

Oncor Residential/Small Commercial Project Requirements

Revised: May 1, 2025

Equipment (Including all associated DG Equipment)

- Batteries
- Generators
- Inverters
- Solar Panels/ Modules
- Utility Meter
- Visible Lockable Labeled AC Disconnect (VLLD)
- Wind Turbines
- Other DG Equipment

(Note: the space within the meter socket is reserved for Oncor use ONLY i.e. No meter collars please refer to **Electrical Service Guidelines** (ESG) 500.06)

A Single Separate Visible Lockable Labeled AC Disconnect (VLLD) MUST be located between the Oncor Meter and ALL sources of distributed generation.

The Visible Lockable Labeled AC Disconnect must have an external handle and be lockable. Molded-case breakers are NOT considered acceptable VLLDs. The AC Disconnect **MUST BE ACCESSIBLE** at all times. Please contact Oncor for specific project questions.

(See section 700 ESG)

[https://intranet.corp.oncor.com/sites/AssetManagement/DE/DistStd/Shared%20 Documents/
Electric%20Service%20Guidelines/Complete%20Electric%20Service%20Guidelines%20Book.pdf](https://intranet.corp.oncor.com/sites/AssetManagement/DE/DistStd/Shared%20Documents/Electric%20Service%20Guidelines/Complete%20Electric%20Service%20Guidelines%20Book.pdf)

If the project is adding to an existing system, the diagrams need to include a representation of the existing system. The new Interconnection Agreement will be for the entire system installed and will supersede the existing Interconnection Agreement.

For reference **ONLY** see updated Layout Sketch and One-line Diagram found on page 6 and page 7 of the requirements document.

Oncor Interconnection Agreements are for a single metered premise only. Equipment cannot cross between metered premises or feed through to other metered premises.

Each Diagram must be a single page, completely flattened and non-editable, PDF, less than 2MB. Please contact Oncor for specific project questions.

Markups or copies of the example drawings will not be accepted.

All drawings must accurately reflect the system that is actually installed.

All the documents, Tariff Application and Interconnection Agreement must be Signed by the Customer.



Layout Sketch

1. Oncor service address must be shown on the Layout Sketch.
2. Equipment (Panels, Inverters, Visible Lockable Labeled AC Disconnects, Batteries and the Oncor Meter) must be represented and labeled.
 - a. A Legend may be used to identify symbols/numbers on the sketch if symbols/numbers are used.
 - b. Utility Meter must be clearly labeled. (Note: The Utility Meter is NOT the customer owned measurement and verification meter, located downstream from the Utility Meter.)
 - c. For all the equipment include the correct and complete details i.e. manufacturer name, model number, and quantity **exactly** as listed in the equipment tab, including voltage, for all panels, batteries, energy storage systems and inverters.
 - d. The Visible Lockable Labeled AC Disconnect must be located on an **ACCESSIBLE, EXTERIOR** wall within 10 feet of the Oncor Meter.
 - e. If the Visible Lockable Labeled AC Disconnect is NOT located within 10 feet of the Oncor Meter, Class 2 or 3 placards are to be used. The AC Disconnect **MUST BE ACCESSIBLE** at all times. Please contact Oncor for specific project questions.
3. The words "Visible Lockable Labeled Disconnect" must be written out in at least one location on the drawing, before the acronym "VLLD" can be used.
4. The distance between the AC Disconnect and the Oncor Meter must be identified in feet.
 - a. Example, "The Visible, Lockable, Labeled AC Disconnect is located within 10 ft. of Oncor Meter" or "The Visible Lockable Labeled AC Disconnect is located approximately X ft from the Oncor Meter"

Note: The distance between the VLLD and the Oncor Meter is used to determine Class 1, Class 2 or Class 3 placarding.

5. If the VLLD is within 10 feet of the Oncor Meter, **Class 1** placard proofs may be shown on the Layout Sketch or uploaded as a separate document in the Placard Section of the eTRACK Installer Portal.
 - a. Installers can choose to create a Class 1 Placard Template that may be uploaded with each project.
 - b. Class 2 and Class 3 placards are unique to each project.

Note: Placard Proofs need to be uploaded separately from any uploaded design packet. It may cause delays if reviewing staff has to search for it.

6. The ESI ID number needs to be clearly identified for each project/address. The 7-digit Premise number is acceptable. (The premise number is the last 7 digits of the ESI ID.)
7. Layout Sketch must be a bird's eye view of the property. It must display proper orientation of the structure and all equipment locations must be accurately represented. Google Earth images with required labeling are acceptable as long as they are converted to PDFs. **Do not place any additional details on the document which are not relevant to the project.**
8. Layout Sketch needs to be one (1) page, two (2) if the second page is placarding. Google Earth images or bird's-eye drawings, with required labeling, are acceptable, as long as they are converted to PDFs. Any existing system must be shown on diagram.
9. Layout Sketch must include North directional symbol, street name and driveway.



