

SHEET CATALOG

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SS	SPEC SHEET(S)

SCOPE OF WORK

GENERAL SYSTEM INFORMATION:
 SYSTEM SIZE:
 17380W DC, 13600W AC
 MODULES:
 (44)HANWHA Q CELLS Q.PEAK DUO L-G5.2 395W
 INVERTER:
 (1)SOLAREEDGE TECHNOLOGIES
 SE7600H-US(240V),
 (1)SOLAREEDGE TECHNOLOGIES
 SE6000H-US(240V)
 OPTIMIZER:
 (44)SOLAREEDGE P401 POWER OPTIMIZER

B
 12/14/2021

APPLICABLE CODES

- ELECTRIC CODE:NEC 2017
- FIRE CODE:NCFC 2018
- BUILDING CODE:NCBC 2018
- RESIDENTIAL CODE:NCRC 2018

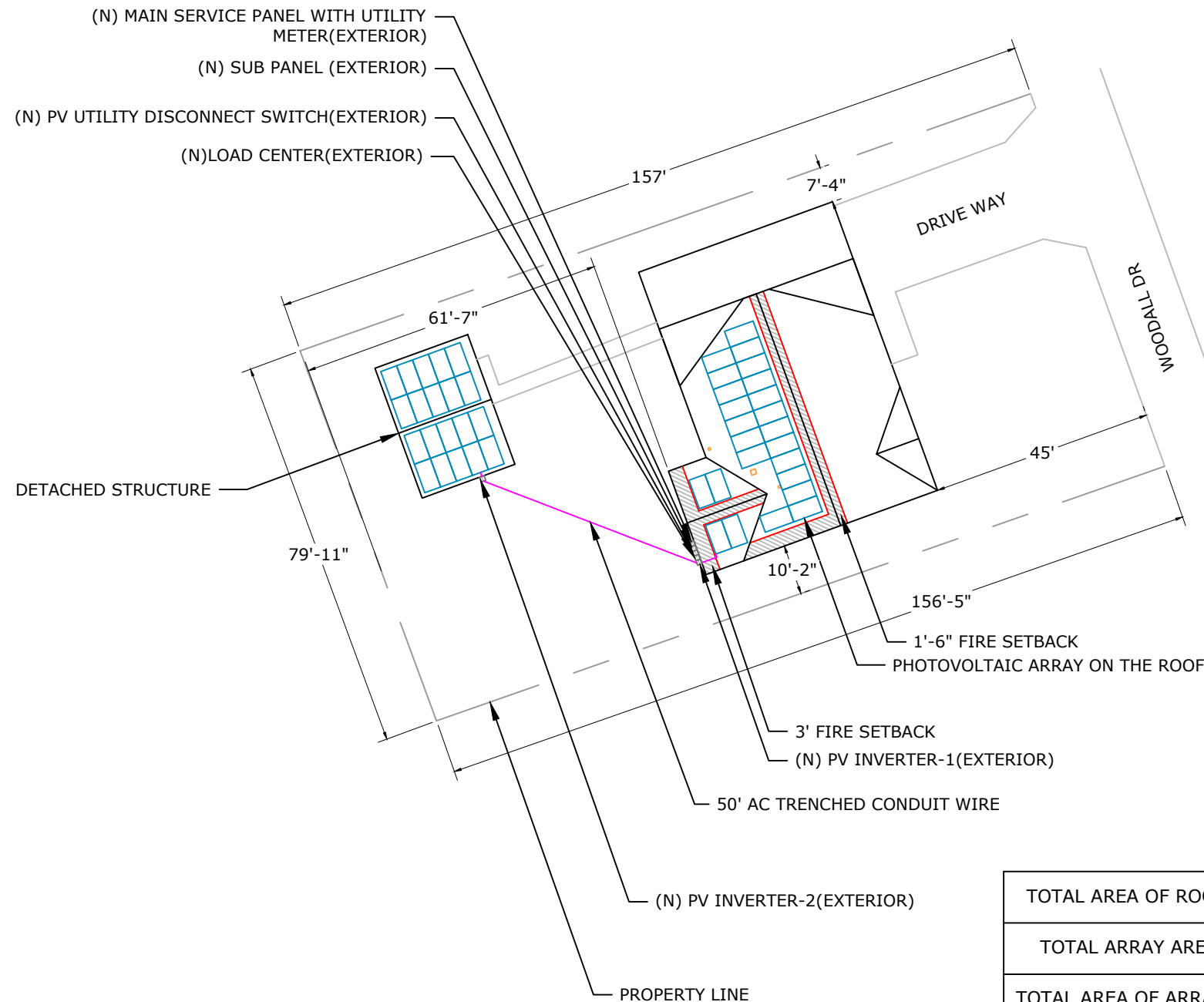
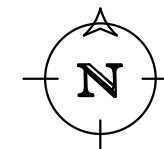
GENERAL NOTES

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

PAUL ODOM - 17.380kW DC, 13.600kW AC

SITE PLAN LAYOUT

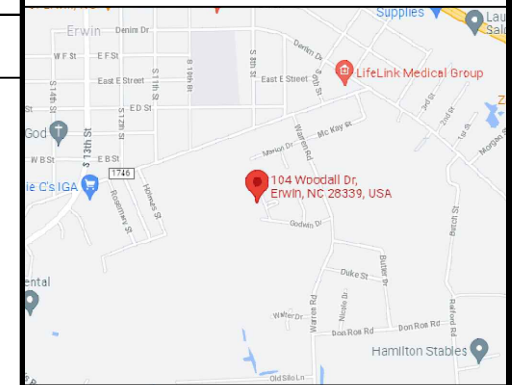
NOTE: NO GATE AND FENCE
 NOTE: PV SYSTEM TO BE INSTALLED ON DETACHED NON-HABITABLE STRUCTURE.



SCALE:1"=30'-0"

TOTAL AREA OF ROOF (SQ.FT)	2783
TOTAL ARRAY AREA (SQ.FT)	520.7367
TOTAL AREA OF ARRAY COVERED IN THE ROOF (%)	18.71

VICINITY MAP



ADDRESS: 525W, BASELINE RD
 MESA AZ,85210

CUSTOMER INFORMATION

NAME: PAUL ODOM

ADDRESS:104 WOODALL DR, ERWIN, NC
 28339

35.320226, -78.667743
 APN: 060-597-020-218

AHJ:NC-TOWN OF ERWIN

UTILITY:DUKE ENERGY

PRN NUMBER:TPS-40595



COVER PAGE

DESIGNER /CHECKED BY: ANK/RK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:B
DATE:12/15/2021	T-1

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-3 BUILDINGS. 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:

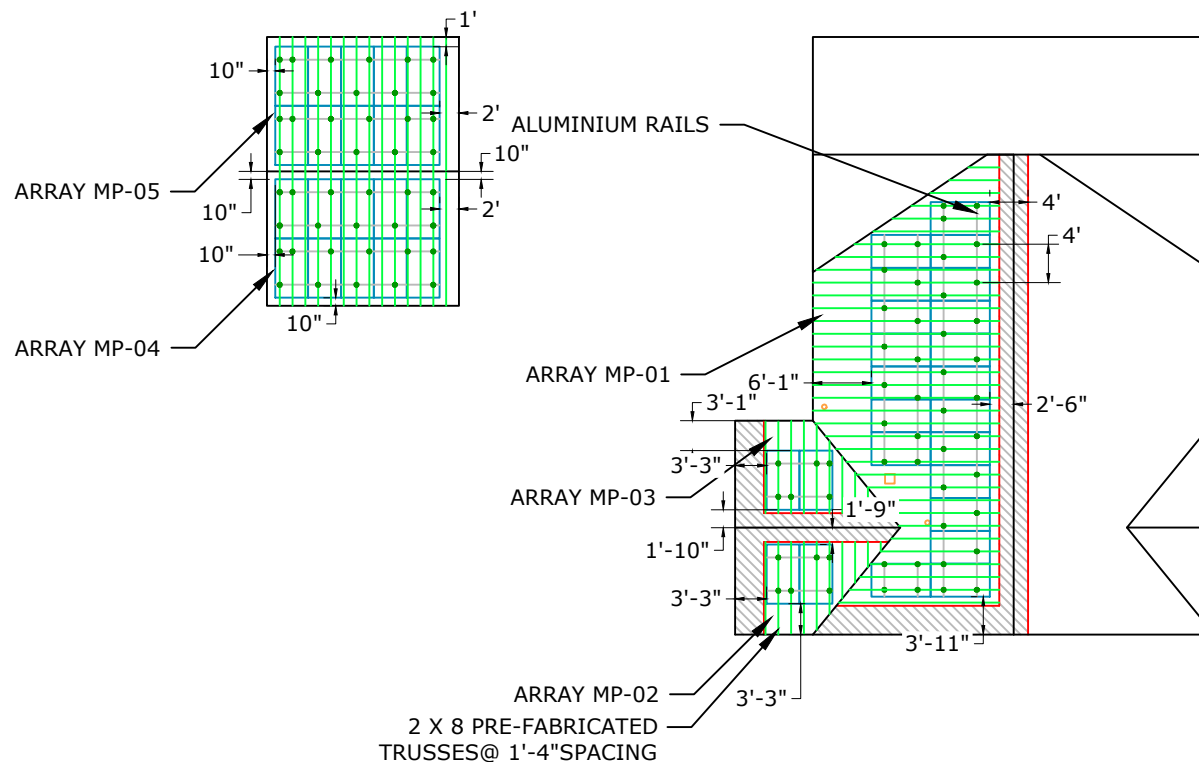
1. FOR PHOTOVOLTAIC ARRAYS OCCUPYING 66 PERCENT OR LESS OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 18 INCHES (457 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.

