SHEET CATALOG

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PL-02	DIRECTORY PLACARD
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SCOPE OF WORK

GENERAL SYSTEM INFORMATION:
SYSTEM SIZE:
9990W DC, 7600W AC
MODULES:
(27)LG ELECTRONICS LG NEON2 BLACK
LG370N1C-A6 370W
INVERTER:
(1)SOLAREDGE TECHNOLOGIES
SE7600H-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

ADAM TRENT - 9.990kW DC, 7.600kW AC

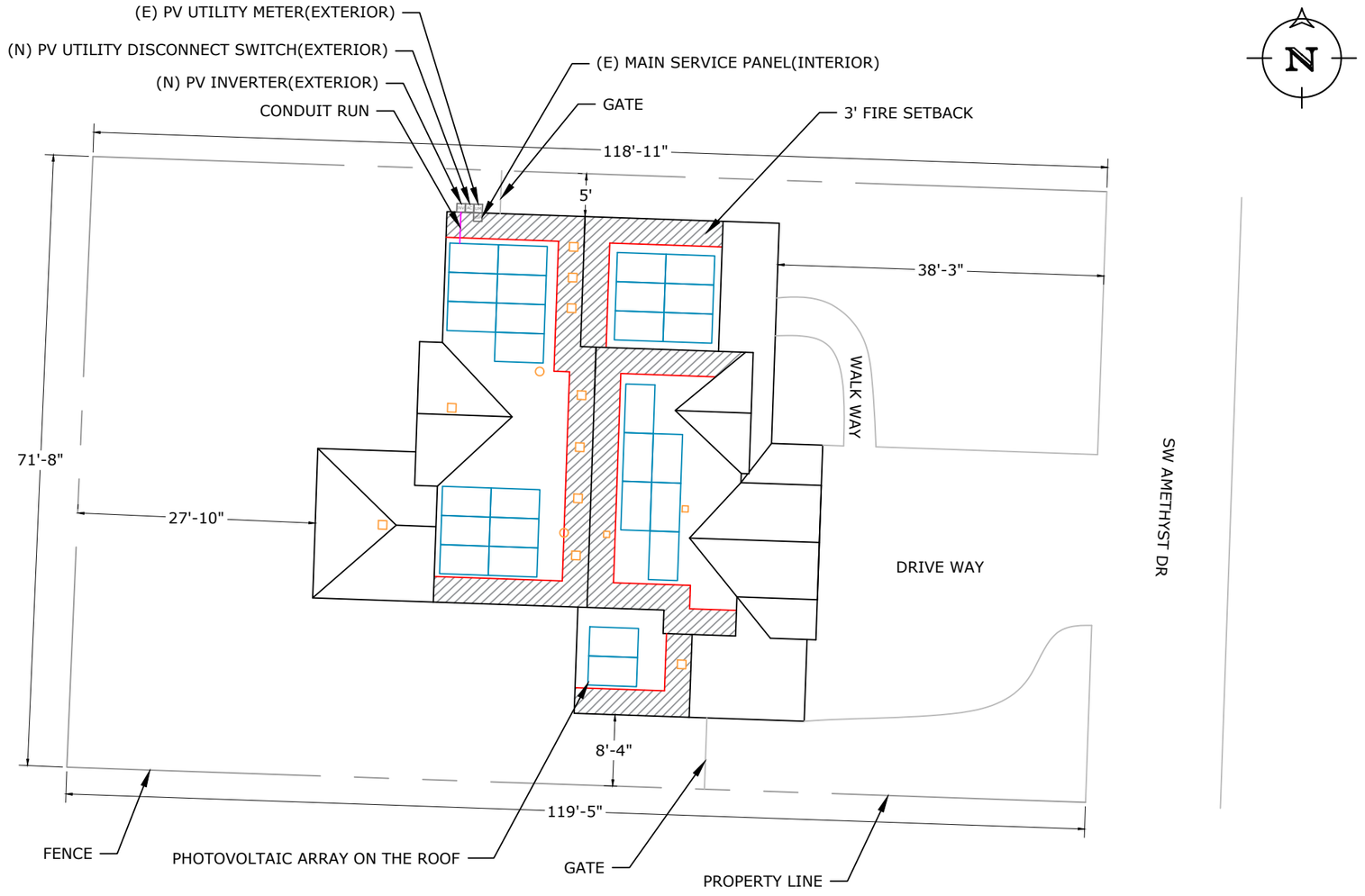
SITE PLAN LAYOUT

APPLICABLE CODES

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

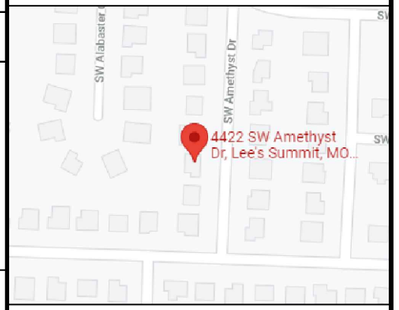
ENGINEERING SCOPE OF WORK

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.



SCALE:1/16" = 1'-0"

VICINITY MAP



TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
MESA AZ,85210

CUSTOMER INFORMATION

NAME:ADAM TRENT

ADDRESS:4422 SW AMETHYST DR, LEES SUMMIT, MO 64082

38.840456, -94.412922
APN: 697-001-216-000-00-000

AHJ:MO-CITY OF LEE'S SUMMIT

UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

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Because quality matters

COVER PAGE

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	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 7/8" ABOVE THE ROOF SURFACE (INCLUDING CABLES UNDERNEATH MODULES AND RACKING).
7.THE PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL OR BUILDING ROOF VENTS.

ROOF ACCESS PATHWAYS AND SETBACKS:

1204.2.1 SOLAR PHOTOVOLTAIC SYSTEMS FOR GROUP R-3BUILDINGS.SOLAR PHOTOVOLTAIC SYSTEMS FOR GROUP R-3 BUILDINGS SHALL COMPLY WITH SECTIONS 1204.2.1.1 THROUGH 1204.2.1.3.

EXCEPTIONS:

1.THESE REQUIREMENTS SHALL NOT APPLY TO STRUCTURES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE.
2.THESE REQUIREMENTS SHALL NOT APPLY TO ROOFS WITH SLOPES OF 2 UNITS VERTICAL IN 12 UNITS HORIZONTAL OR LESS.