One Line Diagram

1. Oncor service address must be shown on the One Line Sketch.
2. Equipment (Panels, Inverters, Visible Lockable Labeled AC Disconnects, Batteries and the Oncor Meter) must be represented and labeled.
 - a. A Legend may be used to identify symbols/numbers on the sketch if symbols/numbers are used.
 - b. Utility Meter must be clearly labeled. (Note: The Utility Meter is NOT the customer owned measurement and verification meter, located downstream from the Utility Meter.)
 - c. For all the equipment include the correct and complete details ie. manufacturer name, model number, and quantity **exactly** as listed in the equipment tab, including voltage, for all panels, batteries, energy storage systems and inverters.
 - d. The Visible Lockable Labeled AC Disconnect must be located on an **ACCESSIBLE, EXTERIOR** wall within 10 feet of the Oncor Meter.
 - e. If the Visible Lockable Labeled AC Disconnect is NOT located within 10 feet of the Oncor Meter, Class 2 or 3 placards must be used. The AC Disconnect **MUST BE ACCESSIBLE** at all times. Please contact Oncor for specific project questions.
3. The words "Visible Lockable Labeled Disconnect" must be written out in at least one location on the drawing, before the acronym "VLLD" can be used.
4. The distance between the AC Disconnect and the Oncor Meter must be identified in feet.
 - a. Example, "The Visible, Lockable, Labeled AC Disconnect is located within 10 ft. of Oncor Meter" or "The Visible Lockable Labeled AC Disconnect is located approximately X ft from the Oncor Meter."

Note: The distance between the VLLD and the Oncor Meter is used to determine **Class 1, Class 2** or **Class 3** placards.

5. If the VLLD is within 10 feet of the Oncor Meter, Class 1 placard proofs may be shown on the One Line Diagram or uploaded as a separate document in the Placards Section of the eTRACK Installer Portal.
 - a. Installers can choose to create a **Class 1** Placard template, which may be uploaded with each project. Class 2 and Class 3 placarding is unique to each project.

Note: Placard Proofs need to be uploaded separately from any uploaded design packet (if not included in either drawing). It may cause delays if reviewing staff has to search for it.
6. The ESI ID number needs to be clearly identified for each project/address. The 7-digit Premise number is acceptable. (The premise number is the last 7-digits of the ESI ID.)
7. One-line must display the order of equipment connections accurately. **Do not place any additional details on the document which are not relevant to the project.** One-line diagram needs to be one (1) page, two (2) if the second page is placarding.
8. All the existing equipment details must be listed on the one-line diagram. A separate VLLD must be included between customer equipment and Oncor meter.
9. If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.



Checklist

Yes <input type="checkbox"/>	Is the Oncor service address on both the <u>layout sketch and one-line diagram</u> ?
Yes <input type="checkbox"/>	Is the ESI ID on the <u>layout sketch and one-line diagram</u> ?
Yes <input type="checkbox"/>	Is all the equipment clearly labeled (or identified by a legend if using numbers/symbols) on both the <u>layout sketch and one-line diagram</u> ?
Yes <input type="checkbox"/>	Are the words "Visible Lockable Labeled Disconnect" written out at least once <u>per layout sketch and one-line diagram</u> ?
Yes <input type="checkbox"/>	Is the distance (in feet) between the Oncor Meter and the VLLD identified on both the <u>layout sketch and one-line diagram</u> ?
Yes <input type="checkbox"/>	Is the VLLD located within 10 feet of the Oncor meter? If Yes, then Class 1 placards are required.
Yes <input type="checkbox"/>	Is the VLLD located farther than 10 feet from the Oncor meter? If Yes, then Class 2 or Class 3 placards are required.
Yes <input type="checkbox"/>	Are the appropriate Placard Proofs uploaded to the Placards section in the eTRACK Installer Portal?
Yes <input type="checkbox"/>	<u>Does the equipment information on the technical drawings match all the equipment tab in eTRACK?</u>
Yes <input type="checkbox"/>	Are all required <u>Inspection Images</u> uploaded during the <u>Agreement Available</u> step?



Small Commercial

When the owner of the DG system, or the End-Use-Customer, is not an individual, a Signature Authorization Letter must be uploaded.

The letter needs to list the company name, the name of the person authorized to sign on behalf of the company, their title and signature.

Interconnection Agreements will not be approved without this document.

Duplicate Hold

A duplicate occurs when the premise number already has an existing project in our data base.

DG Group will resolve duplicate hold based on the following:

If Duplicate project is adding to, or replacing an approved existing system, DG group must be notified, by email, whether adding or replacing.

If customer does NOT have an existing approved system, the installer must upload a screen shot of an email or text conversation from the customer, stating which installer they prefer.

Maintenance/Repair

If approved systems require replacement of any piece of equipment, the executed IA/PTO granted may need to be voided, the project updated and resent for review, the IA regenerated and resent for signatures.