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: 146 MPH AND SNOW LOAD: 10 PSF

SR. NO	AZIMUTH	PITCH	NO. OF MODULES	ARRAY AREA (SQ. FT.)	ROOF TYPE	ATTACHMENT	ROOF EXPOSURE	FRAME TYPE	FRAME SIZE	FRAME SPACING	MAX RAIL SPAN	OVER HANG
MP-01	258°	30°	20	433.9	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 8	1'-4"	4'-0"	1'-6"
MP-02	168°	30°	2	43.4	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 8	1'-4"	4'-0"	1'-6"
MP-03	348°	30°	2	43.4	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 8	1'-4"	4'-0"	1'-6"
MP-04	168°	24°	10	217.0	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 8	1'-4"	4'-0"	1'-6"
MP-05	348°	24°	10	217.0	COMPOSITION SHINGLE	K2 SPLICE FOOT X	ATTIC	PRE-FABRICATED TRUSSES	2 X 8	1'-4"	4'-0"	1'-6"

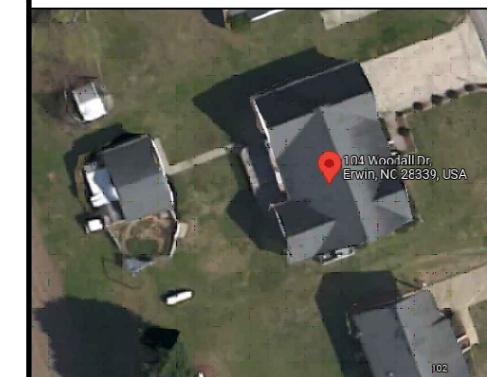
NOTE: PENETRATIONS ARE STAGGERED



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TOTAL ARRAY AREA (SQ.FT)	520.7367
TOTAL AREA OF ARRAY COVERED IN THE ROOF (%)	18.71

SCALE: 1"=20'-0"

AERIAL VIEW



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MESA AZ, 85210

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MOUNTING DETAIL

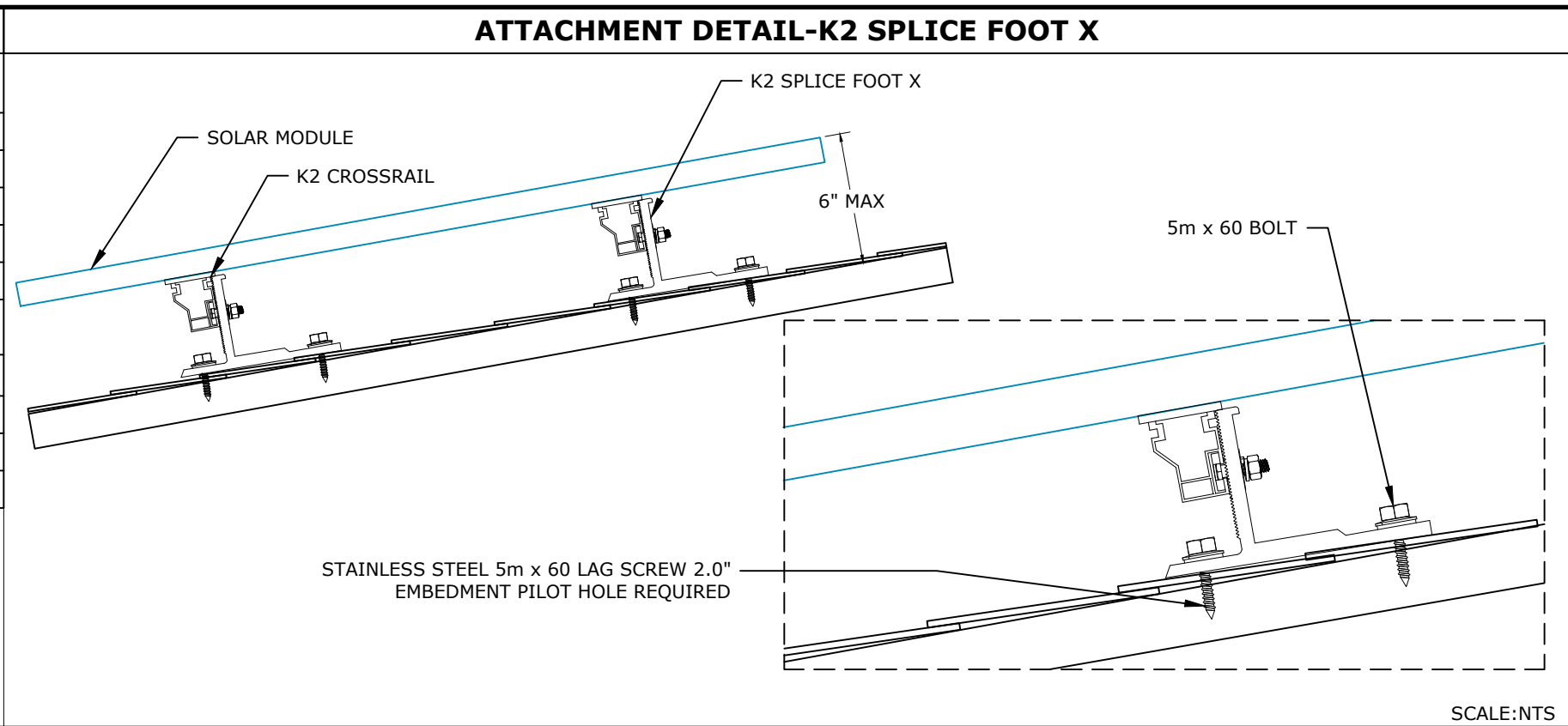
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SCALE: AS NOTED REV: B

DATE: 12/15/2021 M-1



DEAD LOAD CALCULATIONS			
BOM	QUANTITY	LBS/UNIT	TOTAL WEIGHT (LBS)
MODULES	44	51.8	2279.20
MID-CLAMP	70	0.300	21.00
END-CLAMP	36	0.310	11.16
RAIL LENGTH	294	0.560	164.64
SPLICE BAR	14	0.650	9.10
K2 SPLICE FOOT X	100	1.45	145.00
TOTAL WEIGHT OF THE SYSTEM (LBS)			2630.10
TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)			954.68
WEIGHT PER SQ. FT.(LBS)			2.75
WEIGHT PER PENETRATION (LBS)			26.30

