

ROOF MOUNTED PHOTOVOLTAIC SYSTEM AT

Ketan R Patel

211 St Clair Dr Fuquay-Varina, NC 27526



5112 Departure Drive,
Raleigh, NC 27616



FRONT VIEW OF THE BUILDING



AERIAL VIEW OF THE BUILDING

SYSTEM DETAILS

10.92 KW ROOF MOUNTED SOLAR SYSTEM WITH MAX. 10.0 KVAC
OUTPUT CAPACITY

SOLAR PANELS MODEL	Canadian Solar CS6.1-54TM-455H
NO. OF SOLAR PANELS	24
INVERTER + BATTERY	01 X TESLA POWER WALL 3
NO. OF INVERTER	1
RAPID SHUT DOWN DEVICE (RSD)	MCI - 2 (High Current)
NO. OF RSD	09
RACKING	PEGASUS (PSR-B84 RAILS)
MOUNTING DETAILS	INSTAFLASH2

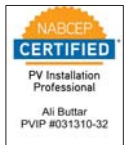
SHEET INDEX

G01	COVER SHEET
E01	ELECTRICAL NOTES
PV01	SITE LAYOUT
PV02	STRING MAPPING
PV03	ELECTRICAL ONE LINE DIAGRAM
PV04	ELECTRICAL DETAILED WIRING DIAGRAM
PV05	GROUNDING PLAN
PV06	WARNING LABELS AND LOCATION
PV07	RACKING DETAILS
PV08	BILL OF MATERIALS
SS01	PRODUCT SPEC. SHEETS



CUSTOMER INFORMATION		
NAME	Ketan R Patel	
ADDRESS	211 St Clair Dr Fuquay-Varina, NC 27526	
APPROVAL		

JOB NUMBER	25-339-KP
PAGE SIZE	24" x 36"



09-15-2025

REV	DATE	DESCRIPTION
A	7/22/2025	

UTILITY COMPANY

DUKE ENERGY

PERMIT ISSUER (AHJ)

Harnett County

SCOPE OF WORK

INSTALLATION OF UTILITY INTERACTIVE
PHOTOVOLTAIC SOLAR SYSTEM

DESIGN CRITERIA

WIND SPEED = 120MPH

GROUND SNOW LOAD = 15PSF

WIND EXPOSURE FACTOR = B

DRAWING #
G01

THE INSTALLATION OF SOLAR ARRAYS AND PHOTOVOLTAIC POWER SYSTEMS SHALL COMPLY WITH THE FOLLOWING CODES:

- 2020 NATIONAL ELECTRICAL CODE
- 2018 NORTH CAROLINA RESIDENTIAL CODE
- 2018 NORTH CAROLINA BUILDING CODE
- ALL OTHER ORDINANCE ADOPTED BY THE LOCAL GOVERNING AGENCIES

SITE NOTES / OSHA REGULATION

1. A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2. THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
3. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED AND IDENTIFIED BY RECOGNIZED ELECTRICAL TESTING LABORATORY.
4. MODULES AND SUPPORT STRUCTURES SHALL BE GROUNDED
5. SOLAR INVERTER SHALL BE LISTED TO UL1741
6. ALL CONDUCTORS SHALL BE COPPER AND SHOULD BE 75 AND 90 DEG RATED
7. REMOVAL OF AN INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BONDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR, THE PHOTOVOLTAIC SOURCE AND OUTPUT CIRCUIT GROUNDED CONDUCTORS.
8. LIVE PARTS OF PV SOURCE CIRCUITS AND PV OUTPUT CIRCUITS OVER 150V TO GROUND SHALL NOT BE ACCESSIBLE TO OTHER THAN QUALIFIED PERSONS WHILE ENERGIZED.
9. ALL PV MODULES AND ASSOCIATED EQUIPMENT AND WIRING SHALL BE PROTECTED FROM PHYSICAL DAMAGE.
10. NFPA 855 ONLY PERMITS RESIDENTIAL ESS TO BE INSTALLED IN THE FOLLOWING AREAS: ATTACHED GARAGES, DETACHED GARAGES, ON EXTERIOR WALLS AT LEAST 3 FT AWAY FROM DOORS OR WINDOWS, OUTDOORS AT LEAST 3 FT AWAY FROM DOORS OR WINDOWS, UTILITY CLOSETS, STORAGE OR UTILITY SPACES.

SOLAR CONTRACTOR

1. MODULE CERTIFICATIONS INCLUDE UL1703, IEC61646, IEC61370.
2. IF APPLICABLE, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE MARKED GROUNDING LUG HOLES PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.
3. AS INDICATED BY DESIGN, OTHER NRTL LISTED MODULE GROUNDING DEVICES MAY BE USED IN PLACE OF STANDARD GROUNDING LUGS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ.
4. ALL MICROINVERTERS, PHOTOVOLTAIC MODULES, AC COMBINERS, DC-AC CONVERTERS AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER NEC690.4(B).
5. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH LOCAL BUILDING CODE.
6. TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS
(WHEN PROVIDED) IN ACCORDANCE WITH NEC CODE 110.14(D) ON ALL ELECTRICAL CONNECTIONS.
7. MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC UNLESS NOT AVAILABLE.

LEGEND - GENERAL

- _____ DARK LINE INDICATES NEW OR WITHIN THE SCOPE OF PROJECT
 _____ LIGHT LINE INDICATES EXISTING OR BEYOND THE SCOPE OF PROJECT
 ----- DASHED LINE INDICATES EQUIPMENT AT A DIFFERENT LOCATION

LEGEND - PLAN SYMBOLS

-
- SOLAR MODULE
- RACEWAY TURNING UP OR TOWARDS OBSERVER
- RACEWAY TURNING DOWN OR AWAY FROM OBSERVER
- CABLE TRAY
- PULL BOX
- JUNCTION BOX
- PANEL BOARD
- LOCAL DISCONNECT SWITCH
- SIMPLEX RECEPTACLE, RATED: 125 - VOLTS AC, 20A
- DUPLEX RECEPTACLE, RATED: 125 - VOLTS AC, 20A
- WEATHERPROOF DUPLEX RECEPTACLE, RATED: 125 - VOLTS AC, 20A
- GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE, RATED: 125 - VOLTS AC, 20A
- DOUBLE DUPLEX (QUAD) RECEPTACLE CEILING / PENDANT - MOUNT
- LIGHT, SEE FIXTURE SCHEDULE FOR TYPE
- WALL - MOUNT LIGHT, SEE FIXTURE SCHEDULE FOR TYPE
- GROUND ROD
- GROUND ROD W / TEST WELL

LEGEND - ONE LINE DIAGRAM AND WIRING DIAGRAM SYMBOLS

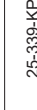
- | | |
|--|---|
| | CIRCUIT BREAKER, FRAME SIZE AND TRIP SETTING AS NOTED |
| | DISCONNECT SWITCH |
| | INVERTER |
| | BUS CONNECTION POINT |
| | CROSSING POINT (NO CONNECTION) |
| | NORMALLY CLOSED - NORMALLY OPEN CONTACTS |
| | FUSE, SIZE / RATING AS NOTED |
| | FUSE DISCONNECT SWITCH |
| | EARTH GROUND |
| | PUSHBUTTON SWITCHES: NUMBER AND TYPE OF CONTACT BLOCKS MAY VARY |
| | PUSHBUTTON SWITCHES MUSHROOM HEAD: NUMBER AND TYPE OF CONTACT BLOCKS MAY VARY |
| | KEYED INTERLOCK (KIRK KEY OR EQ) |
| | SHUNT TRIP COIL |
| | TRANSFORMER CONTROL / POWER, SIZE AND RATING AS NOTED |
| | CURRENT TRANSFORMER |
| | POTENTIAL TRANSFORMER |

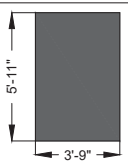
ABBREVIATION

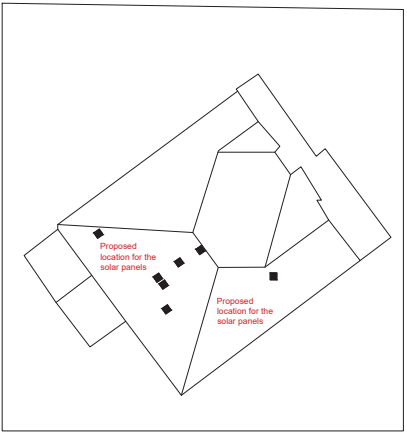
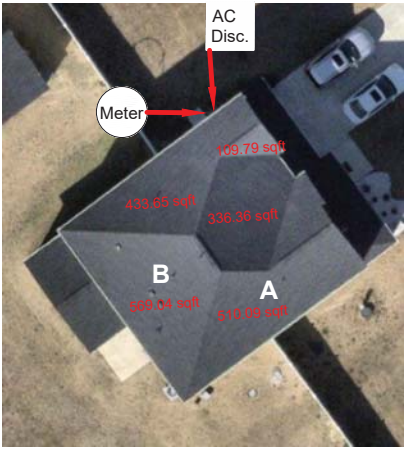
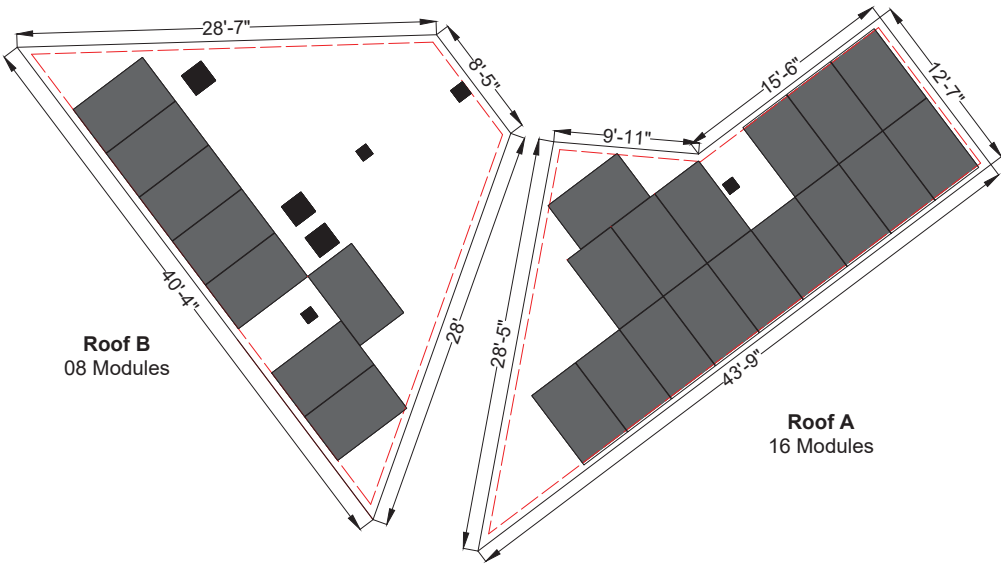
- | | |
|--------|---|
| A | AMPERES |
| AF | AMPERE FRAME |
| AFDI | ARC FAULT DETECTION & INTERRUPTER |
| AIC | AMPS INTERRUPTING CAPACITY |
| AT | AMPERE TRIP |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AWG | AMERICAN WIRE GAUGE |
| BKR | CIRCUIT BREAKER |
| C | CONDUIT |
| CB | COMBINER BOX |
| CKT | CIRCUIT |
| CP | CONTROL PANEL |
| CU | COPPER |
| DISC | DISCONNECT |
| EGC | EQUIPMENT GROUNDING CONDUCTOR |
| ELEC | ELECTRIC, ELECTRICAL |
| EMERG | EMERGENCY |
| EMT | ELECTRICAL METALLIC TUBING |
| EQUIP | EQUIPMENT |
| G, GND | GROUND |
| GEC | GROUNDING ELECTRODE CONDUCTOR |
| GFCI | GROUND-FAULT CIRCUIT INTERRUPTER |
| GFPE | GROUND-FAULT PROTECTION OF EQUIPMENT |
| HID | HIGH - INTENSITY DISCHARGE (LIGHTING) |
| HZ | HERTZ |
| IMC | INTERMEDIATE METALLIC CONDUIT |
| KAIC | 1000 AMPS INTERRUPT CAPACITY |
| KCMIL | 1000 CIRCULAR MILLS |
| KVA | KILO - VOLT AMPERE |
| KW | KILOWATT |
| LA | LIGHTNING & SURGE ARRESTOR |
| LED | LIGHT - EMITTING DIODE |
| LSIG | LONG, SHORT, INSTANTANEOUS, & GROUND FAULT |
| LTG | LIGHTING |
| MAX | MAXIMUM |
| MFG | MANUFACTURER |
| MLO | MAIN LUGS ONLY |
| MPPT | MAXIMUM POWER POINT TRACKING |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NTS | NOT TO SCALE |
| P | POLE |
| PF | POWER FACTOR |
| PLC | PROGRAMMABLE LOGIC CONTROLLER |
| PWR | POWER |
| POI | POINT OF INTERCONNECTION |
| PRI | PRIMARY |
| PVC | POLYVINYL CHLORIDE |
| RCPT | RECEPTACLE |
| RGS | RIGID GALVANIZED STEEL CONDUIT |
| RMC | RIGID METAL CONDUIT |
| SA | SURGE ARRESTOR |
| SEC | SECONDARY |
| SPD | SURGE PROTECTION DEVICE |
| SSBJ | SUPPLY SIDE BONDING JUMPER |
| ST | SHUNT TRIP |
| SW | SWITCH |
| TBD | TO BE DETERMINED |
| TP | TWISTED PAIR |
| Typ | TYPICAL |
| V | VOLT |
| VA | VOLT - AMPERE |
| W | WATT |
| WP | WEATHER PROOF |
| XFMR | TRANSFORMER |

UTILITY DISCONNECT SWITCH REQUIREMENTS

- THE UTILITY REQUIRES A SINGLE LOCKABLE AND VISIBLE DISCONNECTING MEANS BY WHICH THE GENERATION SOURCE CAN BE ISOLATED FROM ANY AND ALL PARTS OF THE UTILITY SYSTEM WHEN NECESSARY. THIS DISCONNECTING MEAN SHOULD BE VISIBLE, ACCESSIBLE AND OPERABLE BY UTILITY PERSONNEL.