1204.2.1.1 PATHWAYS TO RIDGE. NOT FEWER THAN TWO 36-INCH-WIDE (914 MM) PATHWAYS ON SEPARATE ROOF PLANES,FROM LOWEST ROOF EDGE TO RIDGE, SHALL BE PROVIDED ON ALL BUILDINGS. NOT FEWER THAN ONE PATHWAY SHALL BE PROVIDED ON THE STREET OR DRIVEWAY SIDE OF THE ROOF. FOR EACH ROOF PLANE WITH A PHOTOVOLTAIC ARRAY, NOT FEWER THAN ONE 36-INCH-WIDE (914 MM) PATHWAY FROM LOWEST ROOF EDGE TO RIDGE SHALL BE PROVIDED ON THE SAME ROOF PLANE AS THE PHOTOVOLTAIC ARRAY, ON AN ADJACENT ROOF PLANE OR STRADDLING THE SAME AND ADJACENT ROOF PLANES

1204.2.1.2 SETBACKS AT RIDGE.FOR PHOTOVOLTAIC ARRAYS OCCUPYING 33 PERCENT OR LESS OF THE PLAN VIEW TOTAL ROOF AREA,
A SETBACK OF NOT LESS THAN 18 INCHES (457 MM)WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE. FOR PHOTOVOLTAIC ARRAYS OCCUPYING MORE THAN 33 PERCENT OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 36 INCHES (457 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.

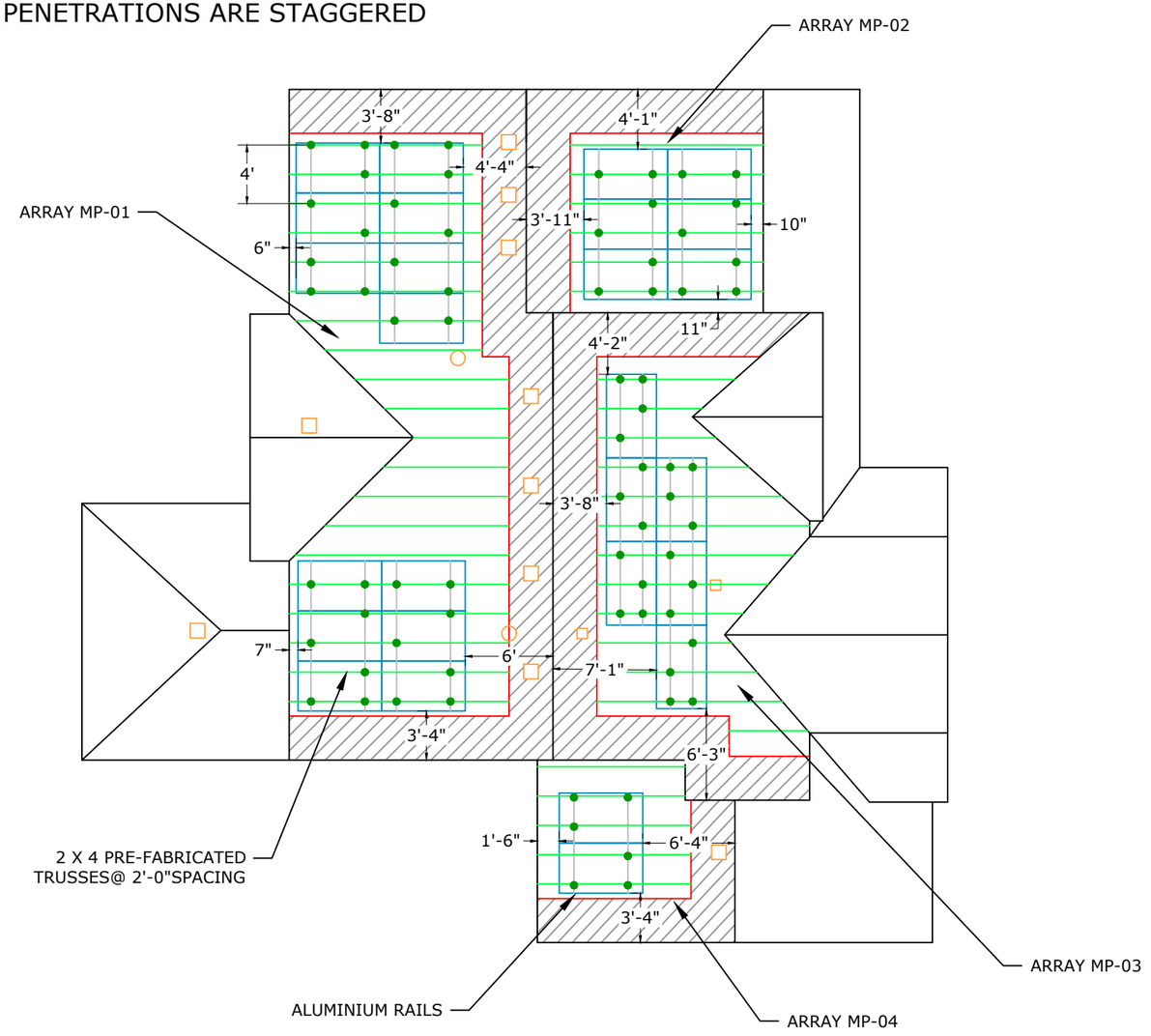
1204.2.2 EMERGENCY ESCAPE AND RESCUE OPENINGS. PANELS AND MODULES INSTALLED ON GROUP R-3 BUILDINGS SHALL NOT BE PLACED ON THE PORTION OF A ROOF THAT IS BELOW AN EMERGENCY ESCAPE AND RESCUE OPENING. A PATHWAY OF NOT LESS THAN 36 INCHES (914 MM) WIDE SHALL BE PROVIDED TO THE EMERGENCY ESCAPE AND RESCUE OPENING

1204.2.1.3 ALTERNATIVE SETBACKS AT RIDGE. WHERE AN AUTOMATIC SPRINKLER SYSTEM IS INSTALLED WITHIN THE DWELLING IN ACCORDANCE WITH SECTION 903.3.1.3, SETBACKS AT THE RIDGE SHALL CONFORM TO ONE OF THE FOLLOWING:
1.FOR PHOTOVOLTAIC ARRAYS OCCUPYING 66 PERCENT OR LESS OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 18 INCHES (457 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.
2.FOR PHOTOVOLTAIC ARRAYS OCCUPYING MORE THAN 66 PERCENT OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 36 INCHES (914 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE

SITE INFORMATION - WIND SPEED: 109 MPH AND SNOW LOAD: 20 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	268°	26°	13	253.7	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 4	2'-0"	4'-0"	1'-6"
MP-02	88°	26°	6	117.1	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 4	2'-0"	4'-0"	1'-6"
MP-03	88°	26°	6	117.1	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 4	2'-0"	4'-0"	1'-6"
MP-04	268°	26°	2	39.0	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 4	2'-0"	4'-0"	1'-6"

NOTE:PENETRATIONS ARE STAGGERED



SCALE:1"=10'-0"

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AERIAL VIEW

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
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AHJ:MO-CITY OF LEE'S SUMMIT

UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

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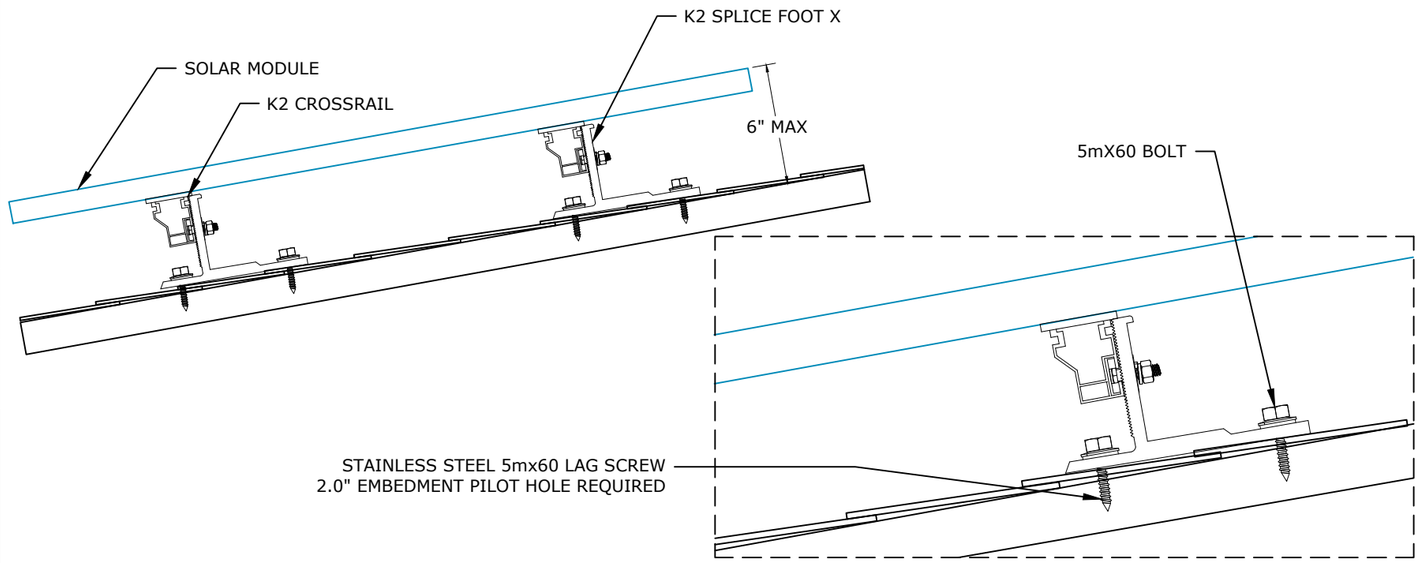
MOUNTING DETAIL

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	S-01

DEAD LOAD CALCULATIONS

BOM	QUANTITY	LBS/UNIT	TOTAL WEIGHT (LBS)
MODULES	27	41	1107.00
MID-CLAMP	36	0.300	10.80
END-CLAMP	36	0.310	11.16
RAIL LENGTH	208	0.560	116.48
SPLICE BAR	4	0.650	2.60
K2 SPLICE FOOT X	73	1.45	105.85
TOTAL WEIGHT OF THE SYSTEM (LBS)			1353.89
TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)			526.85
WEIGHT PER SQ. FT.(LBS)			2.57
WEIGHT PER PENETRATION (LBS)			18.55

ATTACHMENT DETAIL-K2 SPLICE FOOT X



SCALE:NTS

MODULES DATA

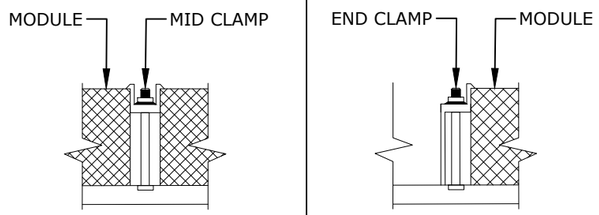
LG ELECTRONICS LG NEON2 BLACK LG370N1C-A6 370W

