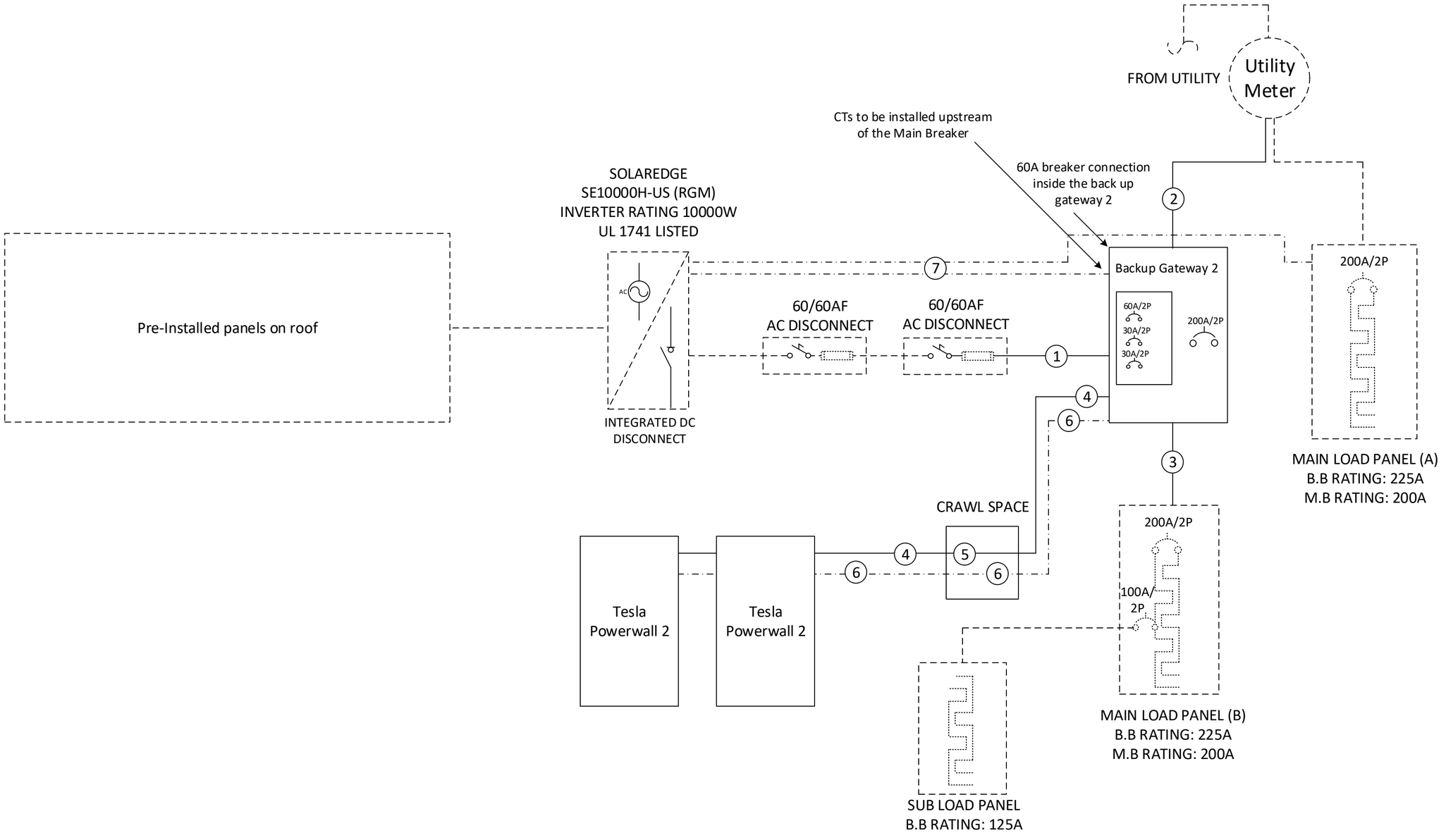
Service Side Work: Power Drop Required



Note: Solar system is pre-installed and we are only installing batteries and backup gateway 2.

Note: Loads more than 176A LRA will be non-backed up by Tesla and will be managed manually.
Note: HVAC Unit #1 and Freezer #3 will move to the panel (B) which will be backed by the batteries.