- If identical equipment (Same Manufacturer name and identical model number) is used to replace existing equipment, no changes are needed.
- If Non-Identical equipment (different Manufacturer name or non-identical model number) is used to replace existing equipment, the IA is voided. New project is required.



ME, PANELS

LLED PV AC DISCONNECT LINE

R



(N)VLLD

ONCOR UTILITY METER

MAIN SERVICE PANEL

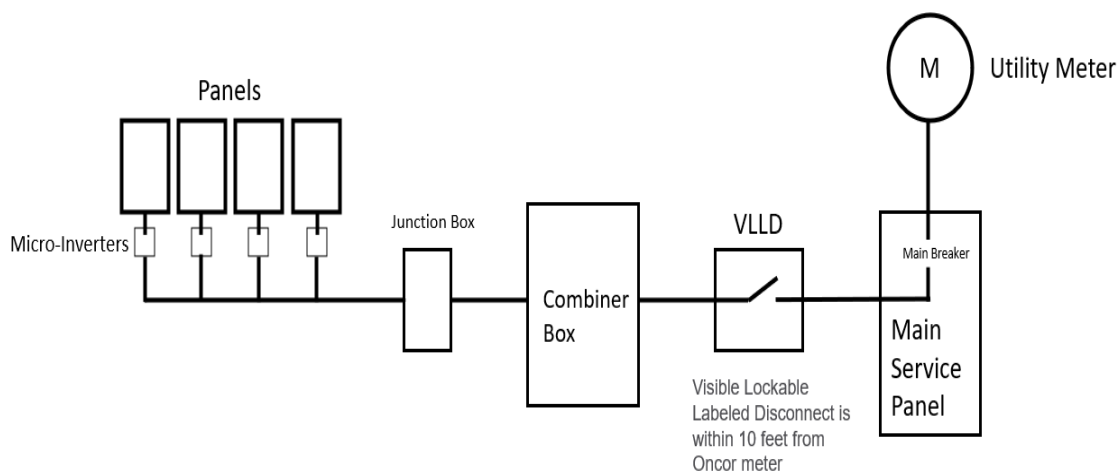
COMPLETE MANUFACTURER NAME, COMPLETE MODEL NUMBER OF INVERTERS, BATTERIES AND ENERGY STORAGE SYSTEMS

STREET NAME

David Howell	Richmond St 2612
 <p>PV Installation Professional</p> <p><i>Douglas Daniels</i></p> <p>Douglas Daniels</p> <p>NABCEP Certified Professional #PV-10254-90250</p>	
 <p>SYSTEM SIZE: 7.14 kW DC 5.04 kW AC 21 MODULES</p>	
DATE:	12/22/2020
DRAWN BY:	JKB
ADDITIONAL NOTES:	

If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.

EXAMPLE:
ONE-LINE DIAGRAM
(SOLAR WITH MICRO-INVERTERS)



ESI ID	10773320001234567
Service address	123 Vienna Street Irving Texas
Meter number	1234567LG
Is visible lockable labeled disconnect (VLLD) included?	Yes/No
Distance between VLLD and Utility meter	10 Feet
Is the North Direction symbol included?	Yes/No

Equipment	Quantity	Manufacturer Name	Model Number	Voltage (V)
Inverter #1				
Solar #1				
Battery #1				
Inverter #2				
Solar #2				
Battery #2				
Generator				

David Howell
 2612 Richmond St

**NABCEP
 CERTIFIED**

**PV Installation
 Professional**

Douglas Daniels
 Douglas Daniels
 NABCEP Certified Professional
 #111111-111111

Licensed Electrical Contractor
 KIM TRIPLETT, LLC
 LICENSE #000000000000
 Expires 12/31/2021
 State of Texas

