SHEET CATALOG INDEX NO. **DESCRIPTION** T-1 **COVER PAGE** M-1 MOUNTING DETAIL M-2 STRUCTURAL DETAIL E-1 SINGLE LINE DIAGRAM E-2 THREE LINE DIAGRAM E-3 STRING WIRING DIAGRAM PL-1 WARNING PLACARDS PL-2 SAFETY PLANS-1 PL-3 SAFETY PLANS-2 SS SPEC SHEET(S)

SCOPE OF WORK

GENERAL SYSTEM INFORMATION: SYSTEM SIZE:

6035W DC, 5000W AC

MODULES:

(17)LG NEON2 BLACK LG355N1K-B6 INVERTER:

(1)SOLAREDGE TECHNOLOGIES

SE5000H-US(240V) OPTIMIZER:

(17)SOLAREDGE P401 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

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.

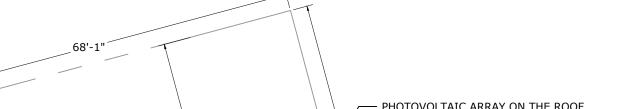
10.PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO **CONDUIT WIRING**

SIGRIDUR MITCHELL - 6.035kW DC, 5.000kW AC

SITE PLAN LAYOUT











VICINITY MAP



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

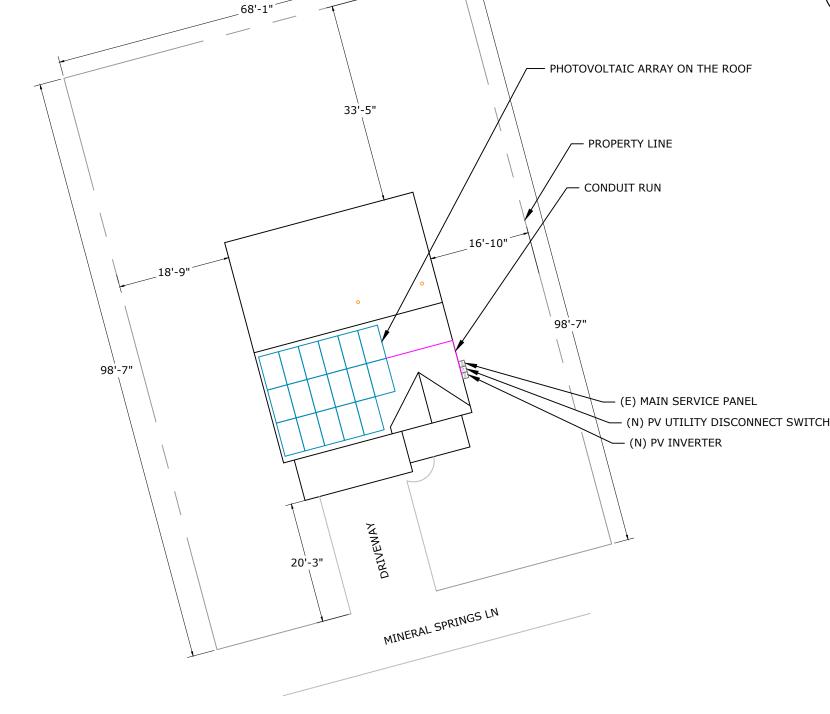
UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



COVER PAGE

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	T-1



NOTE: NO GATE OR FENCE

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.

		SI	TE INFO	RMATION -	- WIND SPEED:	115 MPH	AND SNOW LOAD:	15 PSF			
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

ATTIC

PRE-FABRICATED TRUSSES

2 X 4

2'-0"

4'-0"

2'-0"

NOTE: PENETRATIONS ARE STAGGERED

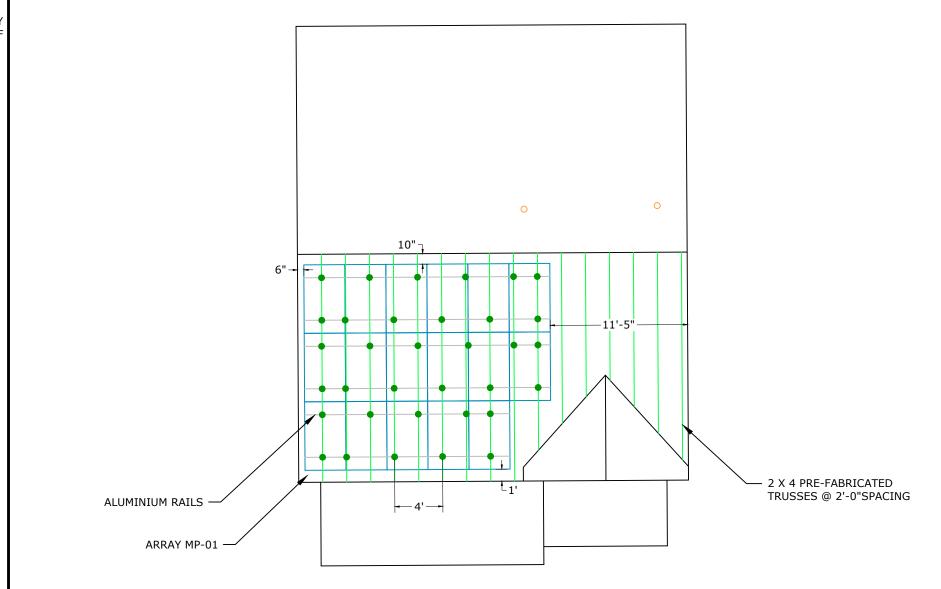
22°

17

NO

MP-01

165°



COMPOSITION

SHINGLE

331.6

L FOOT(QUICK

BOLT)