System Size:
- (01) SOLAREDGE SE10000H-US
- Inverter Output: 42A max @ 240 VAC
- 10.0 kVA AC output max

- Rapid Shutdown is included in the Inverters, refer to Inverter attached datasheets.
- The load center / disconnect will be visible, lockable accessible to utility linesmen and will be properly labelled as per NEC requirements. It will be located on the exterior wall of the building, next to the utility meter.

Sr.No	#Wire	Conduit Size	Ground Wire	Amperage
1	3 x #6 THHN Cu	3/4” EMT	#8 Green	60
2	3 x #3/0 THHN Cu	2” PVC		200
3	3 x #3/0 THHN Cu	2” PVC	#4 Green	200
4	6 x #10 THHN Cu	3/4” EMT	#10 Green	30
5	6 x #10 THHN Cu	3/4” LFMC	#10 Green	30
6	4-conductor shielded (1 twisted pair) 16 AWG			
7	Shielded CAT5e			

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Customer Signature:

Sheet Name:

Electrical One Line Diagram

JOB NUMBER:

23-189-KG

Date:

04/25/2023

Revision:

A

Sheet Size:

ANSI C
17" X 22"

Sheet Number:

PV1

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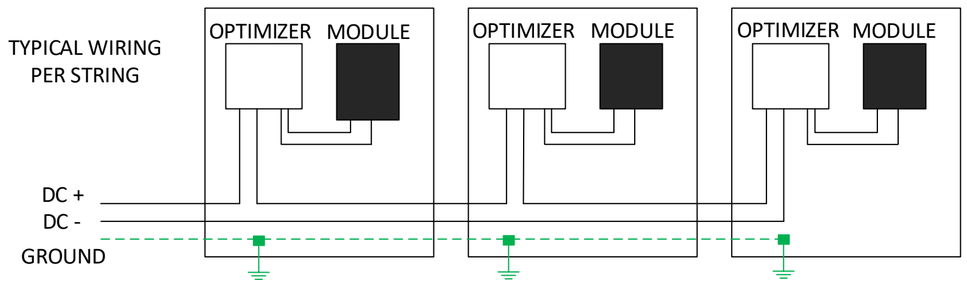
PVIP #031310-32



Line 1	
Line 2	
Neutral	
Ground	

Note: The arrow on the 225A CTs should face the grid.
Note: Dip switch settings are factory set to address 1
Note: Accepted Breakers for Gateway: Eaton CSR or BW (100-200A)
Note: Loads more than 176A LRA will be non-backed up by Tesla and will be managed manually.

Note: The arrow on the Backup Gateway 2 CTs should face the grid.
Note: Backup Gateway 2 CT-1 should be installed on Line 1.

Note: Fault current is smaller than 10kAIC
Note: There will be partial consumption.
Note: Solar system is pre-installed and we are only installing batteries and backup gateway 2.

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Detailed Electrical Diagram

JOB NUMBER:

23-189-KG

Date:	**Revision:**
04/25/2023	A
Sheet Size: ANSI C 17" X 22"	**Sheet Number:** PV 2

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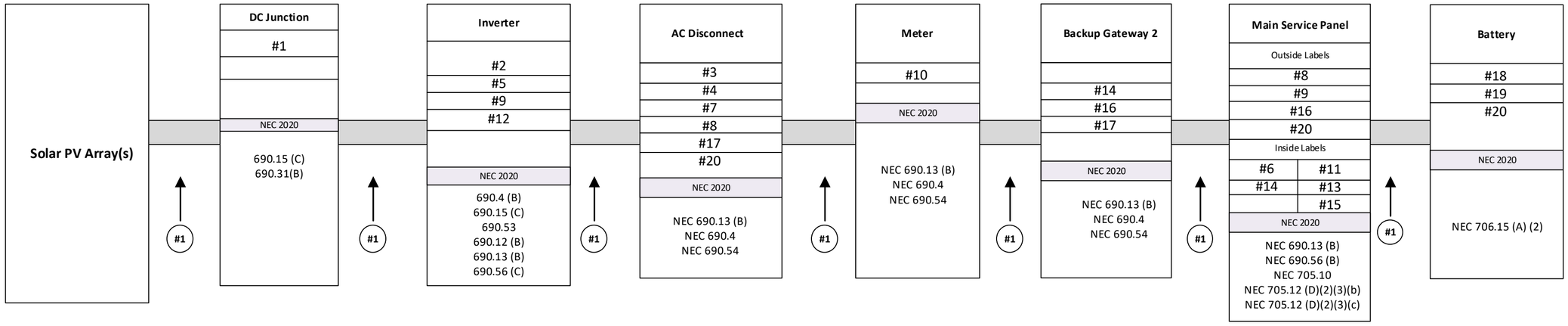

