



Staff Report

PLANNING DIVISION
DEPARTMENT of COMMUNITY and NEIGHBORHOODS

To: Salt Lake City Historic Landmark Commission
From: Nannette Larsen, Senior Planner, 801-535-7645 or nannette.larsen@slcgov.com
Date: March 3, 2022
Re: PLNHLC2021-01240 – 365 North Center Street Solar Roof

SOLAR ROOF – MINOR ALTERATION

Property Address: 365 North Center Street

Parcel IDs: 08-36-283-020

Historic District: Capitol Hill

Zoning District: SR-1A (Special Development Pattern Residential) & Historic Preservation Overlay District

Design Guidelines: A Preservation Handbook for Historic Residential Properties & Districts in Salt Lake City

REQUEST: This is a request by Christopher Vargas with Tesla, representing the property owner, for a minor alteration approval to replace the shingles on a historic structure with Tesla Solarglass material on the roof of the structure. The building is considered contributing to the character and integrity of the Capitol Hill Local Historic District.

RECOMMENDATION: Based on the analysis and findings outlined in this staff report, it is Planning Staff's opinion that the proposed solarglass material meets the applicable standards of approval. Therefore, Staff recommends that the Commission approve the request.

ATTACHMENTS:

- A. [Applicant Submittal and Information](#)
- B. [Context Map](#)
- C. [Building Photos](#)
- D. [Historic Survey Information](#)
- E. [Analysis of Standards for Minor Alteration in a Historic District](#)

PROJECT DESCRIPTION & SITE CONTEXT:

The subject property is within the Capitol Hill Local Historic District and is a single-family residence. The proposal is to replace the existing dark asphalt shingle with Tesla Solarglass. Tesla Solarglass is a photovoltaic system that replaces the entire existing shingle material. The photovoltaic shingles will be

visually identical to the “dummy shingles” that are not solar capable. The entire roof material will appear as the same. The replacement material will be a glass material that lays flat to the roof structure which will not alter the slope or type of roof structure.



Image 1 – Front (east) façade of house. View of the roof pitch.

An accompanying home battery back-up and shutdown switch is proposed to be installed as well. The back-up battery is proposed to be installed near the rear façade of the house and will not be visible from the street. The rapid shutdown switch will also be located toward the rear of the house and will also not be visible from any public street.

The contributing single-family house is believed to have been built in 1870-1873 and is a one story simple gable vernacular form. Survey records state that there have been major alterations to the single-family house and records of a building permit issuance was found that some type of alteration to the house was approved in 1931. The building permit record did not specify what this alteration was and the historic survey also did not provide this information. It is unclear what the major alteration was to the contributing house.

KEY CONSIDERATIONS:

The key considerations listed below have been identified through the analysis of the project.

1. The integrity of the Historic Building
2. Salt Lake City’s standards for small solar energy collection systems in the Historic Preservation Overlay District
3. Previous Tesla Solarglass approval

Consideration 1 – The integrity of the Historic Building

The historic structure appears to be in good condition. The installation of the tesla solar glass will not damage the existing structure and will not alter the building or roof form. The only noticeable difference is a change in material.



Image 2 – View of front façade (east) that is easily visible from the street.

Consideration 2 – Salt Lake City’s standards for small solar energy collection systems in the Historic Preservation Overlay District

The proposed location of the solar shingles is a highly visible area and is the least preferred of the options listed in the City’s ordinances however this ordinance was also written before Tesla solar shingles were becoming commonplace and were originally intended to address solar panels.

The applicable standards for the installation and location of small solar energy systems for properties in historic districts include:

“Installation Standards: The small solar energy collection system shall be installed in a location and manner on the building or lot that is least visible and obtrusive and in such a way that causes the least impact to the historic integrity and character of the historic building, structure, site or district while maintaining efficient operation of the solar device. The system must be installed in such a manner that it can be removed and not damage the historic building, structure, or site it is associated with.”

The proposed shingles do not require the alteration of the overall pitch or shape of the roof and are removable if the homeowner decides they no longer want to use the shingles in the future. While the requested alteration is visible from the street, the proposed roof materials are not detrimental to the character of the historic building. Overall, it appears that the Tesla Solarglass material better meets the standards of the district as the roof structure is uniformly covered, rather than panels which project from the roof form and are more clearly visible. The request complies with this standard.

The second standard addresses the preferred locations for small solar energy systems in regard to their placement on historic properties. These locations are listed in the ordinance in descending priority, meaning the ordinance’s preference is to locate solar systems in rear yard areas outside of view from a public right of way:

- a. Rear yard in a location not readily visible from a public right-of-way.*
- b. On accessory buildings or structures in a location not readily visible from a public right-of-way.*
- c. In a side yard in a location not readily visible from a public right-of-way.*
- d. On the principal building in a location not readily visible from a public right-of-way.*
- e. On the principal building in a location that may be visible from a public right-of-way, but not on the structure's front facade.*
- f. On the front facade of the principal building in a location most compatible with the character defining features of the structure.”*

Because the Tesla Solarglass material is part of the roof structure, though still able to be removed and returned to its current form, the proposed alteration is more compliant to the standards of placement. The only change to the structure will be the visible material of the roof; the solar panel systems that have previously been approved throughout the Local Historic District, and are more common, are it’s own system which is clearly separate from the roof structure and material.

Consideration 3 – Previous Tesla Solarglass approval

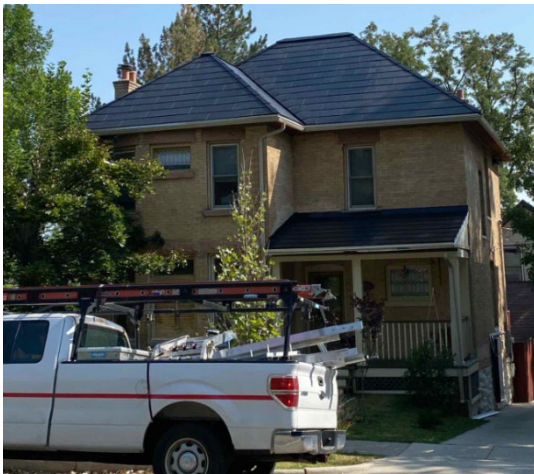


Image 3 – View of front façade of completed installation.



Image 4 – View of side and rear façades of completed installation.

In July of last year, the Landmark Commission approved a Minor Alteration request for Tesla solarglass material on the roof structure of a single family house. The property is located at 740 East 3rd Avenue, within the Avenues Local Historic District. Later last year the alterations to the roof were completed and are shown in this staff report as images 3 and 4. Below is the previous asphalt shingled roof.



Image 5 – View of front façade 740 E 3rd Ave.

DISCUSSION:

Staff has found that the proposed installation of the Tesla Solarglass material meets the minor alteration standards. Although the proposed solarglass material has a different texture and sheen than a typical asphalt shingle roof, the proposal is to replace the entire roof material, therefore the proposed alteration to the roof will be visually cohesive. The dimensions of the proposed solar glass are similar to the dimensions of typical asphalt shingle. The integrity of the historic building will not be negatively affected and any alteration to the roof can be removed and replaced with a similar material to the existing asphalt shingle.

NEXT STEPS:

Minor Alteration Approval

If the request is approved by the HLC, a COA will be issued on the property and the applicant will be permitted to obtain a building permit for the installation of the proposed material and accompanying fixtures.

Minor Alteration Denial

If the Commission disagrees with Staff's recommendation and the project is denied, the applicant would not be permitted to proceed with the requested alterations.