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

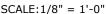
UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702

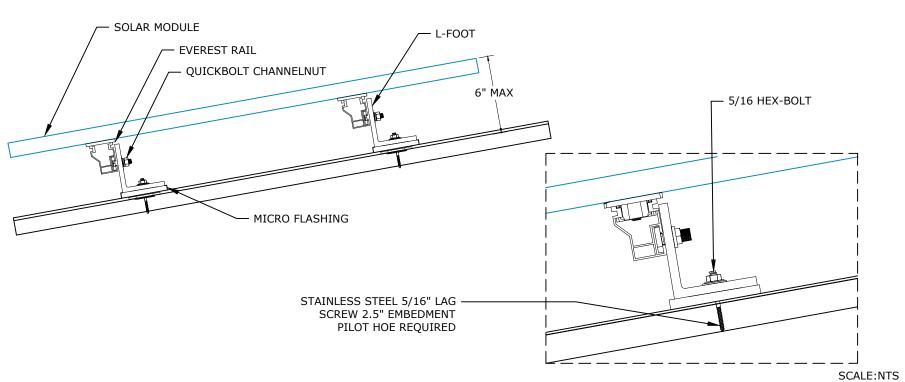


MOUNTING DETAIL

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	M-1



				Г
DE	AD LOAD C	ALCULATIO	ONS	
ВОМ	QUANTITY	LBS/UNIT	TOTAL WEIGHT (LBS)	
MODULES	17	41	697.00]
MID-CLAMP	28	0.300	8.40	
END-CLAMP	12	0.310	3.72	
RAIL LENGTH	114	0.560	63.84	
SPLICE BAR	6	0.650	3.90	
L FOOT(QUICK BOLT)	34	1.04	35.36	
TOTAL WEIGHT	OF THE SYSTEM	(LBS)	812.22	
TOTAL ARRAY A	REA ON THE ROO	F (SQ. FT.)	331.56	1
WEIGHT PER SQ). FT.(LBS)		2.45	1
WEIGHT PER PE	NETRATION (LBS	5)	23.89	1



ATTACHMENT DETAIL-L FOOT(QUICK BOLT)

TITAN SOLAR POWER

MODULES DATA

LG NEON2 BLACK LG355N1K-B6

UPLIFT CALCULATIONS

9946.8

20910

21

68.5"x41"x1.57"