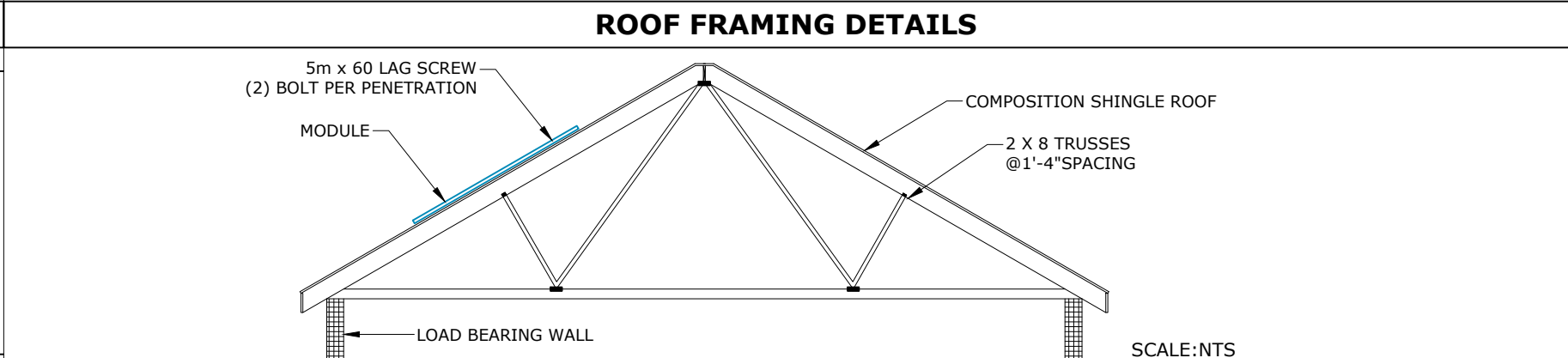
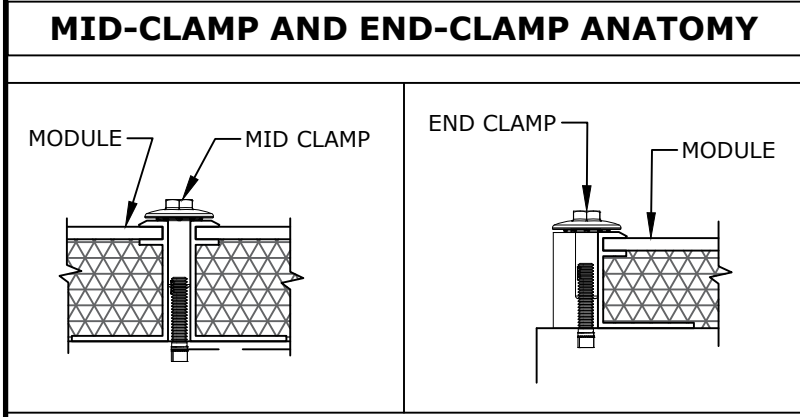


MODULES DATA

HANWHA Q CELLS Q.PEAK DUO L-G5.2 395W	
MODULE DIMS	79.3"x39.4"x1.38"
LAG SCREWS	5m x 60 x2.3":2.0"MIN EMBEDMENT

UPLIFT CALCULATIONS

UPLIFT	28640.5	LBS
PULL OUT STRENGTH	61500	LBS
POINT LOADING	23	LBS



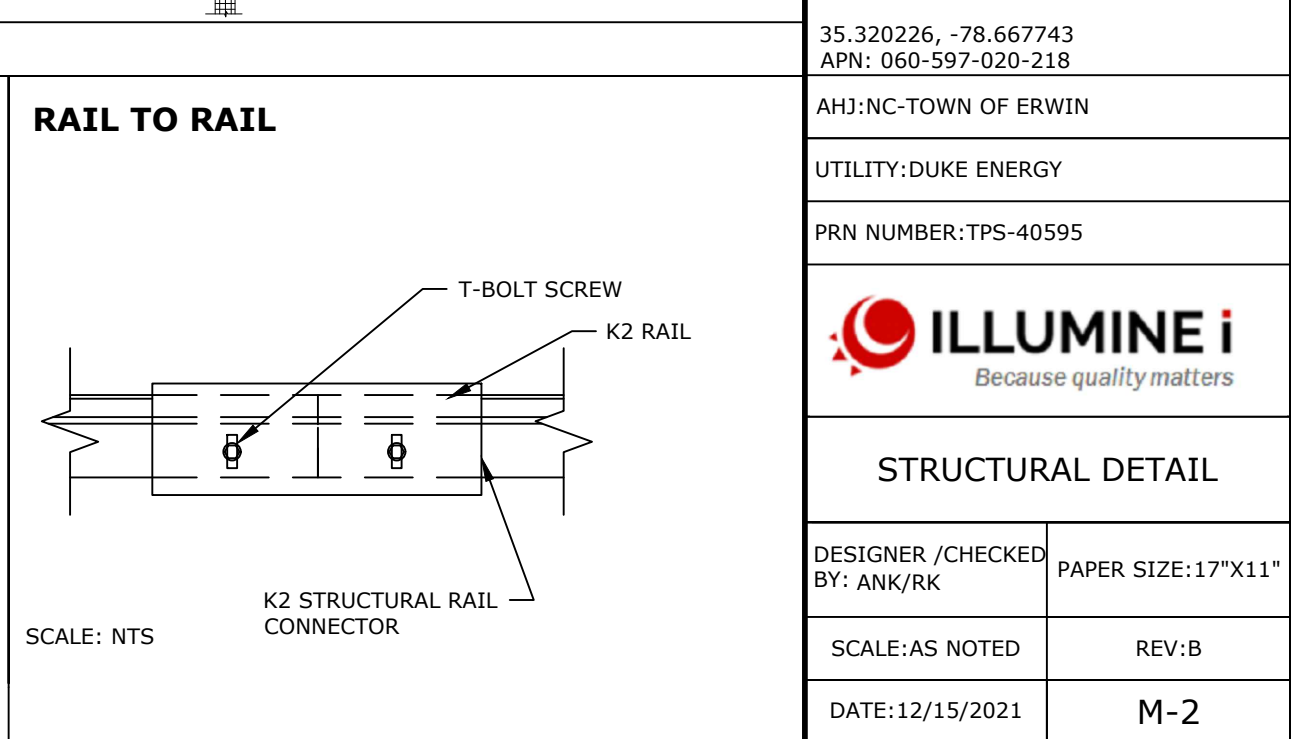
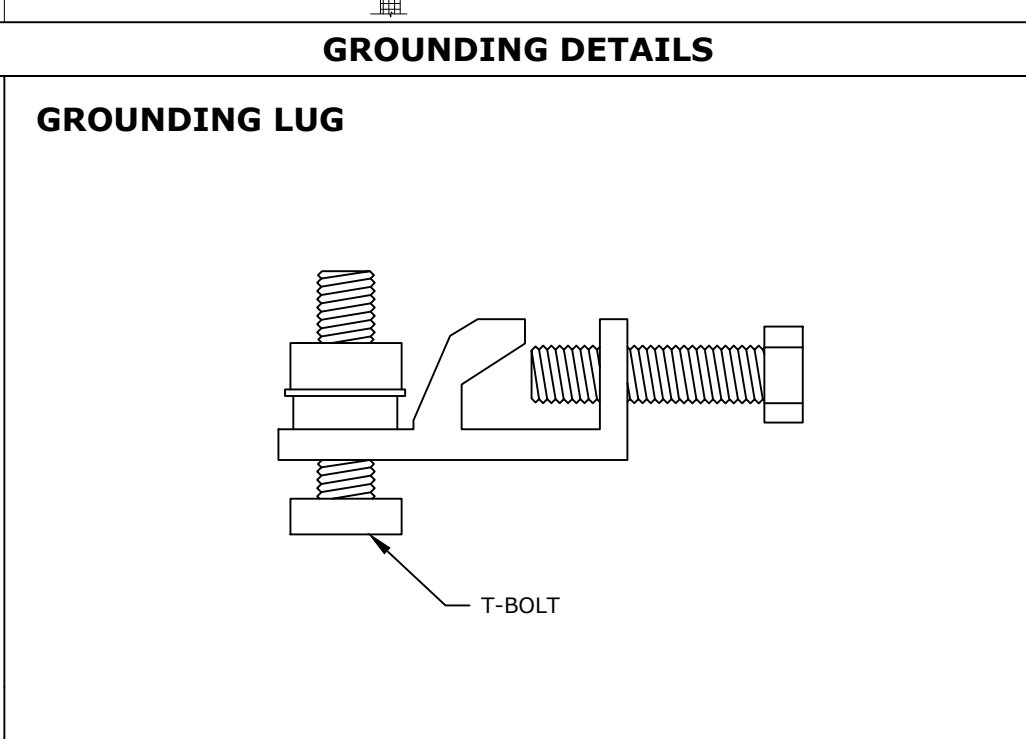
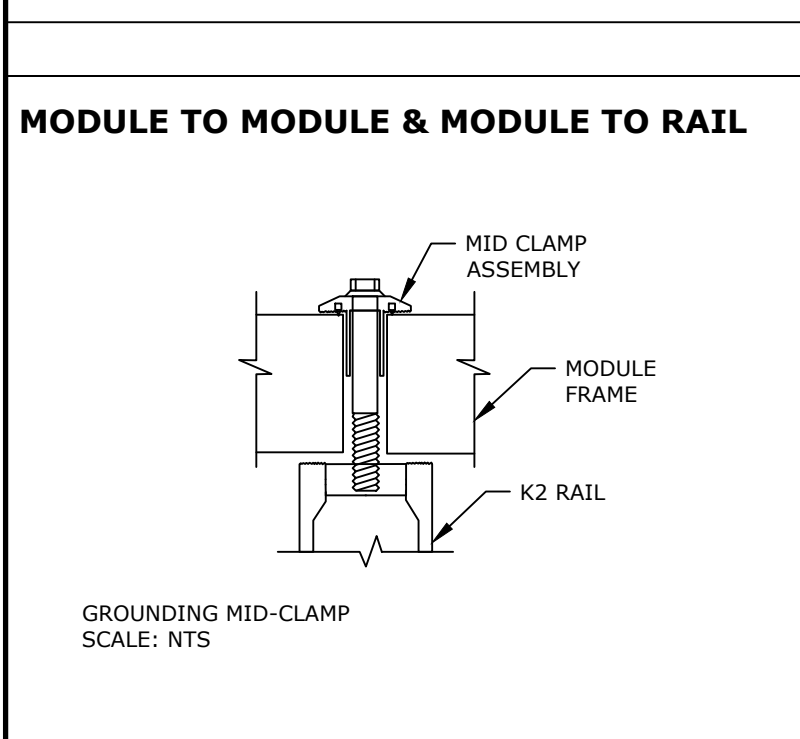
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AHJ:NC-TOWN OF ERWIN

