

# Inspection Checklist

Address:

Approval ID:

AHJ:

Scope of work:

## General Guidelines

The installer shall follow the manufacturer's instructions for all installed equipment and shall have them available at the time of inspection.

All wire sizes shown are a minimum, unless indicated otherwise, and the installer may upsize them at their discretion.

All OCPD ratings shown must match the inspection checklist exactly, any ratings that do not match the inspection checklist are valid reasons for inspection failure.

Conduit sizing to be confirmed at time of inspection. Contractor to provide conduit fill calculations where requested by inspector

## Main Service Panel Equipment

Pass

Main Breaker Ampere Rating Size	200 AMP	<input type="checkbox"/>
Main Bus Ampere Rating Size	225 AMP	<input type="checkbox"/>
Utility Service Rating	225	<input type="checkbox"/>
The equipment is connected either directly to the main service panel or in a Supply Side Connection.		<input type="checkbox"/>
If grounding electrode is rod, pipe or plate, then supplemental electrode is properly installed. Exception: If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.		<input type="checkbox"/>
EGC is installed ensuring continuity to all system components and finally to grounding electrode.		<input type="checkbox"/>

## Interconnection at Main Service Panel

Pass

Single Phase Grid Voltage	240 V	<input type="checkbox"/>
System Point of Interconnection Compliance Method At Main Service Panel: [NEC 705.12 (B) (2) (3) (b)] 120% Rule Where two sources, one a primary power source and the other another power source, are located at opposite ends of a busbar that contains loads, the sum of 125 percent of the power source(s) output circuit current and the rating of the overcurrent device protecting the busbar shall not exceed 120 percent of the ampacity of the busbar. [NEC 705.12 (B) (2) (3) (d)] 120% Rule for Center Fed Panels A connection at either end, but not both ends, of a center-fed panelboard in dwellings shall be permitted where the sum of 125 percent of the power source(s) output circuit current and the rating of the overcurrent device protecting the busbar does not exceed 120 percent of the current rating of the busbar.		<input type="checkbox"/>
Backfeed breakers are at opposite load ends of the panel.		<input type="checkbox"/>
For center fed panels, backfeed breakers are on one side of main breaker and not both in the panel.		<input type="checkbox"/>

## Equipment Point of Interconnection

Pass

All power production inverter outputs have the same point of connection.	<input type="checkbox"/>
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Equipment Point of Interconnection	Pass
Connected equipment is within line of sight and closer than 10ft to the point of interconnection or a disconnect/isolation means are installed.	<input type="checkbox"/>
There is no existing Utility interactive power production source connected to the home's electric service. - Only the utility interactive power production sources and/or photovoltaic modules specified on this inspection checklist list are present on site.	<input type="checkbox"/>
DC and AC conductors are copper, Class B or Class C, and THWN-2, NM or PV Wire, or they are a jacketed multiconductor cable assembly listed and identified for the application.	<input type="checkbox"/>
All power terminals are rated to 75°C or greater, labeled for use with Copper Class B or Class C wires, and accept at least 8 AWG wire.	<input type="checkbox"/>
Conductors are properly terminated and wired according to the code.	<input type="checkbox"/>
Where Equipment Grounding Conductors (EGC) are not routed with circuit conductors, EGC is a minimum of 6 AWG or it's protected from physical damage	<input type="checkbox"/>
There is a minimum of 3 feet working clearance, according to the code, for all components that may require service.	<input type="checkbox"/>

Inverter	Pass
Inverter architecture:	String Inverter with DC-DC Converters <input type="checkbox"/>
EGC Wire Size Inverter 1	10 AWG <input type="checkbox"/>
Overcurrent Protective Device rating: Inverter 1	30 AMP <input type="checkbox"/>
AC Wire size Inverter 1	10 AWG <input type="checkbox"/>
Maximum number of THWN-2 conductors in an PV inverter AC output circuit raceway, excluding any equipment grounding conductors.	3 <input type="checkbox"/>
Inverter 1 model number	SE5000H-US [240V] <input type="checkbox"/>
Inverter 1 manufacturer	SolarEdge Technologies Ltd. <input type="checkbox"/>
Maximum number of THWN-2 DC conductors in raceway, excluding any equipment grounding conductors.	4 wires <input type="checkbox"/>
Maximum number of DC PV wire or USE-2 conductors in raceway, excluding any equipment grounding conductors.	0 wires <input type="checkbox"/>
Minimum DC Wire Gauge (THWN-2 Wire):	12 AWG <input type="checkbox"/>
DC strings EGC is a minimum of 10 AWG	<input type="checkbox"/>
Presence of Rapid Shutdown switch label per Fire Bulletin	<input type="checkbox"/>