**ATTACHMENT A: APPLICANT SUBMITTAL AND
INFORMATION**



HP: Minor Alterations

SALT LAKE CITY PLANNING

OFFICE USE ONLY

Project #:	Received By:	Date Received:	Zoning:
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Project Name:

PLEASE PROVIDE THE FOLLOWING INFORMATION

Request:

Address of Subject Property:

Name of Applicant:	Phone:
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Address of Applicant:

E-mail of Applicant:	Cell/Fax:
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Applicant's Interest in Subject Property:

Owner Contractor Architect Other:

Name of Property Owner (if different from applicant):

E-mail of Property Owner:	Phone:
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➔ **Please note** that additional information may be required by the project planner to ensure adequate information is provided for staff analysis. All information required for staff analysis will be copied and made public, including professional architectural or engineering drawings, for the purposes of public review by any interested party.

AVAILABLE CONSULTATION

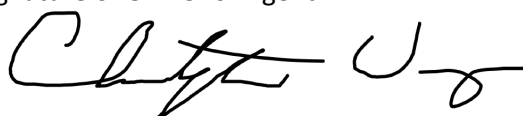
➔ Planners are available for consultation prior to submitting this application. Please email if historicpreservation@slcgov.com if you have any questions regarding the requirements of this application.

WHERE TO FILE THE COMPLETE APPLICATION

Apply online through the Citizen Access Portal. There is a step-by-step guide to learn how to submit online.

SIGNATURE

➔ If applicable, a notarized statement of consent authorizing applicant to act as an agent will be required.

Signature of Owner or Agent: 	Date:
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3500 Deer Creek Road, Palo Alto CA 94304
P 650 681 5100 F 650 681 5101

12/02/2021

JB-8411371-00 Aaron Garrett

I am applying for a minor alteration @ 365 N Center St, Salt Lake City UT, 84103. This project w/ include a re-roof w/ Solar Roof tiles, and a home battery back-up installation as well. Current photos of the residence have been included w/ the plan set. If anything, additional is needed or you have any questions please let me know so I can help. Thank you for your time,

Sincerely,

Christopher Vargas

Permit Coordinator II, Permitting & Inspections
313 W 12800 S | Salt Lake City, UT 84020
chrivargas@tesla.com | 801.875.0074



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ABBREVIATIONS

A AMPERE AC ALTERNATING CURRENT BLDG BUILDING CONC CONCRETE DC DIRECT CURRENT EGC EQUIPMENT GROUNDING CONDUCTOR (E) EXISTING EMT ELECTRICAL METALLIC TUBING FSB FIRE SET-BACK GALV GALVANIZED GEC GROUNDING ELECTRODE CONDUCTOR GND GROUND HDG HOT DIPPED GALVANIZED I CURRENT Imp CURRENT AT MAX POWER Isc SHORT CIRCUIT CURRENT kVA KILOVOLT AMPERE kW KILOWATT LBW LOAD BEARING WALL MIN MINIMUM (N) NEW NEUT NEUTRAL NTS NOT TO SCALE OC ON CENTER PL PROPERTY LINE POI POINT OF INTERCONNECTION PV PHOTOVOLTAIC SCH SCHEDULE S STAINLESS STEEL STC STANDARD TESTING CONDITIONS TYP TYPICAL UPS UNINTERRUPTIBLE POWER SUPPLY V VOLT Vmp VOLTAGE AT MAX POWER Voc VOLTAGE AT OPEN CIRCUIT W WATT 3R NEMA 3R, RAIN TIGHT

ELECTRICAL NOTES

- THIS SYSTEM IS GRID-INTERTIED VIA A UL-LISTED POWER-CONDITIONING INVERTER.
- A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART. 110.3.
- WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A SIGN WILL BE PROVIDED WARNING OF THE HAZARDS PER ART. 690.17.
- EACH UNGROUNDED CONDUCTOR OF THE MULTI-WIRE BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART. 210.5.
- CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH ART. 250.97, 250.92(B).
- DC CONDUCTORS EITHER DO NOT ENTER BUILDING OR ARE RUN IN METALLIC RACEWAYS OR ENCLOSURES TO THE FIRST ACCESSIBLE DC DISCONNECTING MEANS PER ART. 690.31(E).
- ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING.

JURISDICTION NOTES

SOLAR ROOF WILL BE INSTALLED OVER BARE SOLID OR CLOSELY FITTED SHEATHING, AS FOLLOWS:
 •DOC PS-1 COMPLIANT / EXTERIOR GRADE PLYWOOD: MINIMUM 15/32" (11.9 MM) THICK OR
 •DOC POS-2 OSB
 SHEATHING: MINIMUM 7/16" THICK (11.1 MM) OR
 •CLOSELY-FITTED SHEATHING BOARDS: MINIMUM OF 3/4" (19.1 MM) THICK

SOLAR ROOF CAN ALSO BE INSTALLED OVER COMPATIBLE EXISTING ROOFS, AS FOLLOWS:
 •THREE-TAB COMPOSITION SHINGLE, SINGLE LAYER
 •ARCHITECTURAL COMPOSITION SHINGLE, SINGLE LAYER

SOLAR ROOF WILL NOT BE INSTALLED OVER RAISED PRESIDENTIAL-STYLE COMPOSITION SHINGLE, ROOFS WITH MORE THAN ONE LAYER OF COMPOSITION SHINGLE, OR EXISTING NON-COMPOSITION SHINGLE ROOF TYPES LIKE TILED ROOFS.

LICENSE

AHJ: Salt Lake City

UTILITY: Rocky Mountain Power

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE 2018 IBC AND 2015 IRC. 2. ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2020 NATIONAL ELECTRIC CODE.

VICINITY MAP



INDEX

Sheet 1 COVER SHEET
 Sheet 2 SITE PLAN
 Sheet 3 THREE LINE DIAGRAM
 Cutsheets Attached