<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>A</td> <td>7/22/2025</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	REV	DATE	DESCRIPTION	A	7/22/2025													5112 Departure Drive, Raleigh, NC 27616
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			PAGE SIZE		ADDRESS 211 St Clair Dr Fuquay-Varina, NC 27526													
			24" x 36"		APPROVAL													

ROOF DESCRIPTION				MODULE DIMENSION 	SYSTEM DETAILS				LEGENDS	
ROOF	PITCH	AZIMUTH	NO. OF MODULES		24 x Canadian Solar CS6.1-54TM-455H				Symbol	Description
A	33°	143°	16		01 x POWERWALL 3					6in setback from the sides of roof
B	26°	233°	8		DC SIZE	10.92 KW	AC SIZE	10.0 KVAC		Solar Panels
					TOTAL ROOF AREA:	1079.13 Sqft	Covered Area	355.0Sqft		Vents on roof



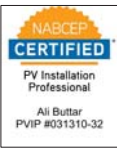
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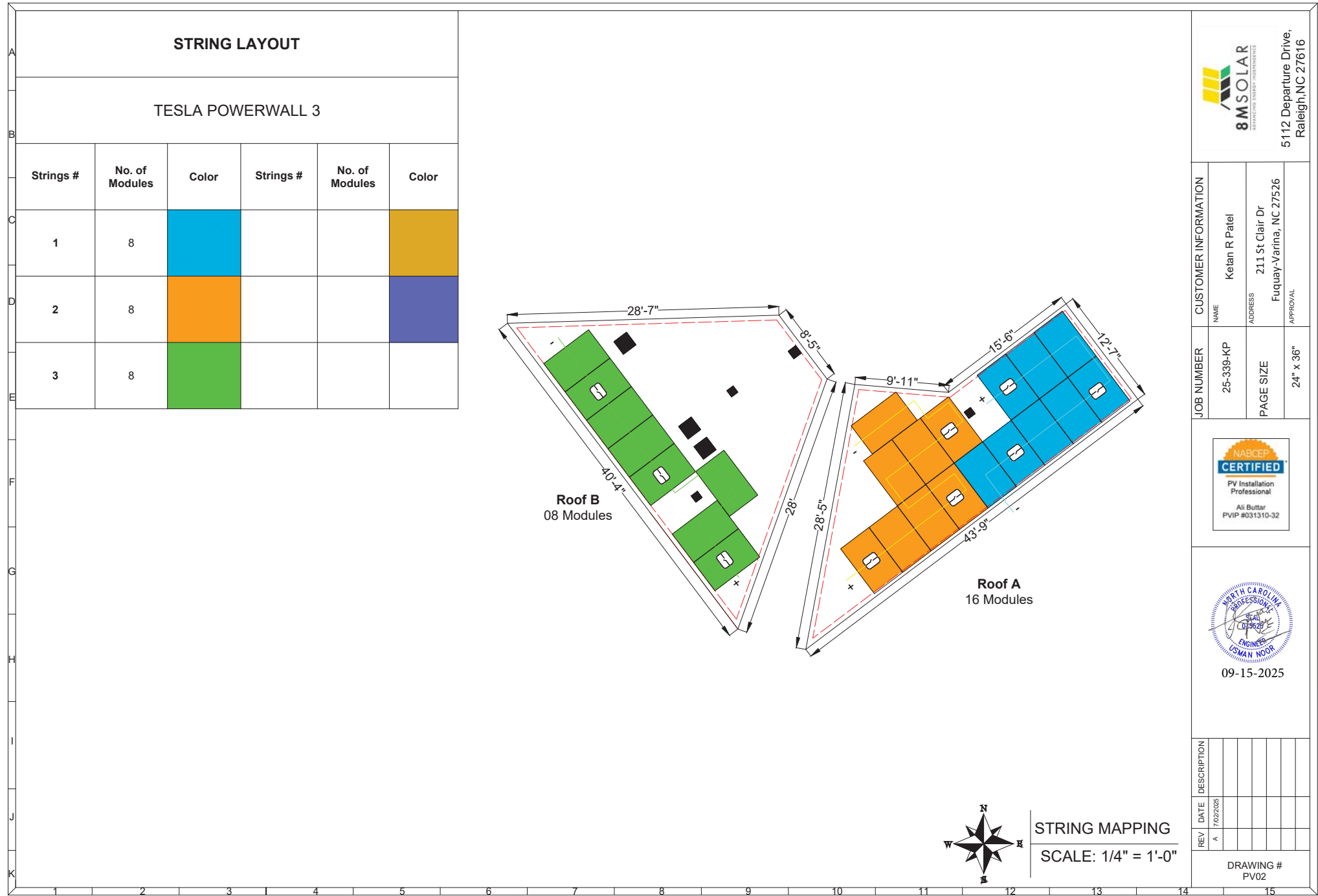


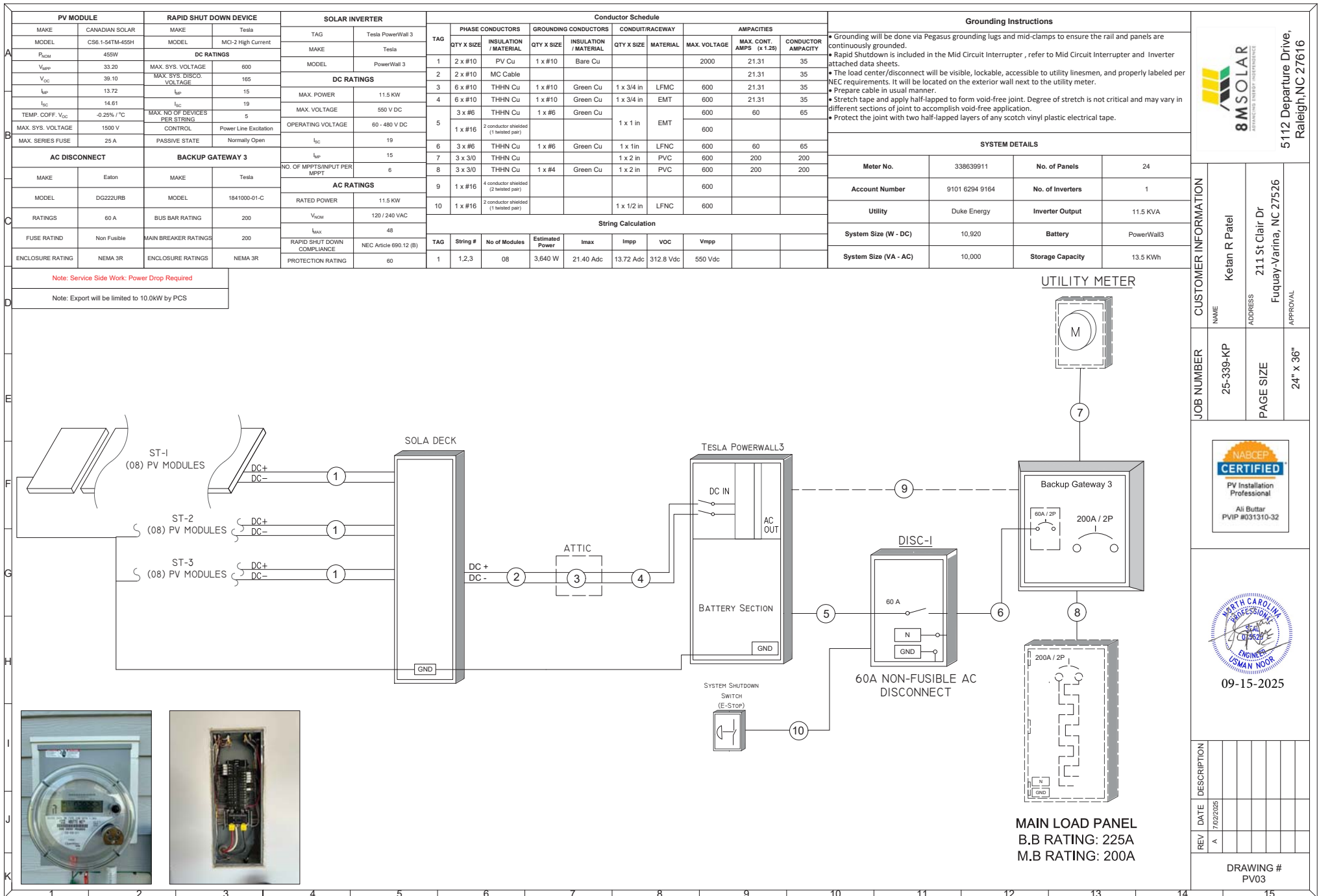
SITE LAYOUT
SCALE: 1/4" = 1'-0"



5112 Departure Drive,
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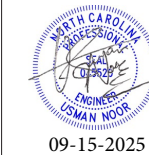
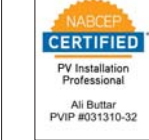
CUSTOMER INFORMATION	
NAME Ketan R Patel	ADDRESS 211 St Clair Dr Fuquay-Varina, NC 27526
JOB NUMBER 25-339-KP	PAGE SIZE 24" x 36"
 PV Installation Professional Ali Buttar PVIP #031310-32	
 09-15-2025	
REV	DESCRIPTION
A	7/22/2025
DRAWING # PV01	