UTILITY:DUKE ENERGY

PRN NUMBER:TPS-40595

STRUCTURAL DETAIL

DESIGNER /CHECKED BY: ANK/RK	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:B
DATE:12/15/2021	M-2

SINGLE LINE DIAGRAM: DC SYSTEM SIZE - 17380W, AC SYSTEM SIZE - 13600W

ELECTRICAL NOTES

SPECIFICATIONS	INVERTER-1		INVERTER-2		MODULE SPECIFICATION		SYSTEM CHARACTERISTICS		
	MODEL	POWER RATING	MODEL	POWER RATING	MODEL	HANWHA Q CELLS Q.PEAK DUO L-G5.2 395W	DESCRIPTION	INVERTER 1	INVERTER 2
MODEL	SOLAREEDGE TECHNOLOGIES SE7600H-US(240V)	7600W	SOLAREEDGE TECHNOLOGIES SE6000H-US(240V)	6000W	MODEL	HANWHA Q CELLS Q.PEAK DUO L-G5.2 395W	DC SYSTEM SIZE	9480 W	7900 W
POWER RATING	7600W		6000W		MODULE POWER @ STC	395W	INVERTER STRING VOLTAGE: Vmp	400V	380V
MAX OUTPUT CURRENT	32A		25A		OPEN CIRCUIT VOLTAGE: Voc	48.74V	MAX INVERTER SYSTEM VOLTAGE: Voc	480V	480V
CEC WEIGHTED EFFICIENCY	99%		99%		MAX POWER VOLTAGE: Vmp	40.71V	MAX SHORT CIRCUIT CURRENT	15A	15A
MAX INPUT CURRENT	20A		16.5A		SHORT CIRCUIT CURRENT: Isc	10.19A	OPERATING CURRENT	11.85A	10.39A
MAX DC VOLTAGE	480V		480V		MAX POWER CURRENT: Imp	9.70A			

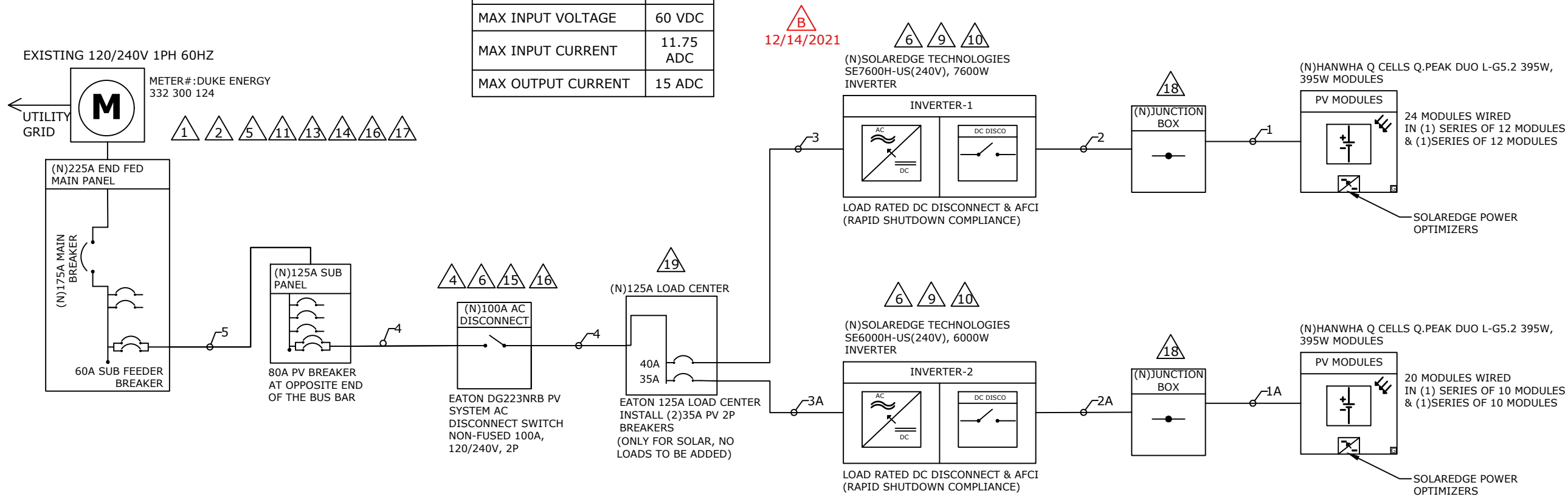
- CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
- CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
- MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
- ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.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

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

MAIN PANEL UPGRADE: REPLACE EXISTING MAIN SERVICE PANEL WITH NEW 225/175A MAIN PANEL

FROM METER MAIN COMBO PANEL LOAD ARE RELOCATED TO NEW SUB PANEL TO MAKE ROOM FOR SUB FEEDER BREAKER



CONDUIT SCHEDULE

TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1&1A	NONE	(4) 10AWG PV WIRE	NONE	(1) 10AWG BARE COPPER
2&2A	3/4"EMT	(4) 10AWG THHN/THWN-2	NONE	(1) 10AWG THHN/THWN-2
3	3/4"EMT	(2) 8AWG THHN/THWN-2	(1) 8AWG THHN/THWN-2	(1) 10AWG THHN/THWN-2
3A	3/4" SCH 40 PVC (BELOW GROUND) 3/4" SCH 80 PVC (ABOVE GROUND)	(2) 8AWG THHN/THWN-2	(1) 8AWG THHN/THWN-2	(1) 10AWG THHN/THWN-2
4	1"EMT	(2) 4AWG THHN/THWN-2	(1) 4AWG THHN/THWN-2	(1) 8AWG THHN/THWN-2
5	3/4"EMT	(2) 6AWG THHN/THWN-2	(1) 6AWG THHN/THWN-2	(1) 10AWG THHN/THWN-2

VOLTAGE DROP CALCULATIONS

Select Material	Cu
Select Wire Size	8
Select Conduit Type	PVC
Select Voltage & Phase	240 1-phase
Enter Distance to Load (ft)	50
Enter Load (Amps)	25
OUTPUTS	
Voltage Drop (Volts)	1.95
% Voltage Drop	0.81
VARIABLES	
Phase Factor	2
K	12.9
Q-Factor	1
Circular Mills	16510

NOTE:
SUB PANEL RATING: 125A, SUB FEEDER BREAKER RATING: 60A
120% RULE: (125A x 1.2) - 60A = 90A => ALLOWABLE BACKFEED IS 95A

OC PD CALCULATIONS:
INVERTER OVERCURRENT PROTECTION = COMBINED INVERTER O/P I X CONTINUOUS LOAD(1.25)
= (32+25) x 1.25 = 71.25A => PV BREAKER = 80A
ALLOWABLE BACKFEED 95A => 80A PV BREAKER
THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.