REV	BY	DATE	COMMENTS
REV A	NAME	DATE	COMMENTS
*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	*

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JOB NUMBER: JB-8411371 00

MOUNTING SYSTEM: TESLA SOLAR ROOF

MODULES: (51) 1547745-80-A

INVERTER: Powerwall+ [240V] #1850000-00-C / PVI Assy. 1538000-25-F

CUSTOMER: Aaron Garrett
 365 N Center St
 Salt Lake City, UT 84103

8017121025

DESCRIPTION: 3.65517 KW PV ARRAY
 13.5 KWH ENERGY STORAGE SYSTEM

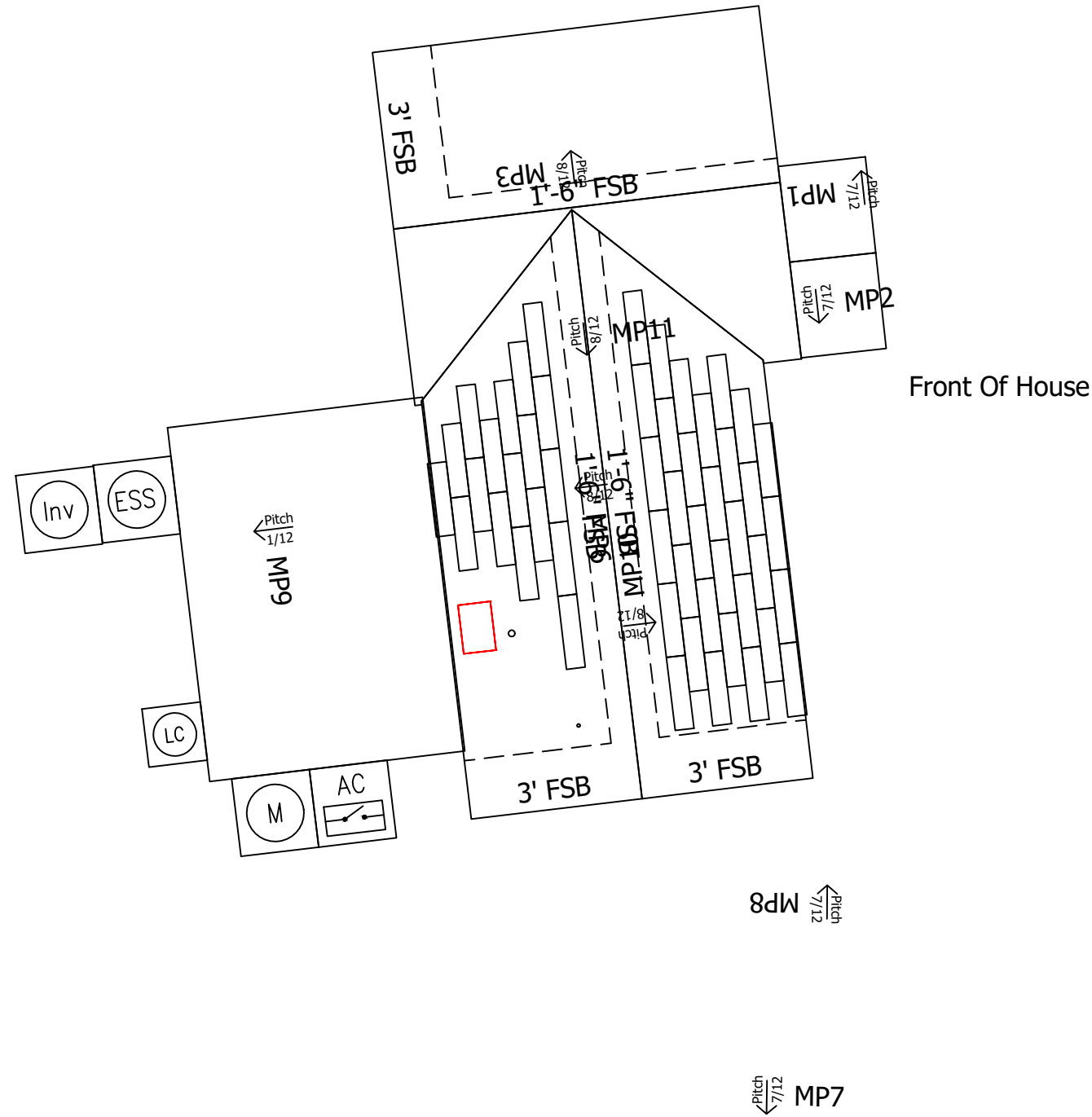
PAGE NAME: COVER SHEET

DESIGN: Rick Estell

SHEET: 1 REV: DATE: 11/22/2021



INSTALLATION OF SOLAR ROOF OVER A SINGLE LAYER OF COMPOSITE SHINGLES IS ACCEPTABLE PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THE EXISTING ROOF HAS MORE THAN ONE LAYER OF SHINGLES, OR ANY NON-COMP SHINGLE ROOFING, A FULL TEAR-OFF IS REQUIRED. THE NET INSTALLED WEIGHT OF THE SOLAR ROOF SYSTEM IS 3.1 PSF. WHERE REQUIRED BY THE INSTALLATION MANUAL OR CONDITIONS ABOVE, INSTALLER SHALL PERFORM A FULL TEAR-OFF OF ALL EXISTING LAYERS OF ROOFING MATERIAL ABOVE EXISTING SHEATHING/DECKING. INSTALLER SHALL VERIFY EXISTING ROOFING, AND SHEATHING/DECKING MEET INSTALLATION INSTRUCTIONS. INSTALLER SHALL VERIFY ROOF FRAMING IS IN SUITABLE CONDITION THAT DOES NOT EXHIBIT ANY SIGNS OF STRUCTURAL DAMAGE WHICH MAY DIMINISH THE CAPACITY OF ITS MEMBERS OR CONNECTIONS PRIOR TO COMMENCEMENT OF ROOFING INSTALLATION.

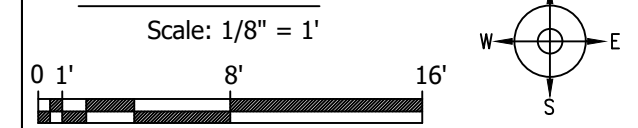


MP10	PITCH: 34° (8:12) ARRAY PITCH: 34° (8:12) AZIMUTH: 83 ARRAY AZIMUTH: 83 MATERIAL: Solar Roof STORY: Two
MP6	PITCH: 34° (8:12) ARRAY PITCH: 34° (8:12) AZIMUTH: 263 ARRAY AZIMUTH: 263 MATERIAL: Solar Roof STORY: Two

LEGEND

- (E) UTILITY METER & WARNING LABEL
- INVERTER W/ INTEGRATED DC DISCO & WARNING LABELS
- AUTOMATIC RELAY
- DC DISCONNECT & WARNING LABELS
- AC DISCONNECT & WARNING LABELS
- DC JUNCTION/COMBINER BOX & LABELS
- ENERGY STORAGE SYSTEM FOR STAND ALONE OPERATION
- DISTRIBUTION PANEL & LABELS
- LOAD CENTER & WARNING LABELS
- DEDICATED PV SYSTEM METER
- RAPID SHUTDOWN
- STANDOFF LOCATIONS
- CONDUIT RUN ON EXTERIOR
- CONDUIT RUN ON INTERIOR
- GATE/FENCE
- HEAT PRODUCING VENTS ARE RED
- INTERIOR EQUIPMENT IS DASHED

SITE PLAN



TOTAL ARRAY AREA (SF): 224
TOTAL ROOF AREA (SF): 2150
TOTAL ARRAY AREA IS \approx 10.42 PERCENT OF TOTAL ROOF AREA

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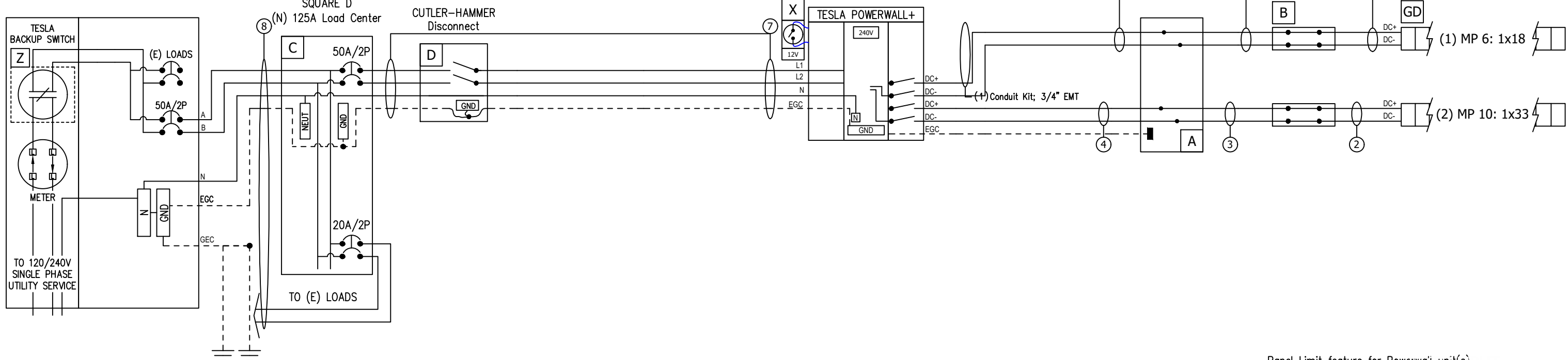
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PAGE NAME: SITE PLAN