Roof and PV Array	Pass
Racking System Model Number	Solar Mount Flush <input type="checkbox"/>
Racking System Manufacturer	Unirac <input type="checkbox"/>
Attachment points of the mounting system are staggered	No <input type="checkbox"/>
Maximum spacing in inches between adjacent attachment points of the mounting system	3" <input type="checkbox"/>

Roof and PV Array		Pass
Roof penetration sealant method has been installed per the manufacturers instructions.		<input type="checkbox"/>
The roof structure appears to be structurally sound, without signs of alterations or significant structural deterioration or sagging.		<input type="checkbox"/>
Quantity and spacing of structural attachments match the installation instructions per manufacturer.		<input type="checkbox"/>
Array conductors are secured and supported. Installed so as not to damage the cable, at intervals not exceeding 1.4 m (4.5 ft) and within 300 mm (12 in.) of every cable entry into enclosures such as outlet boxes, junction boxes, cabinets, or fittings.		<input type="checkbox"/>
PV Module model number	TSM-335PE14A	<input type="checkbox"/>
PV Module manufacturer	Trina Solar	<input type="checkbox"/>
PV Module quantity	18	<input type="checkbox"/>
Method of rapid shutdown compliance Inside the Array	AC module, microinverter, or DCDC converter installed on each module and listed for UL 1741 or UL 3741 as PVRSS or PVRSE used to comply with requirements for Rapid Shutdown.	<input type="checkbox"/>
DC-DC converter Manufacturer	Solaredge	<input type="checkbox"/>
DC-DC converter Model Number	P401	<input type="checkbox"/>
All rooftop conduits are mounted at least 7/8" above the roof surface.		<input type="checkbox"/>
All PV Source Circuit conductors installed without raceway are listed as PV Wire or USE-2.		<input type="checkbox"/>

Roof and PV Array 1		Pass
Plane 1 Roof Covering: INPUT	Modified bitumen roofing	<input type="checkbox"/>
The distance from the module backsheet to the roof surface 1 does not exceed 10"		<input type="checkbox"/>

Fire		Pass
Percentage of the Roof with a Solar Array	18.60%	<input type="checkbox"/>
Fire Pathways, venting and access in accordance with	Less Than 33/66	<input type="checkbox"/>
Disconnecting Means are in compliance with the SolarAPP Fire Bulletin		<input type="checkbox"/>
Signage, Placards, Directories and Markings in accordance with the SolarAPP Fire Bulletin		<input type="checkbox"/>
Maximum AC operating current in labels	20.8 A	<input type="checkbox"/>
Maximum AC operating voltage in labels	240 V	<input type="checkbox"/>

**Corrections**

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# SolarAPP+ Fire Bulletin

## Disconnecting Means

SolarAPP+ Fire Bulletin

### PV System

PV system disconnecting means shall be provided in accordance with the 2017 National Electrical Code® (NEC), NFPA 70®. [690.13]

A Rapid Shutdown switch shall be provided at a readily accessible location outside the building in accordance with the 2017 National Electrical Code® (NEC), NFPA 70®. [690.12(C)]

## Signs, Placards, Directories, and Markings Guidance

SolarAPP+ Fire Bulletin

### General

All labeling shall comply with Section 324 of the 2018 International Residential Code and Articles 690 and 705 of the 2017 National Electrical Code® (NEC), NFPA 70

All labeling shall comply with [NEC 110.21 (B)]

### Rapid Shutdown Label

A label shall be installed not greater than 3ft from the electric utility service location that includes the location of all identified Rapid Shutdown switches if not at the same location. [IRC 324]

The label shall indicate which type of Rapid Shutdown system is installed, and include a simple diagram with sections in red designating areas that are not controlled by the rapid shutdown switch. [NEC 690.56(C)(1)]

Buildings with more than one rapid shutdown type:

A detailed plan view diagram showing each PV system and a dotted line around areas that remain energized after the rapid shutdown switch is operated. [NEC 690.56(C)(2)]

Rapid Shutdown (PV Hazard Control) switch:

This switch shall have a label not greater than 3 feet from the switch that states the following:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM [NEC 690.56(C)(3)]

## Roof Access, Egress, and Ventilation

SolarAPP+ Fire Bulletin

### General

Access and minimum spacing shall be provided for access to specific areas of the roof, emergency egress from the roof and opportunities for smoke ventilation in accordance with the 2018 International Residential Code [IRC 324.6]

### References:

Ridge Setbacks - [IRC R324.6.2]

Sprinklered Occupancies - [IRC R324.6.2.1]

Pathways - [IRC 324.6.1]

Emergency escape and rescue openings - [IRC R324.6.2.2]

Exceptions:

Detached, non-inhabitable structures [IRC R324.6 Ex. 1]

Roof access, pathways and setbacks need not be provided where the code official has determined that rooftop operations will not be employed. [IRC R324.6 Ex. 2]

Low-slope roofs with pitch of less than or equal to 2:12; this exception may not be valid depending on the jurisdiction. [IRC R324.6 Ex. 3]

## Carbon Monoxide, Smoke & Heat Detectors

SolarAPP+ Fire Bulletin

Guidance:

Carbon Monoxide and smoke detectors shall be provided in accordance with the code or an Affidavit has been provided by the customer. 2018 International Residential Code. [R314, R315]

## Fire Classification

SolarAPP+ Fire Bulletin

PV System

Rooftop-mounted PV systems shall have the same fire classification as the roof assembly required in 2018 International Residential Code. [R902.4; R324.4.2]

Building-integrated photovoltaic products installed as the roof covering shall be tested, listed, and labeled for fire classification. [IRC R902.3, R324.5.2]

Building-integrated photovoltaic products installed as the roof covering shall comply with the minimum requirements for fire classification set by the jurisdiction. [IRC 902.1]

## Product Certifications

SolarAPP+ Fire Bulletin

PV System

PV panels and modules shall be listed and labeled to UL 1703 and/or both UL 61730-1 and UL 61730-2 [NEC 690.4(B)][IRC R324.3.1]

Inverters shall be listed and labeled to UL 1741 [NEC 690.4(B)][IRC R324.3.1]

Hazard Control System

Hazard control system shall be listed and labeled to UL 3741 [NEC 90.7; 110.3(C); 690.4(B) 690.12(D)]

Service Disconnect

<b>SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN</b>	
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS IN ARRAY REMAIN ENERGIZED IN SUNLIGHT.	Simple Diagram Here

Location: No more than 1 m (3 ft) away from the service disconnecting means.

Code: [NEC 690.56(C)(1)(a)]

RSD Initiation Device

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

Location: Rapid shutdown initiation device.

Code: [NEC 690.56(C)(3)]

Point of Interconnection

**WARNING:  
EQUIPMENT FED BY MULTIPLE SOURCES LOCATION OF  
DISCONNECTING MEANS**

(LAYOUT OR DESCRIPTION)

Location: At each service equipment location and at the location(s) of the system disconnect(s) for all electric power production sources capable of being interconnected.

Code: [NEC 705.10]

**WARNING:  
DUAL POWER SOURCE  
SECOND SOURCE IS PV SYSTEM**

Location: Electrical Equipment containing overcurrent devices in circuits supplying power to a busbar or conductor supplied from multiple sources

Code: [NEC 705.12(B)(3)]

**WARNING:**  
POWER SOURCE OUTPUT CONNECTION -  
DO NOT RELOCATE THIS OVERCURRENT DEVICE

Location: At back-fed breaker if using 120% rule (if applicable)

Code: [NEC 705.12(B)(2)(3)(b)]

**WARNING:**  
THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL  
RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN  
SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED  
AMPACITY OF BUSBAR

Location: At distribution equipment adjacent to the back-fed  
breaker from the power source when using this "sum of breakers"  
code compliance rule.

Code: [NEC 705.12(B)(2)(3)(c)]

PHOTOVOLTAIC POINT OF INTERCONNECTION

MAXIMUM AC OPERATING CURRENT:

MAXIMUM AC OPERATING VOLTAGE:

Location: All interactive system(s) points of interconnection.