MODULE DIMS	68.5"x41.02"x1.57"
LAG SCREWS	5mx60x2.3":2.0"MIN EMBEDMENT

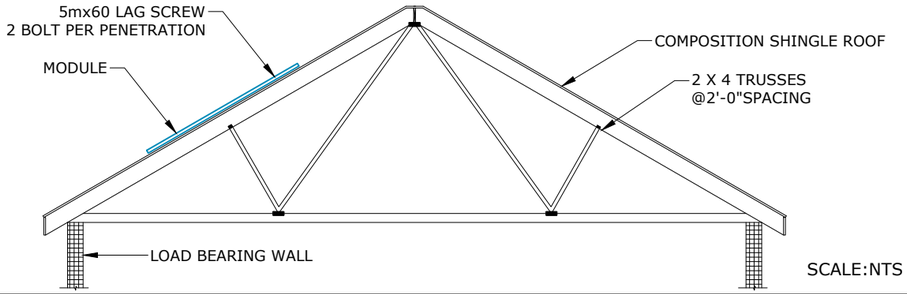
UPLIFT CALCULATIONS

UPLIFT	15805.5	LBS
PULL OUT STRENGTH	44895	LBS
POINT LOADING	15	LBS

MID-CLAMP AND END-CLAMP ANATOMY



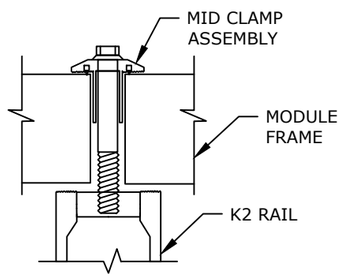
ROOF FRAMING DETAILS



SCALE:NTS

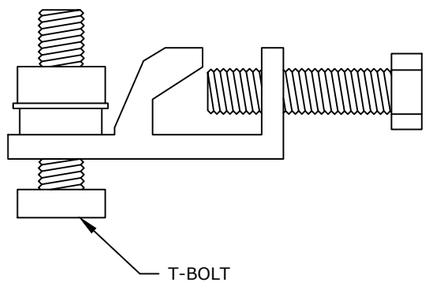
GROUNDING DETAILS

MODULE TO MODULE & MODULE TO RAIL

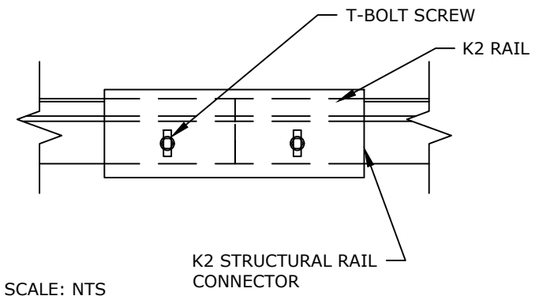


GROUNDING MID-CLAMP
SCALE: NTS

GROUNDING LUG



RAIL TO RAIL



SCALE: NTS

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PRN NUMBER:TPS-44249

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STRUCTURAL DETAIL

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	S-02

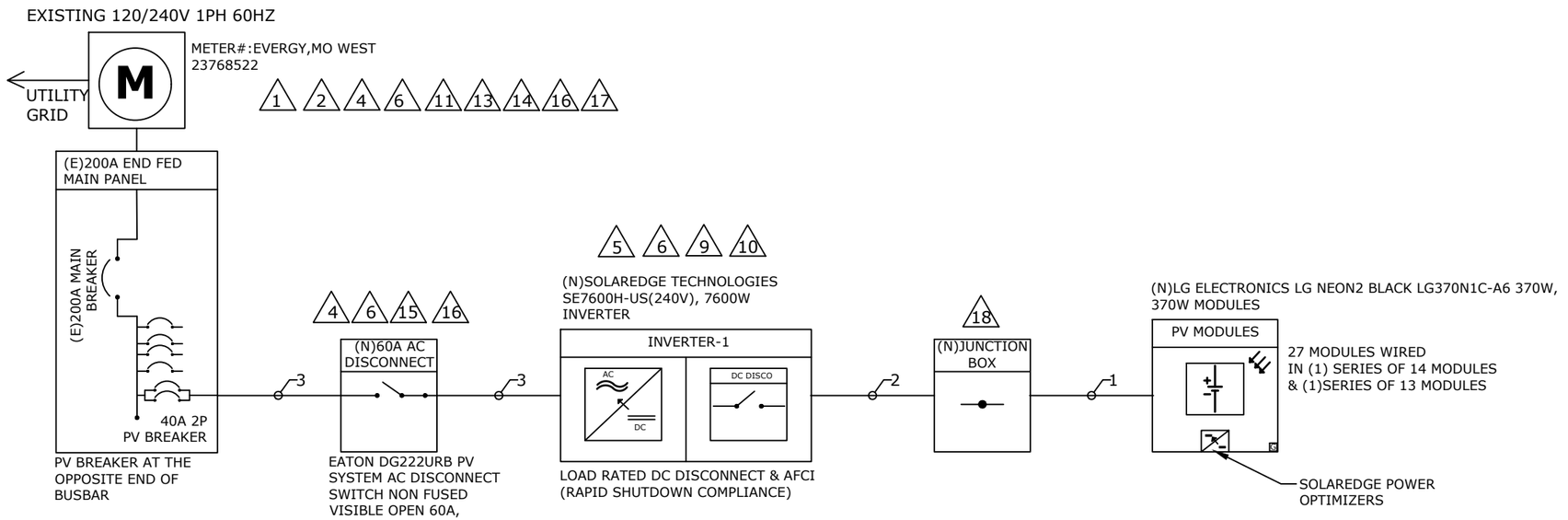
SINGLE LINE DIAGRAM: DC SYSTEM SIZE - 9990W, AC SYSTEM SIZE - 7600W

INVERTER-1 SPECIFICATIONS	
MODEL	SOLAREDGE TECHNOLOGIES SE7600H-US(240V)
POWER RATING	7600W
MAX OUTPUT CURRENT	32A
CEC WEIGHTED EFFICIENCY	99%
MAX INPUT CURRENT	20A
MAX DC VOLTAGE	480V

MODULE SPECIFICATION	
MODEL	LG ELECTRONICS LG NEON2 BLACK LG370N1C-A6 370W
MODULE POWER @ STC	370W
OPEN CIRCUIT VOLTAGE:**Voc**	41.7V
MAX POWER VOLTAGE:**Vmp**	34.9V
SHORT CIRCUIT CURRENT:**Isc**	11.31A
MAX POWER CURRENT:**Imp**	10.61A

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	9990W
INVERTER STRING VOLTAGE:**Vmp**	400V
MAX INVERTER SYSTEM VOLTAGE: **Voc**	480V
MAX SHORT CIRCUIT CURRENT	30A
OPERATING CURRENT	24.98A



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 THWN-2	NONE	(1) 10AWG THWN-2
3	3/4"EMT	(2) 8AWG THWN-2	(1) 8AWG THWN-2	(1) 10AWG THWN-2

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

OCPD CALCULATIONS:
INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25)
=32x1.25=40.00A=>PV BREAKER = 40A
ALLOWABLE BACKFEED 40A =>40A PV BREAKER
THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.

