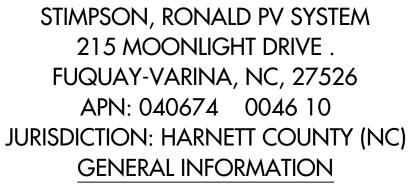
Building Codes: 2017 NEC, AND 2018 NORTH CAROLINA RESIDENTIAL CODE and AHJVICINITY MAP

Amendments

VICINITY MAP SCALE: NTS AERIAL MAP SCALE: NTS



SYSTEM SIZE: 4.810 kW-DC-STC 3.800 kW-AC

ROOF PITCHED: 27 DEGREES

INVERTER: (1) SOLAREDGE SE3800H-US W/ P401 OPTIMIZERS

MODULES: (13) LG370N1K-E6

STRINGS: (1) x 13 MODULE SERIES STRING

ELECTRICAL SERVICE RATING: 200A PV SYSTEM OVERCURRENT RATING: 20A

PV SYSTEM DISCONNECT SWITCH: EATON DG221URB (30A / 2P)

ROOF TYPE: COMP SHINGLE

ROOF FRAMING: MANUFACTURED/ENGINEERED TRUSS

RACKING: EVEREST

LOCATION & QUANTITY OF PACKING & STANDOFFS

ARRAY & INVERTER ELECTRICAL SPECIFICATIONS

DATA SHEETS & ADDITIONAL INFORMATION

REQUIRED INFORMATION

ROOF ATTACHMENT DETAILS

ELECTRICAL 1 LINE DIAGRAM

ELECTRICAL 3 LINE DIAGRAM

EQUIPMENT SPECIFICATIONS

PV EQUIPMENT LABELING DETAIL

PV EQUIPMENT SPECIFICATIONS

LABEL NOTES

DIRECTORY LABEL

JOB SAFETY PLAN

MODULE AND EQUIPMENT LAYOUT

OCP & WIRE SIZING CALCULATIONS

RACKING LOAD & UPLIFT CALCULATIONS

SITE INFORMATION

ATTACHMENT METHOD: MIN. 5/16" x 3 ½ LAG SCREWS EA. STANDOFF

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SITE PLAN

PV LAYOUT

PV LAYOUT

DETAILS

ONE LINE

THREE LINE

1 & 3 LINE

1 & 3 LINE

1 & 3 LINE

LABELS

LABELS

PLACARD

SAFETY PLAN

EQUIPMENT SPEC.

SUPPLEMENTAL MATERIAL

RyePoint Internet Marketing RyePoint Internet Marketing Adaption Adaption

NOTES

EQUIPMENT LOCATION

- 1. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.
- 2. WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC690.31(A),(C) AND NEC TABLES 310.15(B)(2)(A) AND 310.15(B)(3)(C).
- 3. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
- 4. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
- 5. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
- 6. 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.
- 2. 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.
- 4. AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK, PHASE B OR L-2 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.
- 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
- 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.
- 8. 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.
- 10. PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING.