CUSTOMER INFORMATION

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35.320226, -78.667743
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SINGLE LINE DIAGRAM

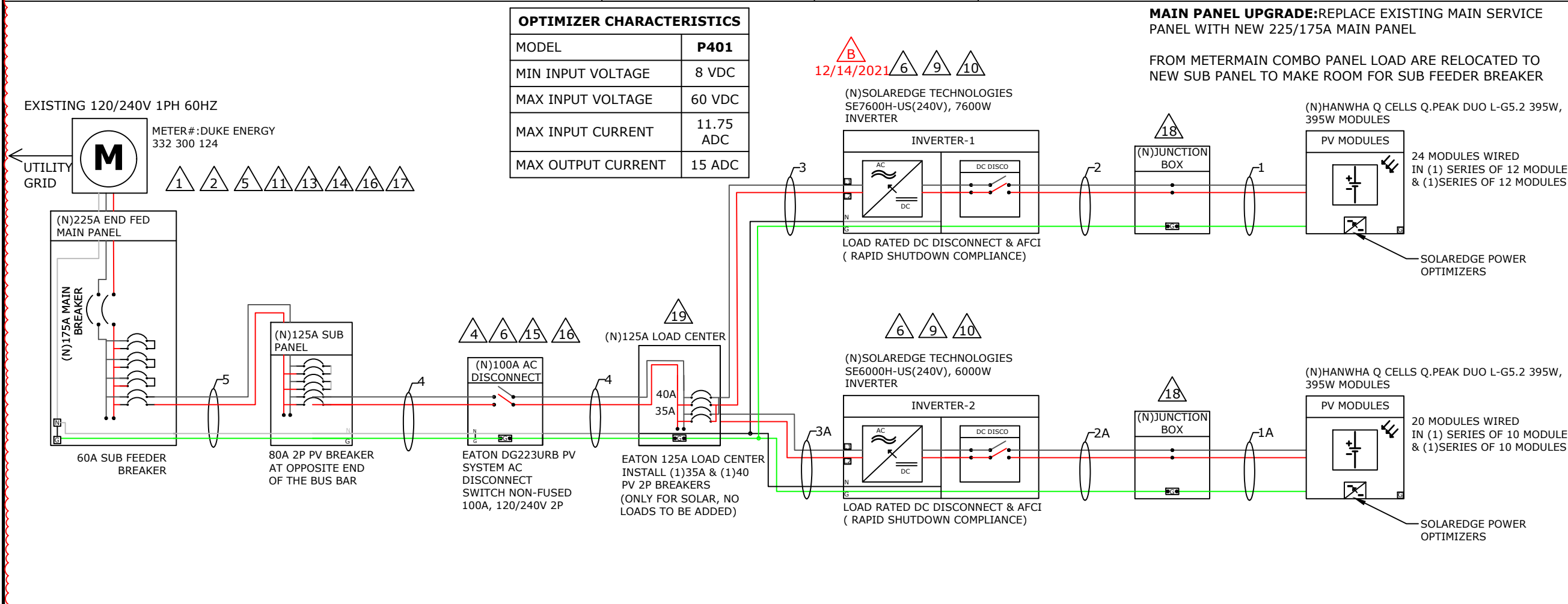
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THREE LINE DIAGRAM: DC SYSTEM SIZE - 17380W, AC SYSTEM SIZE - 13600W

ELECTRICAL NOTES

SPECIFICATIONS	INVERTER-1		INVERTER-2		MODULE SPECIFICATION		SYSTEM CHARACTERISTICS		
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POWER RATING	7600W	7600W	6000W	6000W	MODULE POWER @ STC	395W	INVERTER STRING VOLTAGE: Vmp	400V	380V
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- 10.CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).



OPTIMIZER CHARACTERISTICS

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MAX OUTPUT CURRENT	15 ADC



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VOLTAGE DROP CALCULATIONS

Select Material	Cu
Select Wire Size	8
Select Conduit Type	PVC
Select Voltage & Phase	240 1-phase
Enter Distance to Load (ft)	50
Enter Load (Amps)	25
OUTPUTS	
Voltage Drop (Volts)	1.95
% Voltage Drop	0.81
VARIABLES	
Phase Factor	2
K	12.9
Q-Factor	1
Circular Mils	16510

NOTE:
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120% RULE: (125A x 1.2) - 60A = 90A => ALLOWABLE BACKFEED IS 95A

OCPD CALCULATIONS:
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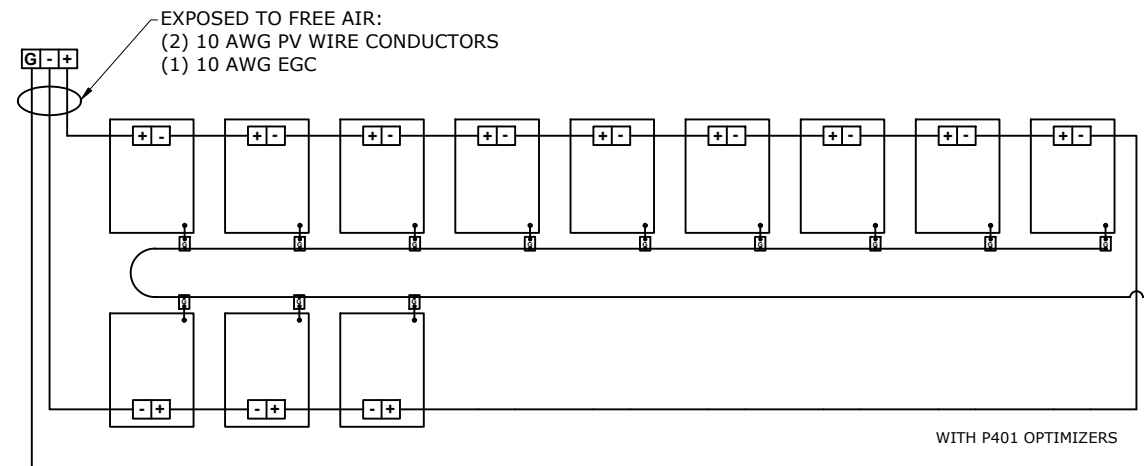


THREE LINE DIAGRAM

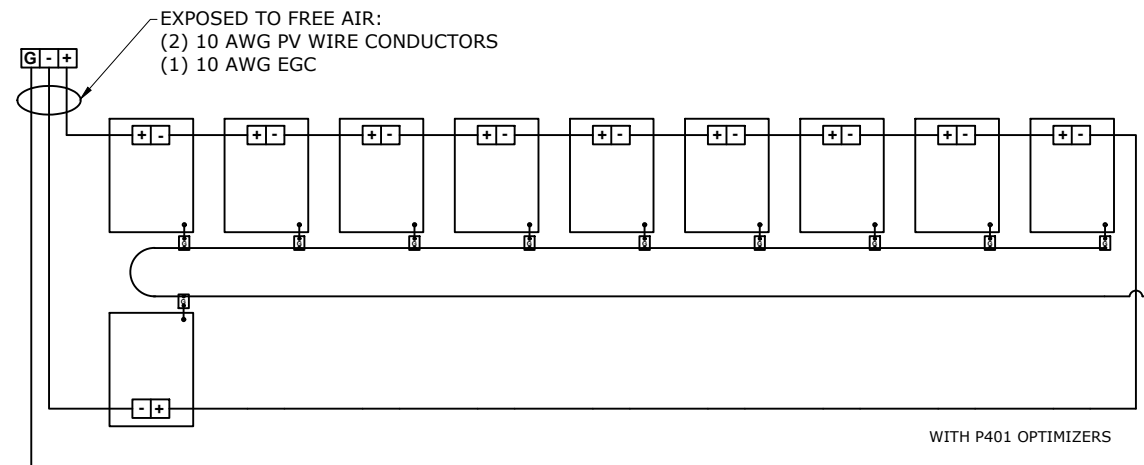
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STRING WIRING DIAGRAM

2 STRINGS OF 12 MODULES



2 STRINGS OF 10 MODULES



ADDRESS: 525W, BASELINE RD
MESA AZ,85210

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STRING WIRING DIAGRAM

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PAPER SIZE: 17"X11"

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E-3

ELECTRICAL CALCULATION

DC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS>>

- REQUIRED CONDUCTOR AMPACITY: $125\% \text{ PER } 690.8(A)(1) \times I_{sc}(A) \times \# \text{ OF PARALLEL STRINGS} = \text{MAX CURRENT PER } 690.8(A)(1) \times 125\% \text{ PER } 690.8(B)(2)(a) = \text{MAX CURRENT PER } 690.8(B)(2)(a)$
- CORRECTED AMPACITY CALCULATIONS: $\text{AMPACITY} \times \text{TEMPERATURE DERATE FACTOR} \times \text{CONDUIT FILL DERATE} = \text{DERATED CONDUCTOR AMPACITY}$
- DERATED CONDUCTOR AMPACITY CHECK: $\text{MAX CURRENT PER } 690.8(B)(2)(2) < \text{DERATED CONDUCTOR AMPACITY}$