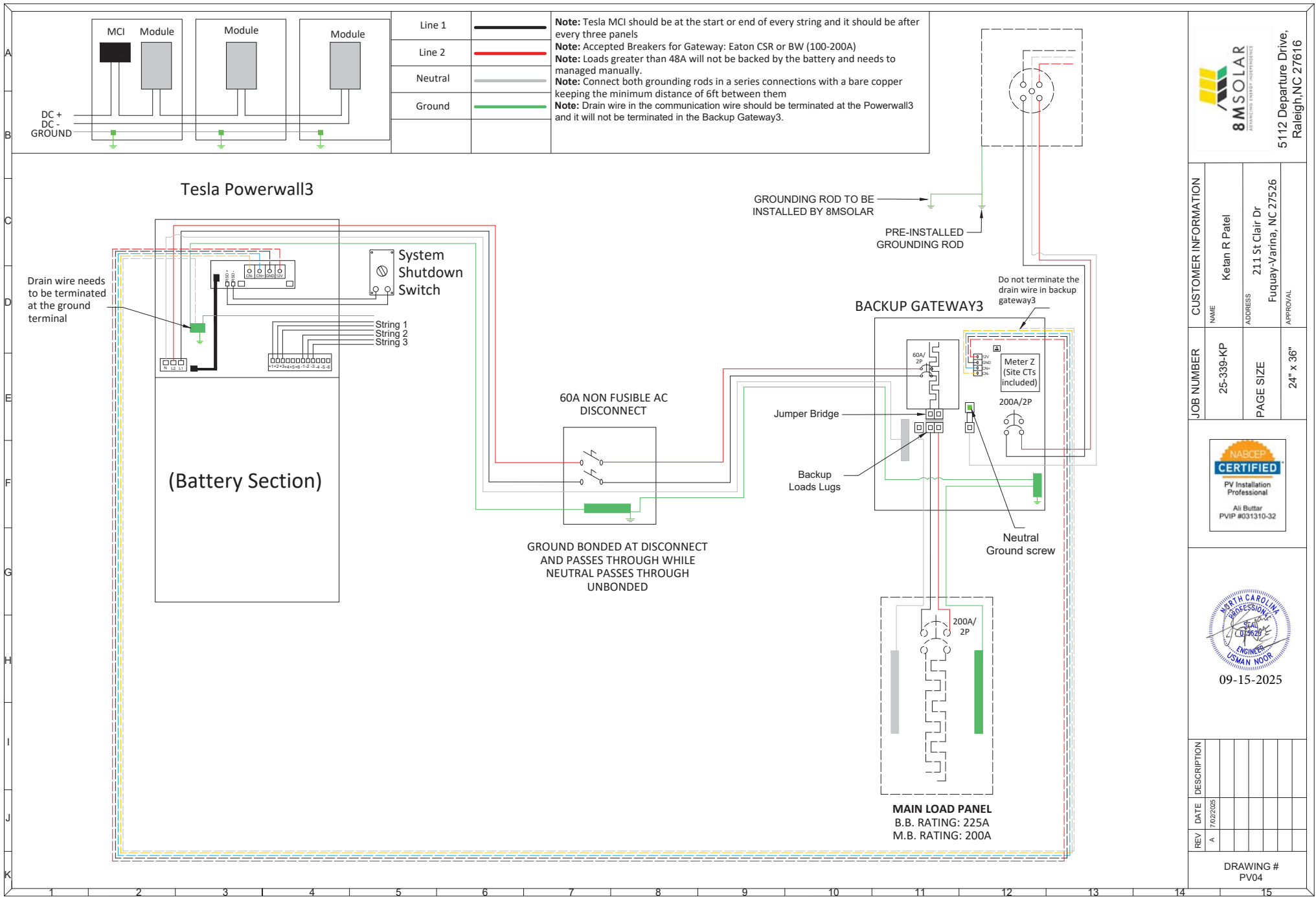
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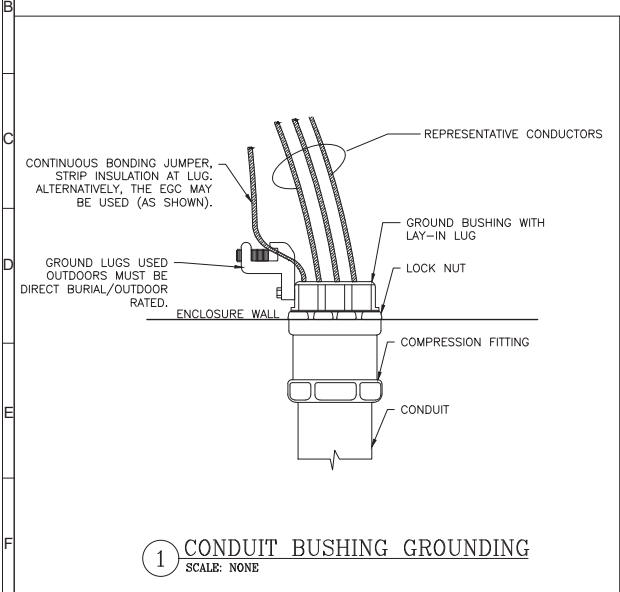
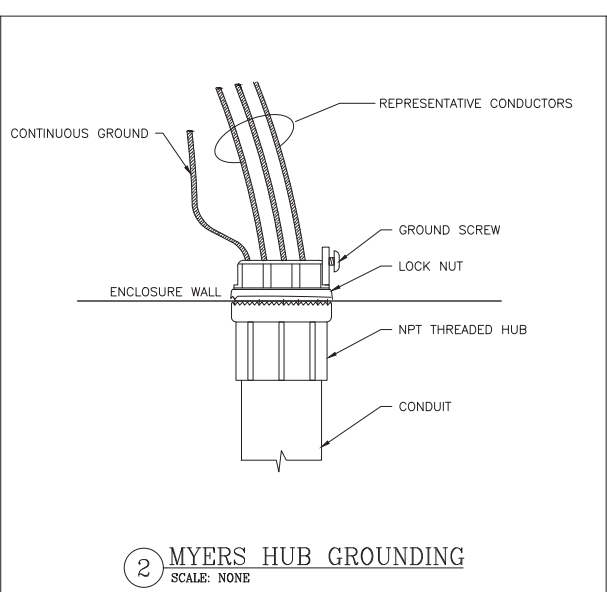


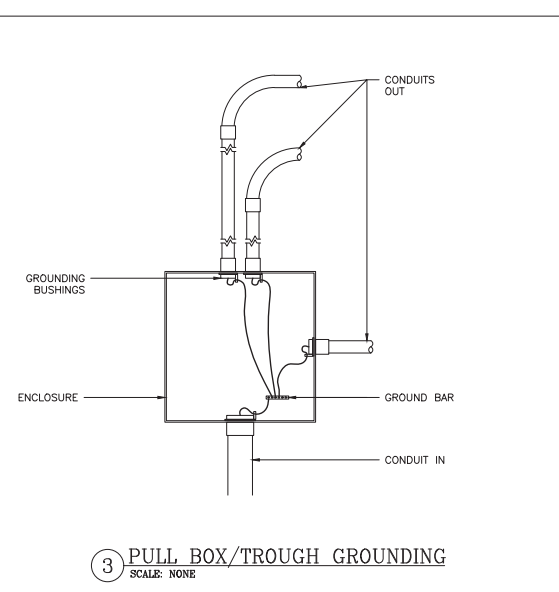
REV	DATE	DESCRIPTION
A	7/22/2025	

DRAWING #
PV03



A
B
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K

[illegible]



NOTE: EACH SUBARRAY CONNECTED TO AN INVERTER SHALL HAVE AN FCC RUN TO THAT INVERTER.

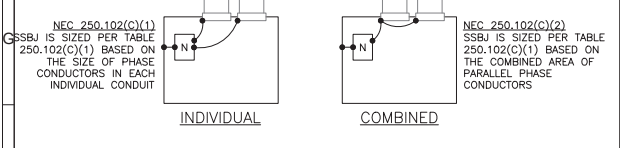


TABLE 250.102(C)(1)			
SIZE OF LARGEST UNGROUNDED CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)		SIZE OF GROUNDED CONDUCTOR OR BONDING JUMPER (AWG/KCMIL)	
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM
2 OR SMALLER	1/0 OR SMALLER	8	6
1 OR 1/0	2/0 OR 3/0	6	4
2 OR 2/0	4/0 OR 250	4	2
OVER 3/0 THROUGH 350	OVER 250 THROUGH 500	2	1/0
OVER 350 THROUGH 600	OVER 500 THROUGH 900	1/0	3/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	2/0	4/0
OVER 1100	OVER 1750	REFER TO NOTES IN NEC TABLE 250.102(C)(1)	

4

SUPPLY SIDE BONDING JUMPERS (SSBJ)

SCALE: NONE

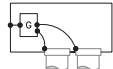
4 SUPPLY SIDE BONDING JUMPERS (SSBJ)
SCALE: NONE

A) **FOR CONCENTRIC KNOCKOUTS, USE BONDING JUMPERS AS FOLLOWS:**

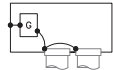
TABLE 250.122		
OVER CURRENT DEVICE CIRCUIT NOT EXCEEDING (AMPERES)	SIZE (AWG OR KCMIL)	
	COPPER	ALUMINUM
15	14	12
20	12	10
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250
1600	4/0	350
2000	250	400
2500	350	600
3000	400	600
4000	500	750

FOR PARALLEL FEEDERS – NEC 250.102(D) EQUIPMENT BONDING JUMPER IS SIZED PER TABLE 250.122, REGARDLESS IF COMBINED OR INDIVIDUAL BONDING JUMPERS ARE USED

1) **INDIVIDUAL**



2) **COMBINED**



B) **FOR NON-CONCENTRIC KNOCKOUTS, THE FOLLOWING METHODS SHALL BE PERMITTED. (PER NEC 250.97)**

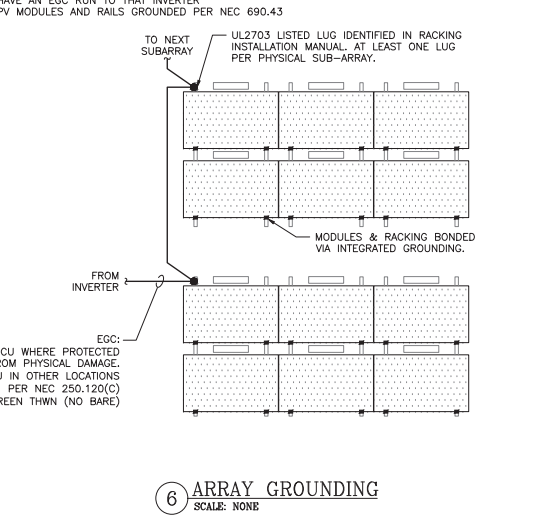
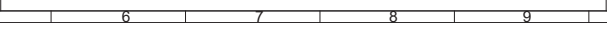
- 1) **THREADLESS COUPLINGS AND CONNECTORS FOR CABLES WITH METAL SHEATHS**
- 2) **TWO LOCKNUTS, ON RIGID METAL CONDUIT OR INTERMEDIATE METAL CONDUIT, ONE INSIDE AND ONE OUTSIDE OF BOXES AND CABINETS**
- 3) **FITTINGS WITH SHOULDERS THAT SEAT FIRMLY AGAINST THE BOX OR CABINET, SUCH AS ELECTRICAL METALLIC TUBING CONNECTORS, FLEXIBLE METAL CONDUIT CONNECTORS, AND CABLE CONNECTORS, WITH ON LOCKNUT ON THE INSIDE OF BOXES AND CABINETS**
- 4) **LISTED FITTINGS (SUCH AS MYERS HUB)**

⑤ **LOAD SIDE EQUIPMENT BONDING JUMPER**

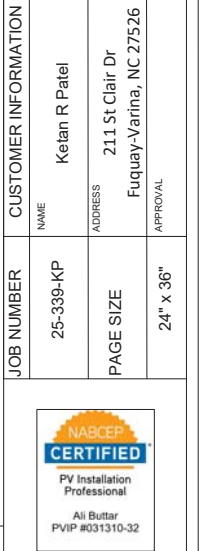
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SCALE 1000



6 ARRAY GROUNDING
SCALE: NONE

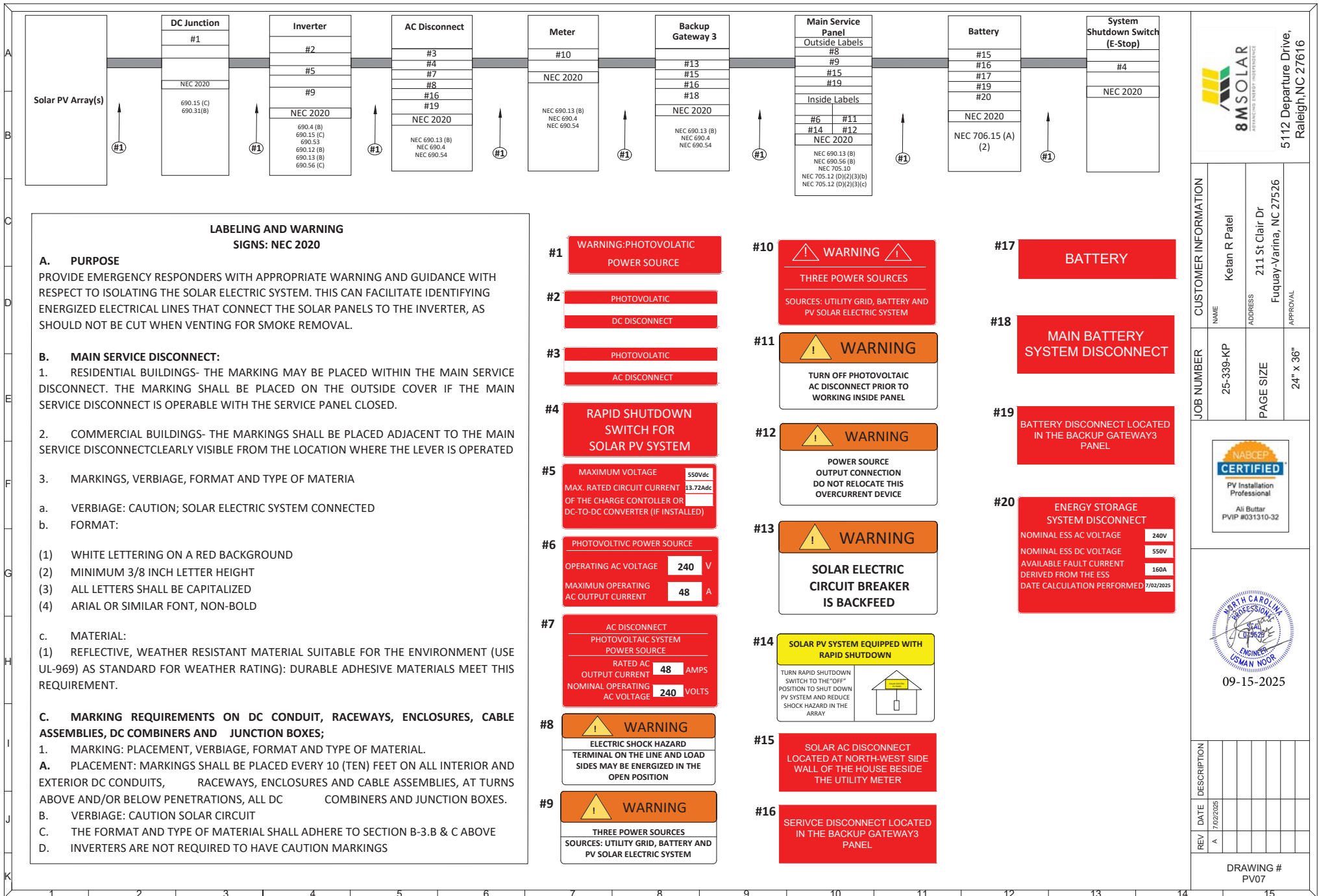


09-15-2025

REV	DATE	DESCRIPTION
A	7/6/2025	

DRAWING #
PV05

DRAWING #
PV05



A. PURPOSE

PROVIDE EMERGENCY RESPONDERS WITH APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO ISOLATING THE SOLAR ELECTRIC SYSTEM. THIS CAN FACILITATE IDENTIFYING ENERGIZED ELECTRICAL LINES THAT CONNECT THE SOLAR PANELS TO THE INVERTER, AS SHOULD NOT BE CUT WHEN VENTING FOR SMOKE REMOVAL.