SYSTEM SIZE: 7.14 kW DC
 5.04 kW AC
 21 MODULES

DATE: 12/22/2020

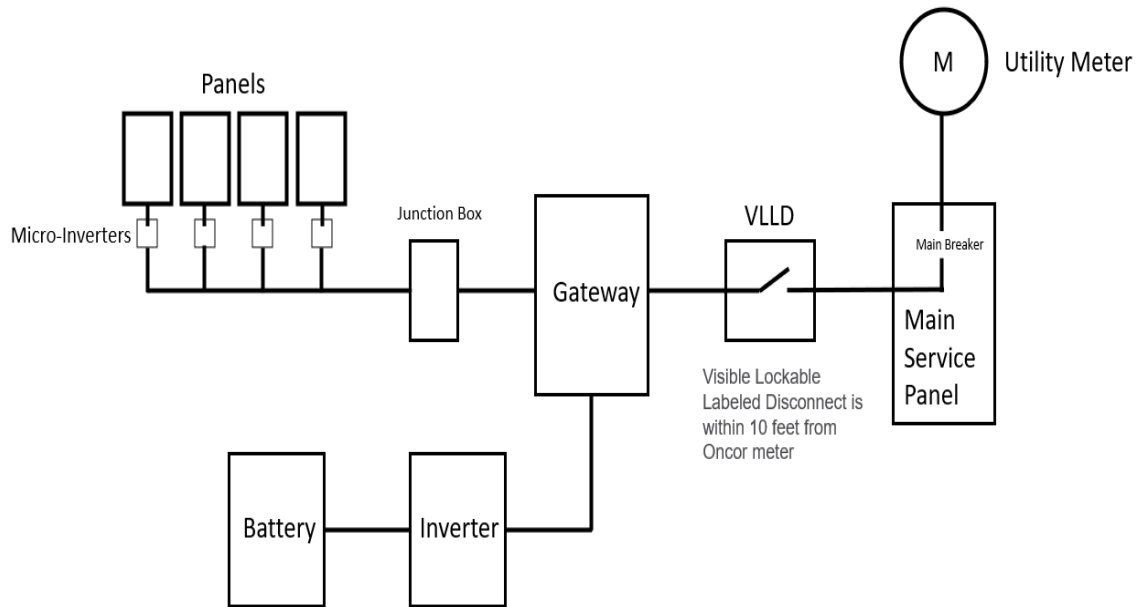
DRAWN BY: JKB

ADDITIONAL NOTES:

If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.

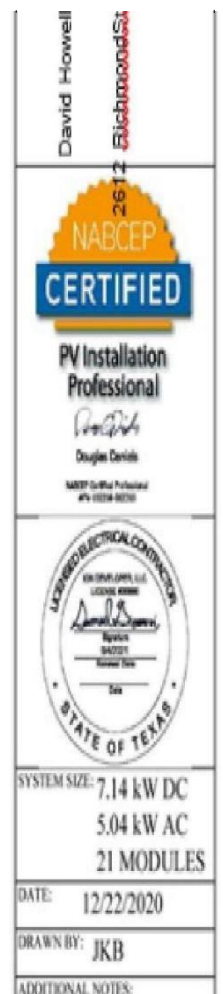


EXAMPLE:
ONE-LINE DIAGRAM
(SOLAR WITH MICRO-INVERTERS & BATTERY)



ESI ID	10773320001234567	
Service address	123 Vienna Street Irving Texas	
Meter number	1234567LG	
Is visible lockable labeled disconnect (VLLD) included?	Yes/No	
Distance between VLLD and Utility meter	10 Feet	
Is the North Direction symbol included?	Yes/No	

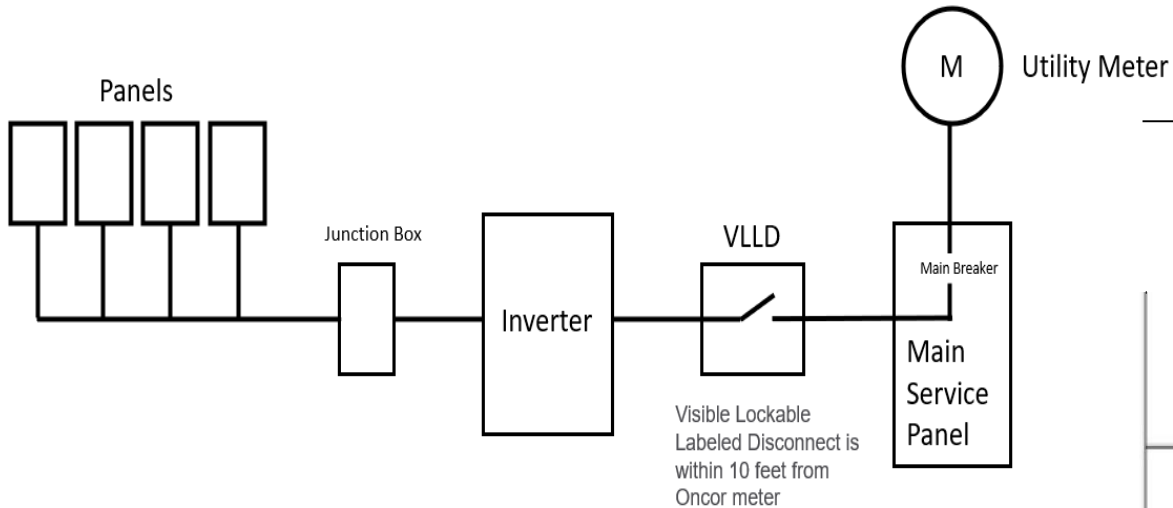
Equipment	Quantity	Manufacturer Name	Model Number	Voltage (V)
Inverter #1				
Solar #1				
Battery #1				
Inverter #2				
Solar #2				
Battery #2				
Generator				



If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.