5/16"x3.5":2.5"MIN

EMBEDMENT

LBS

LBS

LBS

MODULE DIMS

LAG SCREWS

UPLIFT

PULL OUT

STRENGTH

POINT LOADING

ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

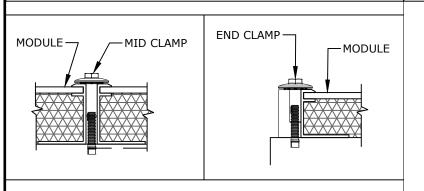
PRN NUMBER:TPS-22702

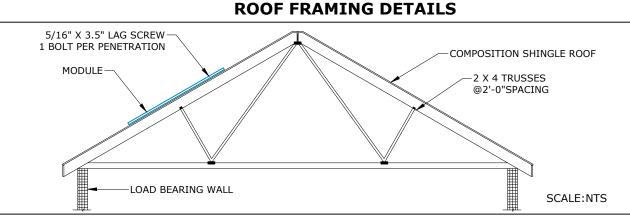


STRUCTURAL DETAIL

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	M-2

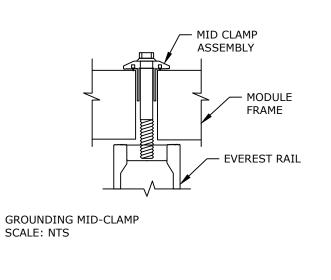
MID-CLAMP AND END-CLAMP ANATOMY



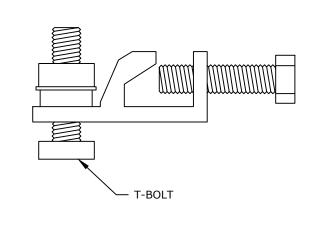


GROUNDING DETAILS

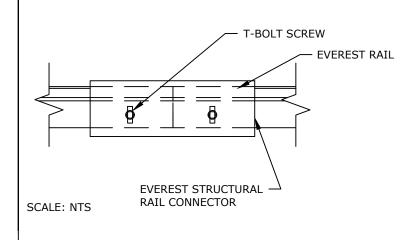
MODULE TO MODULE & MODULE TO RAIL



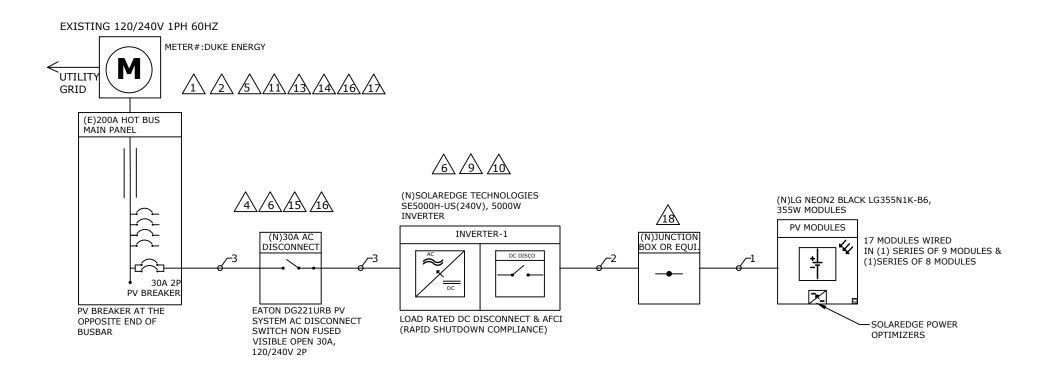
GROUNDING LUG



RAIL TO RAIL



	SI	INGLE LINE DIAGRA	M: DC SYSTEM	SIZE - 6035W, A	C SYSTEM	4 SIZE - 5000W			
INVERTER-1 S	PECIFICATIONS	MODULE SPECIF	ICATION	OPTIMIZER CHARACT	TERISTICS	SYSTEM CHARACTERISTICS			
MODEL	SOLAREDGE TECHNOLOGIES	MODEL	LG NEON2 BLACK LG355N1K-B6	MODEL	P401	DC SYSTEM SIZE	6035 W		
	SE5000H-US(240V)			MIN INPUT VOLTAGE	8 VDC	INVERTER STRING VOLTAGE:Vmp	380V		
POWER RATING	5000W	MODULE POWER @ STC	355W	MAX INPUT VOLTAGE	60 VDC	MAX INVERTER SYSTEM VOLTAGE: Voc	480V		
MAX OUTPUT CURRENT	21A	OPEN CIRCUIT VOLTAGE:Voc	41.5V	MAX INPUT VOLTAGE	OU VDC				
		MAY DOWED VOLTAGE: Masses	35.0V	MAX INPUT CURRENT	11.75 ADC	MAX SHORT CIRCUIT CURRENT	15A		
CEC WEIGHTED EFFICIENCY	99%	MAX POWER VOLTAGE: Vmp	35.00			OPERATING CURRENT	8.41A		
MAX INPUT CURRENT	13.5A	SHORT CIRCUIT VOLTAGE: Isc	10.72A	MAX OUTPUT CURRENT	15 ADC	OF EIGHTING CORRENT	0.41A		
MAX DC VOLTAGE	480V	MAX POWER CURRENT:Imp	10.15A						



CONDUIT SCHEDULE TAG ID **CONDUIT SIZE** CONDUCTOR **NEUTRAL GROUND** NONE (4) 10AWG PV WIRE NONE (1) 10 AWG BARE COPPER 1 3/4"EMT OR EQUIV (4) 10AWG THHN/THWN-2 (1) 10 AWG THHN/THWN-2 2 NONE 3/4"EMT OR EQUIV (1) 8 AWG THHN/THWN-2 (1) 10 AWG THHN/THWN-2 3 (2) 8 AWG 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) =21x1.25=26.25A=>PV BREAKER = 30A TOTAL REQUIRED PV BREAKER SIZE =>30A PV BREAKER

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				REC	QUIRE	CONE	DUCTOR A	MPACIT	Υ			CORRECTED AMPACITY CALCULATION DERATED CONDUCTOR AMPACITY								AMPACITY CHECK	
1	1	Х	15	Х	1	=	15	Х	1.25	=	18.75A	40	Х	0.71	Х	0.8	=	22.72A	18.75A	<	22.72A
2	1	Х	15	Х	1	=	15	Х	1.25	=	18.75A	40	Х	0.71	Х	0.8	=	22.72A	18.75A	<	22.72A

	AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C																		
TAG ID	SID REQUIRED CONDUCTOR AMPACITY CORRECTED AMPACITY CALCULATION DERATED CONDUCTOR AMPACITY CHECK																		
3	21	Х	1	=	21	Х	1.25	II	26.25A	55	Х	0.87	Х	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).