B. MAIN SERVICE DISCONNECT:

1. RESIDENTIAL BUILDINGS- THE MARKING MAY BE PLACED WITHIN THE MAIN SERVICE DISCONNECT. THE MARKING SHALL BE PLACED ON THE OUTSIDE COVER IF THE MAIN SERVICE DISCONNECT IS OPERABLE WITH THE SERVICE PANEL CLOSED.

2. COMMERCIAL BUILDINGS- THE MARKINGS SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECT CLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED

3. MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIA

- VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
- FORMAT:

- WHITE LETTERING ON A RED BACKGROUND
- MINIMUM 3/8 INCH LETTER HEIGHT
- ALL LETTERS SHALL BE CAPITALIZED
- ARIAL OR SIMILAR FONT, NON-BOLD

C. MATERIAL:

(1) REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969) AS STANDARD FOR WEATHER RATING): DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

C. MARKING REQUIREMENTS ON DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, DC COMBINERS AND JUNCTION BOXES;

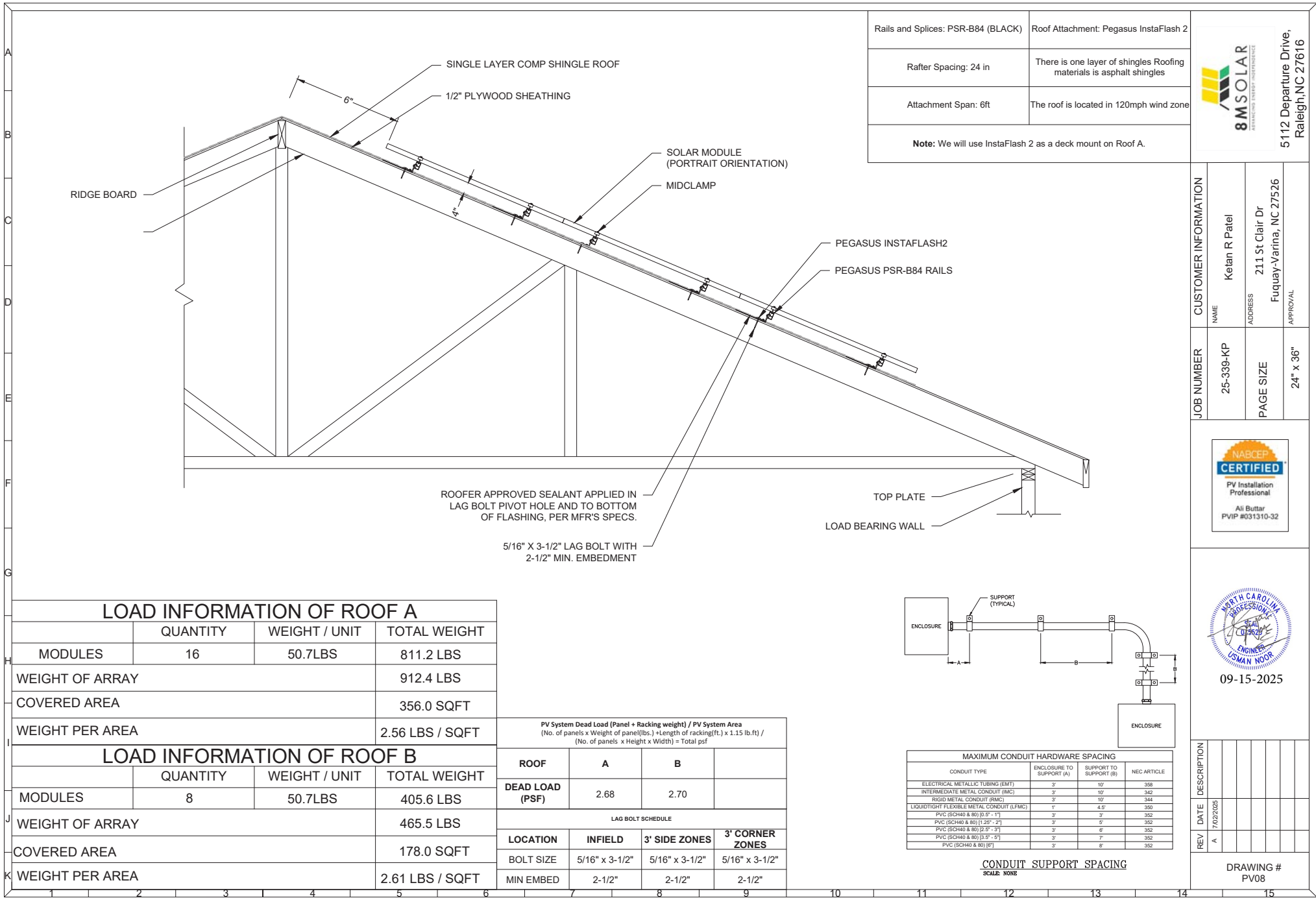
1. MARKING: PLACEMENT, VERBIAGE, FORMAT AND TYPE OF MATERIAL.

A. PLACEMENT: MARKINGS SHALL BE PLACED EVERY 10 (TEN) FEET ON ALL INTERIOR AND EXTERIOR DC CONDUITS, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES, AT TURNS ABOVE AND/OR BELOW PENETRATIONS, ALL DC COMBINERS AND JUNCTION BOXES.

B. VERBIAGE: CAUTION SOLAR CIRCUIT

C. THE FORMAT AND TYPE OF MATERIAL SHALL ADHERE TO SECTION B-3.B & C ABOVE

D. INVERTERS ARE NOT REQUIRED TO HAVE CAUTION MARKINGS



A
B
C
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E
F
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H
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J
K

RAILS AND MOUNTING SYSTEM			
MAKE			Pegasus
SR. NO	QTY	PRODUCT NUMBER	DESCRIPTION
1	32	PSR-B84	Pegasus Rail, Black, 84" (7 Feet)
2	18	PSR-SPLS	Pegasus - Bonded, Structural Splice
3	34	PSR-MCB	Pegasus - Multiclamp, Mid/End, 30 to 40 mm, Black
4	28	PSR-HEC	Pegasus - Hidden End Clamp
5	7	PSR-LUG	Pegasus - Grounding Lug
6	60	PSR-WMC	Pegasus - Wire Management Clip
7	5	PSR-CBG	Pegasus - Cable Grip
8	28	PSR-CAP	Pegasus - End Cap
9	49	PIF2-BDT	INSTAFLASH2 - DECK OR RAFTER ATTACH - WITH DOVETAIL T-BOLT
10	230	PF-DRW85	PEGASUS FASTENER - DECK-RAFTER 85MM
11	48	S6405	Heyco Wire Clips
12	2	GEOC GC66100	SEALANT 2300 10.3OZ CLEAR (20) GEOCEL 230 TRIPOLY CLEAR
13	15	MULTI 32.0017P0001-UR	PV MC4 MALE (10) [1000]
14	15	MULTI 32.0016P0001-UR	PV MC4 FEMALE (10) [1000]

Note: Instaflash2 will be used as deck mount on Roof A

SOLAR MODULES		
QTY	MODEL	MAKE
24	CS6.1-54TM-455H	Canadian Solar
INVERTER AND SUPPORTING ITEMS		
1	1707000-00-J	Tesla Powerwall3
9	1879359-15-B	Tesla MCI-2 High Current
1	1841000-01-C	Backup Gateway 3
1	1549184-00X	2" Conduit Hub Kit
WIRE		
1	WIRPV 2KVPV10STRBLK500	#10 PV WIRE BLK (Cu) 500ft
ELECTRICAL ITEMS		
1	BW2200	Gateway Main Breaker-Eaton BW2200
1	BR260	Eaton BR 60/2
1	DG222URB	250volt/60amp/2pole non fusible disconnect (NEMA 3R)
1	EATON M22PVK01	22.5MM PB EMG STOP W/ CONTACTOR
1	Eaton M2211PG	SFC MTG ENC Emergency Stop Enclosure
1	EZSLR JB-1.2	SolaDeck

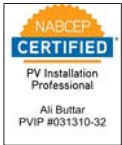
LABELS AND SIGNAGE		
SR. NO	QTY	PRODUCT NUMBER
1	12	02-314
2	1	03-301
3	1	03-302
4	2	02-316
5	1	03-308
6	1	03-390
7	1	03-306
8	2	05-215
9	2	05-230
10	1	03-230
11	1	05-372
12	1	05-216
13	1	05-342
14	1	07-111
15	3	8M-001
16	3	8M-002
17	1	03-395
18	1	04-304
19	3	8M-004
20	1	03-511



8MSOLAR
ADVANCED ENERGY SOLUTIONS

5112 Departure Drive,
Raleigh, NC 27616

CUSTOMER INFORMATION		JOB NUMBER	
NAME	Ketan R Patel	25-339-KP	
ADDRESS	211 St Clair Dr Fuquay-Varina, NC 27526	PAGE SIZE	24" x 36"
APPROVAL			



NABCEP
CERTIFIED
PV Installation
Professional
Ali Buttar
PVIP #031310-32



09-15-2025

REV	DATE	DESCRIPTION	DRAWING #		
A	7/6/2025		PV09		

[illegible][illegible]



PEGASUS SOLAR
SOLAR PANEL MOUNTING

RAIL SYSTEM

Rail Clamp Assemblies

The RailClamp Series comes in stock or stock-to-order configurations for the standard 3000 Series Assemblies.



Support System

The T-Rail® Support System is designed to be used with the RailClamp Series.



Roofing Structural System

Roofing Structural System is designed to be used with the RailClamp Series.



Next-Level Solar Mounting

It's not just a system. It's a way of thinking. It's a way of life. It's a way of working. It's a way of being. It's a way of living. It's a way of... [Learn More](#)

Mounting

Standard mounting for solar panels.

Cable Management

Cable management for solar panels.

Roofing Structural

Roofing structural for solar panels.

Weather for Life

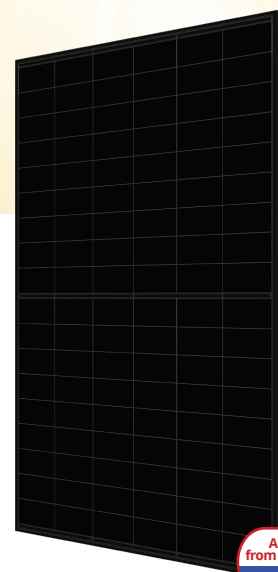
Weather for life for solar panels.

