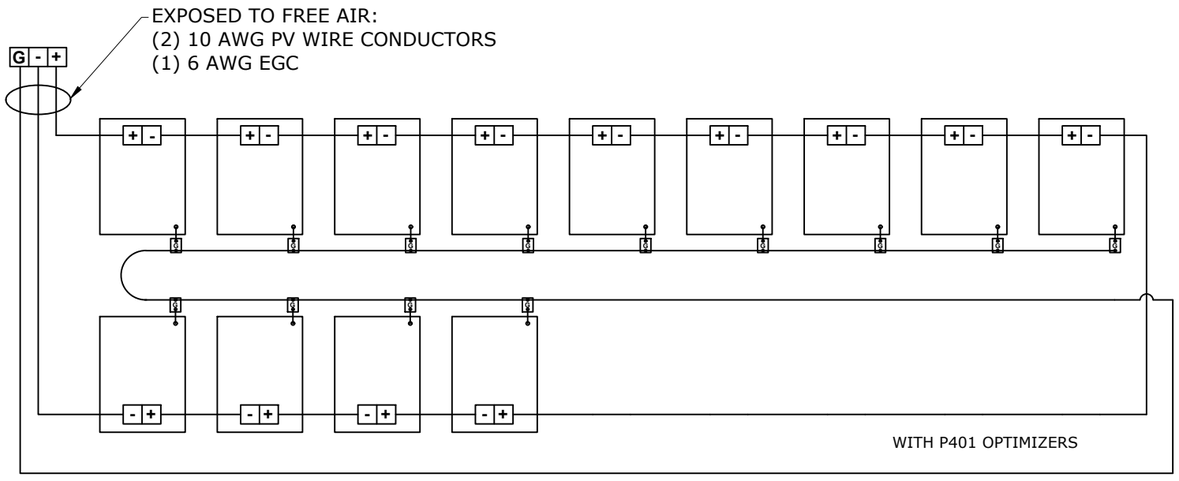
DATE:7/13/2022	E-02

STRING WIRING DIAGRAM

1 STRING OF 14 MODULES



1 STRING OF 13 MODULES



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WARNING PLACARDS

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(B)(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 42.00 A
AC NOMINAL OPERATING VOLTAGE 240 VAC

LABEL LOCATION: MAIN SERVICE DISCONNECT,
AC DISCONNECT(S) & SERVICE PANEL
[PER CODE: NEC 690.13(B)]

5

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION: INVERTER
[PER CODE: NEC 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: MAIN SERVICE DISCONNECT
AC DISCONNECT,SERVICE PANEL,
AC COMBINER & INVERTER(S)
[PER CODE: NEC 690.13(B)]

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: INVERTER
[PER CODE: NEC 690.53]

10

⚠ WARNING

ELECTRIC SHOCK HAZARD

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

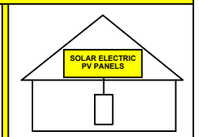
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

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 DISCONNECT
[PER CODE:NEC 690.56(C)(1)(a)]

13

⚠ CAUTION

DUAL POWER SOURCE
SECOND SOURCE IS
PHOTOVOLTAIC

LABEL LOCATION :MAIN SERVICE DISCONNECT
AC DISCONNECT,SERVICE PANEL,
REVENUE METER & AC COMBINER
[PER CODE: NEC705.12(B)(3)]

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 690.56(C)(3)]

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 SERVICE DISCONNECT & SERVICE PANEL
[PER CODE:NEC 705.12(B)(2)(3)(b)]

18

WARNING PHOTOVOLTAIC POWER SOURCE

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

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

TITAN SOLAR POWER

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35.233667, -78.941037
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AHJ:NC-COUNTY HARNETT