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

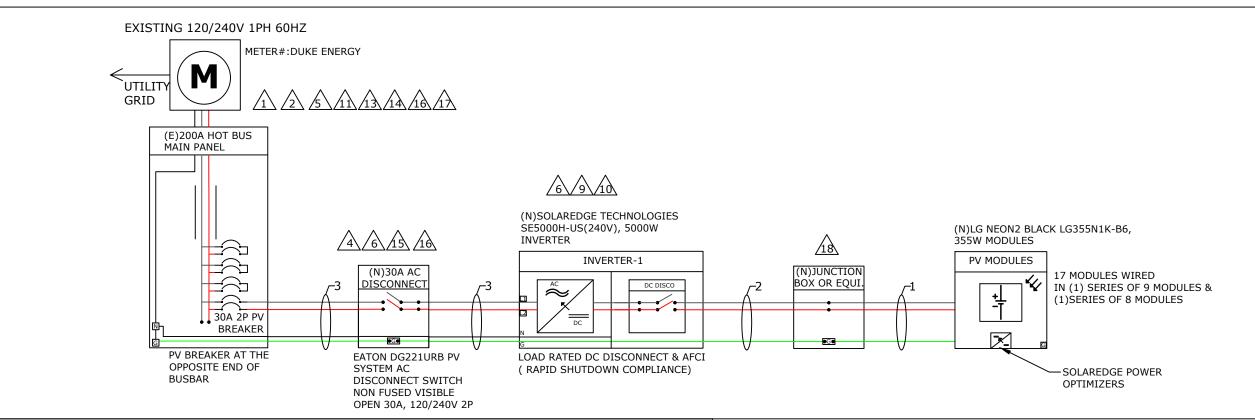
PRN NUMBER:TPS-22702



SINGLE LINE DIAGRAM

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	E-1

	TI	HREE LINE DIAGRAM	1: DC SYSTEM S	SIZE - 6035W, AC	SYSTEM	1 SIZE - 5000W	
INVERTER-1 S	PECIFICATIONS	MODULE SPECIF	ICATION	OPTIMIZER CHARACT	ERISTICS	SYSTEM CHARACTERISTICS	6
MODEL	SOLAREDGE TECHNOLOGIES SE5000H-US(240V)	MODEL	LG NEON2 BLACK LG355N1K-B6	MODEL	P401	DC SYSTEM SIZE	6035 W
POWER RATING	5000W	MODULE POWER @ STC	355W	MIN INPUT VOLTAGE	8 VDC	INVERTER STRING VOLTAGE:Vmp	380V
				MAX INPUT VOLTAGE	60 VDC	MAX INVERTER SYSTEM VOLTAGE: Voc	480V
MAX OUTPUT CURRENT	21A	OPEN CIRCUIT VOLTAGE:Voc	41.5V			MAX SHORT CIRCUIT CURRENT	15A
CEC WEIGHTED EFFICIENCY	99%	MAX POWER VOLTAGE: Vmp	35.0V	MAX INPUT CURRENT	11.75 ADC		_
MAX INPUT CURRENT	13.5A	SHORT CIRCUIT VOLTAGE: Isc	10.72A	MAX OUTPUT CURRENT	15 ADC	OPERATING CURRENT	8.41A
MAX DC VOLTAGE	480V	MAX POWER CURRENT: Imp	10.15A		•	•	



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

NOTE:

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

OCPD CALCULATIONS:

INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25) =21x1.25=26.25A=>PV BREAKER = 30A TOTAL REQUIRED PV BREAKER SIZE =>30A PV BREAKER

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 TEMPÉRÂTURE 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 WIDE CALCIII ATIONS: MATERIAL CORRED & TEMPERATURE DATING 000

:		DC WIRE CALCULATIONS MATERIAL.COPPER & TEMPERATURE RATING.90°C																				
	TAG ID REQUIRED CONDUCTOR AMPACITY												CORRECTED AMPACITY CALCULATION DERATED CONDUCTOR AMPAC								AMPACITY CHECK	
	1	1 1 X 15 X 1 = 15 X 1.25 = 18.75									18.75A	40	Х	0.71	Х	0.8	=	22.72A	18.75A	<	22.72A	
	2 1 X 15 X 1 = 15 X 1.25 = 18.75A												40	Х	0.71	Х	0.8	=	22.72A	18.75A	<	22.72A

	AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C																		
TAG ID	TAG ID REQUIRED CONDUCTOR AMPACITY CORRECTED AMPACITY CALCULATION DERATED CONDUCTOR AMPACITY CHECK																		
3	21	Х	1	II	21	Х	1.25	=	26.25A	55	Х	0.87	Х	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).



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702

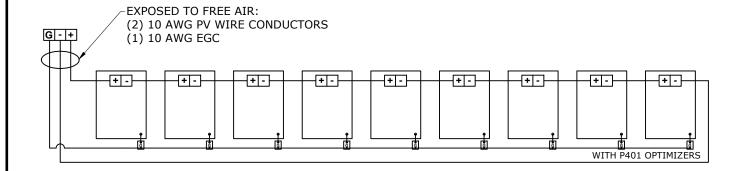


THREE LINE DIAGRAM

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	E-2

STRING WIRING DIAGRAM

1 STRINGS OF 9 MODULES





ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

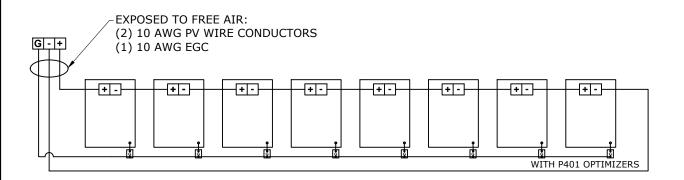
PRN NUMBER:TPS-22702



STRING WIRING DIAGRAM

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	E-3

1 STRINGS OF 8 MODULES



WARNING PLACARD



A CAUTION

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LABEL LOCATION

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





INVERTER OUTPUT CONNECTION: DO NOT RELOCATE THIS OVERCURRENT DEVICE

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



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]