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[Pegasus Solar, Inc. | 100 West 10th Avenue, Richmond, CA 94801 | 916.724.0707 | \[www.pegasus-solar.com\]\(#\)](#)

[illegible]

 8M SOLAR ADVANCING ENERGY EFFICIENCY 5112 Departure Drive, Raleigh, NC 27616		CUSTOMER INFORMATION	
		NAME	Ketan R Patel
		ADDRESS	211 St Clair Dr Fuquay-Varina, NC 27526
		APPROVAL	
JOB NUMBER		25-339-KP	
PAGE SIZE		24" x 36"	
			
			
DRAWING # SS01		09-15-2025	
REV	DATE	DESCRIPTION	
A	7/22/2025		



Assembled in the US
from imported components
USA

TOPHiKu6 (All-Black)

N-type TOPCon Technology

435 W ~ 465 W

CS6.1-54TM-435 | 440 | 445 | 450 | 455 | 460 | 465H

MORE POWER



Module power up to 465 W
Module efficiency up to 22.8 %



Excellent anti-LeTID & anti-PID performance.
Low power degradation, high energy yield



Lower temperature coefficient (Pmax): -0.29%/°C,
increases energy yield in hot climate



Lower LCOE & system cost

MORE RELIABLE



Minimizes micro-crack impacts



Heavy snow load up to 8100 Pa,
wind load up to 6000 Pa*



**Industry Leading Product Warranty on Materials
and Workmanship***



Linear Power Performance Warranty*

**1st year power degradation no more than 1%
Subsequent annual power degradation no more than 0.4%**

*Subject to the terms and conditions contained in the applicable Canadian Solar Limited Warranty Statement. Also this 25-year limited product warranty is available only for products installed and operating on rooftops in certain regions.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety
IEC62941: 2019 / Photovoltaic module manufacturing quality system

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / CGC
CEC listed (US California) / FSEC (US Florida)
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
UNI 9177 Reaction to Fire: Class 1



* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

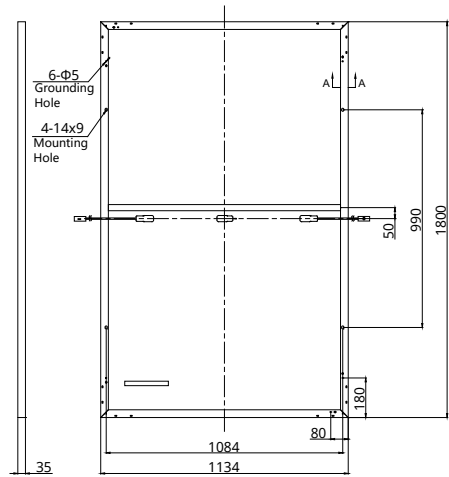
CSI Solar Co., Ltd. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 23 years, it has successfully delivered over 150 GW of premium-quality solar modules across the world.

* For detailed information, please refer to the Installation Manual.

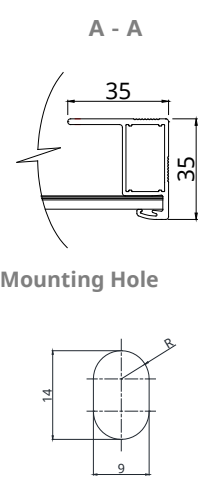
CSI Solar Co., Ltd.
1350 Treat Blvd. Suite 500, Walnut Creek, CA 94597 | www.csisolar.com/na | service.ca@csisolar.com

ENGINEERING DRAWING (mm)

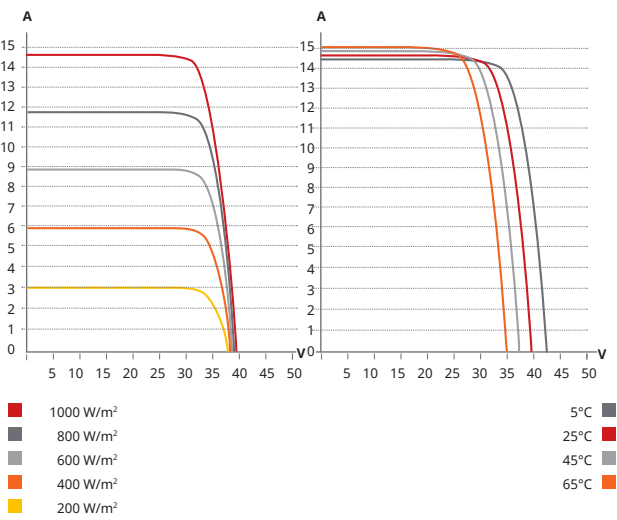
Rear View



Frame Cross Section



CS6.1-54TM-455H / I-V CURVES



ELECTRICAL DATA | STC*

CS6.1-54TM	435H	440H	445H	450H	455H	460H	465H
Nominal Max. Power (Pmax)	435 W	440 W	445 W	450 W	455 W	460 W	465 W
Opt. Operating Voltage (Vmp)	32.4 V	32.6 V	32.8 V	33.0 V	33.2 V	33.4 V	33.6 V
Opt. Operating Current (Imp)	13.45 A	13.52 A	13.59 A	13.66 A	13.72 A	13.78 A	13.85 A
Open Circuit Voltage (Voc)	38.3 V	38.5 V	38.7 V	38.9 V	39.1 V	39.3 V	39.5 V
Short Circuit Current (Isc)	14.33 A	14.41 A	14.48 A	14.55 A	14.61 A	14.69 A	14.77 A
Module Efficiency	21.3%	21.6%	21.8%	22.0%	22.3%	22.5%	22.8%
Operating Temperature	-40°C ~ +85°C						
Max. System Voltage	1000V (IEC/UL)						
Module Fire Performance	TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730)						
Max. Series Fuse Rating	25 A						
Protection Class	Class II						
Power Tolerance	0 ~ + 10 W						

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m2, spectrum AM 1.5 and cell temperature of 25°C.

MECHANICAL DATA

Specification	Data
Cell Type	TOPCon cells
Cell Arrangement	108 [2 X (9 X 6)]
Dimensions	1800 × 1134 × 35 mm (70.9 × 44.6 × 1.38 in)
Weight	23 kg (50.7 lbs)
Front Cover	3.2 mm tempered glass with anti-ref- lective coating
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4 mm² (IEC), 12 AWG (UL)
Connector	T6 or MC4 or MC4-EVO2 or MC4- EVO2A
Cable Length (Including Connector)	1500 mm (61.0 in) (+) / 1100 mm (43.3 in) (-)
Per Pallet	30 pieces
Per Container (40' HQ)	720 pieces

ELECTRICAL DATA | NMOT*

CS6.1-54TM	435H	440H	445H	450H	455H	460H	465H
Nominal Max. Power (Pmax)	328 W	332 W	335 W	339 W	343 W	347 W	351 W
Opt. Operating Voltage (Vmp)	30.5 V	30.7 V	30.9 V	31.1 V	31.3 V	31.5 V	31.7 V
Opt. Operating Current (Imp)	10.74 A	10.80 A	10.85 A	10.91 A	10.96 A	11.02 A	11.07 A
Open Circuit Voltage (Voc)	36.2 V	36.4 V	36.5 V	36.7 V	36.9 V	37.1 V	37.3 V
Short Circuit Current (Isc)	11.56 A	11.63 A	11.68 A	11.74 A	11.79 A	11.85 A	11.92 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.29 % / °C
Temperature Coefficient (Voc)	-0.25 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	42 ± 3°C

PARTNER SECTION



* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice. Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

Powerwall 3

Power Everything

Powerwall 3 is a fully integrated solar and battery system, designed to accelerate the transition to sustainable energy. Customers can receive whole home backup, cost savings, and energy independence by producing and consuming their own energy while participating in grid services. Once installed, customers can manage their system using the Tesla App to customize system behavior to meet their energy goals.

Powerwall 3 achieves this by supporting up to 20 kW DC of solar and providing up to 11.5 kW AC of continuous power per unit. It has the ability to start heavy loads rated up to 185 LRA, meaning a single unit can support the power needs of most homes. Powerwall 3 Expansions make it easier and more affordable to scale up customers' systems to meet their current or future needs. Powerwall 3 is designed for fast and efficient installations, modular system expansion, and simple connection to any electrical service.



Powerwall 3 Technical Specifications

System Technical Specifications

Model Number	1707000-xx-y			
Nominal Grid Voltage (Input & Output)	120/240 VAC			
Grid Type	Split phase			
Frequency	60 Hz			
Nominal Battery Energy	13.5 kWh AC ¹			
Nominal Output Power (AC)	5.8 kW	7.6 kW	10 kW	11.5 kW
Maximum Apparent Power	5,800 VA	7,600 VA	10,000 VA	11,500 VA
Maximum Continuous Current	24 A	31.7 A	41.7 A	48 A
Overcurrent Protection Device ²	30 A	40 A	60 A	60 A
Configurable Maximum Continuous Discharge Power Off-Grid (PV Only, -20°C to 25°C)	15.4 kW ³			
Maximum Continuous Charge Current / Power (Powerwall 3 only)	20.8 A AC / 5 kW			
Maximum Continuous Charge Current / Power (Powerwall 3 with up to (3) Expansion units)	33.3 A AC / 8 kW			
Output Power Factor Rating	0 – 1 (Grid Code configurable)			
Maximum Output Fault Current (1 s)	160 A			
Maximum Short-Circuit Current Rating	10 kA			
Load Start Capability	185 LRA			
Solar to Battery to Home/Grid Efficiency	89% ^{1,4}			
Solar to Home/Grid Efficiency	97.5% ⁵			
Power Scalability	Up to 4 Powerwall 3 units supported			
Energy Scalability	Up to 3 Expansion units (for a maximum total of 7 units)			
Supported Islanding Devices	Gateway 3, Backup Switch, Backup Gateway 2			
Connectivity	Wi-Fi (2.4 and 5 GHz), Ethernet, Cellular (LTE/4G ⁶)			
Hardware Interface	Dry contact relay, Rapid Shutdown (RSD) certified switch and 2-pin connector, RS-485 for meters			
AC Metering	Revenue Grade (+/- 0.5%, ANSI C12.20)			
Protections	Integrated arc fault circuit interrupter (AFCI), Isolation Monitor Interrupter (IMI), PV Rapid Shutdown (RSD) using Tesla Mid-Circuit Interrupters			
Customer Interface	Tesla Mobile App			
Warranty	10 years			

¹Values provided for 25°C (77°F), at beginning of life. 3.3 kW charge/discharge power.

²See [Powerwall 3 Installation Manual](#) for fuse requirements if using fuse for overcurrent protection.

³15.4kW off-grid maximum continuous discharge power is only available if on-grid rating is 11.5 kW. If enabled, Powerwall 3 must be installed with an 80 A breaker and appropriately sized conductors.

⁴Typical solar shifting use case.

⁵Tested using CEC weighted efficiency methodology.

⁶The customer is expected to provide internet connectivity for Powerwall 3; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

Powerwall 3 Technical Specifications

Solar Technical Specifications

Maximum Solar STC Input	20 kW
Withstand Voltage	600 V DC
PV DC Input Voltage Range	60 — 550 V DC
PV DC MPPT Voltage Range	60 — 480 V DC
MPPTs	6
Maximum Current per MPPT (I_{MP})	15 A ^{7,8}
Maximum Short Circuit Current per MPPT (I_{SC})	19 A ⁸

⁷ Only applicable to Powerwall 3 units with 15 A I_{MP} on the product label. Otherwise, Powerwall 3 has an I_{MP} of 13 A.

⁸ When PV strings are combined on the roof and the DC input current exceeds the MPPT rating, a jumper can be used to combine two MPPTs into a single input to intake DC current up to 30 A I_{MP} / 38 A I_{SC} (or 26 A I_{MP} / 30 A I_{SC} if Powerwall 3 is labeled with 13 A I_{MP} / 15 A I_{SC}).

Environmental Specifications

Operating Temperature	−20°C to 50°C (−4°F to 122°F) ⁹
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	−20°C to 30°C (−4°F to 86°F), up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Rating	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP55 (Wiring Compartment)
Pollution Rating	PD3
Operating Noise @ 1 m	< 50 db(A) typical < 62 db(A) maximum

⁹ Performance may be de-rated at operating temperatures above 40°C (104°F).

Compliance Information

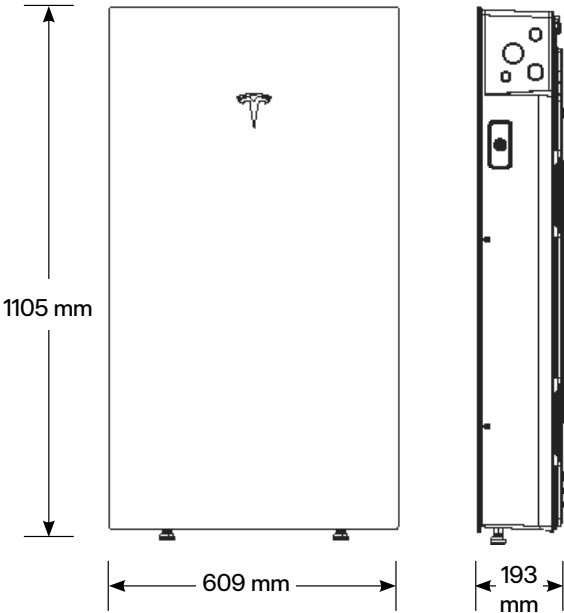
Certifications	UL 1741, UL 9540, UL 9540A, UL 3741, UL 1741 PCS, UL 1741 SA, UL 1741 SB, UL 1973, UL 1699B, UL 1998, CSA C22.2 No. 0.8, CSA C22.2 No. 107.1, CSA C22.2 No. 330, CSA 22.3 No. 9, IEEE 1547, IEEE 1547A, IEEE 1547.1, CA Rule No.21
Grid Connection	United States and Canada
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)
Fire Testing	Meets the unit level performance criteria of UL 9540A

Powerwall 3 Technical Specifications

Mechanical Specifications

Dimensions	1105 x 609 x 193 mm (43.5 x 24 x 7.6 in) ¹⁰
Total Weight of Installed Unit	132 kg (291.2 lb)
Weight of Powerwall 3	124 kg (272.5 lb)
Weight of Glass Front Cover	6.5 kg (14.5 lb)
Weight of Wall Bracket	1.9 kg (4.2 lb)
Mounting Options	Floor or wall mount

¹⁰ These dimensions include the glass front cover being installed on Powerwall 3.