LABELING AND WARNING SIGNS: NEC 2020

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 DISCONNECTCLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED

3. MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIAL

a. VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
b. FORMAT:

(1) WHITE LETTERING ON A RED BACKGROUND
(2) MINIMUM 3/8 INCH LETTER HEIGHT
(3) ALL LETTERS SHALL BE CAPITALIZED
(4) 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

#1
WARNING:PHOTOVOLATIC POWER SOURCE

#2
PHOTOVOLATIC
DC DISCONNECT

#3
PHOTOVOLATIC
AC DISCONNECT

#4
RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

#5
MAXIMUM VOLTAGE 400Vdc
MAX. RATED CIRCUIT CURRENT 23.4Adc
OF THE CHARGE CONTOLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

#6
PHOTOVOLTIVC POWER SOURCE
OPERATING AC VOLTAGE 240 V
MAXIMUN OPERATING AC OUTPUT CURRENT 47.5 A

#7
AC DISCONNECT
PHOTOVOLTAIC SYSTEM POWER SOURCE
RATED AC OUTPUT CURRENT 47.5 AMPS
NOMINAL OPERATING AC VOLTAGE 240 VOLTS

#8
WARNING
ELECTRIC SHOCK HAZARD
TERMINAL ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

#9
WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

#10
WARNING
THREE POWER SOURCES
SOURCES: UTILITY GRID, BATTERY AND PV SOLAR ELECTRIC SYSTEM

#11
WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

#12
WARNING
BIPOLAR PHOTOVOLTAIC ARRAY
DISCONNECT OF NEUTRAL GROUNDED CONDUCTORS MAY RESULT IN OVERVOLTAGE ON ARRAY OR INVERTER

#13
WARNING
POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE

#14
WARNING
SOLAR ELECTRIC CIRCUIT BREAKER IS BACKFEED

#15
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

#16
SOLAR AC DISCONNECT LOCATED AT WEST SIDE WALL OF THE HOUSE BESIDE THE UTILITY METER

#17
SERIVCE DISCONNECT LOCATED IN THE BACKUP GATEWAY2 PANEL

#18
BATTERY

#19
MAIN BATTERY SYSTEM DISCONNECT

#20
BATTERY DISCONNECT LOCATED IN THE BACKUP GATEWAY 2 PANEL

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PV Labels

JOB NUMBER:

23-189-KG

Date:
04/25/2023

Revision:
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Sheet Size:
ANSI C
17" X 22"

Sheet Number:
PV 3

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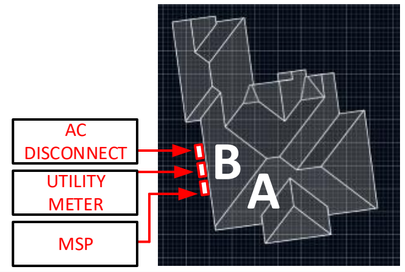
PVIP #031310-32

ROOF DESCRIPTION			
ROOFS	PITCH	AZIMUTH	
A	45°	172°	
B	45°	262°	



TESLA
- 02 x Powerwall & Ancillary Equipment
- 02 x US AC Goodie Bag
- 01 x Powerwall Mounting Kit
- 01 x Powerwall Stacking Kit
- 02 x 02" Conduit Hub Kit
- 02 x 1.25" Conduit Hub Kit
- 01 x Backup GateWay 2
- 01 x Internal Panelboard Kit

ELECTRICAL ITEMS
- 01 x BW2200: Gateway Main Breaker-Eaton BW2200
- 01 x BR260: Eaton BR 60/2
- 02 x BR230: Eaton BR 30/2

PV LABELS		
Sr No	Code	Qty
01	02-314	12
02	03-301	01
03	03-302	01
04	02-316	02
05	03-308	01
06	03-390	01
07	03-306	01
08	05-215	02
09	05-211	02
10	03-230	01
11	05-372	01
12	05-103	01
13	05-216	01
14	05-342	01
15	07-111	01
16	8M-001	02
17	8M-002	02
18	03-395	01
19	04-304	01
20	8M-004	03

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Bill of Material

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