PHOTOVOLTAIC AC DISCONNECT

RATED AC OPERATING CURRENT $\frac{21.00}{240}$ A AC NOMINAL OPERATING VOLTAGE $\frac{240}{240}$ VAC

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



RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

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



↑ WARNING

ELECTRIC SHOCK HAZARD

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

<u>LABEL LOCATION:</u> COMBINER PANEL AC DISCONNECT JUNCTION BOX INVERTER(S) [PER CODE: NEC 690.13]



A WARNING

PHOTOVOLTAIC SYSTEM COMBINER PANEL

DO NOT ADD LOADS

<u>LABEL LOCATION</u>: AC COMBINER PANEL [PER CODE: NEC 690.13(B)]



MAXIMUM VOLTAGE:

MAXIMUM CIRCUIT CURRENT:

MAX. RATED OUTPUT CURRENT OF THE

CHARGE CONTROLLER OR
DC-TO-DC-CONVERTER (IF

INSTALLED)

480

VDC
15

ADC

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



/ 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

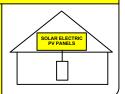
LABEL LOCATION

DC DISCONNECT INVERTER, COMBINE BOX
[PER CODE: NEC 690.13]



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)]



⚠ CAUTION

DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC

LABEL LOCATION: SERVICE METER MAIN PANEL IPER CODE: UTILITY1



WARNING INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS OVER-CURRENT DEVICE

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



PHOTOVOLTAIC SYSTEM UTLITY DISCONNECT SWITCH

<u>LABEL LOCATION</u> :AC DISCONNECT [PER CODE: NEC 690.13(B)UTILITY]



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)]



PV SOLAR BREAKER

DO NOT RELOCATE THIS OVERCURRENT DEVICE

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



WARNING PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION

DC CONDUIT JUNCTION BOX NO MORE THAN 10FT [PER CODE: NEC 690.13(G)(3), NEC 690.31(G)(4)]

REFLECTIVE AND WEATHER RESISTANCE LABEL REQUIRES CAPTITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8 INCH, WHITE LETTERS ON RED BACKGROUND LABELS SHALL BE PLACED AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURE, AND CABLE ASSEMBLES 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.



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



WARNING PLACARDS

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11'
SCALE:AS NOTED	REV:A
DATE:3/31/2021	PL-1