Code: [NEC 690.54]

#### DC Circuit Raceways and Enclosures

PHOTOVOLTAIC POWER SOURCE

Location: DC Circuit Raceways and Enclosures, conduit, and  
combiner/junction boxes.

Code: [NEC 690.31(G)(3)]

#### PV System Disconnect

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

Location: DC Disconnecting Means where terminals on both line  
and load side may remain energized. Example language or  
equivalent.

Code: [NEC 690.13(B)]

PV SYSTEM DISCONNECT

Location: Each PV System Disconnect (May be AC or DC)

Code: [NEC 690.13(B)]

DC String Inverters Equipment Disconnects

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

Location: Each PV system disconnecting means where line and load may be energized in the open position

Code: [NEC 690.13(B)]

PHOTOVOLTAIC DC DISCONNECT

Location: Each PV system disconnecting means.

Code: [NEC 690.13(B)]

Maximum Voltage:

Maximum Circuit Current:

Maximum rated output current of the charge controller or dc-to-dc converter (if installed):

Location: At each DC PV system disconnecting means.

Code: [NEC 690.53]



# FIRE SAFETY CODE REQUIREMENTS

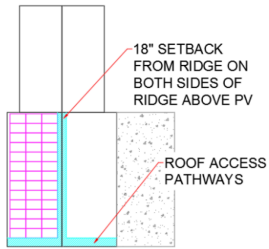
Does the home have sprinkler systems?	No
Percentage of Roof Area covered with PV Total Array Area / Total Roof Area	18.60%

## Roof Access and Ventilation Diagrams

Fire Safety

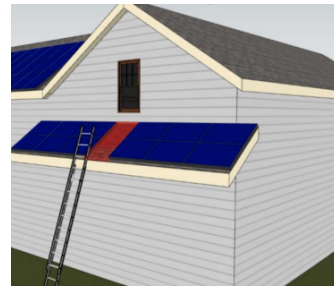
### Ridge Setbacks

PV Less Than 33% Roof Area (66% for homes with sprinkler systems)



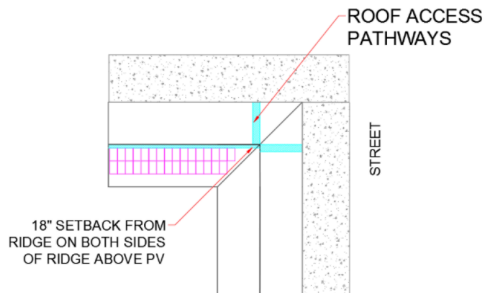
### Emergency Escape & Rescue Opening

Minimum 3' Emergency Escape Pathway

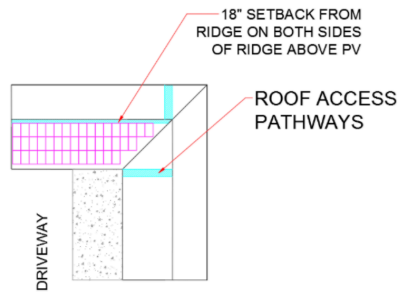


### Hips and Valley Setbacks

PV Less Than 33% Roof Area - Street Access (66% for homes with sprinkler systems)



PV Less Than 33% Roof Area - Driveway Access (66% for homes with sprinkler systems)



# INPUTS

Permit Details [80.19(H) ; R105.3]

## GENERAL

### Project Information

Project Title

Address

Homeowner's full name

Confirm that you have verified the homeowner's information and right to install on the property.

AHJ

Project Type

Code Cycle

Scope of Work

PV System Size AC (kW)

Confirm you have reviewed SolarAPP eligibility:

### Contractor Information

#### Installation Applicability and Compliance

All work will comply with the 2017 National Electrical Code (NFPA 70), the International Code Council 2018 I-Codes, Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI7-16), UL Standards, Manufacturer's instructions, and Municipal requirements.

State License

Type

Number

**Inspection Guidelines**

The installer shall follow the manufacturer's instructions for all installed equipment and shall have them available at the time of inspection.

All wire sizes shown are, unless indicated otherwise, a minimum and the installer may upsize them at their discretion.

All OCPD ratings shown must match the inspection checklist exactly, any ratings that do not match the inspection checklist are valid reasons for inspection failure.