ELECTRICAL CALCULATIONS

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

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

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

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

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

TAG ID	REQUIRED CONDUCTOR AMPACITY								CORRECTED AMPACITY CALCULATION							DERATED CONDUCTOR AMPACITY CHECK		
3	32	X	1	=	32.00	X	1.25	=	40.00A	55	X	0.87	X	1	=	47.85A	40.00A	<	47.85A

ELECTRICAL NOTES

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

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SINGLE LINE DIAGRAM

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	E-01

THREE LINE DIAGRAM: DC SYSTEM SIZE - 9990W, AC SYSTEM SIZE - 7600W

INVERTER-1 SPECIFICATIONS	
MODEL	SOLAREDGE TECHNOLOGIES SE7600H-US(240V)
POWER RATING	7600W
MAX OUTPUT CURRENT	32A
CEC WEIGHTED EFFICIENCY	99%
MAX INPUT CURRENT	20A
MAX DC VOLTAGE	480V

MODULE SPECIFICATION	
MODEL	LG ELECTRONICS LG NEON2 BLACK LG370N1C-A6 370W
MODULE POWER @ STC	370W
OPEN CIRCUIT VOLTAGE:**Voc**	41.7V
MAX POWER VOLTAGE:**Vmp**	34.9V
SHORT CIRCUIT CURRENT:**Isc**	11.31A
MAX POWER CURRENT:**Imp**	10.61A

OPTIMIZER CHARACTERISTICS	
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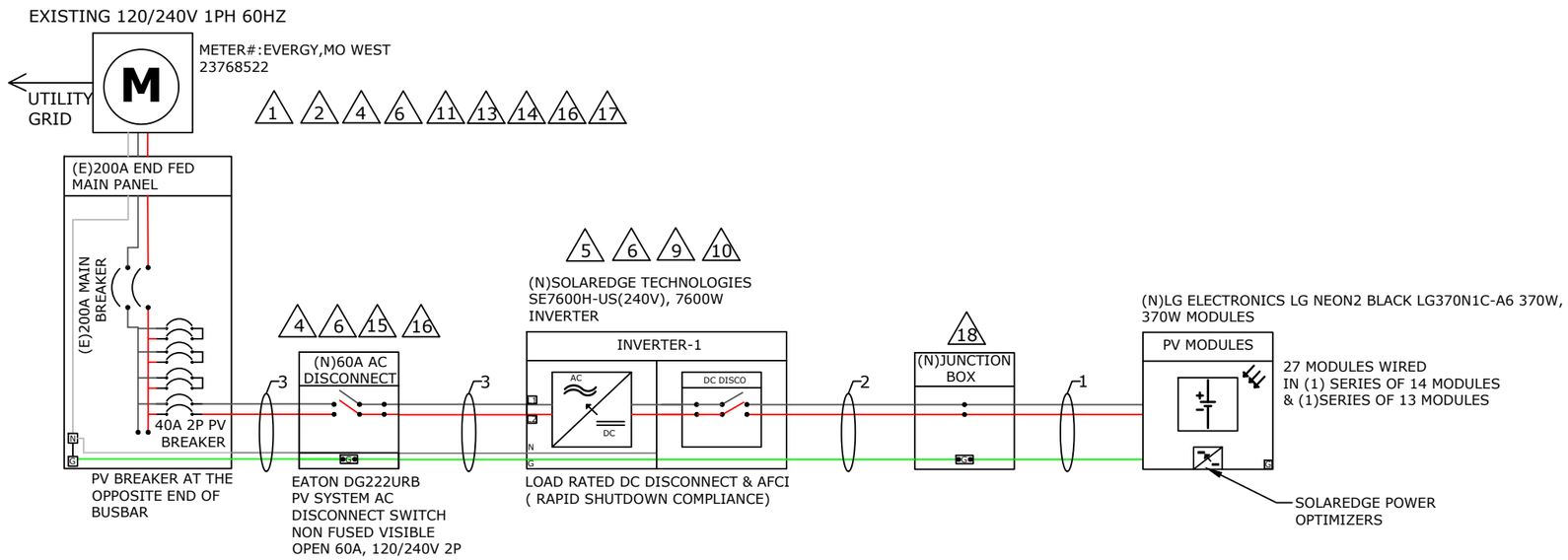
OPERATING CURRENT	24.98A



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

OCPD CALCULATIONS:
INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25)
=32x1.25=40.00A=>PV BREAKER = 40A
ALLOWABLE BACKFEED 40A =>40A PV BREAKER
THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.

ELECTRICAL CALCULATIONS

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

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

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

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

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

TAG ID	REQUIRED CONDUCTOR AMPACITY									CORRECTED AMPACITY CALCULATION								DERATED CONDUCTOR AMPACITY CHECK		
3	32	X	1	=	32.00	X	1.25	=	40.00A	55	X	0.87	X	1	=	47.85A		40.00A	<	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).

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
MESA AZ,85210

CUSTOMER INFORMATION

NAME:ADAM TRENT

ADDRESS:4422 SW AMETHYST DR, LEES SUMMIT, MO 64082

38.840456, -94.412922
APN: 697-001-216-000-00-000

AHJ:MO-CITY OF LEE'S SUMMIT

UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

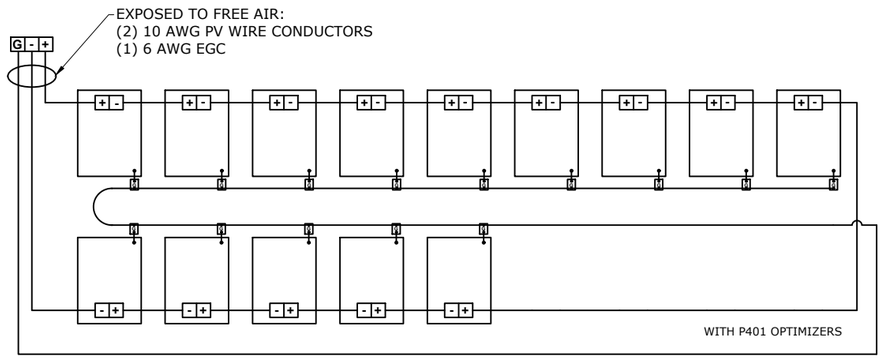
ILLUMINE i
Because quality matters

SINGLE LINE DIAGRAM

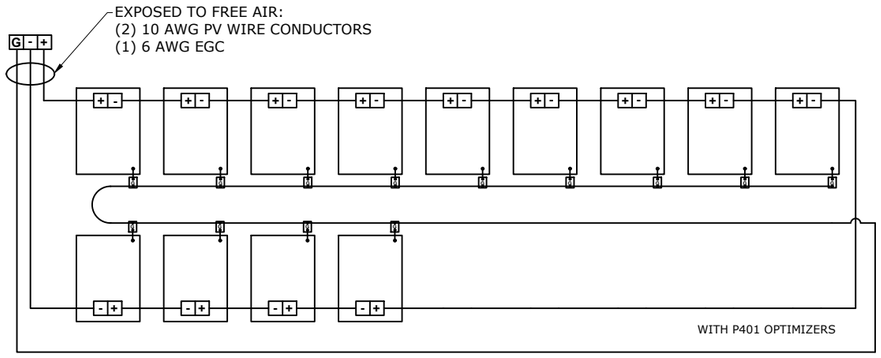
DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	E-02