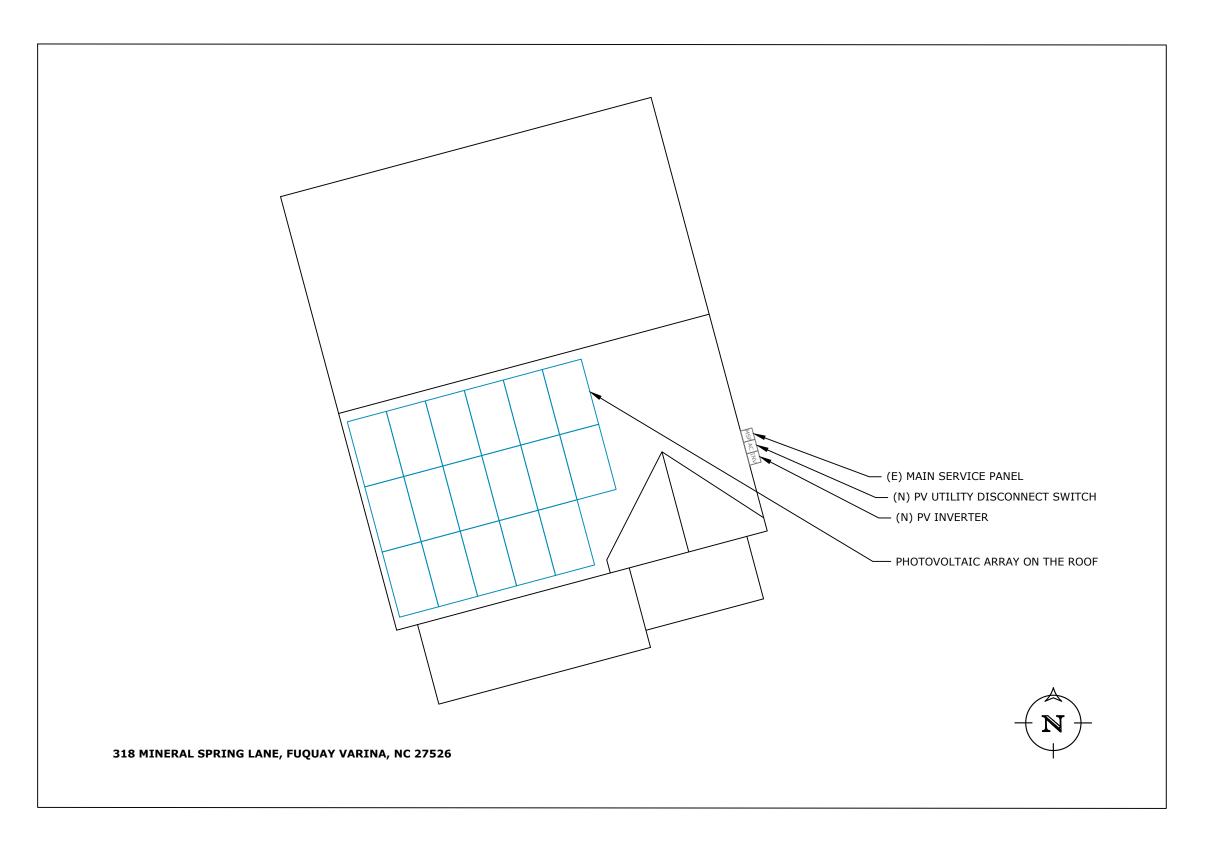
SAFETY PLANS-1

SAFETY PLANS

- INSTALLERS SHALL DRAW IN DESIGNATED SAFETY AREA AROUND HOME.
 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:





ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



SAFETY PLANS

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"	
SCALE:AS NOTED	REV:A	
DATE:3/31/2021	PL-2	

SAFETY PLANS-2

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:

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 #	



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



RACKING SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	PL-3

LG NeON®2 Black

The LG NeON® 2 Black is one of the most powerful and versatile modules on the market today, combining LG's Cello technology and monocrystalline N-type solar cells with a stunning black design. The LG NeON® 2 Black includes a 25-year product and 90.1% performance warranty for higher performance and reliability.

FEATURES



Enhanced Performance Warranty

LG NeON®2 Black comes with an enhanced performance warranty. After 25 years of use, the LG NeON®2 Black is guaranteed to provide at least 90.1% of initial performance.



Industry-Leading Product Warranty

LG offers an industry-leading 25 year product warranty on



Reliable Quality

LG NeON®2 Black offers reliable and proven quality through rigorous testing.



Sleek Rooftop Design

The LG NeON®2 Black is designed to make the entire module look black, providing a sleek, modern design that blends in seamlessly with the rooftop.









LG355N1K-B6

LG NeON®2 Black

Preliminary

	_
General	Data

Cell Properties (Material / Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Number of Busbars	12 EA
Module Dimensions (L x W x H)	1,740 x 1,042 x 40mm
Weight	18.6 kg
Glass (Material)	Tempered Glass with AR coating
Backsheet (Color)	Black
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)	1,100 mm x 2 EA
Connector (Type / Maker)	MC4 / MC

Certifications and Warranty

Certifications	UL 61730-1:2017, UL 61730-2:2017
	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 Years
Solar Module Output Warranty	Linear Warranty*

121E 1 / 1 1 / 2:2016 IEC 61720 1 / 2:2016

Temperature Characteristics

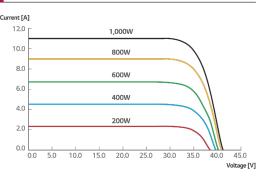
	NMOT*	[°C]	42 ± 3
	Pmax	[%/°C]	-0.35
	Voc	[%/°C]	-0.26
	Isc	[%/°C]	0.03

* NIMOT (Nominal Module Operating Temperature)
: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

	LG355N1K-B6	
[W]	266	
[V]	32,9	
[A]	8.10	
[V]	39.1	
[A]	8.61	
	[W] [V] [A] [V]	

I-V Curves



LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Korea

Product specifications are subject to change without notice © 2021 LG Electronics. All rights reserved



Electrical Properties (STC*)

Model		LG355N1K-B6
Maximum Power (Pmax)	[W]	355
MPP Voltage (Vmpp)	[V]	35.0
MPP Current (Impp)	[A]	10.15
Open Circuit Voltage (Voc, ± 5%)	[V]	41.5
Short Circuit Current (Isc, ± 5%)	[A]	10.72
Module Efficiency	[%]	19.6
Power Tolerance	[%]	0~+3

Irradiance 1,000 W/m², Cell temperature 25°C, AM 1.5, Measure tolerance of Pmax : ±3%

Operating Conditions

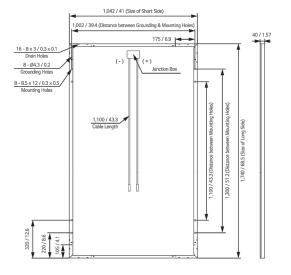
Operating Temperature	[°C]	-40 ~ +85
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load* (Front)	[Pa]	5,400
Mechanical Test Load* (Rear)	[Pa]	4,000

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

Packaging Configuration

3 3 3		
Number of Modules Per Pallet	[EA]	25
Number of Modules Per 40ft HQ Container	[EA]	650
Packaging Box Dimensions (L x W x H)	[mm]	1,790 x 1,120 x 1,213
Packaging Box Gross Weight	[kg]	500

Dimensions (mm/inch)



ADDRESS: 525W, BASELINE RD

MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



MODULE SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-1



LG is transforming today's solar landscape, offering high-efficiency solar panels for customers who demand high performance, reliability and consistently strong energy yield from a brand they can trust. LG's modules feature high power outputs, outstanding durability, appealing aesthetics and high-efficiency technology.