AC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS >>

- REQUIRED CONDUCTOR AMPACITY: $\text{INVERTER OUTPUT CURRENT} \times \# \text{ OF INVERTERS} \times \text{MAX CURRENT PER } 690.8(A)(3) \times 125\% \text{ PER } 690.8(B)(2)(A)$
- CORRECTED AMPACITY CALCULATIONS: $\text{AMPACITY} \times \text{TEMPERATURE DERATE FACTOR} \times \text{CONDUIT FILL DERATE} = \text{DERATED CONDUCTOR AMPACITY}$
- DERATED CONDUCTOR AMPACITY CHECK: $\text{MAX CURRENT PER } 690.8(B)(2)(2) < \text{DERATED CONDUCTOR AMPACITY}$

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

TAG ID	REQUIRED CONDUCTOR AMPACITY								CORRECTED AMPACITY CALCULATION								DERATED CONDUCTOR AMPACITY CHECK				
1&1A	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&2A	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	X	1.25	=	40.00A	55	X	0.87	X	1	=	47.85A	40.00A	<	47.85A	
3A	25	X	1	=	25	X	1.25	=	31.25A	55	X	0.87	X	1	=	47.85A	31.25A	<	47.85A	
4	57	X	1	=	57	X	1.25	=	71.25A	95	X	0.87	X	1	=	82.65A	71.25A	<	82.65A	

WARNING PLACARD

1

CAUTION
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

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

2

WARNING
INVERTER OUTPUT CONNECTION:
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

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

3

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

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

4

PHOTOVOLTAIC AC DISCONNECT
RATED AC OPERATING CURRENT 32.00 A
AC NOMINAL OPERATING VOLTAGE 240 VAC

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

5

**RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM**

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

6

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

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

8

WARNING
PHOTOVOLTAIC SYSTEM
COMBINER PANEL
DO NOT ADD LOADS

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

9

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

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

10

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

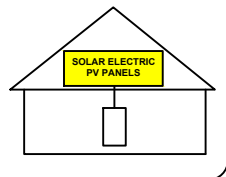
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR
MODULES ARE EXPOSED TO SUNLIGHT

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

11

**SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN**

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



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

19

**DEDICATED PHOTOVOLTAIC SYSTEM
COMBINER PANEL NO LOAD SHALL BE
ADDED TO THIS PANEL**

LABEL LOCATION
AC PHOTOVOLTAIC COMBINER PANEL
REF. CODE : NEC 690.64(B)(2)

13

CAUTION
DUAL POWER SOURCE
SECOND SOURCE IS
PHOTOVOLTAIC

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

14

WARNING
INVERTER OUTPUT CONNECTION
DO NOT RELOCATE THIS
OVER-CURRENT DEVICE

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

15

**PHOTOVOLTAIC SYSTEM
UTILITY DISCONNECT SWITCH**

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

16

WARNING
ELECTRIC SHOCK HAZARD
IF GROUND FAULT IS INDICATED ALL NORMALLY
GROUNDED CONDUCTORS MAY BE UNGROUNDED
AND ENERGIZED

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

17

PV SOLAR BREAKER
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

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

18

WARNING PHOTOVOLTAIC POWER SOURCE

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



ADDRESS: 525W, BASELINE RD
MESA AZ,85210

CUSTOMER INFORMATION

NAME: PAUL ODOM

ADDRESS:104 WOODALL DR, ERWIN, NC
28339

35.320226, -78.667743
APN: 060-597-020-218

AHJ:NC-TOWN OF ERWIN

UTILITY:DUKE ENERGY

PRN NUMBER:TPS-40595



WARNING PLACARDS

DESIGNER /CHECKED
BY: ANK/RK

PAPER SIZE:17"X11"

SCALE:AS NOTED

REV:B

DATE:12/15/2021

PL-1

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.

SAFETY PLANS-1

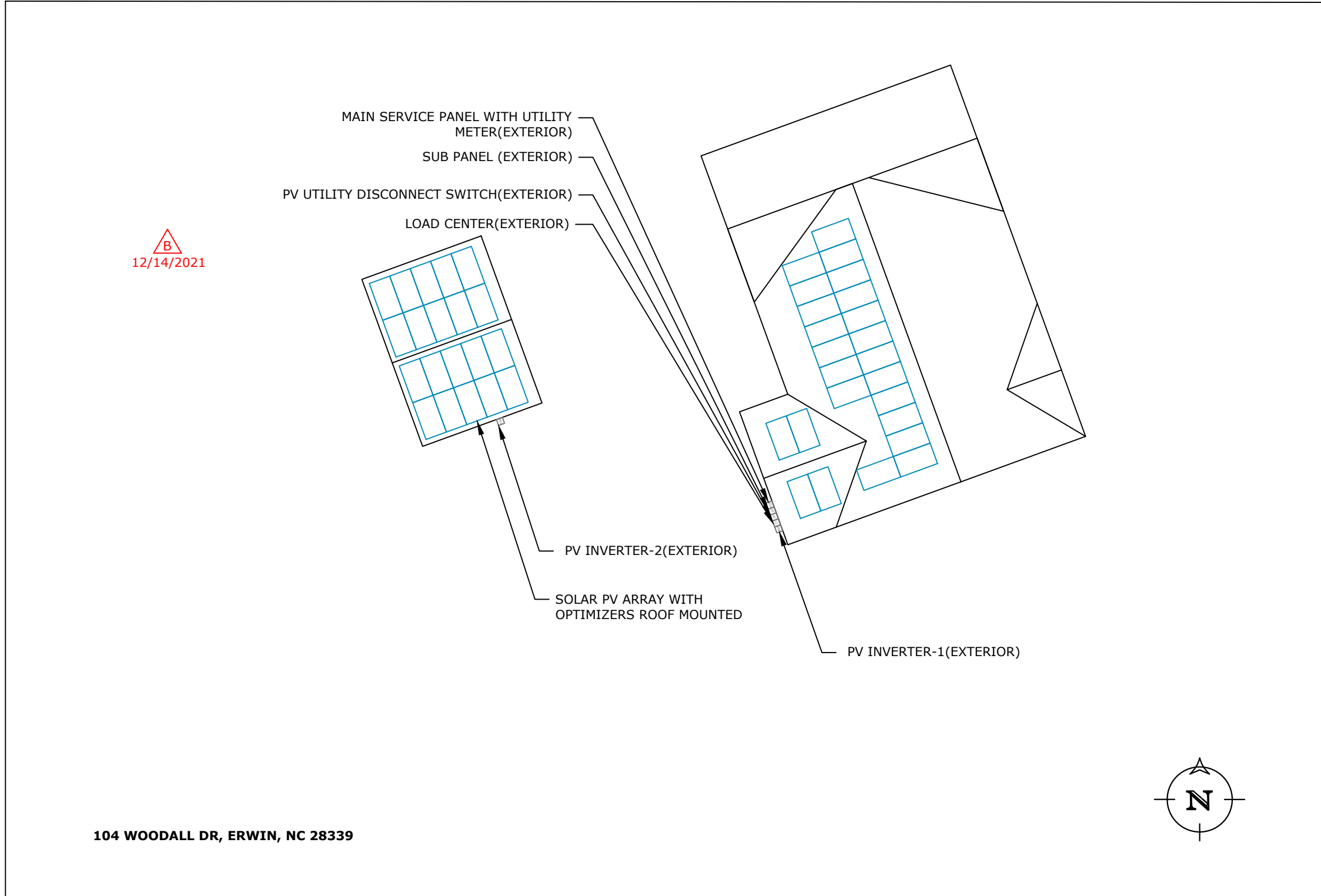
SAFETY PLANS

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:



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SAFETY PLANS-1

DESIGNER /CHECKED BY: ANK/RK

PAPER SIZE:17"X11"

SCALE:AS NOTED

REV:B

DATE:12/15/2021

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 # _____



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SAFETY PLANS-2

DESIGNER /CHECKED
BY: ANK/RK

PAPER SIZE:17"X11"

SCALE:AS NOTED

REV:B

DATE:12/15/2021

PL-3

SPEC SHEET



Q.ANTUM SOLAR MODULE

The new high-performance module **Q.PEAK DUO L-G5.2** is the ideal solution for commercial and utility applications thanks to a combination of its innovative cell technology **Q.ANTUM** and cutting edge cell interconnection. This 1500V IEC/UL solar module with its 6 busbar cell design ensures superior yields with up to 395 Wp while having a very low LCOE.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.9%.



INNOVATIVE ALL-WEATHER TECHNOLOGY

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



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty².