DESIGN: Rick Estell
SHEET: 2 REV: DATE: 11/22/2021



MAIN PANEL SPECS	GENERAL NOTES	PRODUCT SPECS	MODULE SPECS	LICENSE
Panel Number: NoMatch Meter Number: 51 264 697 Overhead Service Entrance	Inv 1: DC Ungrounded	1 - (1) Powerwall+ [240V] #1850000-00-C / PVI Assy. 1538000-25-F 2 3	- (51) 1547745-80-A TESLA SR72T2; 71.67 W, 65.40 W PTC Voc: 14.2 Vpmax: 11.34 Isc AND Imp ARE SHOWN IN THE DC STRINGS IDENTIFIER	

(E) 125A MAIN SERVICE PANEL
Multiple Main Breakers (6 or fewer)



AC DISCONNECT(S) LOCATED WITHIN 10' OF THE METER.
NO EXPORT TO GRID EXCEPT DURING DE-ISLANDING (LIMITED TO 25 MS).
GATEWAY HAS REVERSE POWER-FLOW DETECTION.
AC DISCONNECT(S) LOCATED WITHIN 10' OF THE METER.

Panel Limit feature for Powerwall unit(s) to be utilized
Field label to be at the point of interconnection: "PCS Controlled Current Setting: 125A"
The maximum output current from this system towards the main panel is controlled electronically. Refer to manufacturer's instructions for more information."

Voc* = MAX VOC AT MIN TEMP

Z (1) 1624171-00-F Backup Switch	C (1) SQUARE D # HOM250 PV BACKFEED BREAKER Breaker; 50A/2P, 2 Spaces (1) SQUARE D # HOM220 Breaker; 20A/2P, 2 Spaces (1) SQUARE D # HOM1224L125PRB Load Center; 125A, Convertible, NEMA3R, 12sp/24Cir, 120v/240v, 10kAIC, Surface	AC	A (2) Junction Box Metal; 6" x 6" x 4", Box w/ cover; Nema 3R B (2) Pass Through Box	DC	GD Please see MCI wiring detail page for more information PV (6) Tesla MCI, 600V, 13A
POI (1) CUTLER-HAMMER # BR250 NEW LOADCENTER BREAKER Breaker; 50A/2P, 2 Spaces (2) Burndy # BIT2/0 Multi-Cable Connector; 2 Port (2) Ground Rod 5/8" x 8", Copper	D (1) CUTLER-HAMMER # DG222URB Disconnect; 60A, 240Vac, Non-Fusible, NEMA 3R (1) CUTLER-HAMMER # DG100NB Ground/Neutral Kit; 60-100A, General Duty (DG)	7 (1) AWG #8, THWN-2, Black (1) AWG #8, THWN-2, Red (1) AWG #10, THWN-2, Green EGC (1) Conduit Kit; 3/4" EMT	3 (2) PV Wire, AWG 10, Black (1) Conduit; 3/4" LFMC 4 (1) AWG #10, THWN-2, Black (1) AWG #10, THWN-2, White (1) AWG #10, THWN-2, Green EGC (2) PV Wire, AWG 10, Black (1) Conduit; 3/4" LFMC 5 (1) AWG #10, THWN-2, Black (1) AWG #10, THWN-2, White (1) AWG #10, THWN-2, Green EGC (1) Conduit Kit; 3/4" EMT 6 (1) AWG #10, THWN-2, Black (1) AWG #10, THWN-2, White (1) AWG #10, THWN-2, Green EGC (1) Conduit Kit; 3/4" EMT	1 (2) PV Wire, AWG 10, Black 2 (2) PV Wire, AWG 10, Black	
X (1) Eaton M22-PVT-K01 Emergency Stop Button	8 (1) AWG #8, THWN-2, Black (1) AWG #8, THWN-2, Red (1) AWG #8, THWN-2, White (1) AWG #8, THWN-2, Green	(1) AWG #8, THWN-2, White Vmp = 240 VAC Imp = 32 AAC (1) AWG #10, THWN-2, Red (WFRL) (1) Conduit Kit; 3/4" EMT Neutral Vmp = 240 VAC Imp = N/A AAC (1) AWG #10, THWN-2, Black (WFRL)	Voc* = 523.44VDC Isc = 6.8 ADC Vmp = 374.22VDC Imp = 6.3 ADC Voc* = 523.44VDC Isc = 6.8 ADC Vmp = 374.22VDC Imp = 6.3 ADC Voc* = 285.52VDC Isc = 6.8 ADC Vmp = 204.12 VDC Imp = 6.3 ADC Voc* = 285.52VDC Isc = 6.8 ADC Vmp = 204.12 VDC Imp = 6.3 ADC Voc* = 285.52VDC Isc = 6.8 ADC Vmp = 204.12 VDC Imp = 6.3 ADC		

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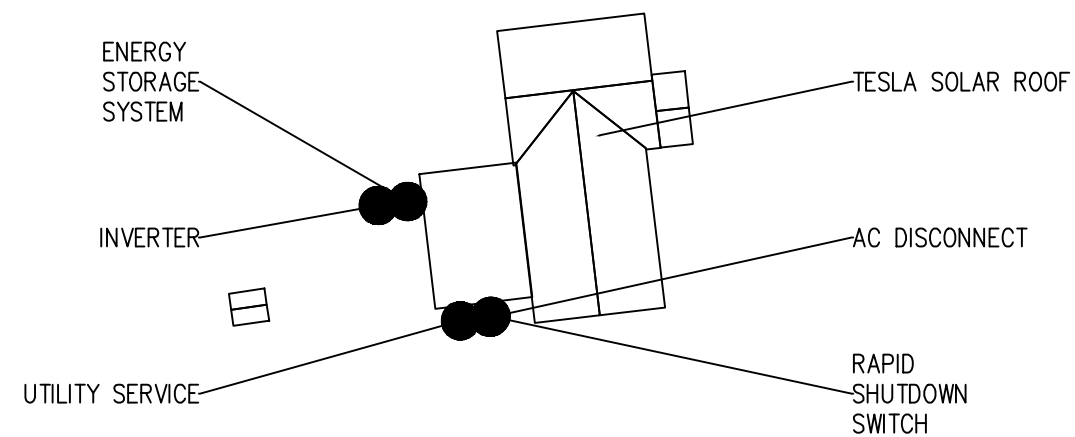
DESIGN: Rick Estell
SHEET: 3 REV: DATE: 11/22/2021



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

Address: 365 N Center St



OPERATING VOLTAGE = 240

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PAGE NAME:
SITE PLAN PLACARD

DESIGN:
Rick Estell

SHEET: 4 REV: DATE:
11/22/2021

TESLA

PHOTOVOLTAIC DC DISCONNECT

Label Location:
(DC) (INV)
Per Code:
NEC 690.13.B

MAXIMUM VOLTAGE
MAXIMUM CIRCUIT CURRENT
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