UTILITY:SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

PRN NUMBER: TPS-54899

ILLUMINE

WARNING PLACARDS

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
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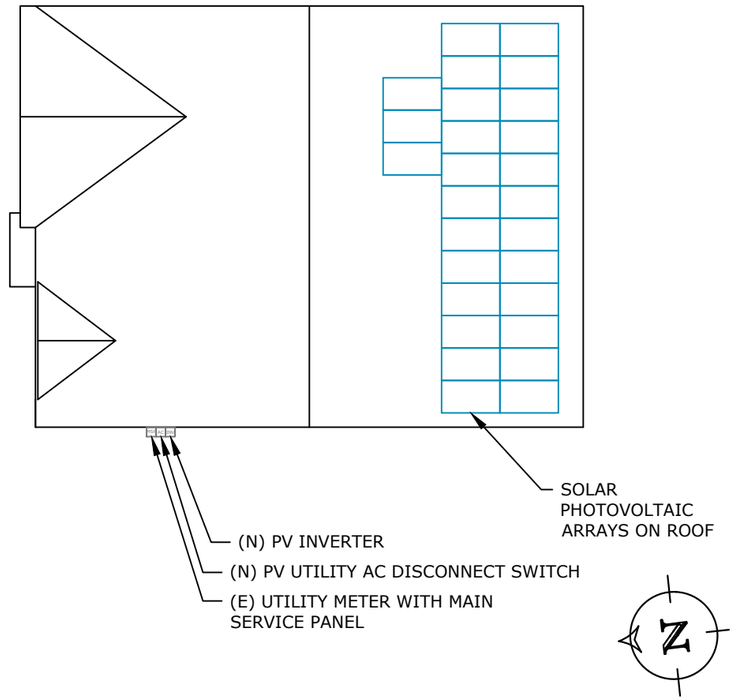
DIRECTORY PLACARD

CAUTION: MULTIPLE SOURCES OF POWER

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



38 KIRBY SMITH CIR, SPRING LAKE, NC 28390

LABEL LOCATION
SERVICE PANEL
PER CODE: NEC 705.10
ALL PLACARDS SHALL BE OF WEATHER PROOF CONSTRUCTION, BACKGROUND ON ALL PLACARDS SHALL BE RED WITH WHITE LETTERING U.O.N.
PLACARD SHALL BE MOUNTED DIRECTLY ON THE EXISTING UTILITY ELECTRICAL SERVICE.
FASTENERS APPROVED BY THE LOCAL JURISDICTION

TITAN SOLAR POWER
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DIRECTORY PLACARD