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

SHEET NUMBER

PV 1

PV 2

PV 3

PV 3

PV 4

PV 5

PV 6

PV 7

PV 7

PV 8

PV 9

PV 10 - 16

PV 5 & 6

PV 5 & 6

PV 5 & 6

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

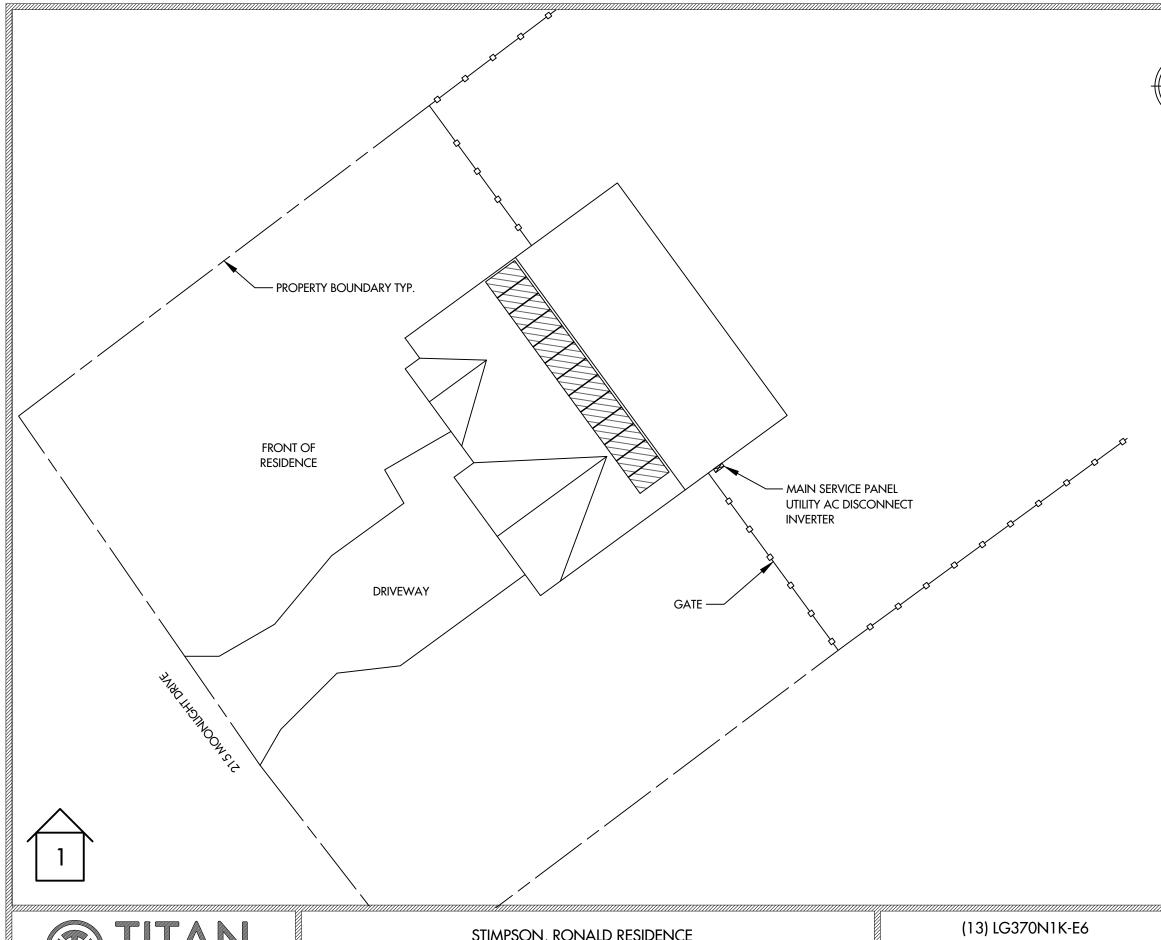
DATE: 9/10/2021

REV:A

DRAWN BY: JJ

COVER PAGE

PV 1





- 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 DUKE ENERGY (NC) AND NEC REQUIREMENTS.

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

STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308 (13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE SCALE: 1/16" = 1'-0" DATE: 9/10/2021

REV: A

DRAWN BY: JJ

SITE PLAN

PV 2

ARRAY INFORMATION

AR-01

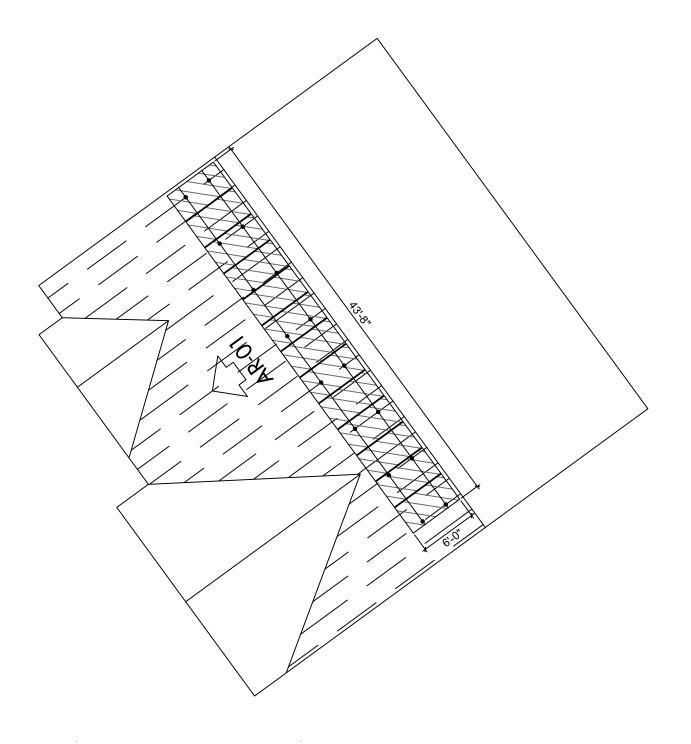
QUANTITY: 13

MOUNTING TYPE: FLUSH

ARRAY TILT: 27° AZIMUTH: 237°

ATTACHMENT SPACING: 6' ROOF TYPE: COMP SHINGLE





NOTES

- ROOF VENTS, SKYLIGHTS, WILL NOT BE COVERED UPON PV INSTALLATION
- TOTAL ROOF AREA = 2337 SQ-FT
- TOTAL ARRAY AREA = 257.62 SQ-FT
- ARRAY COVERAGE = 11.02%

DRAWN BY: JJ

MODULE & RACKING INFORMATION

MODULE: LG370N1K-E6 MODULE WEIGHT: 40.78 LBS

MODULE DIMENSIONS: 69.6"x 41" x 1.5" RACKING/RAIL: EVEREST / EVEREST ROOF & FRAMING INFORMATION
MATERIAL: COMP SHINGLE
RAFTER/TRUSS SIZE: 2" x 4"
RAFTER/TRUSS SPACING: 2"

ARRAY 01: 13 MODULES

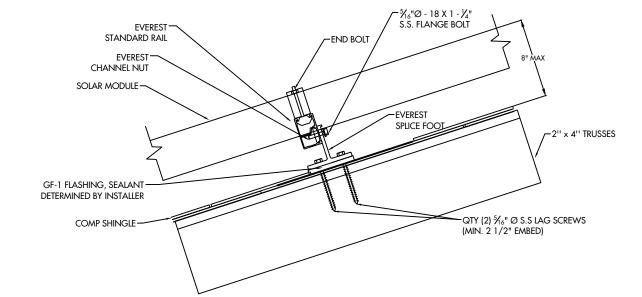
UPLIFT = 7728.50 LBS.