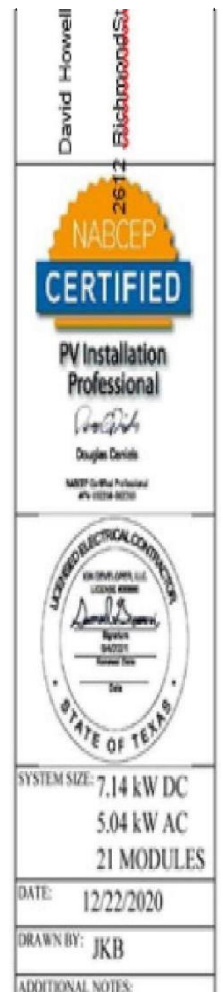


EXAMPLE:
ONE-LINE DIAGRAM
(SOLAR WITH INVERTERS OR ENERGY STORAGE SYSTEM)



ESI ID	10773320001234567
Service address	123 Vienna Street Irving Texas
Meter number	1234567LG
Is visible lockable labeled disconnect (VLLD) included?	Yes/No
Distance between VLLD and Utility meter	10 Feet
Is the North Direction symbol included?	Yes/No

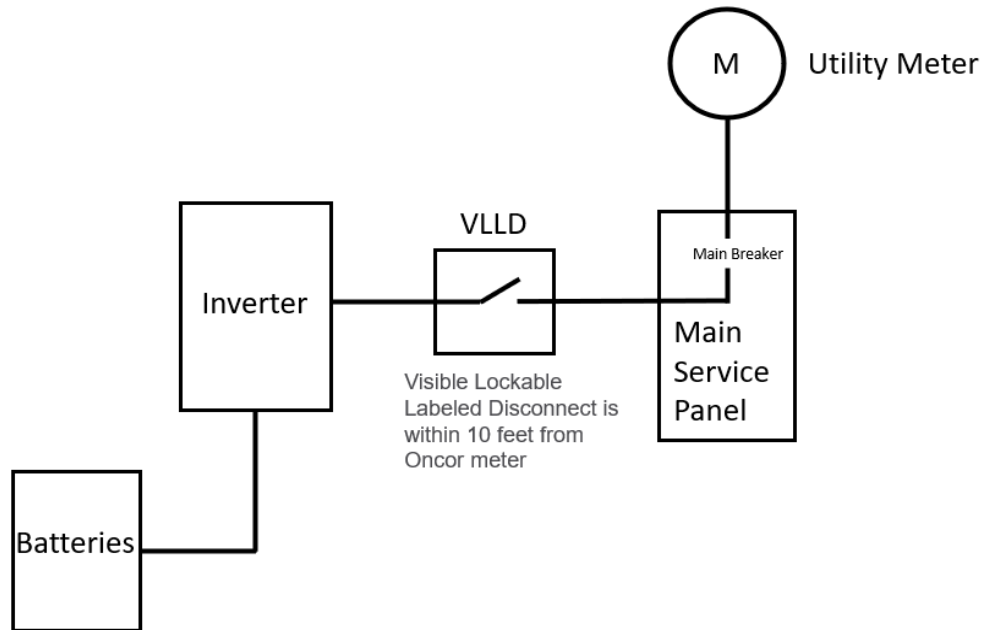
Equipment	Quantity	Manufacturer Name	Model Number	Voltage (V)
Inverter #1				
Solar #1				
Battery #1				
Inverter #2				
Solar #2				
Battery #2				
Generator				



If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.



**EXAMPLE:
ONE-LINE DIAGRAM
(BATTERY ONLY)**




ESI ID	10773320001234567	
Service address	123 Vienna Street Irving Texas	
Meter number	1234567LG	
Is visible lockable labeled disconnect (VLLD) included?	Yes/No	
Distance between VLLD and Utility meter	10 Feet	
Is the North Direction symbol included?	Yes/No	

Equipment	Quantity	Manufacturer Name	Model Number	Voltage (V)
Inverter #1				
Solar #1				
Battery #1				
Inverter #2				
Solar #2				
Battery #2				
Generator				

David Howell

Richmond St




**NABCEP
CERTIFIED**

**PV Installation
Professional**

Douglas Daniels

Douglas Daniels

NABCEP Certified Professional
4/14/2018 00710



STATE OF TEXAS

SYSTEM SIZE: 7.14 kW DC
5.04 kW AC
21 MODULES

DATE: 12/22/2020

DRAWN BY: JKB

ADDITIONAL NOTES:

If a Generator is connected, please confirm the ATS mode of operation- Open transition or Close transition.



Oncor Placard Guideline

Background Information

Oncor requires caution or warning placards on all distributed generation projects to alert company employees of a potential alternate source of power. Oncor placard specifications are not intended to replace any requirements in the National Electric Code (NEC). Oncor's interconnection requirements specify a manual disconnect device. Visible Lockable Labeled Disconnect. This VLLD must have a visual break that is appropriate to the voltage level, be accessible to utility personnel, and capable of being locked in the open position. Oncor requests that this VLLD be located on an exterior wall and close to the Oncor meter. Placards materials are to be UV resistant and follow the same material standards as utilized in the NEC. Placards are requested to be located on the VLLD and not on the Oncor meter.