60cell



^{* 1)} First years : 98%, 2) After 1st year : -0.33%/year, 3) 90.1% for 25 years

NVERTERS

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

- 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
- Specifically designed to work with power optimizers
 UL1741 SA certified, for CPUC Rule 21 grid compliance
 - Small, lightweight, and easy to install both outdoors
 - 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	<u>'</u>							
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)	-	✓	-	✓	.=	-	✓	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	А
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	А
Power Factor			1	Adjustable - 0.85 to	0.85			
GFDI Threshold		1						А
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	1-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded				Yes	,			
Maximum Input Voltage				480				Vdc
Nominal DC Input Voltage		3	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			g	9.2		<u> </u>	%
CEC Weighted Efficiency				99			99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption				< 2.5				W



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



INVERTER SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11'
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-2



solaredge.com

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

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

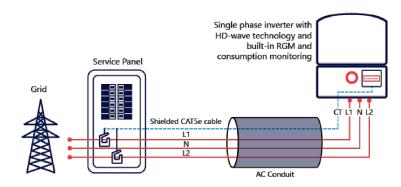
SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
			•	•			
		RS485, Etherne	t, ZigBee (optional),	Cellular (optional)			
			Optional ⁽³⁾				
			·				
	With the Set/	App mobile applicati	on using Built-in Wi-	Fi Access Point for Lo	ocal Connection		
		Automatic Rapi	d Shutdown upon A	C Grid Disconnect			
	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07						
	IEEE1547, Rule 21, Rule 14 (HI)						
	FCC Part 15 Class B						
TIONS							
	1"	Maximum / 14-6 AV	VG		1" Maximun	n /14-4 AWG	
	1" Maximum / 1-2 strings / 14-6 AWG 1" Maximum / 1-3 strings / 14-6 AWG					strings / 14-6 AWG	
	17.7 x	14.6 x 6.8 / 450 x 37	0 x 174		21.3 x 14.6 x 7.3	/ 540 x 370 x 185	in / mm
22	/ 10	25.1 / 11.4	26.2	/ 11.9	38.8	/ 17.6	lb/k
	< 25 <50						dBA
			Natural Convection	1			
	-40 to +140 / -40 to +60 ⁽⁴⁾					°F / °	
		NEMA -	4X (Inverter with Safe	ety Switch)			
	TIONS	UL1741, UL1741, 1" Maxir 17.7 x 22 / 10	RS485, Etherne With the SetApp mobile applicati Automatic Rapi UL1741, UL1741 SA, UL1699B, IEE FIONS 1" Maximum / 14-6 AV 1" Maximum / 1-2 strings / 14 17.7 x 14.6 x 6.8 / 450 x 37 22 / 10 25.1 / 11.4 < 25	RS485, Ethernet, ZigBee (optional), Optional ⁽⁶⁾ With the SetApp mobile application using Built-in Wi- Automatic Rapid Shutdown upon A UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadia IEEE1547, Rule 21, Rule 1 FCC Part 15 Class B FIONS 1" Maximum / 14-6 AWG 1" Maximum / 1-2 strings / 14-6 AWG 17.7 x 14.6 x 6.8 / 450 x 370 x 174 22 / 10 25.1 / 11.4 26.2 < 25 Natural Convection -40 to +140 / -40 to +	RS485, Ethernet, ZigBee (optional), Cellular (optional) Optional ⁽⁶⁾ With the SetApp mobile application using Built-in Wi-Fi Access Point for Lo Automatic Rapid Shutdown upon AC Grid Disconnect UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to IEEE1547, Rule 21, Rule 14 (HI) FCC Part 15 Class B TIONS 1" Maximum / 14-6 AWG 1" Maximum / 14-6 AWG 17.7 x 14.6 x 6.8 / 450 x 370 x 174 22 / 10 25.1 / 11.4 26.2 / 11.9 < 25 Natural Convection	RS485, Ethernet, ZigBee (optional), Cellular (optional) Optional ⁽⁵⁾ With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection Automatic Rapid Shutdown upon AC Grid Disconnect UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07 IEEE1547, Rule 21, Rule 14 (HI) FCC Part 15 Class B TIONS 1" Maximum / 14-6 AWG 1" Maximum / 1-2 strings / 14-6 AWG 1" Maximum / 1-3 trings / 14-6 AWG	R5485, Ethernet, ZigBee (optional), Cellular (optional) Optional ⁽⁵⁾ With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection Automatic Rapid Shutdown upon AC Grid Disconnect UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07 IEEE1547, Rule 21, Rule 14 (HI) FCC Part 15 Class B TIONS 1" Maximum / 14-6 AWG 1" Maximum / 14-4 AWG 1" Maximum / 1-2 strings / 14-6 AWG 1" Maximum / 1-3 strings / 14-6 AWG 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 22 / 10 25.1 / 11.4 26.2 / 11.9 38.8 / 17.6 < 25 Natural Convection -40 to +140 / -40 to +60 ⁽⁶⁾

^{**} Inverter with reverse Grade Wester J.V. SEXXXVI-20000BN-2, inverter with revenue Grade Production and Consultation in the P.V. SEXXXVI-2000BN-4. For CC should be ordered separately, SEACTIO750-200NA-20 or SEACTIO750-400NA-20.20 units per box

[49 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



© SolarEdge Technologies, Inc. All rights reserved. SOLAREDGE, the SolarEdge logo, OPTIMIZED BY SOLAREDGE are trademarks or registered trademarks of SolarEdge Technologies, Inc. All other trademarks mentioned herein are trademarks of their respective owners. Date: 01/2020/V01/ENG NAM. Subject to change without notice.