**FIRE**

I hereby affirm that I will comply with all requirements and guidelines as set out by the SolarAPP Fire Bulletin.

Does the home have sprinkler systems?

What is the total array area?

Total roof area

Percentage of Roof Area covered with PV  
Total Array Area / Total Roof Area

See Fire Setback Diagram attached.

# STRUCTURAL DETAILS

## General

The weight of the PV system in lbs/sq ft [IRC R301.4]	
The ground snow load is [IRC Table R301.2(1)] [IRC Fig R301.2(6)]	
Proposed maximum spacing in inches between adjacent attachment points of the mounting system	
Will attachment points of the mounting system be staggered?	
The number of roof surfaces at different slopes and/or orientations that will be used for installation are: Note: 1 means all roofs used have the same orientation.	
Type of mounting for the PV system	

## Mounting Planes

Mounting Plane Type 1	
Maximum distance from the module backsheet to the roof	
The current roof covering is [IRC Section R905]	
The pitch of the roof surface is [IRC Section R905]	

## Wind Speed

Is the solar module and mounting system rated by the manufacturer to withstand the upward force of the local wind speed (0 MPH) and evenly distribute load into the supporting structure at the proposed maximum spacing, and confirmed in UL 1703 or 61730 (Part 1 & 2), and 2703 listings? [IRC R324.4.1.2; R324.3.1]	
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## Roof Condition

Does the roof structure appear to be structurally sound, without signs of alterations or significant structural deterioration or sagging?

## ELECTRICAL DETAILS

### Equipment

Architecture type used for all inverters in this project

#### Inverter 1

Inverter 1 Model Number

Datasheet for Inverter 1: See attached. [NEC 90.7; 110.3(C)][IRC R106.1]

Inverter 1 Manufacturer:

Is Inverter 1 UL 1741 listed? [NEC 110.3(C); 690.4(B)][IRC R324.3.1]

#### Modules

Module 1 Model Number

Datasheet for Module 1: See attached. [NEC 90.7; 110.3(C)][IRC R106.1]

Module 1 Manufacturer

Modules

Is Module 1 UL 1703 or UL 61730 (Part 1 & 2) listed? [NEC 110.3(C); 690.4(B)][IRC R324.3.1]

Module 1 quantity

Module open circuit voltage with record low temperature correction

Module short circuit current with average high temperature correction [NEC 690.8(A)(1)(1)]

Racking System

Racking System Model Number

Datasheet for Racking System: See attached. [NEC 90.7; 110.3(C)][IRC R106.1]

Racking System Manufacturer

Is the Racking System UL 2703 listed for grounding and bonding with the PV module models specified in this SolarAPP project? [NEC 90.7; 110.3(C); 690.43(A)][IRC R324.4.2; R902.4]

The combination of modules and racking system shall have the same fire classification as the roof assembly. [IRC R324.4.2; R902.4]

Name/description of roof penetration sealant method to be used.

Datasheet for sealant method: See attached.

You have agreed to install the sealant method per the manufacturer's instructions for the means of accomplishing weather proofing [IRC R324.4.3]

Rapid Shutdown

## Site Conditions

Ambient Dry Bulb Extreme Record Low Temperature (°C) [690.7(A)]	
Ambient Dry Bulb Average High Temperature (°C)	
Single Phase Grid Voltage	

## Installation Details

Is there an existing Utility interactive power production source connected to the home's electric service?	
Are DC and AC conductors copper, Class B or Class C, and THWN-2, NM, USE-2, PV Wire, or jacketed multiconductor cable assembly listed and identified for the application? [NEC 690.8(B); 690.31 (A) & (C), 310.15(A) and (B)]	
Are all rooftop conduits mounted at least 7/8" above the roof surface [NEC 310.15(B)(3)(c)]:	
Are all PV Source Circuit conductors installed without raceway listed as PV Wire or USE-2? [NEC 690.31(C)]	
Are all power terminals rated to 75°C or greater, labeled for use with Copper Class B or Class C wires, and accept at least 8 AWG wire? [NEC 110.14]	
Where Equipment Grounding Conductors (EGC) are not routed with circuit conductors, EGC is a minimum of 6 AWG or it's protected from physical damage [250.120(C)]	
DC strings EGC is a minimum of 10 AWG	
Module voltage and current DC specifications fall within allowable range of connected equipment	

All equipment is listed for the application, rated equal to or greater than the connected overcurrent device and installed per the manufacturer's instructions. Documentation shall be provided at time of inspection.