Powerwall 3 Expansion Technical Specifications

Battery Technical Specifications

Model Number	1807000-xx-y
Nominal Battery Energy	13.5 kWh
Voltage Range	52 – 92 V DC ¹¹

¹¹ Powerwall 3 Expansion units are connected in parallel and are not field serviceable.

Environmental Specifications

Operating Temperature	–20°C to 50°C (–4°F to 122°F) ¹²
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	–20°C to 30°C (–4°F to 86°F), up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Rating	NEMA 3R
Ingress Rating	IP67
Pollution Rating	PD3

¹² Performance may be de-rated at operating temperatures above 40°C (104°F).

Compliance Information

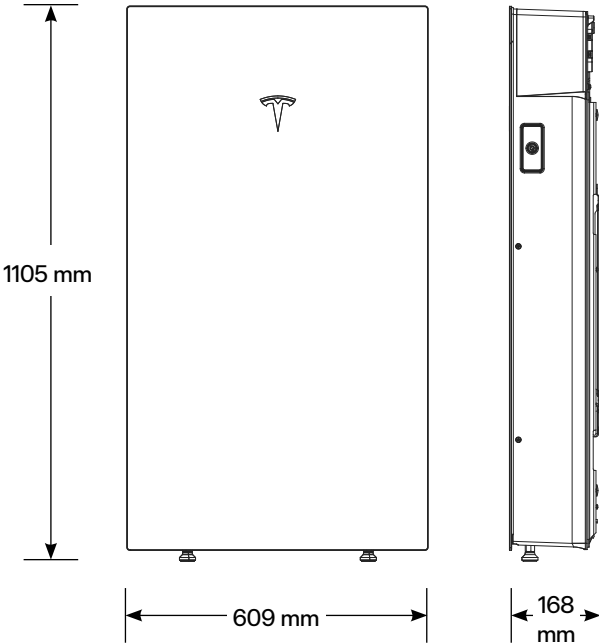
Certifications	UL 1973, UL 9540
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Mechanical Specifications

Dimensions	1105 x 609 x 168 mm (43.5 x 24 x 6.6 in) ¹³
Total Weight of Wall-Mounted Expansion Unit	118.5 kg (261.2 lb)
Weight of Expansion Unit	110 kg (242.5 lb)
Weight of Glass Front Cover	6.5 kg (14.5 lb)
Weight of Wall Bracket	1.9 kg (4.2 lb)
Weight of Expansion Accessories	0.7 kg (1.5 lb)
Mounting Options	Floor or wall mount
Stacking Capability (Floor Mount Only)	Up to (3) Expansion units behind a Powerwall 3
Compatibility with Other Systems	Only compatible with Powerwall 3
Connection to Powerwall 3 or Expansions	Powerwall 3 Expansion harness ¹⁴

¹³ These dimensions include the glass front cover being installed on Powerwall 3 Expansion.

¹⁴ The Powerwall 3 Expansion harness is a listed component of the UL 9540 certification.



Solar Shutdown Device Technical Specifications

The Solar Shutdown Device is a Mid-Circuit Interrupter (MCI) and is integral to the rapid shutdown (RSD) function required for rooftop PV systems in accordance with Article 690 of the NEC. When paired with Powerwall 3, solar array shutdown is initiated by an External System Shutdown Switch or the On/Off Enable switch located on Powerwall 3. Systems not subject to rapid shutdown requirements must still install one or more MCIs for functional purposes; see the Powerwall 3 installation manual for details.

Electrical Specifications	Model	MCI-1	MCI-2	MCI-2 High Current
	Nominal Input DC Current Rating (I _{MP})	13 A	13 A	15 A
	Maximum Input Short Circuit Current (I _{SC})	19 A	17 A	19 A
	Maximum System Voltage	600 V DC	1000 V DC ¹⁵	1000 V DC ¹⁵
	Maximum Disconnect Voltage ¹⁶	600 V DC	165 V DC	165 V DC
¹⁵ Maximum System Voltage is limited by Powerwall to 600 V DC.				
¹⁶ Maximum Disconnect Voltage is the maximum voltage allowed across each MCI in the open position (Rapid Shutdown Initiated). An individual MCI-2 has a voltage rating of 165V but in combination (connected in the same string) their voltage ratings are additive.				
RSD Module Performance	Maximum Number of Devices per String	5		
	Control	Power Line Excitation		
	Passive State	Normally Open		
	Maximum Power Consumption	7 W		
	Warranty	25 years		
Environmental Specifications	Operating Temperature	-40°C to 50°C (-40°F to 122°F)	-45°C to 70°C (-49°F to 158°F)	
	Storage Temperature	-30°C to 70°C (-22°F to 158°F)	-30°C to 70°C (-22°F to 158°F)	
	Enclosure Rating	NEMA 4X / IP65		
Mechanical Specifications	Electrical Connections	MC4 Connector		
	Housing	Plastic		
	Dimensions	125 x 150 x 22 mm (5 x 6 x 1 in)	173 x 45 x 22 mm (6.8 x 1.8 x 1 in)	
	Weight	350 g (0.77 lb)	120 g (0.26 lb)	
	Mounting Options	ZEP Home Run Clip M4 Screw (#10) M8 Bolt (5/16") Nail / Wood screw	Wire Clip	
Compliance Information	Certifications	UL 1741 PVRSE, UL 3741, PVRSA (Photovoltaic Rapid Shutdown Array)		
	RSD Initiation Method	External System Shutdown Switch or Powerwall 3 Enable Switch		

UL 3741 PV Hazard Control (and PVRSA) Compatibility

See [UL 3741 Application Addendum](#)

Gateway 3

Tesla Gateway 3 controls connection to the grid in a Powerwall system, automatically detecting outages and providing seamless transition to backup power. It provides energy monitoring that is used by Powerwall for solar self-consumption, time-based control, and backup operation.

Performance Specifications

Model Number	1841000-x1-y	AC Meter	+/- 0.5%
Nominal Grid Voltage	120/240 V AC	Communication	CAN
Grid Configuration	Split phase	User Interface	Tesla App
Grid Frequency	60 Hz	Backup Transition	Automatic disconnect for seamless backup
Continuous Current Rating	200 A	Overcurrent Protection Device	100–200 A Service entrance rated Eaton CSR, BWH, or BW, or Square D QOM breakers
Maximum Supply Short Circuit Current	22 kA with Square D or Eaton main breaker 25 kA with Eaton main breaker ¹⁷	Internal Panelboard	200 A 8-space/16 circuit breakers Eaton BR, Siemens QP, or Square D HOM breakers rated to 10–125A
IEC Protective Class	Class I	Warranty	10 years
Overvoltage Category	Category IV		

¹⁷ Only Eaton CSR or BWH main breakers are 25 kA rated.

Environmental Specifications

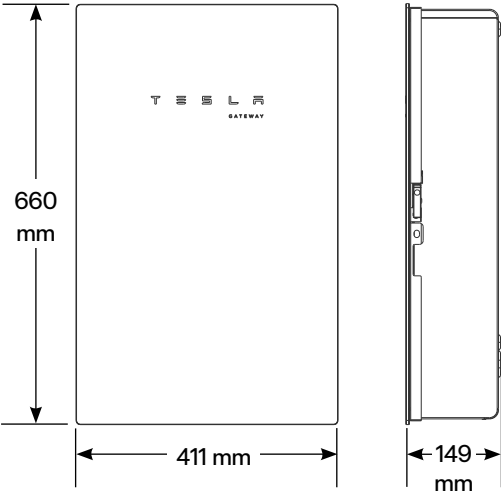
Operating Temperature	–20°C to 50°C (–4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

Compliance Information

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS, CSA 22.2 107.1, CSA 22.2 29
Emissions	FCC Part 15, Class B, ICES 003

Mechanical Specifications

Dimensions	660 x 411 x 149 mm (26 x 16 x 6 in)
Weight	16.3 kg (36 lb)
Mounting options	Wall mount



Backup Switch

The Tesla Backup Switch controls connection to the grid in a Powerwall system, and can be easily installed behind the utility meter or in a standalone meter panel downstream of the utility meter.

The Backup Switch automatically detects grid outages, providing a seamless transition to backup power. It communicates directly with Powerwall, allowing home energy usage monitoring from any mobile device with the Tesla app.

Performance Specifications

Model Number	1624171-xx-y
Continuous Load Rating	200 A, 120/240 V split phase
Maximum Supply Short Circuit Current	22 kA with breaker ¹⁸
Communication	CAN
AC Meter	+/- 0.5%
Expected Service Life	21 years
Warranty	10 years

¹⁸ Breaker maximum supply short circuit current rating must be equal to or greater than the available fault current.

Environmental Specifications

Operating Temperature	−40°C to 50°C (−40°F to 122°F)
Storage Temperature	−40°C to 85°C (−40°F to 185°F)
Enclosure Rating	NEMA 3R
Pollution Rating	PD3

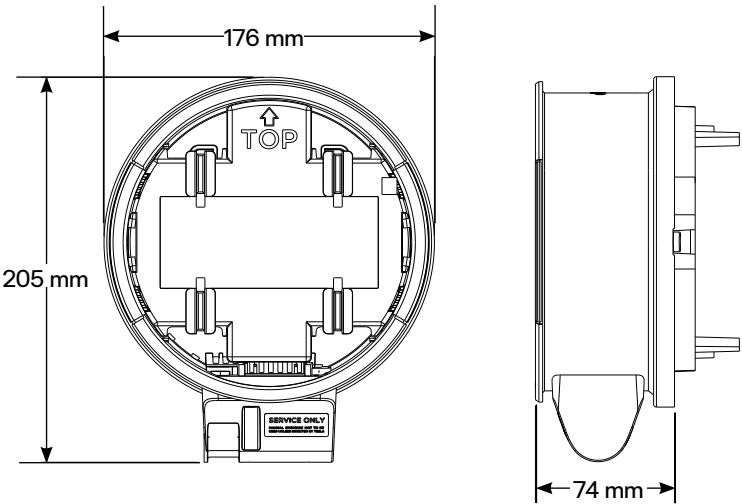
Compliance Information

Safety Standards	USA: UL 414, UL 414 SB, UL 2735, UL 916, CA Prop 65
Emissions	FCC Part 15, Class B, ICES 003

Mechanical Specifications

Dimensions	176 x 205 x 74 mm (6.9 x 8.1 x 2.9 in)
Weight	2.8 lb
Meter and Socket Compatibility	ANSI Type 2S, ringless or ring type
External Service Interface	Contactor manual override ¹⁹ Reset button
Conduit Compatibility	1/2-inch NPT

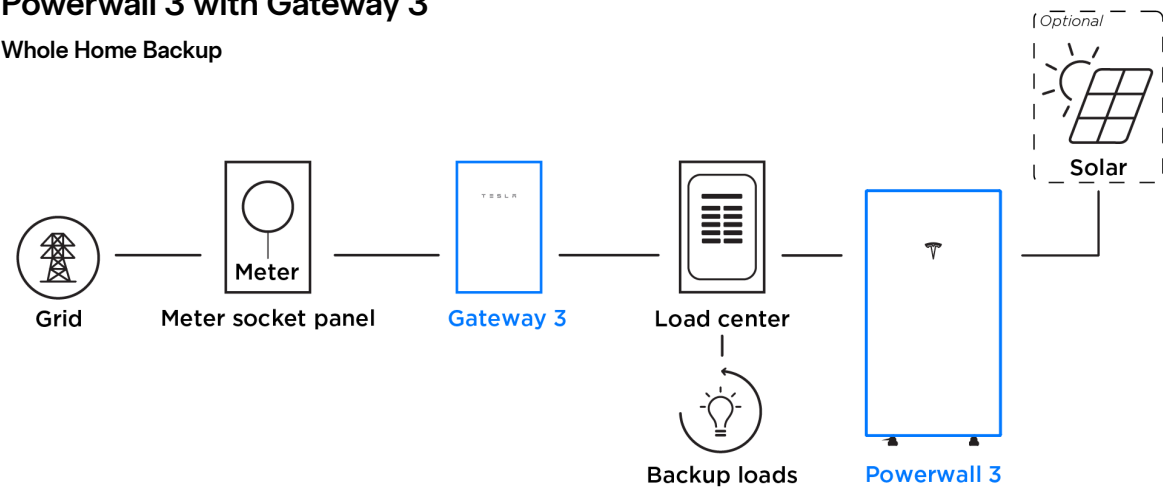
¹⁹ Manually overrides the contactor position during a service event.