STRING WIRING DIAGRAM

1 STRING OF 14 MODULES



1 STRING OF 13 MODULES



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STRING WIRING DIAGRAM

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	E-03

WARNING PLACARD

1

⚠ CAUTION

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

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

2

⚠ WARNING

INVERTER OUTPUT CONNECTION:
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL LOCATION: BACKFED BREAKER
[PER CODE: 2017 NEC 705.12(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 32.00 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

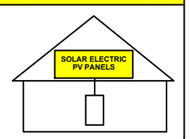
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

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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UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

ILLUMINE i
Because quality matters

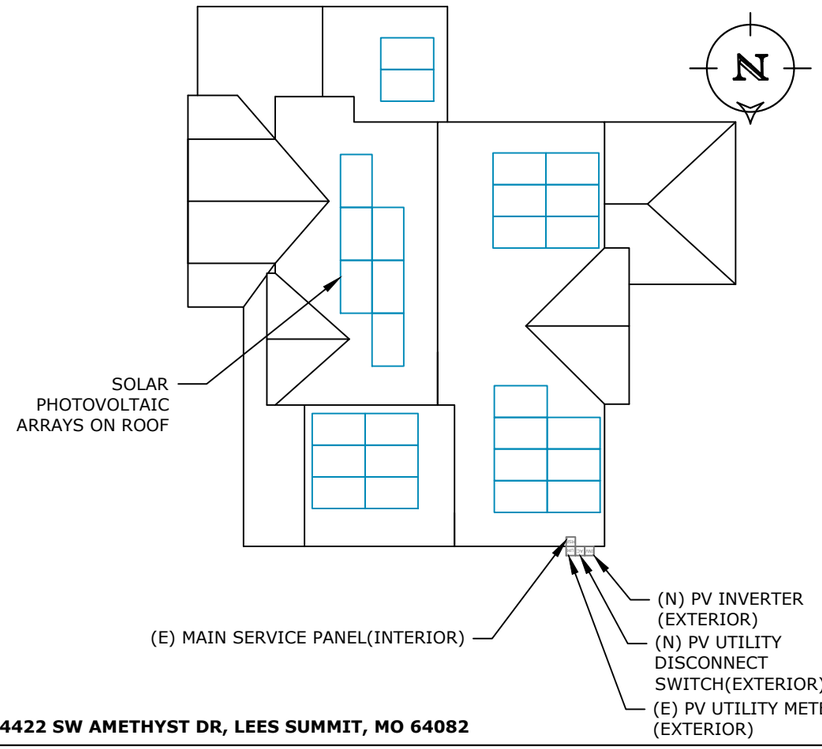
WARNING PLACARDS

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	PL-01

DIRECTORY PLACARD

WARNING: ⚠

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



4422 SW AMETHYST DR, LEES SUMMIT, MO 64082

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

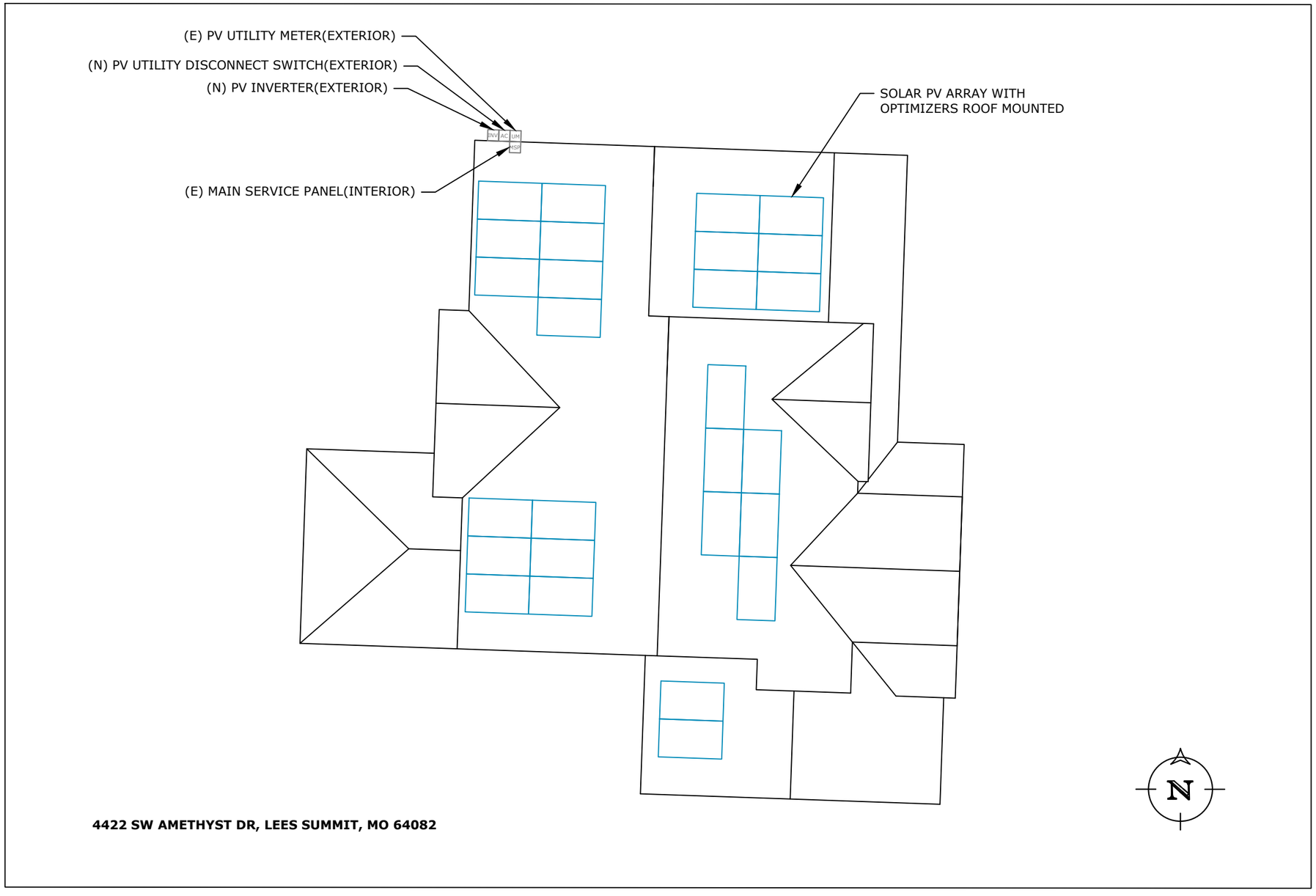
DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	PL-02