THE IDEAL SOLUTION FOR:

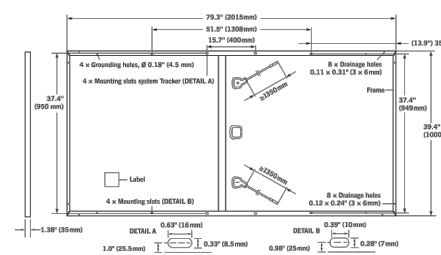


Engineered in **Germany**



MECHANICAL SPECIFICATION

Format	79.3 in × 39.4 in × 1.38 in (including frame) (2015 mm × 1000 mm × 35 mm)
Weight	51.8 lbs (23.5 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized aluminum
Cell	6 × 24 monocrystalline Q.ANTUM solar half-cells
Junction box	2.76-3.35 in × 1.97-2.76 in × 0.51-0.83 in (70-85 mm × 50-70 mm × 13-21 mm), Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 53.1 in (1350 mm), (-) ≥ 53.1 in (1350 mm)
Connector	Multi-Contact MC4-EVO2, JMTHY PV-JM601A, IP68 or Renhe 05-6, IP67

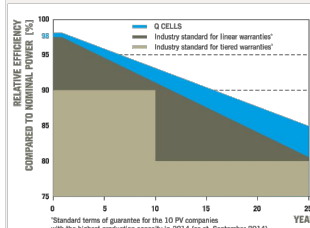


ELECTRICAL CHARACTERISTICS

POWER CLASS	380	385	390	395	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / -0 W)					
Power at MPP¹	P_{MPP} [W]	380	385	390	395
Short Circuit Current¹	I_{sc} [A]	10.05	10.10	10.14	10.19
Open Circuit Voltage¹	V_{oc} [V]	47.95	48.21	48.48	48.74
Current at MPP	I_{MPP} [A]	9.57	9.61	9.66	9.70
Voltage at MPP	V_{MPP} [V]	39.71	40.05	40.38	40.71
Efficiency¹	η [%]	≥ 18.9	≥ 19.1	≥ 19.4	≥ 19.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²					
Power at MPP	P_{MPP} [W]	283.9	287.6	291.3	295.1
Short Circuit Current	I_{sc} [A]	8.10	8.14	8.17	8.21
Open Circuit Voltage	V_{oc} [V]	45.12	45.37	45.62	45.87
Current at MPP	I_{MPP} [A]	7.53	7.57	7.60	7.64
Voltage at MPP	V_{MPP} [V]	37.69	38.01	38.33	38.64

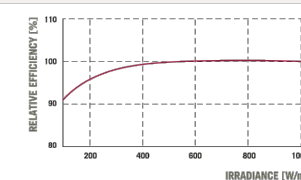
¹Measurement tolerances P_{MPP} ± 3%; I_{sc}, V_{oc} ± 5% at STC: 1000 W/m², 25 ± 2°C, AM 1.5 G according to IEC 60904-3 - ²800 W/m², NMOT, spectrum AM 1.5 G

Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% of nominal power up to 25 years.

PERFORMANCE AT LOW IRRADIANCE



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

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{sc}	α [%/K]	+0.04	Temperature Coefficient of V_{oc}	β [%/K]	-0.28
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.37	Normal Operating Module Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3°C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{sys} [V]	1500 (IEC) / 1500 (UL)	Safety Class	II
Maximum Series Fuse Rating [A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Max. Design Load, Push / Pull (UL)² [lbs/ft ²]	75 (3600 Pa) / 33 (1600 Pa)	Permitted module temperature on continuous duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push / Pull (UL)² [lbs/ft ²]	113 (5400 Pa) / 50 (2400 Pa)		² see installation manual

QUALIFICATIONS AND CERTIFICATES

UL 1703; CE-compliant; IEC 61215:2016, IEC 61730:2016 application class A



PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per 53' Trailer	26
Number of Pallets per 40' High Cube Container	22
Pallet Dimensions (L × W × H)	81.9 in × 45.3 in × 46.7 in (2080 mm × 1150 mm × 1185 mm)
Pallet Weight	1635 lbs (742 kg)

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

Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us



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APN: 060-597-020-218

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UTILITY:DUKE ENERGY

PRN NUMBER:TPS-40595



MODULE SPEC SHEET

DESIGNER /CHECKED BY: ANK/RK PAPER SIZE:17"X11"

SCALE:AS NOTED REV:B

DATE:12/15/2021 SS-1

Single Phase Inverter with HD-Wave Technology

for North America

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



12-25
YEAR
WARRANTY

INVERTERS

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



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			400				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	600ka 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

DESIGNER /CHECKED BY: ANK/RK PAPER SIZE:17"X11"

SCALE:AS NOTED REV:B

DATE:12/15/2021 SS-2

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

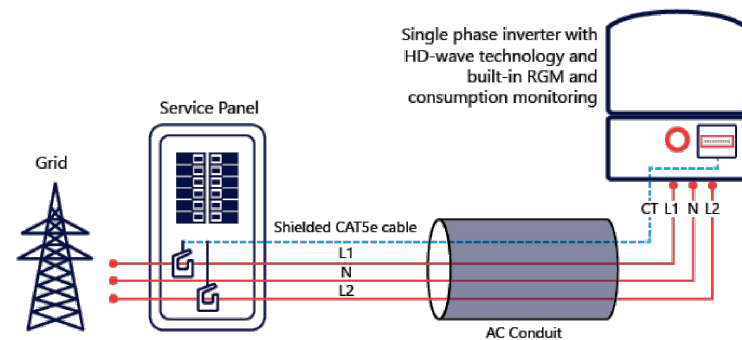
MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)						
Revenue Grade Metering, ANSI C12.20	Optional ¹⁾						
Consumption metering							
Inverter 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 AFCL according to T.I.L. M-07						
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (H)						
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			
Weight with Safety Switch	22 / 10	25.1 / 11.4	26.2 / 11.9	38.8 / 17.6		lb / kg	
Noise	< 25			<50			
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60 ⁶⁾						
Protection Rating	NEMA 4X (Inverter with Safety Switch)						

¹⁾ Inverter with Revenue Grade Meter P/N: SExxxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BN14. For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box

⁶⁾ 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



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RoHS



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INVERTER SPEC SHEET

DESIGNER /CHECKED
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PAPER SIZE:17"X11"

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DATE:12/15/2021

SS-3

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



Power Optimizer For North America

P370 / P400 / P401 / P485 / P505

Optimizer model (typical module compatibility)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72 cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
INPUT						
Rated Input DC Power ⁽¹⁾	370	400		485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	60	125 ⁽²⁾	83 ⁽²⁾	Vdc
MPPT Operating Range	8 - 60	8 - 80	8-60	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11	10.1	11.75	11	14	Adc
Maximum Efficiency				99.5		%
Weighted Efficiency				98.8		%
Overvoltage Category				II		
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREGE INVERTER)						
Maximum Output Current				15		Adc
Maximum Output Voltage				60	85	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREGE INVERTER OR SOLAREGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer				1 ± 0.1		Vdc
STANDARD COMPLIANCE						
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020		NEC 2014, 2017 & 2020	NEC 2014, 2017 & 2020		
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741					
Material	UL94 V-0, UV Resistant					
RoHS	Yes					
INSTALLATION SPECIFICATIONS						
Maximum Allowed System Voltage	1000					Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters					
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	655 / 1.4	750 / 1.7	655 / 1.4	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4 ⁽³⁾			Single or dual MC4 ⁽³⁾⁽⁴⁾	MC4 ⁽³⁾	
Input Wire Length	0.16 / 0.52, 0.9 / 2.95 ⁽⁴⁾	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95 ⁽⁴⁾	0.16 / 0.52	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	1.2 / 3.9					m / ft
Operating Temperature Range ⁽⁵⁾	-40 to +85 / -40 to +185					°C / °F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed
 (2) NEC 2017 requires max input voltage be not more than 80V
 (3) For other connector types please contact SolarEdge
 (4) For dual version for parallel connection of two modules use P485-4NMDMRM. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals
 (5) For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P370, P400, P401 P485, P505	8	10	18	
Maximum String Length (Power Optimizers)		6	8	14	
Maximum Nominal Power per String	5700 ⁽⁸⁾ (6000 with SE7600-US - SE11400-US)	25	5250 ⁽⁸⁾	6000 ⁽⁸⁾	12750 ⁽¹⁰⁾
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

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CUSTOMER INFORMATION

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35.320226, -78.667743
APN: 060-597-020-218

AHJ:NC-TOWN OF ERWIN

UTILITY:DUKE ENERGY

PRN NUMBER:TPS-40595



OPTIMIZER SPEC SHEET

DESIGNER /CHECKED BY: ANK/RK

PAPER SIZE:17"X11"