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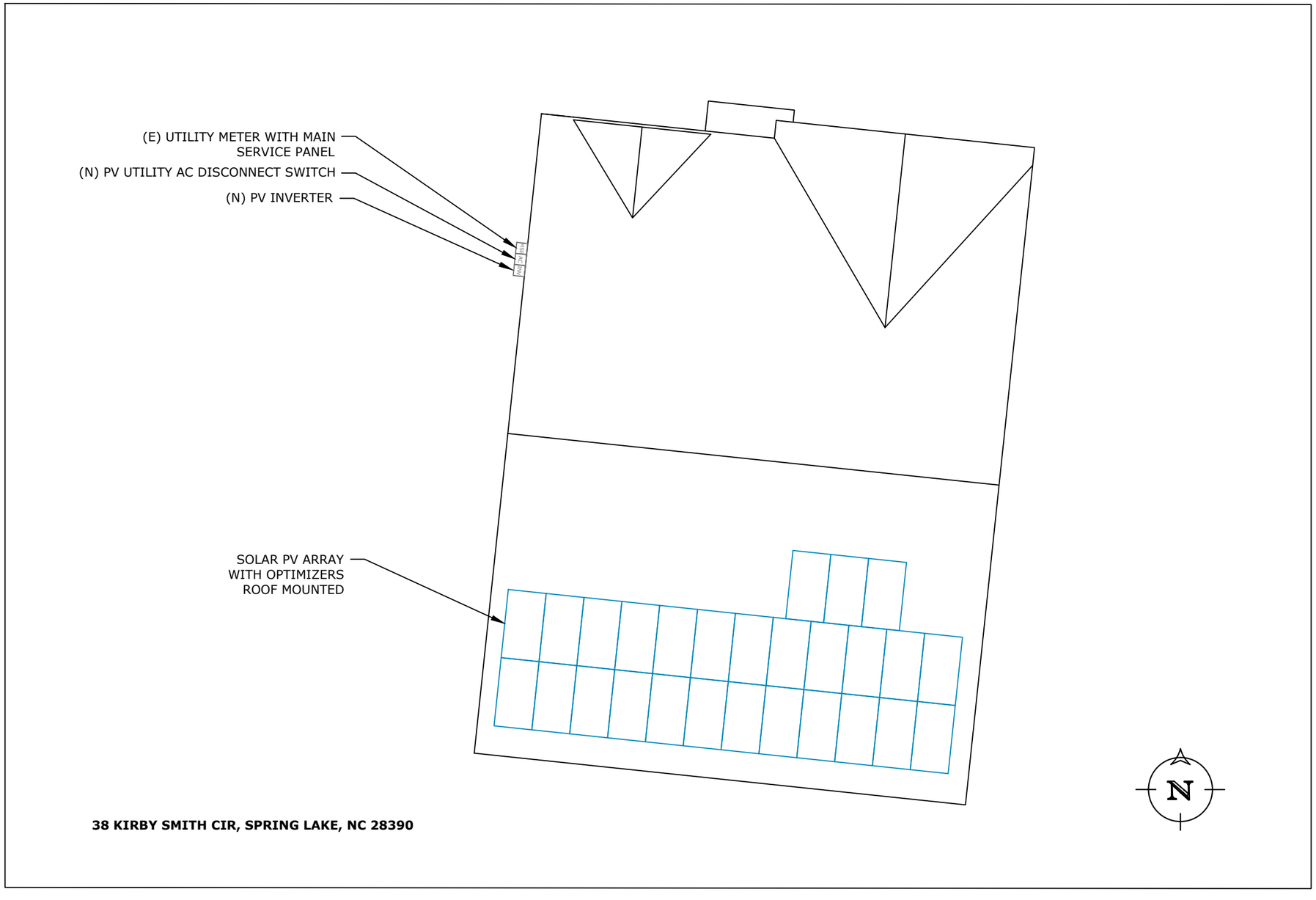
SAFETY PLANS

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:



38 KIRBY SMITH CIR, SPRING LAKE, NC 28390

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ILLUMINE

SAFETY PLANS-1

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SAFETY PLANS

NOTES:
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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:

PERSONS COVERED BY THIS JOB SAFETY PLAN

INJURED AT WORK TODAY?
INITIAL YES OR NO

PRINT NAME	INITIAL	YES	NO

UNDERGROUND DIG REQUIRED?

YES _____ PERMIT #_____

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ILLUMINE

SAFETY PLANS-2

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SCALE:AS NOTED	REV:C
DATE:7/13/2022	PL-04

SPEC SHEET

powered by Q.ANTUM DUO Z

Q.PEAK DUO BLK ML-G10+

385-405

ENDURING HIGH PERFORMANCE

25 YR Warranty Product & Performance

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2021

Q CELLS Yield Security

BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.

THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT

Inclusive 25-year product warranty and 25-year linear performance warranty[2].