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:



4422 SW AMETHYST DR, LEES SUMMIT, MO 64082

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD MESA AZ,85210

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UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

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SAFETY PLANS-1

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	PL-03

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 #_____

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
MESA AZ,85210

CUSTOMER INFORMATION

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AHJ:MO-CITY OF LEE'S SUMMIT

UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

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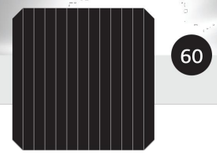
SAFETY PLANS-2

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	PL-04

SPEC SHEET

LG NeON®2

LG370N1C-A6 | LG375N1C-A6 | LG380N1C-A6 Preliminary



370W | 375W | 380W

The LG NeON® 2 is LG's best selling solar module and 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 90.6% of labeled power output at 25 years.

25 YEAR PRODUCT • PERFORMANCE • LABOR WARRANTY

c UL us

Made in USA From Imported Parts

Features

Enhanced Performance Warranty

LG NeON® 2 has an enhanced performance warranty. After 25 years, LG NeON® 2 is guaranteed at least 90.6% of initial performance.

25-Year Limited Product Warranty

The NeON® 2 is covered by a 25-year limited product warranty. In addition, up to $450 of labor costs will be covered in the rare case that a module needs to be repaired or replaced.

Solid Performance on Hot Days

LG NeON® 2 performs well on hot days due to its low temperature coefficient.

Roof Aesthetics

LG NeON® 2 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 MonoX® series to the market, which is now available in 32 countries. The NeON® (previous MonoX® NeON), NeON®2, NeON®2 BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG's leadership and innovation in the solar industry.

LG Life's Good

LG NeON®2

LG370N1C-A6 | LG375N1C-A6 | LG380N1C-A6 Preliminary

Made in USA From Imported Parts

General Data

Cell Properties (Material/Type)	Monocrystalline/N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Module Dimensions (L x W x H)	1,740mm x 1,042mm x 40mm
Weight	18.6 kg
Glass (Material)	Tempered Glass with AR Coating
Backsheet (Color)	White
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)	1,100mm x 2EA
Connector (Type/Maker)	MC 4/MC

Certifications and Warranty

Certifications**	IEC 61215-1/-1-1/2 : 2016, IEC 61730-1/2 : 2016, UL 61730-1 : 2017, UL 61730-2 : 2017
	ISO 9001, ISO 14001, ISO 50001
	OHSAS 18001
Salt Mist Corrosion Test	IEC 61701:2012 Severity 6
Ammonia Corrosion Test	IEC 62716 : 2013
Module Fire Performance	Type 1 (UL 61730)
Fire Rating	Class C (UL 790, ULC/ORD C 1703)
Solar Module Product Warranty	25 Year Limited
Solar Module Output Warranty	Linear Warranty*

*Improved: 1st year 98.5%, from 2-24th year: 0.33%/year down, 90.6% at year 25
**In Progress

Temperature Characteristics

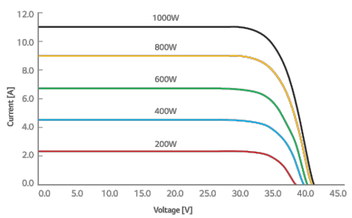
NMOT*	[°C]	42 ± 3
Pmax	[%/°C]	-0.34
Voc	[%/°C]	-0.26
Isc	[%/°C]	0.03

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

Electrical Properties (NMOT)

Model		LG370N1C-A6	LG375N1C-A6	LG380N1C-A6
Maximum Power (Pmax)	[W]	277	281	285
MPP Voltage (Vmpp)	[V]	32.8	33.2	33.5
MPP Current (Impp)	[A]	8.46	8.48	8.49
Open Circuit Voltage (Voc)	[V]	39.3	39.4	39.4
Short Circuit Current (Isc)	[A]	9.09	9.13	9.16

I-V Curves



Electrical Properties (STC*)

Model		LG370N1C-A6	LG375N1C-A6	LG380N1C-A6
Maximum Power (Pmax)	[W]	370	375	380
MPP Voltage (Vmpp)	[V]	34.9	35.3	35.7
MPP Current (Impp)	[A]	10.61	10.63	10.65
Open Circuit Voltage (Voc, ± 5%)	[V]	41.7	41.8	41.9
Short Circuit Current (Isc, ± 5%)	[A]	11.31	11.35	11.39
Module Efficiency	[%]	20.4	20.7	21.0
Bifaciality Coefficient of Power	[%]	10		
Power Tolerance	[%]	0 ~ +3		

*STC (Standard Test Condition): Irradiance 1000 W/m², cell temperature 25°C, AM 1.5

Operating Conditions

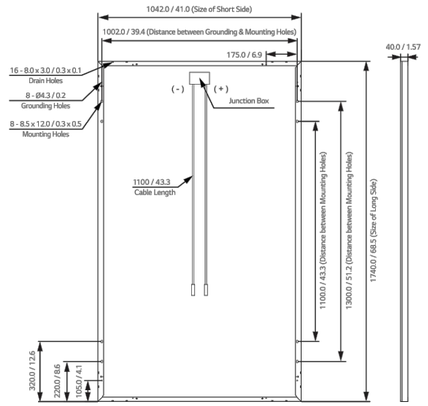
Operating Temperature	[°C]	-40 ~+85
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load* (Front)	[Pa/psf]	5,400
Mechanical Test Load* (Rear)	[Pa/psf]	4,000

*Based on IEC 61215-2 : 2016 (Test Load = Design Load x 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]	500
Packaging Box Gross Weight	[lb]	1,102

Dimensions (mm/inch)



LG Life's Good

LG Electronics USA, Inc.
Solar Business Division
2000 Millbrook Drive
Lincolnshire, IL 60069
www.lg-solar.com

Product specifications are subject to change without notice.
LG370-380N1C-A6_AUS.pdf
121520

TITAN SOLAR POWER

ADDRESS: 525W, BASELINE RD
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ILLUMINE i
Because quality matters