Class 1 - Basic Visible Lockable Labeled Disconnect - Located within 10 feet

Examples:



Class 2
Visible Lockable Labeled Disconnect - Greater than 10 feet
from Oncor meter

Oncor requests the VLLD be located near the Oncor meter and only under exception should it be located elsewhere. Normally the distributed generator is fed from a sub-breaker under a main breaker (located near Oncor meter). This sub-breaker can stub back out to an outside wall into a VLLD by the Oncor meter and then proceed to an alternate location. Only in unusual circumstances should the VLLD be located remotely from the Oncor meter. Oncor requests proofs of placards for review with the application.

Example: If Oncor meter is located on the east side of the property and the VLLD is located on the west side, then customer should provide a placard at the Oncor meter location and additionally on the VLLD on the west wall.

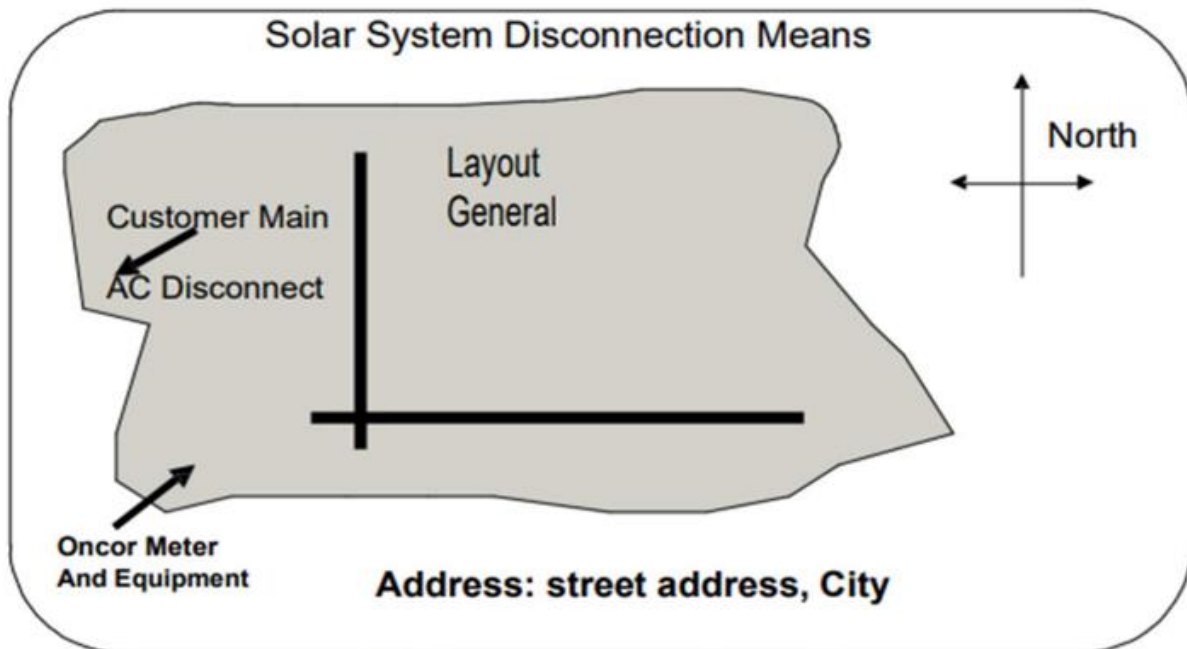


Class 3

Facilities Fed from Oncor Pad Mounted Transformers Or High Voltage Delivery Facility with Remote Distributed Generation System

In certain cases, distributed generation systems are installed in distant locations from the Oncor meter. This could be the case when Oncor provides a pad mounted transformer and metering at the point of common coupling (point of delivery) or where Oncor provides a high voltage point of delivery and metering.

The general process for this type of installation is for two placards to be utilized. Following is an example:



CAUTION
POWER TO THIS SERVICE
IS ALSO SUPPLIED FROM
ON-SITE PHOTOVOLTAIC
GENERATION
SEE MAP FOR LOCATION
OF MAIN AC DISCONNECT

Class 3 (Continued)

Site Map Details

The basic elements of the site map should include the following:

- 1) Location of the Oncor meter and Oncor delivery equipment,
- 2) Location of the generators main AC disconnect,
- 3) Facility address,
- 4) North indicator and basic street and building layout,
- 5) Map title example, "Solar System Disconnecting Means."

Process Information – Location of Placards

The intent of this process is to provide a warning to the Oncor operations group of a potential alternate source of power and give individuals the opportunity to clear or open any disconnects when work is being done at the Oncor or customer delivery equipment. Oncor requests that identical placards be installed on the customer's main equipment to provide additional recognition. In most cases on high voltage installations, safety precautions utilizing visual opens and grounding will be implemented. Placard solutions for this class of installation are unique and alternate solutions can be proposed and coordinated with Oncor.