RoHS



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



INVERTER SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-3

Power Optimizer

For North America P370 / P400 / P401 / P485 / P505



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 utilization

- / 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



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						
OUTPUT DURING OPERATIO	N (POWER OPTIMIZE	R CONNECTED	TO OPERATING SOI	LAREDGE INVERT	ER)	
Maximum Output Current			15			Adc
Maximum Output Voltage		60		8	5	Vdc
OUTPUT DURING STANDBY (F	OWER OPTIMIZER DI	SCONNECTED	FROM SOLAREDGE IN	NVERTER OR SOLA	REDGE 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		IE	C62109-1 (class II safety), UL17	41		

Material		UL94 V-0 , UV Resistant				
RoHS		Yes				
			res			
INSTALLATION SPECIFICAT	IONS					
Maximum Allowed System Voltage		1000				
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	P370, P400, P401	8		10	18	
(Power Optimizers)	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







ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



OPTIMIZER SPEC SHEET

ESIGNER /CHECKED Y: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-4

SPEC SHEET



PN#	BOX QTY
17664	5.25" Bolts (10)
17666	Bolts + 3" Microflashing® (10ea.)
17667SS	Bolts + 3" Microflashing® + SS L-Foot + Nuts (25ea.)

First & only Microflashing® in the industry Stainless Steel L-Foot Fastest installation in the industry **UL** Certified



Patent #8448407

LOW PROFILE QUICKBOLT

3" Microflashing® Low Profile



Side Mount



4" Microflashing® Low Profile

PN#	BOX QTY
17664	5.25" Bolts (10)
17720	Bolts + 4" Microflashing® (10ea.)
17721 SS	Bolts + 4" Microflashing® + SS L-Foot + Nuts (20ea.)

First & only Microflashing® in the industry Stainless Steel L-Foot 4" Microflashing® provides more coverage Fastest installation in the industry UL Certified



7" QUICKBOLT









3" Microflashing® Adjustable

' QUICKBOLT

PN#	BOX QTY
17670	7" Bolts (10)
17671	Bolts + 3" Microflashing® (10ea.)
17672SS	Bolts (20) + 3" Microflashing® (20) + SS L-Foot (20) + Nuts (40)

First & only Microflashing® in the industry Stainless Steel L-Foot **UL** Certified



4" Microflashing® Adjustable

PN#	BOX QTY
17670	7" Bolts (10)
17723	Bolts + 4" Microflashing® (10ea.)
17724SS	Bolts (15) + 4" Microflashing® (15) + SS L-Foot (15) + Nuts (30)

First & only Microflashing® in the industry Stainless Steel L-Foot 4" Microflashing® provides more coverage UL Certified

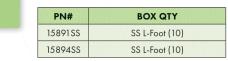


PN#	BOX QTY
17669	3" Microflashing® (10)
17659	4" Microflashing® (40)

First & only Microflashing® in the industry Original Microflashing® design EPDM on bottom, Stainless Steel on top Compresses to composite shingle roof Leak-proof seal UL Certified







Stainless Steel Rail slot for adjustability when connecting T-Bolts



QUICK RATCHET CONDUIT CLAMP For QuickBOLT Mounting Kits



Asphalt Shingle

PN# **SCREW SIZE BOX QTY** 16255 10 Clamps N/A

For running conduit Attaches directly to any QuickBOLT Mounting Kit Offers flexibility in bundling cables/wires



SCREW SIZE BOX QTY 17713 | 20 Flashing + L-Foot | 5/16" x 4"

Stainless Steel L-Foot mounting system Stronger than Aluminim Flashing



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702

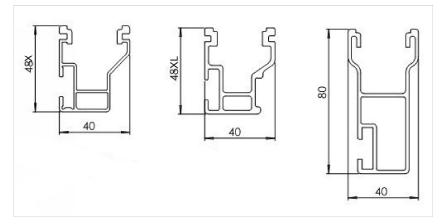


MOUNT SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-5

5

SPEC SHEET



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

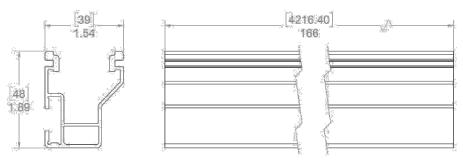


Mechanical Properties

	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 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



ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:SIGRIDUR MITCHELL

ADDRESS:318 MINERAL SPRING LANE, FUQUAY VARINA, NC 27526

APN:080-654-009-013

AHJ:NC- TOWN OF FUQUAY VARINA

UTILITY: DUKE ENERGY

PRN NUMBER:TPS-22702



RAIL SPEC SHEET

DESIGNER /CHECKED BY: MS/HK	PAPER SIZE:17"X11'
SCALE:AS NOTED	REV:A
DATE:3/31/2021	SS-6

 $www.everest\hbox{-} solar systems.com$

www.everest-solar systems.com