Powerwall 3 Example System Configurations

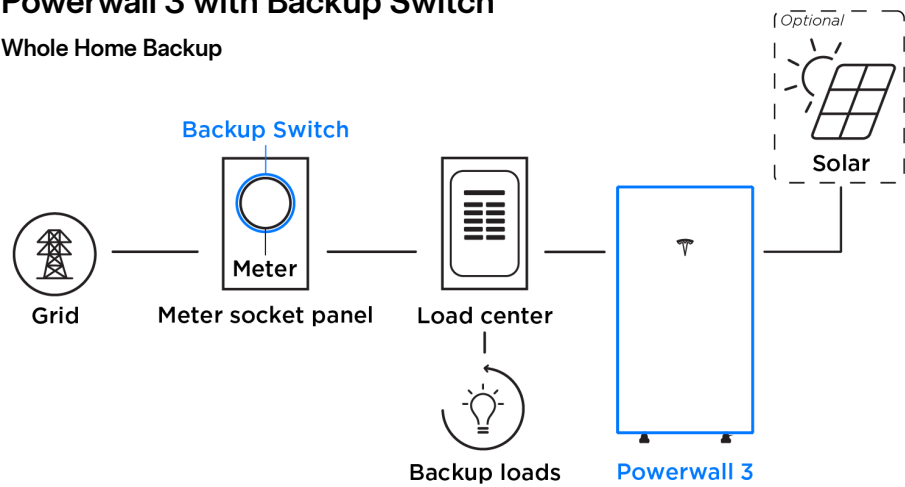
Powerwall 3 with Gateway 3

Whole Home Backup



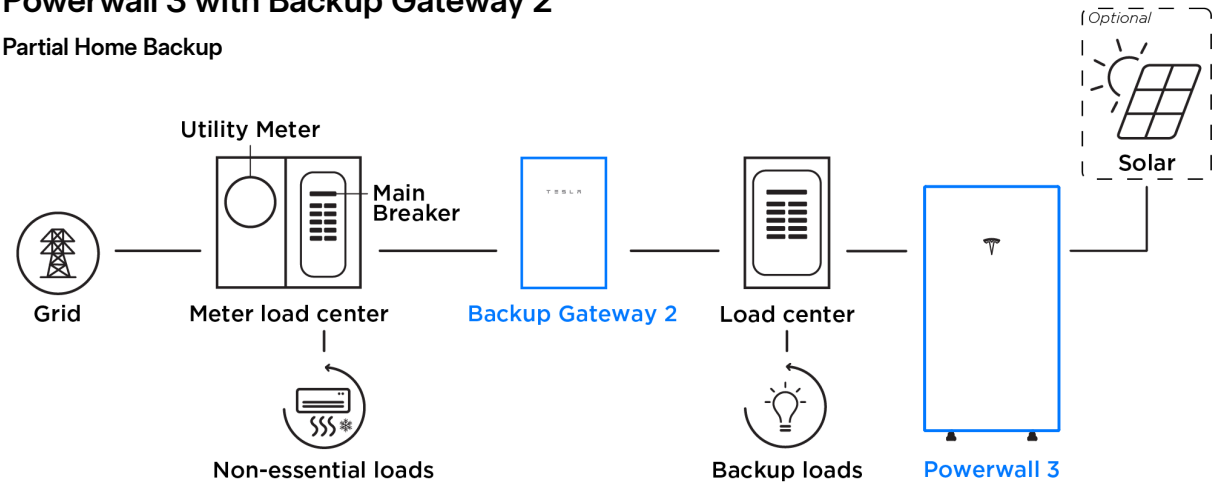
Powerwall 3 with Backup Switch

Whole Home Backup



Powerwall 3 with Backup Gateway 2

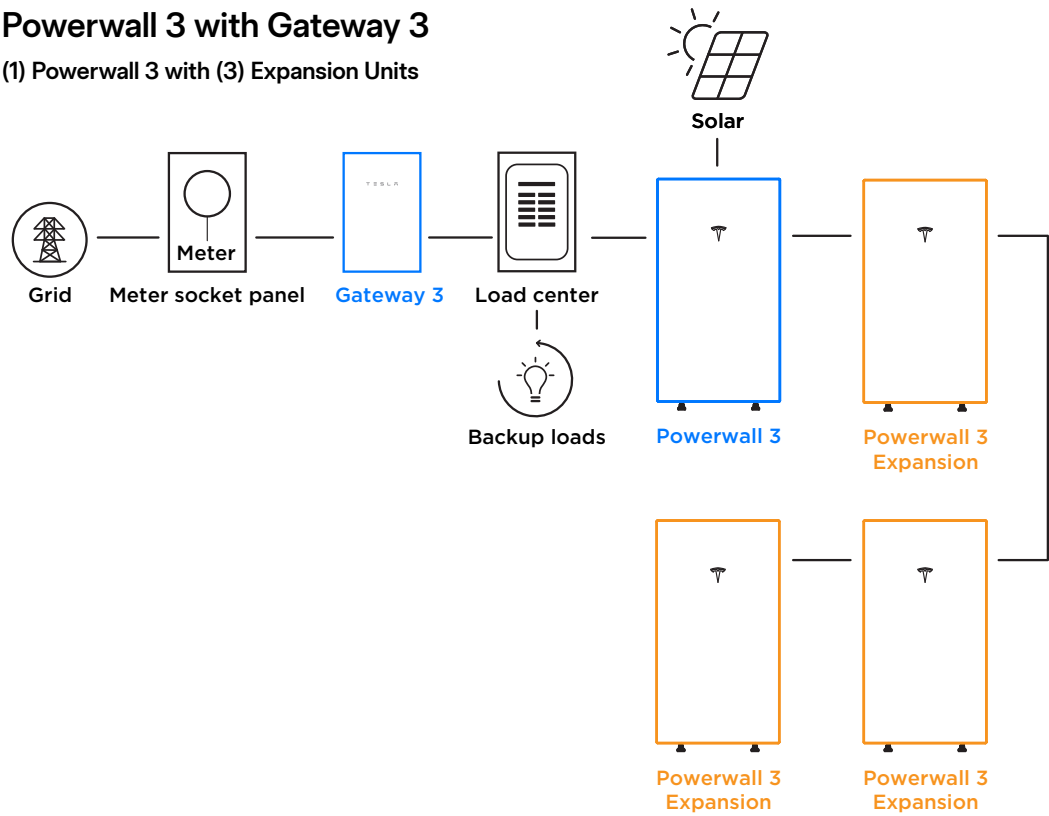
Partial Home Backup



Powerwall 3 Example System Configurations

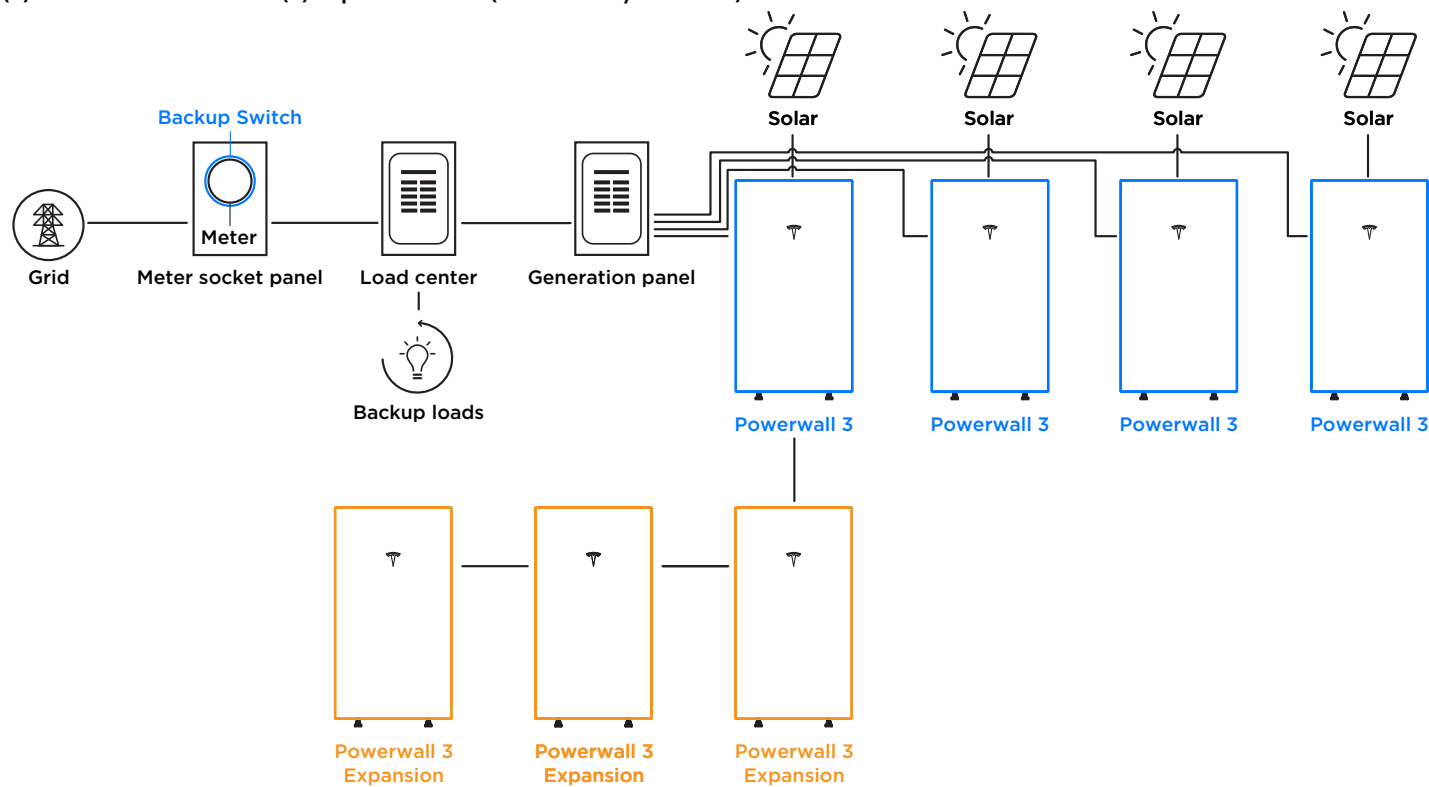
Powerwall 3 with Gateway 3

(1) Powerwall 3 with (3) Expansion Units



Powerwall 3 with Backup Switch

(4) Powerwall 3 Units with (3) Expansion Units (Maximum System Size)



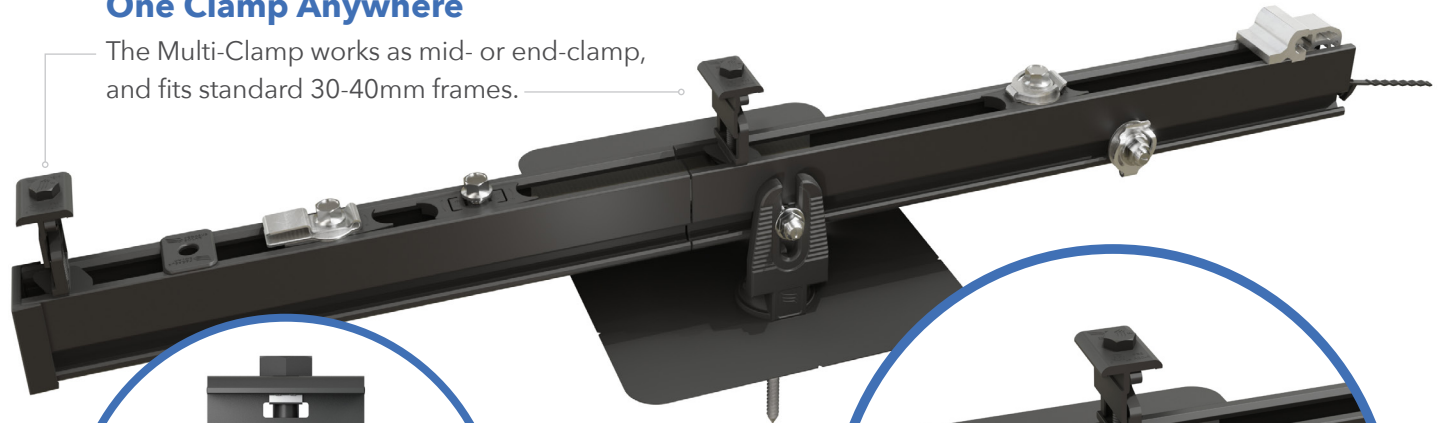
RAIL SYSTEM

One Clamp Anywhere

The Multi-Clamp works as mid- or end-clamp, and fits standard 30-40mm frames.