For this type of installation Oncor requests:

- 1) Oncor requests proofs of placards for review with the application,
- 2) Upon approval, three sets of the Site Map and Caution placard are requested; one for installation on existing Oncor equipment, another for future use should Oncor equipment be replaced, and a third set to be installed on the customers main equipment,
- 3) Oncor requests that the contractor furnishes Oncor the placards and adhesive tape,
- 4) Oncor's operations group will want to mount the placards on the Oncor equipment,
- 5) Oncor's operation group will need to approve and communicate the acceptance of the placard installation to the Oncor Distribution Specialist after a site visit to the facility.

Installations Utilizing Oncor Pad Mounted Transformers

In addition to the above requirements, Oncor also requests an additional placard. This placard is a caution placard with two pre-drilled holes to attach to the secondary cables inside the Oncor transformer (or Oncor point of delivery equipment). The thought here is if the transformer is ever removed and replaced this placard would remain and provide a warning to Oncor personnel.



Placard Materials

Customers may use color cast acrylic placards. Oncor also accepts placards on sticker type material if outdoor-rated and of similar specifications as required in the National Electric Code (NEC). Both must have an UV inhibitor rated for exterior use.

If color cast acrylic is utilized, customer must also provide to the operating technician adhesive tape. A preferred brand is 3M Scotch, VHB FAMILY, found on page 3 of the 3M VHB Tapes Svc Bulletin- Foam tapes 4956, 4941, 4936 or 4926. This VHB tape should be minimum 1 inch wide, be double sided adhesive tape with VHB (Very High Bond) adhesive for exterior applications.

Caution or Warning Placard Language

Part A – Labeling for Placard on Visible Lockable Labeled Disconnect

Please indicate the placard warning language that will be utilized on the VLLD: (or attach separately)

Examples:

CAUTION

Solar Generation Utility AC Disconnect

CAUTION

POWER TO THIS SERVICE
IS ALSO SUPPLIED FROM ON-SITE GENERATION
AC SYSTEM DISCONNECT

WARNING

Wind Generation Utility AC Disconnect

Part B – Directory Warning Providing Visible Lockable Labeled Disconnect Location Language

Please indicate the placard warning language that will be utilized at the Oncor meter IF the VLLD is not located within ten feet of the Oncor meter: (or attach separately)

Examples:

CAUTION

POWER TO THIS SERVICE IS ALSO SUPPLIED FROM

WARNING

POWER TO THIS SERVICE IS ALSO SUPPLIED FROM

AC DISCONNECT IS LOCATED ON SOUTH WALL OF DETACHED GARAGE

AC DISCONNECT IS LOCATED ON WEST WALL OF THIS STRUCTURE



PHOTOS REQUIREMENTS

A minimum of 5 clear inspection photos. Take photos from a distance so that during review these readily depict where panels are installed on the home.


1. ADDRESS
 - a. Single Image Street view capturing the house number.
Note: Please make sure there are no license plate numbers visible.
2. EQUIPMENT DETAILS
 - a. Images capturing the equipment nameplate, showing model number.
Note: Module label photos must be from each site. **DO NOT** use stock photos or the **same photo for multiple projects.**
3. INSTALLED SYSTEM
 - a. Images capturing the exterior wall showing all the equipment and how it is connected with the utility meter and main service panel.
 - b. Images capturing the installed equipment (Panels, Inverters, Energy Storage System, Batteries, ATS). Birds-Eye view of the installed system is appreciated.
4. VISIBLE LOCKABLE LABELED DISCONNECT
 - a. Capturing the images of all the VLLD/Disconnects and the placarding

EXAMPLES:

ADDRESS





EQUIPMENT DETAILS






Model: TXI10-410108BB

Maximum Power(Pmpp)	410W	Power Tolerance	±3%
Open-Circuit Voltage(Voc)	37.32(±3%)V	Series Fuse Rating	25A
Short-Circuit Current(Isc)	13.95(±3%)A	Fire Performance	Type 1
Voltage at Pmax(Vmp)	31.45V	Dimension	1722x1134x35(mm)
Current at Pmax(Imp)	13.04A	Weight	21.5kg
Max System Voltage	1500V	Safety Class	Class II

Standard Test Condition: 1000W/m², 25°C, AM1.5

Conforms to UL STD.
UL61730-1/-2, UL61715-1/-1/-2
or Certified to CSA STD.
C22.2 #61730-1/-2

Msolar
8303 South New Braunfels Avenue, San Antonio, TX 78235

Made in Indonesia



SILFAB ELITE
SIL-420 BG

ELECTRICAL SPECIFICATIONS
measured at Standard Test Conditions (STC):
1000W/m² Irradiance, AM1.5G spectrum, 25°C cell temperature

CARACTÉRISTIQUES ÉLECTRIQUES
mesurées dans les conditions d'essai normalisées:
1000W/m² rayonnement, spectre de AM1.5G, température des cellules de 25°C

Maximum Power (Pmax)	420 ~ ⁺¹⁰ ₋₀ W
Maximum Power Voltage (Vpmax)	38.51 V
Maximum Power Current (Ipmax)	10.91 A
Open Circuit Voltage (Voc)	46.36 V
Short Circuit Current (Isc)	11.40 A
Maximum System Voltage	1000 V
Series Fuse	20 A
Fire Rating	Type 1

For field connections use min. 12 AWG wires outside for a minimum of 90°C.
Utiliser des câbles de cuivre seulement.