POINT LOAD = 35.98 LBS. PER MOUNTING POINT

 $\underline{PULLOUT\ STRENGTH} = \underline{8400.00\ LBS}.$

DISTRIBUTED LOAD = 2.23 PSF

MODULE & RACKING WEIGHT = 575.64 LBS



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308 (13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV:A DRAWN BY: JJ DETAILS

PV 4

PV MODULE

LG370N1K-E6

11.23 ADC VOC 41.40 VDC IMP 10.68 ADC VMP 34.70 VDC TVOC = -0.260% / °C

370 W

WIRE SCHEDULE

- A (2) #10 AWG-CU PV WIRE (HR) (1) #10 AWG-CU BARE COPPER WIRE (GND) IN FREE AIR
- B (2) #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)

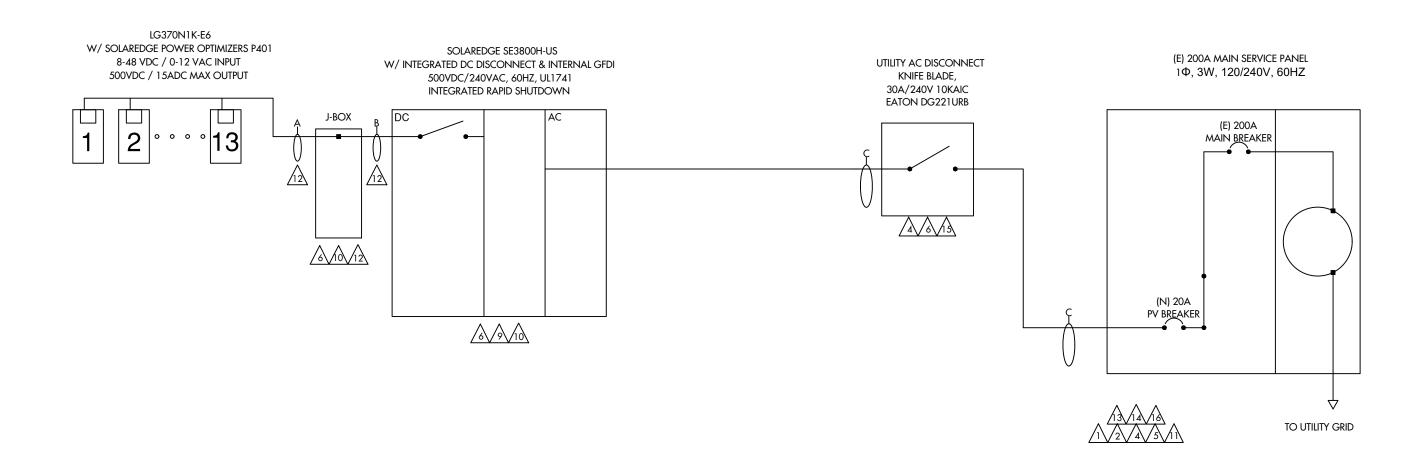
3/4" EMT

MAIN SERVICE PANEL

BUS RATING 200A

240A (200 X 1.2) MAX. CURRENT RATING

20A SOLAR BREAKER MAIN BREAKER 200A TOTAL 220A



WIRE SIZE CALCULATIONS

TEMP CORRECTION FACTOR: 0.87 (43° AMBIENT) ROOFTOP TEMP CORRECTION FACTOR: 1.00 (43° ADJUSTED) (2" ABOVE ROOFTOP / 0° TEMP ADDERS - AS OCCURS) (TEMP DATA TAKEN FROM ASHRAE 2% AVG HIGH TEMP)

DC WIRING

CONDUIT FILL FACTOR 1.00

OPTIMIZER MAX. CURRENT = 18.75A DC (15.00A X 1 X 1.25)

#10- AWG CU. AMPACITY = 47.85A (55A X 0.87)

FREE AIR

#10 - AWG CU. AMPACITY = 34.80A (40A X 0.87 X 1.00)

ROOFTOP CONDUIT

AC WIRING

CONDUIT FILL FACTOR 1 (3) CONDUCTORS MAX. INVERTER CURRENT = 16A (PER INVERTER SPECS)

MIN. INVERTER OCP 20A (16A X 1.25)

INVERTER OCP 20A

#8 - AWG CU AMPACITY 47.85A (55A X 1 X 0.87)



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV:A

DRAWN BY: JJ

ONE LINE

PV 5

PV MODULE

LG370N1K-E6

TVOC =

370 W 11.23 ADC VOC 41.40 VDC IMP 10.68 ADC VMP 34.70 VDC

-0.260% / °C

WIRE SCHEDULE

- A (2) #10 AWG-CU PV WIRE (HR) (1) #10 AWG-CU BARE COPPER WIRE (GND) IN FREE AIR
- B (2) #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)