## String Inverter with DC-DC Converters

### Maximum PV Source Circuit Voltage

Max quantity modules in DC series string:

Does the quantity of series connected DC-DC converters exceed the manufacturer's instructions to ensure a maximum string voltage of 600V?

DC-DC converter manufacturer

DC-DC converter Model Number

Module open circuit voltage is below the DC-DC converter maximum DC input voltage. The maximum DC input voltage for the equipment in question is

Module short circuit current is below the DC-DC converter maximum DC input current. The maximum DC input current for the equipment in question is

Datasheet for DCDC converter See attached.

### PV Source Circuit

PV module series strings from solar arrays to the PV inverter are combined in parallel

See Table 6 for selection of the minimum DC wire size.

Input maximum number of current carrying PV Wire or USE-2 conductors in raceway

Input maximum number of current carrying THWN-2 conductors in raceway

The minimum DC THWN-2 wire size is based on the Table 6below.



PV Source Circuit

**Table 6 [NEC Table 310.15(B)(3)(a); Table 310.15(B)(2)(b); Table 310.15(B)(16); 690.8(A)(1); 690.8(B)]**

Current Carrying Conductors (CCC) in raceway	Site Average High Temperature	2 series strings in parallel	Single series string
≤3 CCC	≤ 35	10 AWG	12 AWG
	≤ 40	10 AWG	12 AWG
	≤ 45	10 AWG	12 AWG
	≤ 50	10 AWG	12 AWG
4 - 6 CCC	≤ 35	10 AWG	12 AWG
	≤ 40	8 AWG	12 AWG
	≤ 45	8 AWG	12 AWG
	≤ 50	8 AWG	12 AWG
7 - 9 CCC	≤ 35	8 AWG	12 AWG
	≤ 40	8 AWG	12 AWG
	≤ 45	8 AWG	12 AWG
	≤ 50	8 AWG	12 AWG

[Table 310.15(B)(3)(a) ; Table 310.15(B)(2)(b) ; Table 310.15(B)(16) ; 690.8(A)(1) ; 690.8(B)]

Inverter Output Circuit

See Table 3 below for selection of minimum Inverter output wire size and inverter output overcurrent protection size.

Inverter 1: Inverter Continuous Output Current = Power / Site Voltage:

**Table 3[NEC 240.4(D); Table 310.15(B)(3)(a); Table 310.15(B)(2)(b); Table 310.15(B)(16); 690.8; 690.9; 705.30; 220.5 (B)]**

Continuous Output Current	12.5	16.5	20.5	24.5	28.5	32.5	36.5	40.5	48.5	56.5	64.5	72.5	80.5	88.5	100.5	120.5	140.5	160.5
OCPD amperage size	15	20	25	30	35	40	45	50	60	70	80	90	100	110	125	150	175	200
AWG wire size for ≤3 CCC in raceway	12	12	10	10	8	8	8	8	6	4	4	3	3	2	1	1/0	2/0	3/0
AWG wire size for 4 - 6 CCC in raceway	12	12	10	10	8	8	8	8	6	4	4	3	3	2	1	1/0	2/0	3/0
AWG wire size for 7 - 9 CCC in raceway	12	12	10	10	8	8	8	6	6	4	4	3	3	2	1	2/0	3/0	4/0
NM wire	12	12	10	10	8	8	6	6	4	4	3	2	1	1	1/0	N/A	N/A	N/A

[240.4(D); Table 310.15(B)(3)(a) ; Table 310.15(B)(2)(b) ; Table 310.15(B)(16) ; 690.8; 690.9; 705.30]

Inverter 1 - See Table 3 for the minimum Overcurrent Protection Device rating. [NEC 690.9(A); 690.9(B); Table 240.6(A)]

Inverter 1 Overcurrent Protection Device rating [NEC 690.9(A); 690.9(B)]

Input maximum number of AC current carrying THWN-2 conductors in raceway:

Inverter 1 - See Table 3for selection of the AC wire size in raceway

## Grounding & Bonding

See Table 5 for selection of Equipment Grounding Conductor wire gauge.