Conforms to UL Std. 61730
Certified to CSA Std. 61730

TO DOWNLOAD INSTALLATION MANUAL
OR DATASHEET, SCAN QR-CODE OR
GO TO: WWW.SILFABSOLAR.COM

Made in WA, USA

MAX DC VOLTAGE OF PV SYSTEM:

TESLA POWERWALL ENERGY STORAGE SYSTEM GRID SUPPORT UTILITY INTERACTIVE & STANDALONE INVERTER

TESLA PART NO.
1707000 - 11 - L
SN: TG125007002FD3

BATTERY ENERGY STORAGE SYSTEM (BESS) & PHOTOVOLTAIC (PV) POWER CONVERSION EQUIPMENT	
NOMINAL BATTERY ENERGY	13.5 kWh
BATTERY TYPE	Li-ion
PROTECTION CLASS	CLASS I
ENCLOSURE TYPE	TYPE 3R
PV INVERTER TOPOLOGY	NON-ISOLATED
BESS INVERTER TOPOLOGY	ISOLATED
OPERATING TEMPERATURE RANGE	-20°C TO 50°C
DERATED TEMPERATURE RANGE	40°C TO 50°C
MASS	130 kg

BATTERY ENERGY STORAGE SYSTEM (BESS) & PHOTOVOLTAIC (PV) SPECIFICATIONS	
NOMINAL GRID VOLTAGE INPUT & OUTPUT	240 V (AC)
DC VOLTAGE RANGE	211 V - 264 V (AC)
PHASE	2W+NPPE
FREQUENCY	60 Hz
MAX SHORT-CIRCUIT CURRENT RATING	15 kA (AC)
MAX CONTINUOUS OUTPUT CURRENT (AC)	<input type="checkbox"/> 32 A (AC) (5 kVA) <input type="checkbox"/> 32 A (AC) (7.5 kVA) <input type="checkbox"/> 40 A (AC) (10 kVA) <input type="checkbox"/> 40 A (AC) (11.5 kVA)
MAX CONTINUOUS OUTPUT CURRENT (DC)	<input type="checkbox"/> 50 A (DC) <input type="checkbox"/> 50 A (DC) (15.4 kVA)
BESS MAX CONTINUOUS INPUT CURRENT, POWER	
POWERWALL 3 ONLY	20.8 A (AC) (5 kVA)
POWERWALL 3 + EXPANSION	33.3 A (AC) (8 kVA)
POWER FACTOR	-1 TO +1
PV OPERATING DC INPUT VOLTAGE RANGE	80 - 550 V (DC)
PV OPERATING DC MPPT VOLTAGE RANGE	60 - 480 V (DC)
PV MAX SYSTEM VOLTAGE	600 V (DC)
PV MAX INPUT CURRENT	15 A (DC)
PV DC ARC FAULT PROTECTION	TYPE 1

5 MINUTES

CONFORMS TO UL STD. 61730-1/2, UL STD. 1973, UL STD. 1996
CONFORMS TO IEC 61730-1/2, IEC 61731, IEC 61732, IEC 61733, IEC 61734, IEC 61735, IEC 61736, IEC 61737, IEC 61738, IEC 61739, IEC 61740, IEC 61741, IEC 61742, IEC 61743, IEC 61744, IEC 61745, IEC 61746, IEC 61747, IEC 61748, IEC 61749, IEC 61750, IEC 61751, IEC 61752, IEC 61753, IEC 61754, IEC 61755, IEC 61756, IEC 61757, IEC 61758, IEC 61759, IEC 61760, IEC 61761, IEC 61762, IEC 61763, IEC 61764, IEC 61765, IEC 61766, IEC 61767, IEC 61768, IEC 61769, IEC 61770, IEC 61771, IEC 61772, IEC 61773, IEC 61774, IEC 61775, IEC 61776, IEC 61777, IEC 61778, IEC 61779, IEC 61780, IEC 61781, IEC 61782, IEC 61783, IEC 61784, IEC 61785, IEC 61786, IEC 61787, IEC 61788, IEC 61789, IEC 61790, IEC 61791, IEC 61792, IEC 61793, IEC 61794, IEC 61795, IEC 61796, IEC 61797, IEC 61798, IEC 61799, IEC 61800, IEC 61801, IEC 61802, IEC 61803, IEC 61804, IEC 61805, IEC 61806, IEC 61807, IEC 61808, IEC 61809, IEC 61810, IEC 61811, IEC 61812, IEC 61813, IEC 61814, IEC 61815, IEC 61816, IEC 61817, IEC 61818, IEC 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