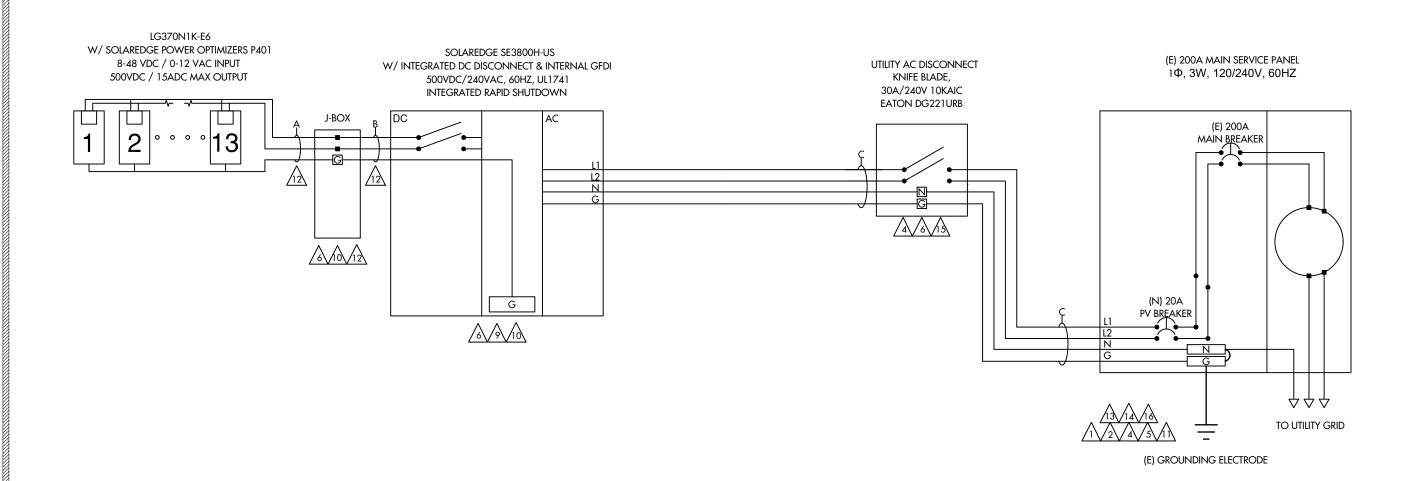
3/4" EMT

MAIN SERVICE PANEL

BUS RATING 200A

MAX. CURRENT RATING 240A (200 X 1.2)

SOLAR BREAKER 20A MAIN BREAKER 200A TOTAL 220A



WIRE SIZE CALCULATIONS

TEMP CORRECTION FACTOR: 0.87 (43° AMBIENT) ROOFTOP TEMP CORRECTION FACTOR: 1.00 (43° ADJUSTED) (2" ABOVE ROOFTOP / 0° TEMP ADDERS - AS OCCURS) (TEMP DATA TAKEN FROM ASHRAE 2% AVG HIGH TEMP)

DC WIRING

CONDUIT FILL FACTOR 1.00

OPTIMIZER MAX. CURRENT = 18.75A DC (15.00A X 1 X 1.25)

#10- AWG CU. AMPACITY = 47.85A (55A X 0.87)

FREE AIR

#10 - AWG CU. AMPACITY = **ROOFTOP CONDUIT**

34.80A (40A X 0.87 X 1.00)

AC WIRING

CONDUIT FILL FACTOR 1 (3) CONDUCTORS MAX. INVERTER CURRENT = 16A (PER INVERTER SPECS)

MIN. INVERTER OCP 20A (16A X 1.25)

INVERTER OCP 20A

47.85A (55A X 1 X 0.87) #8 - AWG CU AMPACITY =



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV:A DRAWN BY: JJ THREE LINE

PV 6



A CAUTION PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LOCATION: BACKFED BREAKER CODE REF: NEC 705.12(4)



M WARNING

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LOCATION: BACKFED BREAKER

CODE REF: 2017 NEC 705.12(2)(3)(b)



WARNING

(UTILITY) SIDE OF THE MAIN SERVICE DISCONNECT. FOLLOW THE PROPER LOCK-OUT/TAG-OUT PROCEDURES TO ENSURE THE PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH I

LOCATION: (IF APPLICABLE) SUPPLY SIDE TAP LOAD PANEL

CODE REF: UTILITY



PHOTOVOLTAIC AC DISCONNECT

ATED AC OPERATING CURRENT

NOMINAL OPERATING AC VOLTAGE:

AC DISCONNECT(S)

LOCATION: MAIN PANEL CODE REF: NEC 690.54



RAPID SHUTDOWN **SWITCH FOR SOLAR PV SYSTEM**

LOCATION: MAIN PANEL (EXTERIOR)

CODE REF: NEC 690.56(C)(3)

LOCATION: COMBINER PANEL AC DISCONNECT JUNCTION BOX

CODE REF: NEC 690.13(B)



/

WARNING

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

PHOTOVOLTAIC

SYSTEM METER

LOCATION: DEDICATED KWH METER CODE REF: NEC 690.4(B) UTILITY



▲ WARNING

PHOTOVOLTAIC SYSTEM **COMBINER PANEL**

LOCATION: AC COMBINER PANEL CODE REF: NEC 690.13(B)

DO NOT ADD LOADS



MAXIMUM VOLTAGE

(IF INSTALLED)

MAXIMUM CIRCUIT CURRENT: MAX. RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC- CONVERTER

15.0ADC

LOCATION: DC DISCONNECT

CODE REF: UTILITY

M WARNING

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

LOCATION: DC DISCONNECT, COMBINE BOX CODE REF: NEC 690.13(B)

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



/10\

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

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



LOCATION: MAIN SERVICE (OUTSIDE COVER) CODE REF: NEC 690.12 NEC 690.56(C)(1)(a

YELLOW STICKER

WARNING PHOTOVOLTAIC POWER SOURCE

LOCATION: DC CONDUIT JUNCTION BOX NO MORE THAN 10FT CODE REF: NEC 690.31(G)(3) NEC 690 31/G)(4) REFLECTIVE AND WEATHER RESISTANT

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, ENCLOSURES, 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.