MODULE SPEC SHEET

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	SS-01

Single Phase Inverter with HD-Wave Technology

for North America

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

INVERTERS

12-25 YEAR WARRANTY

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

solaredge.com

solaredge

Single Phase Inverter with HD-Wave Technology for North America

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

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, Adjustable - 0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V[2]	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V[2]	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

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

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INVERTER SPEC SHEET

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	SS-02

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

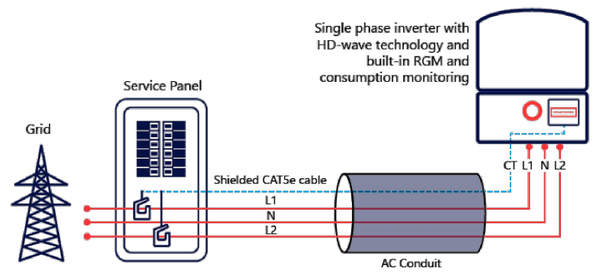
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Metering, ANSI C12.20	Optional[3]							
Consumption metering						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

CUSTOMER INFORMATION

NAME:ADAM TRENT

ADDRESS:4422 SW AMETHYST DR, LEES SUMMIT, MO 64082

38.840456, -94.412922
APN: 697-001-216-000-00-000

AHJ:MO-CITY OF LEE'S SUMMIT

UTILITY:EVERGY,MO WEST

PRN NUMBER:TPS-44249

ILLUMINE i
Because quality matters

INVERTER SPEC SHEET

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	SS-03

Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505

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 DC Input Current	13.75	12.5	14.65	12.5	17.5	
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			80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer	1 ± 0.1					Vdc
STANDARD COMPLIANCE						
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741, NEC/PVRSS					
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 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4	750 / 1.7	655 / 1.5	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4(3)			MC4(3)	MC4(3)	
Input Wire Length	0.16 / 0.5					m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	1.2 / 3.9					m / ft
Operating Temperature Range(4)	-40 to +85 / -40 to +185					°C / °F
Protection Rating	IP68 / Type6B					
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) Longer inputs wire lengths are available for use. For 0.9m input wire length order P401-xxxLxxx
(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: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf

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 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) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
(9) For 208V grid: it is allowed to install up to 6,500W per string when the maximum power difference between each string is 1,000W
(10) For 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

Intertek RoHS

TITAN SOLAR POWER

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ILLUMINE i
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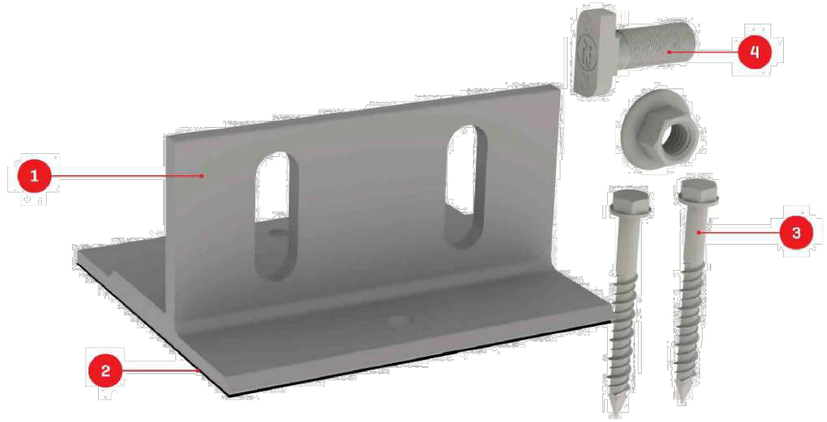
OPTIMIZER SPEC SHEET

DESIGNED BY: K.GANESH QC'ED BY:D.RAJ	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:A
DATE:2/4/2022	SS-04

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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MOUNT SPEC SHEET

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SCALE:AS NOTED	REV:A
DATE:2/4/2022	SS-05

SPEC SHEET

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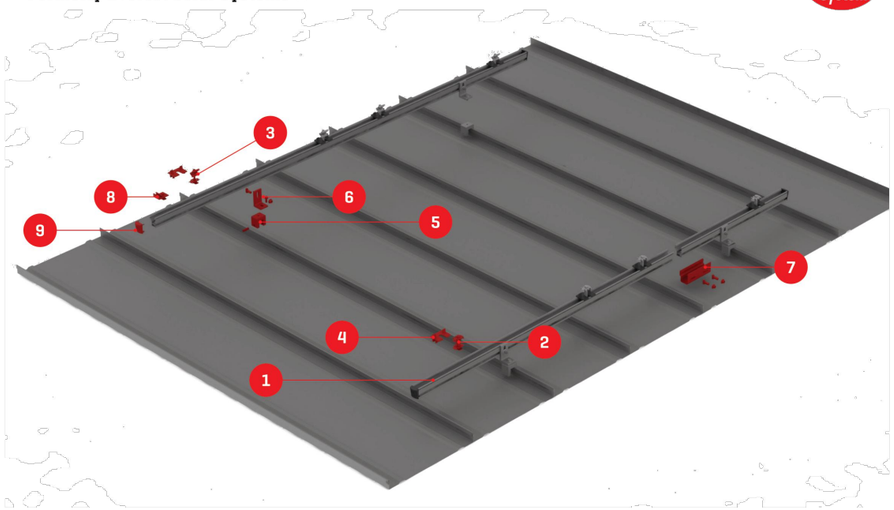

CrossRail Shared Rail System

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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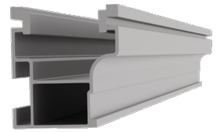
CROSSRAIL 44-X



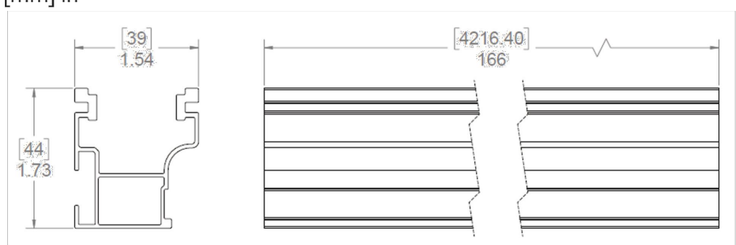
Mechanical Properties

	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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RAIL SPEC SHEET

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SCALE:AS NOTED	REV:A
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