Label Location:
(DC) (INV)
Per Code:
NEC 690.53

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

Label Location:
(DC) (INV)
Per Code:
690.41.B

WARNING
ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

Label Location:
(DC) (CB)
Per Code:
CEC 690.13.B

PHOTOVOLTAIC AC DISCONNECT

Label Location:
(AC) (POI)
Per Code:
NEC 690.13.B

MAXIMUM AC OPERATING CURRENT A
MAXIMUM AC OPERATING VOLTAGE V

Label Location:
(AC) (POI)
Per Code:
NEC 690.54

WARNING
ELECTRIC SHOCK HAZARD DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

Label Location:
(AC)(POI)
Per Code:
NEC 690.13.B

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

Label Location:
(INV)
Per Code:
NEC 690.56.C.3

WARNING
INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE

Label Location:
(POI)
Per Code:
NEC 705.12.B.2.3.b

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

Label Location:
(INV)
Per Code:
NEC 690.56(C)
SIGN IS REFLECTIVE

RAPID SHUTDOWN DISCONNECT

Label Location:
(DC)(INV)

CAUTION
DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

Label Location:
(POI)
Per Code:
NEC 705.12.B.3

CAUTION
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

Label Location:
(D) (POI)
Per Code:
NEC 690.64.B.4

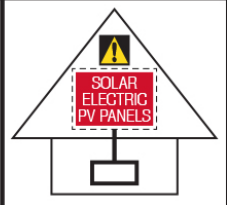
PHOTOVOLTAIC POINT OF INTERCONNECTION
WARNING: ELECTRIC SHOCK HAZARD. DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDE MAY BE ENERGIZED IN THE OPEN POSITION. FOR SERVICE DE-ENERGIZE BOTH SOURCE AND MAIN BREAKER.
PV POWER SOURCE
MAXIMUM AC OPERATING CURRENT A
MAXIMUM AC OPERATING VOLTAGE V

Label Location:
(POI)
Per Code:
CEC 690.13.B

WARNING
ELECTRIC SHOCK HAZARD THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

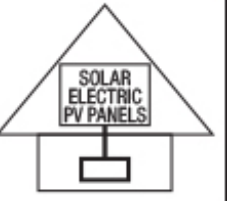
Label Location:
(DC) (INV)

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS WITHIN THE ARRAY REMAIN ENERGIZED IN SUNLIGHT



Label Location:
ABB/Delta Solivia Inverter
Per Code:
690.56(C)(1)(b)

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



Label Location:
SolarEdge and,Delta M-Series and,Telsa Inverter
Per Code:
690.56(C)(1)(a)

WARNING: PHOTOVOLTAIC POWER SOURCE

Label Location:
(C)(CB)
Per Code:
NEC 690.31.G.3
TO BE PLACED EVERY 10' ON CONDUIT ENCLOSURES MC CABLE W/ DC WIRING

(AC): AC Disconnect
(C): Conduit
(CB): Combiner Box
(D): Distribution Panel
(DC): DC Disconnect
(IC): Interior Run Conduit
(INV): Inverter With Integrated DC Disconnect
(LC): Load Center
(M): Utility Meter
(POI): Point of Interconnection

Label Set

Label Set

Label Set

Label Set

BACKUP LOAD CENTER

Label Location:
(BLC)
Per Code:
NEC 408.4

CAUTION
TRI POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM
THIRD SOURCE IS ENERGY STORAGE SYSTEM

Label Location:
(MSP)
Per Code:
NEC 705.12(B)(3)

CAUTION
DO NOT ADD NEW LOADS

Label Location:
(BLC)
Per Code:
NEC 220

WARNING

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

Label Location:
(MSP)
Per Code:
NEC 705.12.B.2.3.c

CAUTION
THIS PANEL HAS SPLICED FEED-
THROUGH CONDUCTORS.
LOCATION OF DISCONNECT AT ENERGY
STORAGE BACKUP LOAD PANEL

Label Location:
(MSP)
Per Code:
NEC 312.8.A(3)

CAUTION
DUAL POWER SOURCE
SECOND SOURCE IS
ENERGY STORAGE SYSTEM

Label Location:
(MSP)
Per Code:
NEC 705.12(B)(3)

NOMINAL ESS VOLTAGE: 120/240V
**MAX AVAILABLE SHORT-
CIRCUIT FROM ESS:** 32A
**ARC FAULT CLEARING
TIME FROM ESS:** 67ms
**DATE OF
CALCULATION:**

Label Location:
(MSP)
Per Code:
Per 706.7(D) label to be marked in field

ENERGY STORAGE SYSTEM ON SITE
LOCATED WITHIN LINE OF SIGHT

Label Location:
(MSP)
Per Code:

ENERGY STORAGE SYSTEM ON SITE
LOCATED ON ADJACENT WALL

Label Location:
(MSP)
Per Code:

ENERGY STORAGE SYSTEM ON SITE
LOCATED ON OPPOSITE WALL

Label Location:
(MSP)
Per Code:

ENERGY STORAGE SYSTEM ON SITE
LOCATED INSIDE

Label Location:
(MSP)
Per Code:

(AC): AC Disconnect
(BLC): Backup Load Center
(MSP): Main Service Panel

Label Set

MCI WIRING DETAIL

GENERAL NOTES

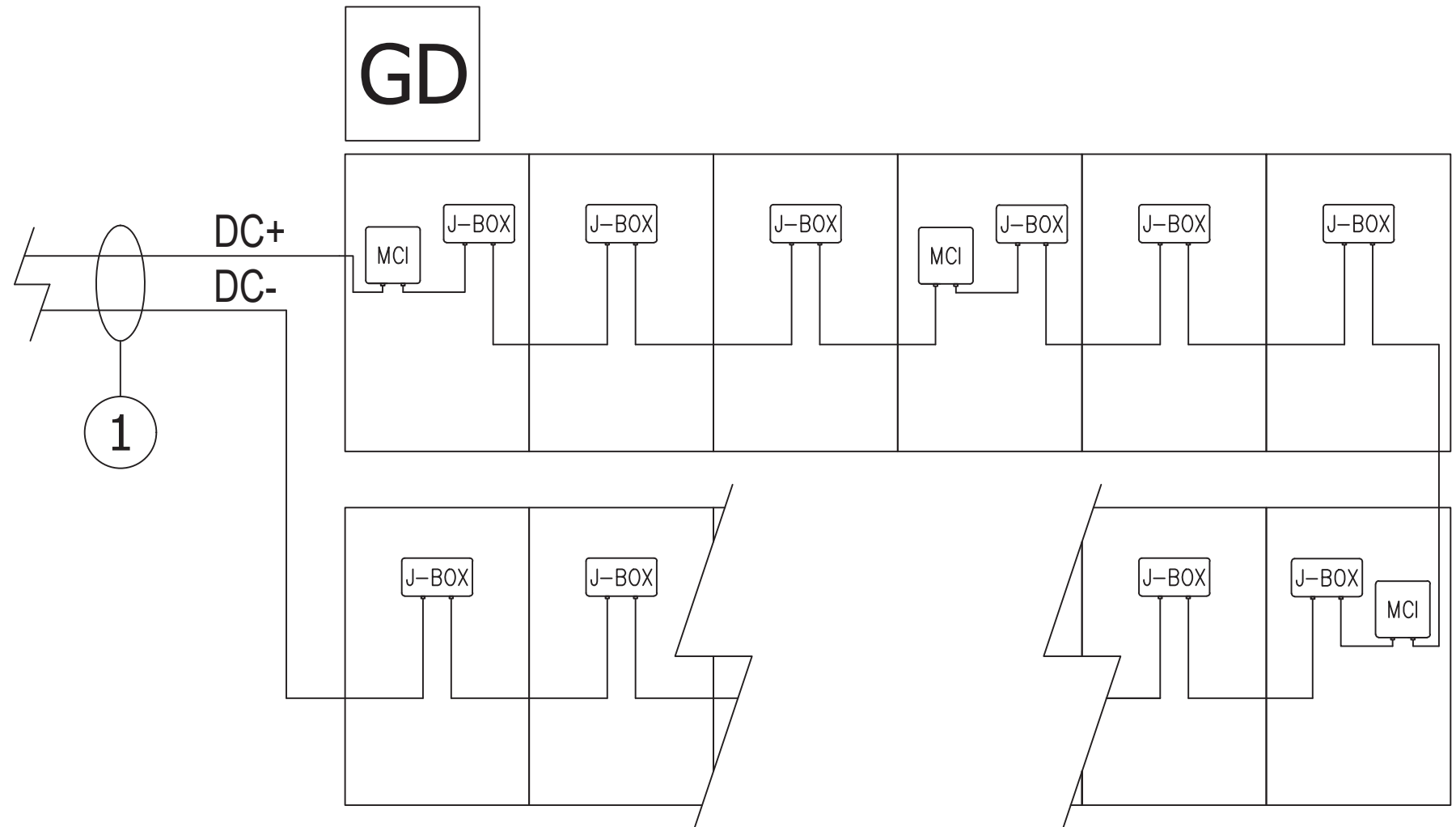
- DRAWING OF STANDARD MCI WIRING DETAIL FOR ANY GIVEN STRING LENGTH
- IF INITIATED, RAPID SHUTDOWN OCCURS WITHIN 30 SECONDS OF ACTIVATION AND LIMITS VOLTAGE ON THE ROOF TO NO GREATER THAN 165V (690.12.B.2.1)
- MID CIRCUIT INTERRUPTER (MCI) IS A UL 1741 PVRSE CERTIFIED RAPID SHUTDOWN DEVICE (RSD)