A CAUTION

DUAL POWER SOURCE SECOND SOURCE IS **PHOTOVOLTAIC**

LOCATION: SERVICE METER

CODE REF: UTILITY

<u>/14\</u>

WARNING

INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS **OVERCURRENT DEVICE**

LOCATION: (IF APPLICABLE) SERVICE PANEL

CODE REF: NEC 705.12(7)

15

PHOTOVOLTAIC SYSTEM **UTILITY DISCONNECT SYSTEM**

LOCATION: AC DISCONNECT CODE REF: UTILITY



PV SOLAR BREAKER

DO NOT RELOCATE THIS **OVERCURRENT DEVICE**

LOCATION: MAIN PANEL:(EXTERIOR) PV BREAKER: (INTERIOR)

CODE REF: NEC 705.12(B)(2)(3)(B)

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

STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021 REV: A

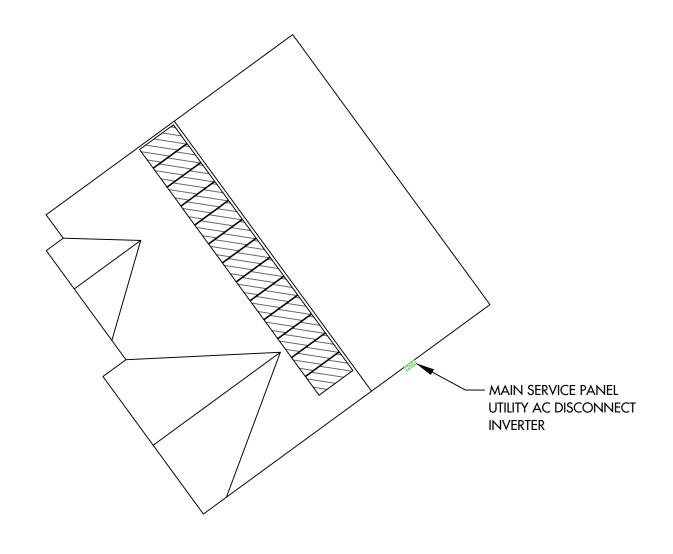
DRAWN BY: JJ

LABELS

PV 7

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

CONTRACTOR LIC# CR-11 284331



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

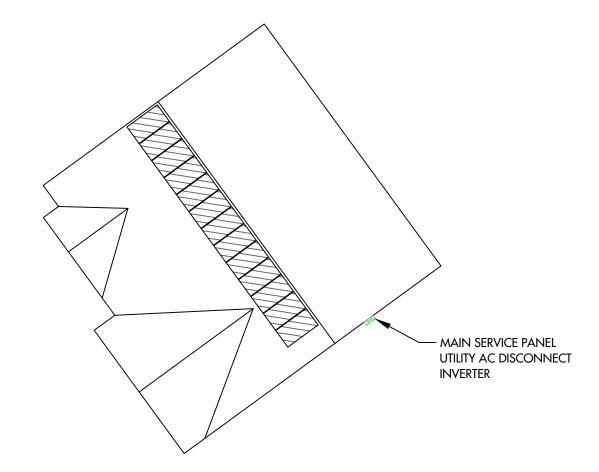
DATE: 9/10/2021 REV: A

DRAWN BY: JJ

PLACARD

PV 8

JOB SAFETY PLAN



LOCATION OF NEAREST URGENT CARE FACILITY

NAME:

ADDRESS:

PHONE NUMBER:

NOTES:

- INSTALLER SHALL DRAW IN DESIGNATED SAFETY AREA AROUND HOME
- INSTALLER SHALL UPDATE NAME, ADDRESS, AND PHONE NUMBER OF NEAREST URGENT CARE FACILITY RELATIVE TO THE JOB SITE BEFORE STARTING WORK.