Inverter 1 - Equipment Grounding Conductor (EGC) based on overcurrent protective device:

**Table 5 [NEC Table 250.122]**

OCPD rating (amperes)	EGC wire gauge (AWG)
=< 15	14
=< 20	12
=< 30	10
=< 40	10
=< 60	10
=< 100	8
=< 200	6

[Table 250.122]

## New Panelboard for Relocated Loads

Will a new subpanel be installed with existing loads relocated into the new subpanel?

## Equipment Point of Interconnection

### Point of Connection

125% of the sum of power production sources continuous output current.

At the time of inspection, it will be verified that if connected equipment is NOT within line of sight or closer than 10ft to the point of interconnection, disconnect or isolation means are installed. [NEC 690.15 (A)]

## Point of Connection at Subpanel

### Existing Subpanel

Will power production inverter outputs be connected directly to an existing subpanel?

## Point of Connection at Main Panel

## Main Service Panel

Main Bus Ampere Rating

Main Breaker/Service Disconnect Ampere Rating

What is the Utility service feed rated for?

Since no connection was indicated at a subpanel or at a subpanel feeder, power production sources are connected either directly to the main service panel or in a Supply Side Connection.

## Point of Connection at Subpanel Feeders

### Load Side Tap

Power production sources are connected to a subpanel feeder. A subpanel feeder connection, may be a connection directly to a conductor, or using lug terminations in equipment such as an Microgrid Interconnection Device (MID). [NEC 705.12 (B) (2) (1) (a); 705.12 (B) (2) (1) (b)]

## Interconnection at Main Service Panel

### 120% Rule

Where two sources, one a primary power source and the other another power source, are located at opposite ends of a busbar that contains loads, the sum of 125 percent of the power source(s) output circuit current and the rating of the overcurrent device protecting the busbar shall not exceed 120 percent of the ampacity of the busbar. 705.12(B)(2)(3)(b)

## Point of Connection

# WORKERS' COMP

By applying for this permit, you represent and warrant that you have (and will have during the performance of the work) all valid approvals, certifications, and licenses required for the performance of the work for which this permit is issued, (ii) carry (and will carry during the performance of the work) all necessary insurance required by law or governmental authority in the jurisdiction and (iii) will comply with all applicable laws required in the performance of the work.



**System**

New Rooftop Residential Retrofit PV Systems

Installed by contractor with all licenses required by jurisdiction

**Electrical**

Applicable National Electric Code

600V Max per DC System Size

Single phase only

No Aluminum Wires

Must Use 600V rated PV wire (due to outer diameter &gt; 0.24" (6.1mm))

Must use 90 deg C rated insulated wire

Max 2 DC strings in parallel

Max 9 current carrying conductors in a raceway

Inverter output circuit conductors must be THWN-2, or listed NM

Terminals must be rated to 75 deg C, labeled for use with Cu wires, and accept minimum 8 AWG wire

If using microinverter, 1 module per microinverter

Whenever used, microinverters or AC Modules must be rated for a 20A branch circuit overcurrent device

Permitted to install on up to or equal to 400A Service

Permitted to install on up to or equal to 225A Service Disconnect

Permitted to install on up to or equal to 225A busbars

No existing PV or ESS

May install only 1 module type

May install up to 2 Inverters for String Inverters, up to 1 inverter type for Micro-inverters and AC modules Systems

Conduit may not be Schedule 80 PVC

Single Family Dwelling Only

Modules and Inverters must be listed on CEC

Rapid Shutdown cannot be satisfied using the method: No exposed wiring or conductive parts [690.12(B)(2)(3)]

No trenching allowed

All power production inverter outputs have the same point of connection

All equipment is assumed to be non-continuous rated

May install only 1 racking system type

Height of rooftop conduit &gt; = 7/8"

Flat Plate PV Modules Only

**Structural**

Applicable International Residential Code

PV system + hardware weight is less than or equal to 4psf

No ground mounted systems

No carports or non-permanent structures

Installed on a permitted structure

No wood shake or wood shingle roofing

Limit of 10" above the roof for pitched (&gt;2/12) roof systems

No metal roof or low-slope roof in areas with &gt; 15psf snow load

**Fire**

Applicable International Residential Code