SCALE:AS NOTED

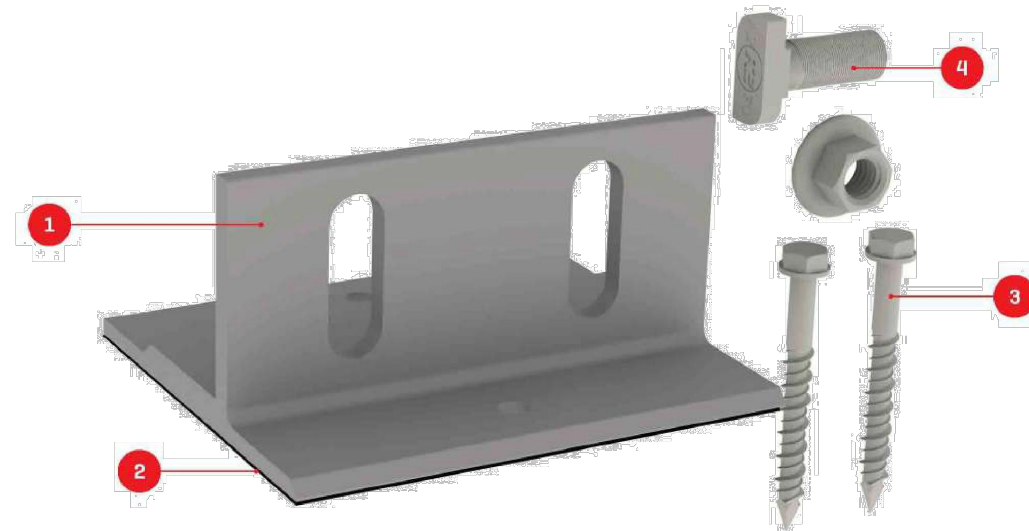
REV:B

DATE:12/15/2021

SS-4

SPEC SHEET

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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

DESIGNER /CHECKED
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PAPER SIZE:17"X11"

SCALE:AS NOTED

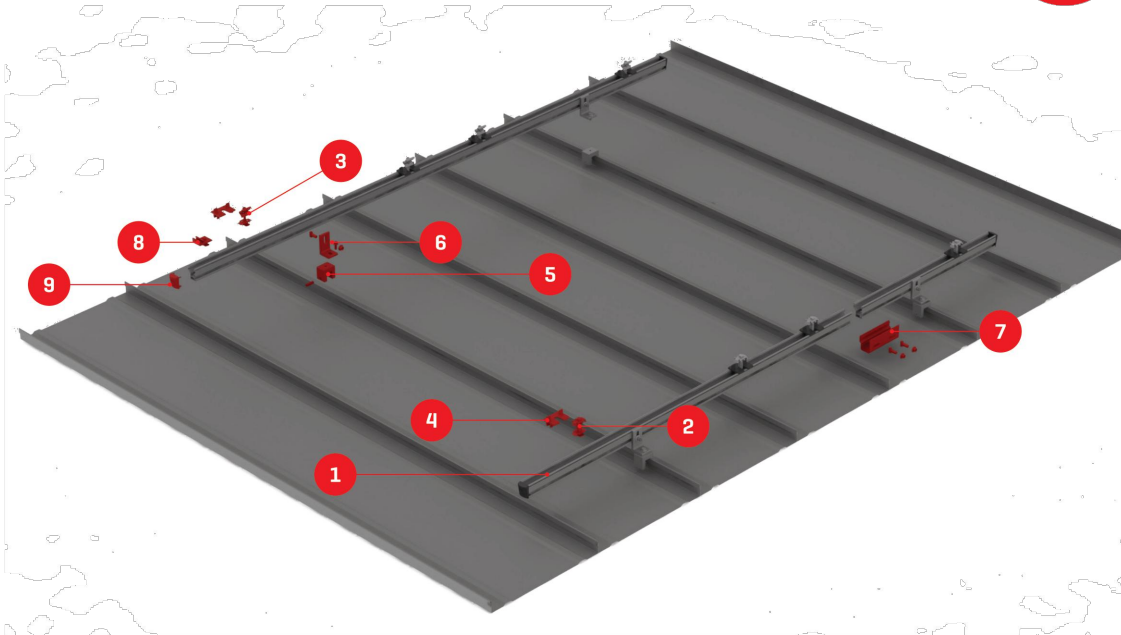
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DATE:12/15/2021

SS-5

SPEC SHEET

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CrossRail Shared Rail System

TECHNICAL SHEET

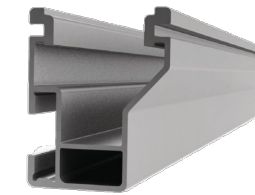
Item Number	Description	Part Number
1	CrossRail 44-X (shown) all CR profiles applicable	4000019 [166" mill], 4000020 [166" dark], 4000021 [180" mill], 4000022 [180" dark]
2	CrossRail Mid Clamp	4000601-H (mill), 4000602-H (dark)
3	CrossRail (Standard) End Clamp	4000429 (mill), 4000430 (dark)
4	Add-On (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 48-X



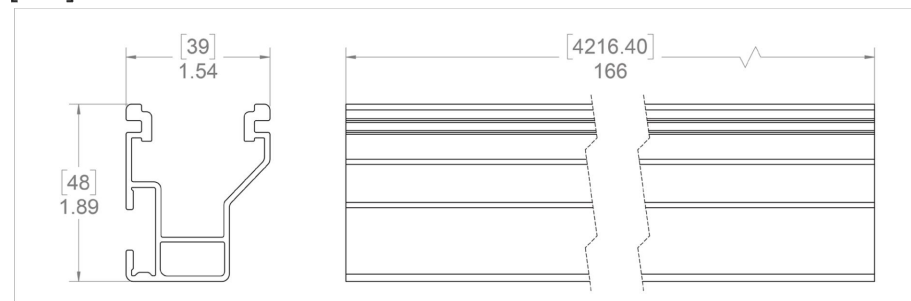
Mechanical Properties

	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

Sectional Properties

	CrossRail 48-X
Sx	0.1980 in ³ [3.245 cm ³]
Sy	0.1510 in ³ [2.474 cm ³]
A [X-Section]	0.4650 in ² [2.999 cm ²]

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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REV:B

DATE:12/15/2021

SS-6

SPEC SHEET

Product data sheet Characteristics

HOM4080L225PRB
Homeline, LC, 225 A, 120/240 V, 1 PH, MLO,
PoN, 40 SP, N3R, surf



Product availability: Stock - Normally stocked in distribution facility



Main

Product or component type	Load Center
Marketing Trade Name	Homeline
Load center type	Main lugs
Line Rated Current	225 A
Number of spaces	40
Number of circuits	80
Enclosure Rating	NEMA 3R outdoor
Cover type	Surface cover
Electrical connection	Lugs

Complementary

Short-circuit current	10 kA
Number of Tandem Breakers	40
Phase	1 phase
System Voltage	120/240 V AC
Wire Size	AWG 4...300 kcmil (aluminium) AWG 4...250 kcmil (copper)
Wiring configuration	3-wire
Cover finish	Gray baked enamel
Busbar Material	Tin plated aluminium busbar
Enclosure material	Welded galvanized steel
Surface finish	Baked enamel grey
Box number	14R
Height	39.37 in (1000 mm)
Width	14.76 in (375 mm)
Depth	4.53 in (115 mm)
Tightening torque	250 lbf.in (AWG 4...250 kcmil) 250 lbf.in (AWG 4...300 kcmil)

Environment

Product certifications	UL E-6294
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Ordering and shipping details

Category	00145 - HOM LC&CVR,12-42CKT NEMA3R
Discount Schedule	DE3C
GTIN	0078590197773
Nbr. of units in pkg.	1
Package weight(Lbs)	42.240000000000002
Returnability	Y
Country of origin	US

Aug 11, 2019



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Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 1414 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity
REACH	Reference not containing SVHC above the threshold
Product environmental profile	Available
Product end of life instructions	Need no specific recycling operations
California proposition 65	WARNING: This product can expose you to chemicals including:
----- Substance 1	Lead and lead compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm.
----- More information	For more information go to www.p65warnings.ca.gov

The information provided in this documentation contains general descriptions and/or technical characteristics of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.



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MPU SPEC SHEET

DESIGNER /CHECKED BY: ANK/RK PAPER SIZE:17"X11"

SCALE:AS NOTED REV:B

DATE:12/15/2021 SS-7