PRINT NAME	INITIAL	YES	NO





STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE , FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308 (13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV: A DRAWN BY: JJ SAFETY PLAN

PV 9

SEAL

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
 UL1741 SA certified, for CPUC Rule 21 grid compliance
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings

solaredge.com

- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12

INVERTERS

- / 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)

/ 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 MinNomMax. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage MinNomMax. (183 - 208 - 229)	-	√	-	✓	-	-	✓	Va
AC Frequency (Nominal)				59.3 - 60 - 60.5 ⁽¹⁾				Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	А
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	А
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				Vd
Nominal DC Input Voltage			380			400		Vd
Maximum Input Current @240V ⁽²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Ad
Maximum Input Current @208V ⁽²⁾	-	9	-	13.5	-	-	27	Ad
Max. Input Short Circuit Current				45				Ac
Reverse-Polarity Protection				Yes				
Ground-Fault Isolation Detection				600kΩ Sensitivity				
Maximum Inverter Efficiency	99			g	9.2			98
CEC Weighted Efficiency				99			99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption				< 2.5				V

/ Single Phase Inverter with HD-Wave Technology for North America

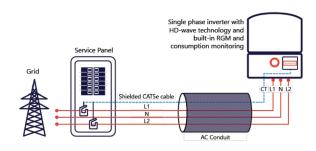
SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces			RS485, Etherne	et, ZigBee (optional),	Cellular (optional)			
Revenue Grade Metering, ANSI C12.20				Optional ⁽³⁾				
Consumption metering								
Inverter Commissioning		With the Set	App mobile applicati	ion using Built-in Wi-l	i Access Point for Lo	ical 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 E	3			
INSTALLATION SPECIFICAT	IONS							
AC Output Conduit Size / AWG Range		1"	Maximum / 14-6 AV	VG		1" Maximum	/14-4 AWG	
DC Input Conduit Size / # of Strings / AWG Range		1" Maxir	num / 1-2 strings / 1-	4-6 AWG		1" Maximum / 1-3	strings / 14-6 AWG	
Dimensions with Safety Switch (HxWxD)		17.7 x	14.6 x 6.8 / 450 x 37	70 x 174		21.3 x 14.6 x 7.3	7 540 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			-4	40 to +140 / -40 to +	60(4)			°F / °C
Protection Rating			NEMA	4X (Inverter with Safe	ety Switch)			

erter with Revenue Grade Meter P/N. 56:000A1-050U0BNL-9; inverter with Revenue Grade Produld be ordered separately. SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box power up to at least 50°C / 122°F; for power de-rating information refer to: https://www.solare.

How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, home household energy usage helping them to avoid high electricity bills





solaredge

STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV: A DRAWN BY: JJ

EQUIPMENT SPECIFICATIONS PV 10



AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing

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Party Authorized To Apply Mark: Same as Manufacturer Cortland NY 13045

Report Issuing Office: Control Number: 4004590

Authorized by:

Ulla-Pia Johansson-Nilsson



Intertek

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> Intertek Testing Services NA Inc. 545 East Algonquin Road, Arlington Heights, IL 60005 Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Standard(s): Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2(Supplement SA)+R:07Sep2016] Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4]. UL SUBJECT 1699B Issued: 2013/01/14 Ed: 2 Outline of Investigation for Photovoltaic (PV) DC ARC-Fault Circuit Protection Grid support Utility Interactive Inverter - Non Isolated Photovoltaic Inverter with MPPT function and Rapid Product:

SE3000H-US, SE3800H-US, SE5000H-US, SE6000H-US, SE7600H-US, SE10000H-US and SE11400H US

ATM for Report 102144760CRT-001e

HEG

Page 2 of 2

ATM Issued: 10-Oct-2017 ED 16.3.15 (20-Apr-17) Mandaton

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Standard(s): Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2(Supplement SA)+R:07Sep2016]

Power Conversion Equipment [CSA C22.2#107.1:2016 Ed.4]

UL SUBJECT 1699B Issued: 2013/01/14 Ed: 2 Outline of Investigation for Photovoltaic (PV) DC ARC-Fault Circuit Protection

Grid support Utility Interactive Inverter - Non Isolated Photovoltaic Inverter with MPPT function and Rapid Product: Brand Name: SolarEdge SE3000H-US, SE3800H-US, SE5000H-US, SE6000H-US, SE7600H-US, SE10000H-US and SE11400H Models:

US

Page 1 of 2

ATM Issued: 10-Oct-2017 ED 16.3.15 (20-Apr-17) Mandatory

ATM for Report 102144760CRT-001e

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(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021 REV: A

DRAWN BY: JJ

EQUIPMENT SPECIFICATIONS



STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

POWER Power Optimizer For North America P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505 25 YEAR **OPTIMIZE**

PV power optimization at the module-level

- Specifically designed to work with SolarEdge
- / Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial
- Flexible system design for maximum space

- Fast installation with a single bolt
- Next generation maintenance with modulelevel 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