RETROFIT PV MODULES

- MCIS ARE LOCATED AT ROOF LEVEL, JUST UNDER THE PV MODULES IN ACCORDANCE WITH 690.12 REQUIREMENTS
- THE QUANTITY OF MCIS PER STRING IS DETERMINED BY STRING LENGTH
 - NUMBER OF MODULES BETWEEN MCI UNITS = 0-3
 - MAXIMUM NUMBER OF MODULES PER MCI UNIT = 3
 - MINIMUM NUMBER MCI UNITS = MODULE COUNT/3

*Exception: Tesla (Longi) modules installed in locations where the max Voc for 3 modules at low design temperature exceeds 165V shall be limited to 2 modules between MCIs.

PLEASE REFER TO MCI CUTSHEET AND PVRSA INSERT FOR MORE INFORMATION



① (2)AWG, PV Wire, 600V, Black

DC

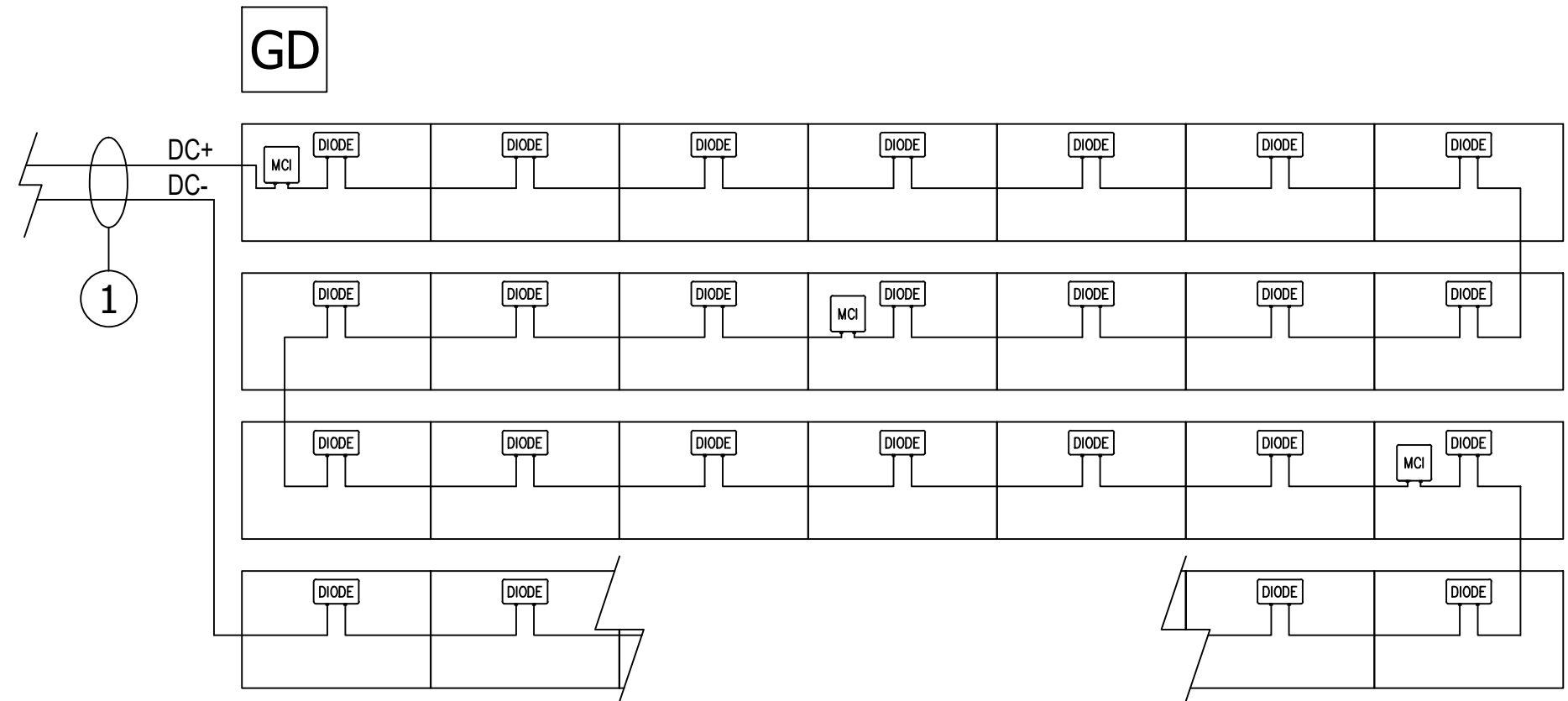
MCI WIRING DETAIL

GENERAL NOTES

- DRAWING OF STANDARD MCI WIRING DETAIL FOR ANY GIVEN STRING LENGTH
- IF INITIATED, RAPID SHUTDOWN OCCURS WITHIN 30 SECONDS OF ACTIVATION AND LIMITS VOLTAGE ON THE ROOF TO NO GREATER THAN 165V (690.12.B.2.1)
- MID CIRCUIT INTERRUPTER (MCI) IS A UL 1741 PVRSE CERTIFIED RAPID SHUTDOWN DEVICE (RSD)

SOLAR ROOF TILES

- MCIS ARE LOCATED AT DECK LEVEL, JUST UNDER THE TILES IN ACCORDANCE WITH 690.12 REQUIREMENTS
- THE QUANTITY OF MCIS PER STRING IS DETERMINED BY STRING LENGTH
 - NUMBER OF TILES BETWEEN MCI UNITS = 0-10
 - MAXIMUM NUMBER OF TILES PER MCI UNIT = 10
 - MINIMUM NUMBER MCI UNITS = TILE COUNT/10



PLEASE REFER TO MCI CUTSHEET AND PVRSA INSERT FOR MORE INFORMATION

① (2) AWG, PV Wire, 600V, Black

DC

BACKUP SWITCH

The Tesla Backup Switch controls connection to the grid and easily installs behind the utility meter, providing whole home backup with Powerwall.