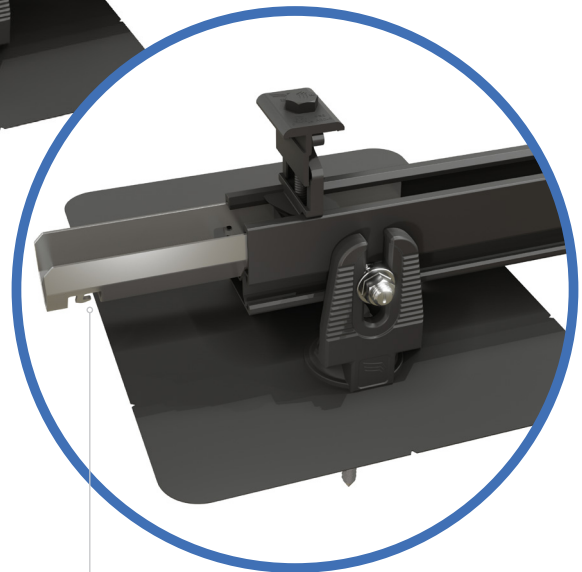
Instant Bonding

The N-S Bonding Jumper bonds row to row with no tools.



Lifetime Wire Management

Open rail channel holds and protects wires. Clamps won't pinch wires after tightening.



Bonding Structural Splice

Connect rails instantly, without tools, interference or limitations.

Next-Level Solar Mounting

A complete system for hassle-free rooftop installation, from watertight mounts to lifetime wire management.



Simplicity

1/2" socket for everything.
One clamp for mid or end.
No tool splicing and bonding.
Easy wire management.



Code Compliant

UL 2703 listed
LTR-AE-001-2012 listed
Class A fire rating for any slope
ASCE 7-16 PE Certified



Premium Aesthetics

The narrowest panel gap available. Optional Hidden End Clamps and End Caps provide a flush look on the edge of the array.



Watertight for Life

Secured on industry-leading Pegasus Mounts, for composite shingle and tile roofs. Backed by a 25-year warranty.



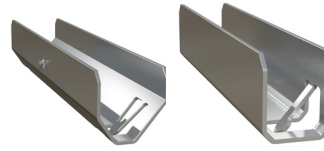
Pegasus Rail

Available in 14' and 7' lengths for easy layout and shipping.
Open-channel design holds MC4 connectors, PV wire and trunk cables.
Black and Mill finish



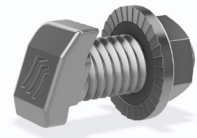
Pegasus Max Rail

Maximum-strength design.
Meets specifications for high snow-load and hurricane zones.
Black and Mill finish



Splice and Max Splice

Installs by hand.
Works over mounts.
Structurally connects and bonds rails automatically; UL2703 listed as reusable.



Dovetail T-bolt

Dovetail shape for extra strength.
Uses 1/2" socket.



Multi-Clamp

Fits 30-40mm PV frames, as mid- or end-clamp.
Twist-locks into position; doesn't pinch wires in rail.
Bonds modules to rail; UL2703 listed as reusable



Hidden End Clamp

Offers premium edge appearance.
Preinstalled pull-tab grips rail edge, allowing easy, one-hand installation.
Tucks away for reuse.



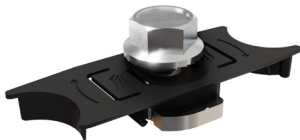
Ground Lug

Holds 6 or 8 AWG wire.
Mounts on top or side of rail.
Assembled on MLPE Mount.
UL2703 listed as reusable.



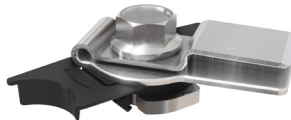
N-S Bonding Jumper

Installs by hand, eliminates row-to-row copper wire.
UL2703 listed as reusable only with Pegasus Rail.



MLPE Mount

Secures and bonds most micro-inverters and optimizers to rail.
Connectors and wires easily route underneath after installation.
UL2703 listed as reusable.



Cable Grip

Secures four PV wires or two trunk cables.
Stainless-steel backing provides durable grip.
Eliminates sagging wires.



Wire Clip

Hand operable.
Holds wires in channel.
Won't slip.



End Cap and Max End Cap

Fits flush to PV module and hides raw or angled cuts.
Hidden drain quickly clears water from rail.

Certifications:

- UL 2703, Edition 1
- LTR-AE-001-2012
- ASCE 7-16 PE certified
- Class A fire rating for any slope roof



FREE
PEGASUS SOLAR
Design Tool

Quickly calculate the most efficient layout, spans and materials needed to suit your job. Visit the Pegasus Customer Portal. [pegasussolar.com/portal](https://www.pegasussolar.com/portal)

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LOAD		SPAN			
SNOW (PSF)	WIND (MPH)	32"	4'	6'	8'
0	120	PEGASUS RAIL			
	160				
	190				
15	140	PEGASUS RAIL			
	160				
	190				
30	160	PEGASUS RAIL			
	190				
45	190	PEGASUS RAIL			
70	190	PEGASUS RAIL			
110	190	PEGASUS RAIL			

For reference only. Spans above are calculated using ASCE 7-16 for a Gable Roof, Exposure Category B, 7-20deg roof angle, 30ft mean roof height with non-exposed modules. For PE certified span tables, visit www.pegasussolar.com/spans.

Rafter or Deck Attach!

- No pilot holes
- Pre-installed sealant
- No caulking, no ripping shingles



Pre-installed sealant

Before: Sealant contained by protective cage. No contact with hands or tools.



Instant, watertight seal

After: Non-hardening sealant automatically fills all gaps, overlays and butt joints.



Install in any season

Install in 0 to 170° F weather, including rain and sleet. Watertight for life.

The Ultimate Comp Roof Attachment

Simple to use. Works for rafter or deck attach. No caulking, no ripped shingles, no mess. Pre-installed sealant acts as a chemical flashing and fills all gaps, voids, and butt joints for an instant, watertight seal.



25-Year Warranty

Manufactured with advanced materials and coatings to outlast the roof itself



Code Compliant

Fully IBC/CBC code compliant
Exceeds ASCE 7-22 standards
UL2703 certified



Self-Healing

Proprietary non-hardening sealant will flex and reseal over years of thermal expansion and contraction



Larger Spans

Extra-large L-foot and proprietary screws result in larger spans between mounts

1
Release Safety.



2
Install screw through center hole, and drive into roof until InstaFlash2 pushes through cage and seats onto the roof.



3
If screw hits rafter, drive second screw in hole above. Ensure screws are embedded at least 2.5" into rafter. Installation complete.



4
If first screw misses rafter, install second screw into the left or right screw holes over rafter.

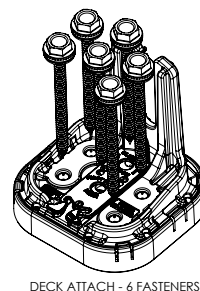
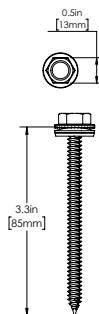
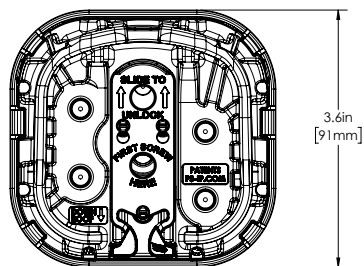
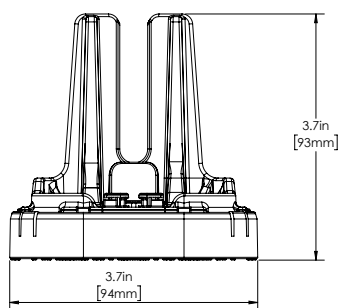


5
Continue until 2 screws are embedded at least 2.5" into rafter.

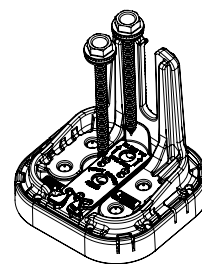


6
For deck attach, use 6 screws.
Note: Deck attach may reduce max span.





DECK ATTACH - 6 FASTENERS



RAFTER ATTACH - 2 FASTENERS

SPECIFICATIONS		INSTAFLASH KITS		
	PIF2-B0	PIF2-BDT	PIF2-M0	PIF2-MDT
Finish	Black		Mill	
Kit Contents	Black InstaFlash2	Black InstaFlash2, Dovetail T-bolt	Mill InstaFlash2	Mill InstaFlash2, Dovetail T-bolt
Attachment Type	Rafter & Deck Attach			
Roof Fasteners	1/2" Socket Driven; PF-DRW85 (sold separately in boxes of 24)			
Roof Type	Sloped Roof: Composition Shingle, Rolled Asphalt Flat Roof: Modified Bitumen Roof, Built-Up Roof			
Flashing Type	Factory Installed Non-Drying, Non-Skinning Butyl Based Chemical Flashing			
Installation Temperature	0° F to 170° F			
Cure Time	Instantly Waterproof; Non-Hardening			
Service Temperature	-40° F to 195° F			
Certifications	IBC, ASCE/SEI 7-16 & 7-22, UL2703			
Install Application	Most Railed Systems			
Kit Quantity	24			
Boxes Per Pallet	36			



SCAN FOR
INSTALLATION
VIDEO



SCAN FOR
FREE TRIAL

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SolaDeck

PV ROOF-MOUNT ENCLOSURE



UL50 Type 3R Enclosure • Stamped 18 gauge gal. steel • Powder coated finish • Weather tight

Enclosure Includes:

- Dual ground lug
- Universal DIN rail
- 1/2", 3/4" & 1" knockouts
- Wire strain relief clip
- Complete hardware package

**INTRODUCED AT
*SOLAR POWER 2007***



PV Roof-Mount Combiner/Enclosure

Benefits

- The ability to prep the building is now possible
- Replaces several parts used today
- Provides professional looking install
- Saves time on install
- Allows for easy access
- Guaranteed seal to roof
- Low profile design

***For product information contact us at
(866) 367-7782***

www.commdeck.com



RSTC Enterprises, Inc
2219 Heimstead Road
Eau Claire, WI 54703
1 (866) 367 - 7782



SolaDeck Part # 780

Specifications:

18 Gauge Steel Base (1) and Cover (2)
Pre Punched 7 holes in base (1) for roof deck
Pre Punched 4 holes in base (1) and cover (2) for match
Draw Process both parts
Powder Coated to withstand 1000 hours Salt Spray (Primer Gray)
High UV resistance
15" x 15" flashing dimension
Cavity dimension 8"W x 9" L x 2.5"D
Approx. 162 Cubic inch equipment cavity
Norloked steel base plate (3) to drawn base (2)
Three knockout locations .5", .75" and 1"
3" DIN rail installed
Grounding Lug- Installed (In Equipment Cavity)
Wire Strain Relief Clip –Installed (In Equipment Cavity)
Hardware pack withstands 500 hours Salt Spray
 7 - 2" Trusshead Screws
 4 - .5" 8-32 thread cutting screws
 4 - #10 Bonded Seal washers
 1 – Foam closed Cell Seal
ETL Listed UL50 Type 3R

Total Weight 6.9 pounds each

Packaging:

Individually bagged and boxed
Box dimension 15.5"w x 16" L x 3" D
White Carton labeled with Cut out template
Print One Color - Black

Master Cartons of 6 Units each
Master Carton dimension 18.75"x16"x16.375"
Master Carton Weight – 42 pounds
18 Master Cartons per skid Approx 800 pounds with skid

Eaton DG222URB

Catalog Number: DG222URB

Eaton General duty non-fusible safety switch, single-throw, 60 A, NEMA 3R, Rainproof, Painted galvanized steel, Two-pole, Two-wire, 240 V

Photo is representative



General specifications	
Product Name	Catalog Number
Eaton general duty non-fusible safety switch	DG222URB
	UPC
	782113144238
Product Length/Depth	Product Height
7.38 in	14.38 in
Product Width	Product Weight
8.69 in	9 lb
Warranty	Compliances
Eaton Selling Policy 25-000, one (1) year NEC 230.62 (C) Compliant Barrier from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.	Certifications
	UL Listed
	Catalog Notes
	WARNING! Switch is not approved for service entrance unless a neutral kit is installed.

Type

Non-fusible, single-throw

Amperage Rating

60A

Number Of Poles

Two-pole

Product Category

General duty safety switch

Voltage rating

240V

Enclosure

NEMA 3R

Enclosure material

Painted galvanized steel

Fuse configuration

Non-fusible

Number of wires

2

Catalogs

[Eaton's Volume 2—Commercial Distribution](#)

Multimedia

[Double Up on Safety](#)

[Switching Devices Flex Center](#)

Specifications and datasheets

[Eaton Specification Sheet - DG222URB](#)

Warranty guides

[Selling Policy 25-000 - Distribution and Control Products and Services](#)



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30 Pembroke Road
Dublin 4, Ireland
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