[1] APT test conditions according to IEC / TS 62804-1:2015, method A (−1500 V, 96 h)
[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:

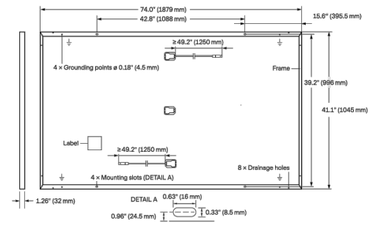
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight	48.5 lbs (22.0 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥ 49.2 in (1250 mm), (−) ≥ 49.2 in (1250 mm)
Connector	Stäubli MC4; IP68

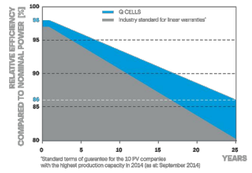


ELECTRICAL CHARACTERISTICS

POWER CLASS				385	390	395	400	405
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / −0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	385	390	395	400	405
	Short Circuit Current[1]	I_{SC}	[A]	11.04	11.07	11.10	11.14	11.17
	Open Circuit Voltage[1]	V_{OC}	[V]	45.19	45.23	45.27	45.30	45.34
	Current at MPP	I_{MPP}	[A]	10.59	10.65	10.71	10.77	10.83
	Voltage at MPP	V_{MPP}	[V]	36.36	36.62	36.88	37.13	37.39
	Efficiency[1]	η	[%]	≥19.6	≥19.9	≥20.1	≥20.4	≥20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	288.8	292.6	296.3	300.1	303.8
	Short Circuit Current	I_{SC}	[A]	8.90	8.92	8.95	8.97	9.00
	Open Circuit Voltage	V_{OC}	[V]	42.62	42.65	42.69	42.72	42.76
	Current at MPP	I_{MPP}	[A]	8.35	8.41	8.46	8.51	8.57
	Voltage at MPP	V_{MPP}	[V]	34.59	34.81	35.03	35.25	35.46

[1] Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • [2] 800 W/m², NMOT, spectrum AM 1.5

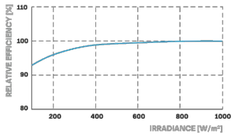
Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²)

TEMPERATURE COEFFICIENTS							
Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	−0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.34	Nominal Module Operating Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1000 (IEC) / 1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull[3]	[lbs/ft²]	75 (3600 Pa) / 55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	−40 °F up to +185 °F (−40 °C up to +85 °C)
Max. Test Load, Push / Pull[3]	[lbs/ft²]	113 (5400 Pa) / 84 (4000 Pa)		

[3] See Installation Manual

QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant,
Quality Controlled PV - TÜV Rheinland,
IEC 61215:2016, IEC 61730:2016,
U.S. Patent No. 9,893,215 (solar cells),
QCPV Certification ongoing.

C Certified US UL 61730 | CE | TÜVRheinland CERTIFIED www.tuv.com ID 1111230277

PACKAGING INFORMATION

Horizontal packaging	76.4 in 1940 mm	43.3 in 1100 mm	48.0 in 1220 mm	1656 lbs 751 kg	24 pallets	24 pallets	32 modules

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | **TEL** +1 949 748 59 96 | **EMAIL** inquiry@us.q-cells.com | **WEB** www.q-cells.us

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ILLUMINE

MODULE SPEC SHEET

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
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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 SPECSHEET

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SPEC SHEET

Single Phase Inverter with HD-Wave Technology for North America

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

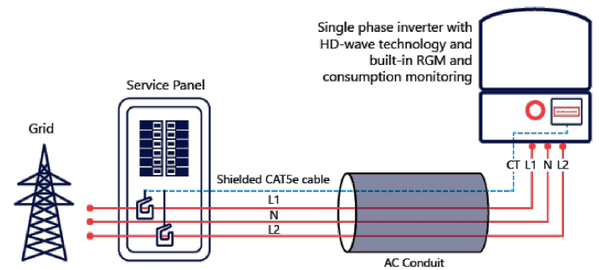
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Metering, ANSI C12.20	Optional[3]							
Consumption metering								
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

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
MESA AZ,85210
LICENSE#'S GC:84439 EC:U.34445