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	200A, 120/240V Split phase
Short Circuit Current Rating	10 kA with any breaker ¹ 22 kA with minimum 22 kA breaker ¹
Communication	CAN
Product Compatibility	Powerwall 2 with Backup Gateway 2, Powerwall+
Expected Service Life	21 years
Warranty	10 years

¹ See section 27.12.4 in UL 414.

COMPLIANCE INFORMATION

Safety Standards	USA: UL 414, UL 2735, UL 916 CA Prop 65
Emissions	FCC, ICES

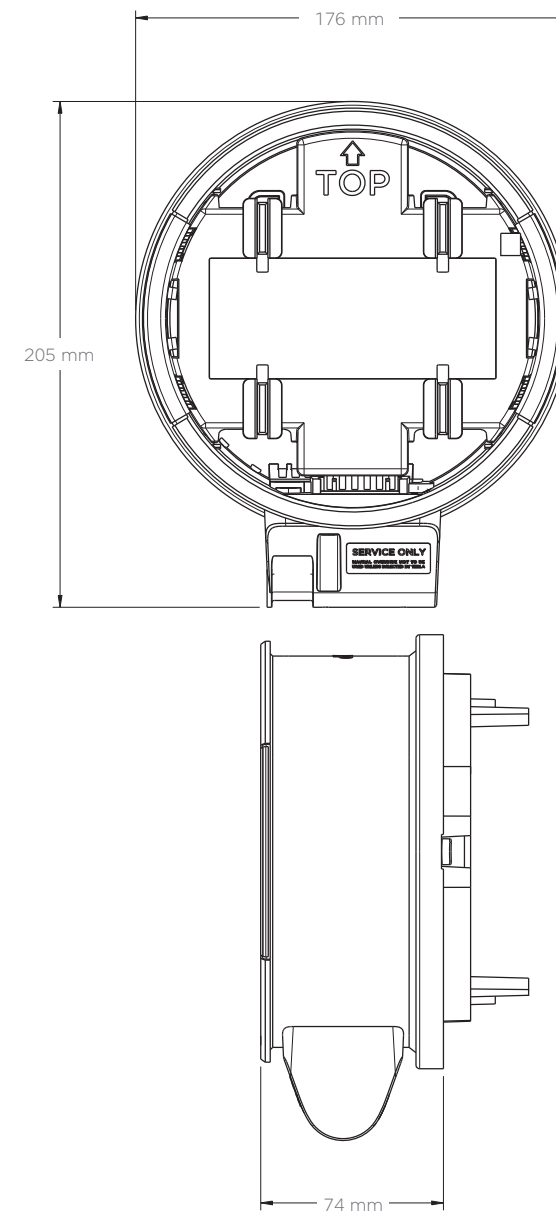
ENVIRONMENTAL SPECIFICATIONS

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

MECHANICAL SPECIFICATIONS

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

² Manually overrides the contactor position during a service event.





POWERWALL+

Powerwall+ is an integrated solar battery system that stores energy from solar production. Its integrated design and streamlined installation allow for simple connection to any home, and improved surge power capability brings whole home backup in a smaller package. Smart system controls enable owners to customize system behavior to suit their renewable energy needs.

KEY FEATURES

- Integrated battery, inverter, and system controller for a more compact install
- A suite of application modes, including self-powered, time-based control, and backup modes
- Wi-Fi, Ethernet, and LTE connectivity with easy over-the-air updates

POWERWALL+

PHOTOVOLTAIC (PV) AND BATTERY ENERGY STORAGE SYSTEM (BESS) SPECIFICATIONS

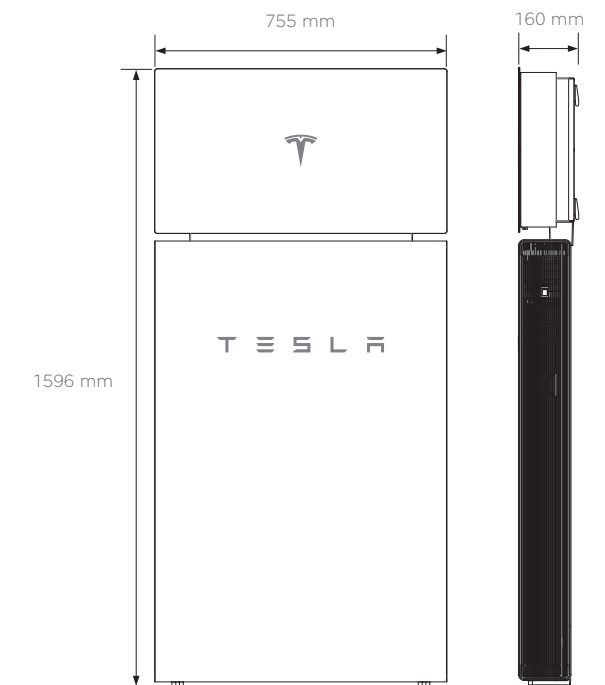
Powerwall+ Model Number	1850000-xx-y
Solar Assembly Model Number	1538000-xx-y
Nominal Battery Energy	13.5 kWh
Nominal Grid Voltage (Input / Output)	120/240 VAC
Grid Voltage Range	211.2 - 264 VAC
Frequency	60 Hz
Phase	240 VAC: 2W+N+GND
Maximum Continuous Power On-Grid	7.6 kW full sun / 5.8 kW no sun ¹
Maximum Continuous Power Off-Grid	9.6 kW full sun / 7 kW no sun ¹
Peak Off-Grid Power (10 s)	22 kW full sun / 10 kW no sun ¹
Maximum Continuous Current On-Grid	32 A output
Maximum Continuous Current Off-Grid	40 A output
Load Start Capability	118 A LRA
PV Maximum Input Voltage	600 VDC
PV DC Input Voltage Range	60 - 550 VDC
PV DC MPPT Voltage Range	60 - 480 VDC
MPPTs	4 (or 2 combined strings)
Input Connectors per MPPT	1-2-1-2
Maximum Current per MPPT (I_{mp})	13 A (26 A for combined strings)
Maximum Short Circuit Current per MPPT (I_{sc})	15 A
Allowable DC/AC Ratio	1.7
Overcurrent Protection Device	50 A breaker
Maximum Supply Fault Current	10 kA
Output Power Factor Rating	+/- 0.9 to 1
Round Trip Efficiency	90% ²
Solar Generation CEC Efficiency	97.5% at 208 V 98.0% at 240 V
Customer Interface	Tesla Mobile App
Internet Connectivity	Wi-Fi, Ethernet, Cellular LTE/4G ³
PV AC Metering	Revenue grade (+/-0.5%)
Protections	Integrated arc fault circuit interrupter (AFCI), PV Rapid Shutdown
Warranty	10 years

COMPLIANCE INFORMATION

PV Certifications	UL 1699B, UL 1741, UL 3741, UL 1741 SA, UL 1998 (US), IEEE 1547, IEEE 1547.1
Battery Energy Storage System Certifications	UL 1642, UL 1741, UL 1741 PCS, UL 1741 SA, UL 1973, UL 9540, IEEE 1547, IEEE 1547.1, UN 38.3
Grid Connection	United States
Emissions	FCC Part 15 Class B
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions	1596 x 755 x 160 mm (62.8 x 29.7 x 6.3 in)
Total Weight	140 kg (310 lb) ⁴
Battery Assembly	118 kg (261 lb)
Solar Assembly	22 kg (49 lb)
Mounting options	Floor or wall mount



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F) ⁵
Recommended Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-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 Type	Type 3R
Solar Assembly Ingress Rating	IP55 (Wiring Compartment)
Battery Assembly Ingress Rating	IP56 (Wiring Compartment) IP67 (Battery & Power Electronics)
Noise Level @ 1 m	< 40 db(A) optimal, < 50 db(A) maximum

¹Values provided for 25°C (77°F).