/ Power Optimizer For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high- power 60-cell modules)	P370 (for higher- power 60 and 72- cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72 cell modules)	P405 (for high- voltage modules)	P485 (for high- voltage modules)	P505 (for higher current modules)	
INPUT									
Rated input DC Power ⁽ⁱ⁾	320	340	370	4	00	405	485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	4	18	60	80	60	12	5(2)	83©	Vdc
MPPT Operating Range	8 -	48	8 - 60	8 - 80	8-60	12.5	- 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)		11		10.1	11.75	*	1	14	Ado
Maximum Efficiency				99	.5				95
Weighted Efficiency				98.8				98.6	%
Overvoltage Category									
OUTPUT DURING OPER	ATION (POV	VER OPTIMI	ZER CONNEC	TED TO OPE	RATING SOI	LAREDGE IN	VERTER)		
Maximum Output Current		15						Add	
Maximum Output Voltage		60 85						Vdc	
OUTPUT DURING STAND	DBY (POWER	OPTIMIZER	DISCONNECT	ED FROM SO	DLAREDGE IN	VERTER OR	SOLAREDGI	E INVERTER C	OFF)
Safety Output Voltage per Power Optimizer		1±01						Vdc	
STANDARD COMPLIAN	CE								
EMC			FCC Pa	art15 Class 3, IEC6	1000-6-2, IEC6100	0-6-3			
Safety				IEC62109-1 (class	safety), U_1741				
Material				UL94 V-0 , L	JV Resistant				
RoHS				Ye	S				
INSTALLATION SPECIFIC	CATIONS								
Maximum Allowed System Voltage				100	00				Vdc
Compatible inverters			All SolarE	dge Single Phase	and Three Phase	inverters			
Dimensions (W x L x H)	129 :	x 153 x 27.5 / 5.1 x	6 x 1.1	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 /5.1 x 6 x 1.16	129 x 159 x 49.5	5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mn /in
Weight (including cables)		630 / 1.4		750 / 1.7	655 / 1.5	845	/ 1.9	1064 / 2.3	gr/
Input Connector			MC	4 ⁽³⁾			Single or dua MC4 ⁽³⁾⁽⁴⁾	MC4 ⁽³⁾	
Input Wire Length				0.16 /	0.52				m/
Output Wire Type / Connector				Double Irsul					
Output Wire Length	0.9 /	2.95			1.2 /	3.9			m/
Operating Temperature Range ⁽⁵⁾				-40 - +85 /					°C /
Protection Rating				IP68 / N	C 1000 C 1000				
Relative Hurnidity				C - 1	100				95

(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) INCC 2017 requires maximput voltage be not more than 80V (3) For other connector Types place contact Standardige (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 / +83°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV System D a SolarEdge	esign Using Inverter ⁽⁶⁾⁽⁷⁾	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length	P320, P340, P370, P400, P401	8		10	18	
(Power Optimizers) P405, P485, P505		6		8	14	
Maximum String Length (Powe	er Optimizers)	2.	5	25	50(8)	
Maximum Power per String		5700 (6000 with SE7600-US - SE11400- US)	5250	6000%	12750(10)	W
Parallel Strings of Different Lengths or Orientations			,	vies .		

(6) For detailed string sizing information refer to: http://www.solaredge.com/sites/detault/iles/string_sizing_na.pdf
(7) It is not allowed to mix P405;P485;P505 with P320;P342(P9370;P400;P401 in one string
(a)) A string with more than 30 opt mizers does not meet IRC rapid shutdown requirements; safety voltage will be above the 30V requirement
(9) For 208V gold, it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W
(10) For 27/748UV grid. It is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

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STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE, FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308

(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV: A

DRAWN BY: JJ

EQUIPMENT SPECIFICATIONS

LG NeON®H Black

LG370N1K-E6



370W

The LG NeON® H is one of the most powerful and versatile modules on the market today. The cells are designed to appear all-black at a distance, and the performance warranty guarantees 87.2% of labeled power output at 25 years.







Features



Enhanced Performance Warranty

LG NeON® H Black has an enhanced performance warranty. After 25 years, LG NeON® H Black is guaranteed at least 87.2% of initial performance.



25-Year Limited Product Warranty

The NeON® H Black is covered by a 25-year limited product warranty.



Solid Performance on Hot Days

LG NeON® H Black performs well on hot days due to its low temperature coefficient.



Roof Aesthetics

LG NeON® H Black has been designed with aesthetics in mind using thinner wires that appear all black at a distance.

When you go solar, ask for the brand you can trust: LG Solar

About LG Electronics USA, Inc.

LG Electronics is a global leader in electronic products in the clean energy markets by offering solar PV panels and energy storage systems. The company first embarked on a solar energy source research program in 1985, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry and materials industries. In 2010, LG Solar successfully released its first Monox⁸⁹ eneits to the market, which is now available in 32 countries. The NeoN⁸⁰ (previous MonoX⁸⁰ NeON), NeON⁸², NeON⁸², BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG's leadership and innovation in the solar industry.



LG NeON®H Black

General Data

Monocrystalline/N-type			
LG			
120 Cells (6 x 20)			
9 EA			
1,768mm x 1,042mm x 40 mm			
18.5 kg			
Tempered Glass with AR coating			
Black			
Anodized Aluminium			
IP 68 with 3 Bypass Diodes			
1,200mm x 2EA			
MC 4/MC			

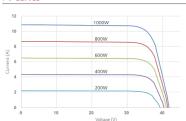
Certifications and Warranty

	IEC 61215-1/-1-1/2 : 2016, IEC 61730-1/2 : 2016, UL 61730-1 : 2017, UL 61730-2 : 2017			
Certifications	ISO 9001, ISO 14001, ISO 50001			
	OHSAS 18001			
Salt Mist Corrosion Test	IEC 61701:2011 Severity 6			
Ammonia Corrosion Test	IEC 62716:2013			
Module Fire Performance	Type 2 (UL 61730)			
Fire Rating	Class C (UL 790)			
Solar Module Product Warranty	25 Year Limited			
Solar Module Output Warranty	Linear Warranty*			

NMOT*	[°C]	42 ± 3			
Pmax	[%/°C]	-0.33			
Voc	[%/°C]	-0.26			
Isc	[%/°C]	0.04			

Electrical Properties (NMOT)