CUSTOMER INFORMATION

NAME:NANCY RAMIREZ

ADDRESS:38 KIRBY SMITH CIR, SPRING LAKE, NC 28390

35.233667, -78.941037
APN: 010-513-000-464

TITAN'S PRN NO: TSP130202

AHJ:NC-COUNTY HARNETT

UTILITY:SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

PRN NUMBER: TPS-54899

ILLUMINE

INVERTER SPECSHEET

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:C
DATE:7/13/2022	SS-03

Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505

25 YEAR WARRANTY

POWER OPTIMIZER

PV power optimization at the module-level

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

solaredge.com

solaredge

Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505

Optimizer model (typical module compatibility)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72 cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
INPUT						
Rated Input DC Power(1)	370	400		485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	60	125(2)	83(2)	Vdc
MPPT Operating Range	8 - 60	8 - 80	8-60	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11	10.1	11.75	11	14	Adc
Maximum Efficiency	99.5					%
Weighted Efficiency	98.8					%
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						
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020			NEC 2014, 2017 & 2020	NEC 2014, 2017 & 2020	
EMC	FCC Part 15 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 153 x 33.5 / 5.1 x 6 x 1.3	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	655 / 1.4	750 / 1.7	655 / 1.4	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, 0.9 / 2.95(4)	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95(4)	0.16 / 0.52	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	1.2 / 3.9					m / ft
Operating Temperature Range(5)	-40 to +85 / -40 to +185					°C / °F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

(1) Rated power of the module at STC will not exceed the 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)	P370, P400, P401	8		10	18	
	P485, P505	6		8	14	
Maximum String Length (Power Optimizers)		25		25	50	
Maximum Nominal Power per String		5700(8) (6000 with SE7600-US - SE11400-US)	5250(8)	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 P485/P505 with P370/P400/P401 in one string
(8) If the inverters rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to: https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf
(9) For 208V grid: it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W
(10) For 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

Intertek RoHS

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ILLUMINE

OPTIMIZER SPECSHEET

DRAFTED BY: K.UTKARSHA QC'ED BY: A.N.KRISHNAN	PAPER SIZE:17"X11"
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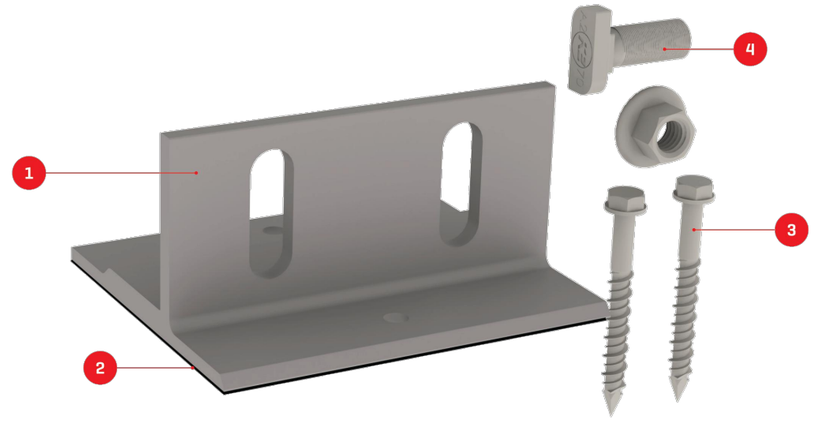
SPEC SHEET

We support PV systems
Formerly Everest Solar Systems



Splice Foot X

TECHNICAL SHEET

Item Number	Description	Part Number
1	Splice Foot X	4000113 | Splice Foot X Kit, Mill
2	K2 Solar Seal Butyl Pad	
3	M5 x 60 lag screws	
4	T-Bolt & Hex Nut Set	

Technical Data

	Splice Foot X
Roof Type	Composition shingle
Material	Aluminum with stainless steel hardware
Finish	Mill
Roof Connection	M5 x 60 lag screws
Code Compliance	UL 2703
Compatibility	CrossRail 44-X, 48-X, 48-XL, 80

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ILLUMINE

MOUNT SPECSHEET

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SPEC SHEET

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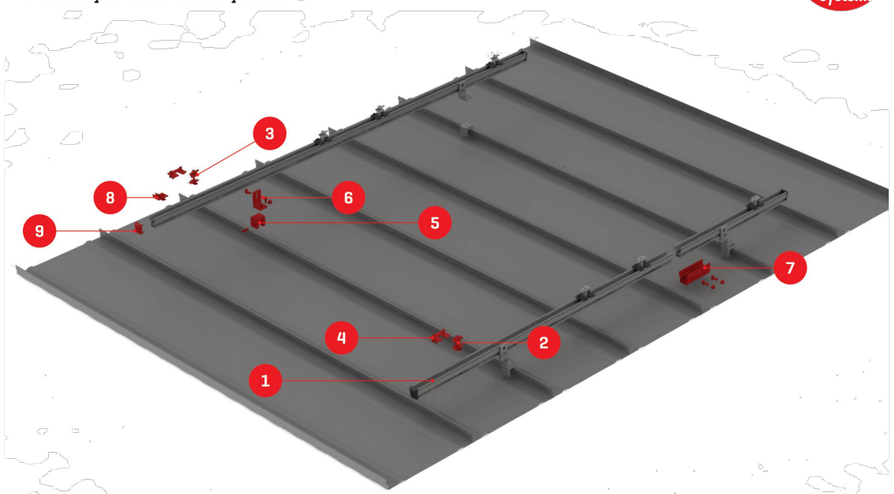

CrossRail Shared Rail System

TECHNICAL SHEET

Item Number	Description	Part Number
1	CrossRail 44-X (shown) all CR profiles applicable	4000019 (166" mill), 4000020 (166" dark) , 4000021 (180" mill), 4000022 (180" dark)
2	CrossRail Mid Clamp	4000601-H (mill), 4000602-H (dark)
3	CrossRail (Standard) End Clamp	4000429 (mill), 4000430 (dark)
4	Add-On (5mm shown)	4000632 (5mm), 4000609 (10mm)
5	Standing Seam PowerClamp (mini shown)	4000016 (mini), 4000017 (standard)
6	L-Foot Slotted Set	4000630 (mill), 4000631 (dark)
7	CrossRail 44-X Rail Connector (shown) CR 48-X, 48-XL Rail Connector available	4000051 (mill), 4000052 (dark)
8	Everest Ground Lug	4000006-H
9	CrossRail 44-X End Cap (shown) CrossRail 48-X, 48-XL and 80 available	4000067

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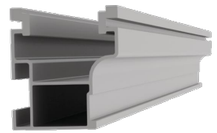
CROSSRAIL 44-X



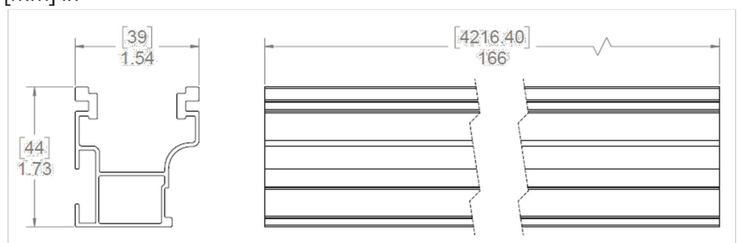
Mechanical Properties

	CrossRail 44-X
Material	6000 Series Aluminum
Ultimate Tensile Strength	37.7 ksi (260 MPa)
Yield Strength	34.8 ksi (240 MPa)
Weight	0.47 lbs/ft (0.699 kg/m)
Finish	Mill or Dark Anodized

Sectional Properties

	CrossRail 44-X
Sx	0.1490 in3 (0.3785 cm3)
Sy	0.1450 in3 (0.3683 cm3)
A (X-Section)	0.4050 in2 (1.0287 cm2

Units: [mm] in



Notes:

- Structural values and span charts determined in accordance with Aluminum Design Manual and ASCE 7-16
- UL2703 Listed System for Fire and Bonding

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ILLUMINE

RAIL SPECSHEET

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