Model		LG370N1K-E6		
Maximum Power (Pmax)	[W]	276		
MPP Voltage (Vmpp)	[V]	32.3		
MPP Current (Impp)	[A]	8.56		
Open Circuit Voltage (Voc)	[V]	38.6		
Short Circuit Current (Isc)	[A]	9.06		



Electrical Properties (STC*)

Model		LG370N1K-E6
Maximum Power (Pmax)	[W]	370
MPP Voltage (Vmpp)	[V]	34.7
MPP Current (Impp)	[A]	10.68
Open Circuit Voltage (Voc ± 5%)	[V]	41.4
Short Circuit Current (Isc ± 5%)	[A]	11.23
Module Efficiency	[%]	20.1
Power Tolerance	[%]	0~+3

Measurement Tolerence of Pmax: ± 3%

Operating Conditions

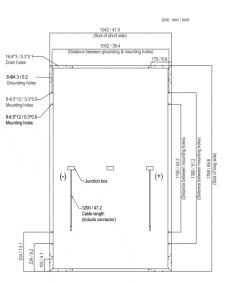
Operating Temperature	[°C]	-40 ~+85
Maximum System Voltage	[V]	1,000 (UL/IEC)
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load* (Front)	[Pa/psf]	5,400
Mechanical Test Load* (Rear)	[Pa/psf]	4,000

*Based on IEC 61215-2 : 2016 (Test Load = Design Load × Safety Factor (1.5)) Mechanical Test Loads 6,000Pa/5,400Pa based on IEC 61215:2005

Packaging Configuration

Number of Modules per Pallet	[EA]	25	
Number of Modules per 40' Container	[EA]	650	
Number of Modules per 53' Container	[EA]	850	
Packaging Box Dimensions (L x W x H)	[mm]	1,790 x 1,120 x 1,213	
Packaging Box Dimensions (L x W x H)	[in]	70.5 x 44.1 x 47.8	
Packaging Box Gross Weight	[kg]	510	
Packaging Box Gross Weight	[lb]	1,124	

Dimensions (mm/inch)







Product specifications are subject to change without notice



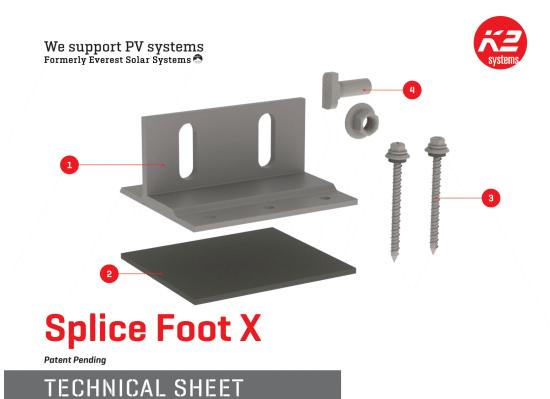
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(13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021

REV: A DRAWN BY: JJ **SPECIFICATIONS**

EQUIPMENT



Splice Foot X 4000113 | Splice Foot X Kit, Mill K2 FlexFlash Butyl M5 x 60 lag screws T-Bolt & Hex Nut Set

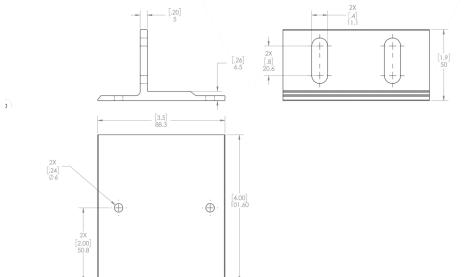
Technical Data

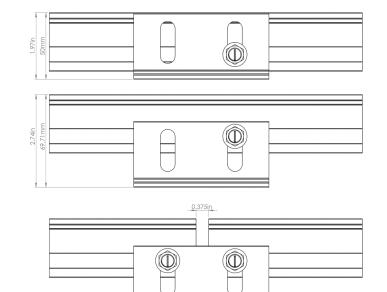
	Splice Foot X
Roof Type	Composition shingle
Material	Aluminum with stainless steel hardware
Finish	Mill
Roof Connection	M5 x 60 lag screws
Code Compliance	UL 2703
Compatibility	CrossRail 44-X, 48-X, 48-XL, 80

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DATE: 9/10/2021

REV: A

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EQUIPMENT SPECIFICATIONS PV 14

CrossRail 48-X

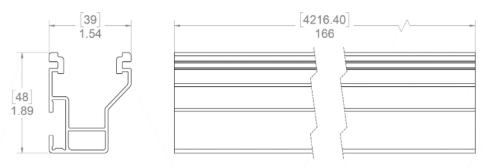


Mechanical Properties

	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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STIMPSON, RONALD RESIDENCE 215 MOONLIGHT DRIVE , FUQUAY-VARINA, NC, 27526 LAT:35.538407, LON:-78.772260 TSP95308 (13) LG370N1K-E6 (1) SOLAREDGE SE3800H-US 4.810 kW DC SYSTEM SIZE 3.800 kW AC SYSTEM SIZE

DATE: 9/10/2021 REV: A

REV: A DRAWN BY: JJ EQUIPMENT SPECIFICATIONS PV 15