²AC to battery to AC, at beginning of life.

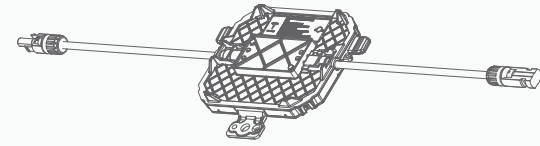
³Cellular connectivity subject to network service coverage and signal strength.

⁴The total weight does not include the Powerwall+ bracket, which weighs an additional 9 kg (20 lb).

⁵Performance may be de-rated at operating temperatures below 10°C (50°F) or greater than 43°C (109°F).

SOLAR SHUTDOWN DEVICE

The Tesla Solar Shutdown Device is part of the PV system rapid shutdown (RSD) function in accordance with Article 690 of the applicable NEC. When paired with Powerwall+, solar array shutdown is initiated by turning the Powerwall+ Enable switch off, or by pushing the System Shutdown Switch if one is present.



ELECTRICAL SPECIFICATIONS

Nominal Input DC Current Rating (I_{MP})	12 A
Maximum Input Short Circuit Current (I_{SC})	15 A
Maximum System Voltage	600 V DC

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

COMPLIANCE INFORMATION

Certifications	UL 1741 PVRSE, UL 3741, PVRSA (Photovoltaic Rapid Shutdown Array)
RSD Initiation Method	External System Shutdown Switch
Compatible Equipment	See Compatibility Table below

ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature	-40°C to 50°C (-40°F to 122°F)
Storage Temperature	-30°C to 60°C (-22°F to 140°F)
Enclosure Rating	NEMA 4 / IP65

UL 3741 PV HAZARD CONTROL (AND PVRSA) COMPATIBILITY

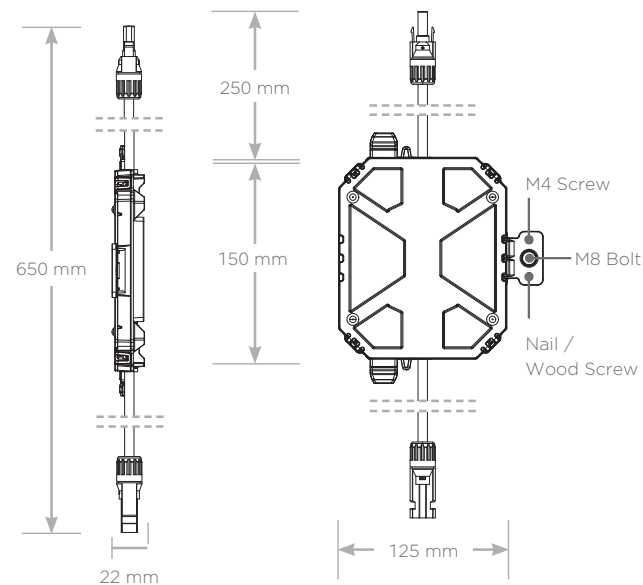
Tesla Solar Roof and Tesla/Zep ZS Arrays using the following modules are certified to UL 3741 and UL 1741 PVRSA when installed with the Powerwall+ and Solar Shutdown Devices. See the Powerwall+ Installation Manual for detailed instructions and for guidance on installing Powerwall+ and Solar Shutdown Devices with other modules.

Brand	Model	Required Solar Shutdown Devices
Tesla	Solar Roof V3	1 Solar Shutdown Device per 10 modules
Tesla	Tesla TxxxS (where xxx = 405 to 450 W, increments of 5)	1 Solar Shutdown Device per 3 modules ¹
Hanwha	Q.PEAK DUO BLK-G5	1 Solar Shutdown Device per 3 modules
Hanwha	Q.PEAK DUO BLK-G6+	1 Solar Shutdown Device per 3 modules

¹Exception: Tesla solar modules installed in locations where the max Voc for three modules at low design temperatures exceeds 165 V shall be limited to two modules between MCIs.

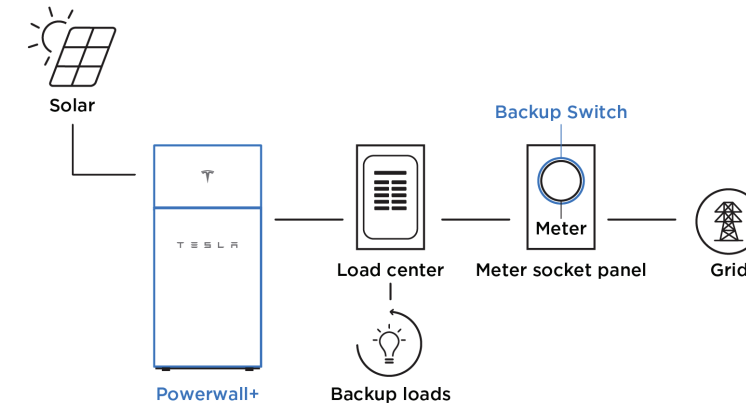
MECHANICAL SPECIFICATIONS

Electrical Connections	MC4 Connector
Housing	Plastic
Dimensions	125 mm x 150 mm x 22 mm (5 in x 6 in x 1 in)
Weight	350 g (0.77 lb)
Mounting Options	ZEP Home Run Clip M4 Screw (#10) M8 Bolt (5/16") Nail / Wood screw

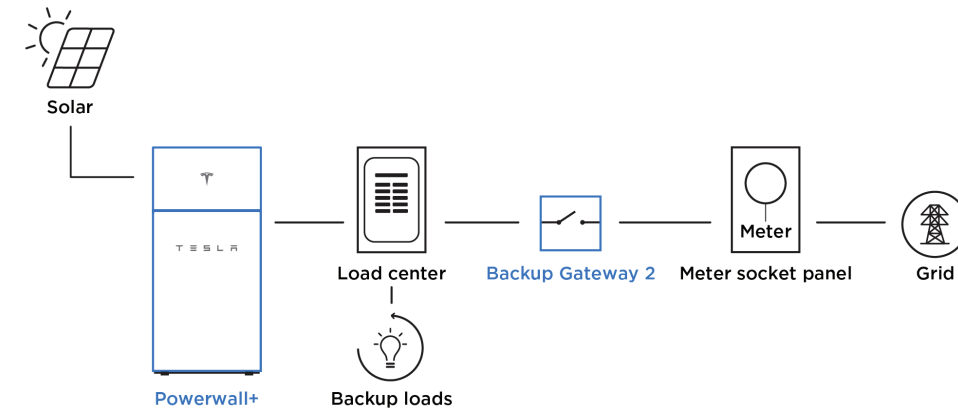


SYSTEM LAYOUTS

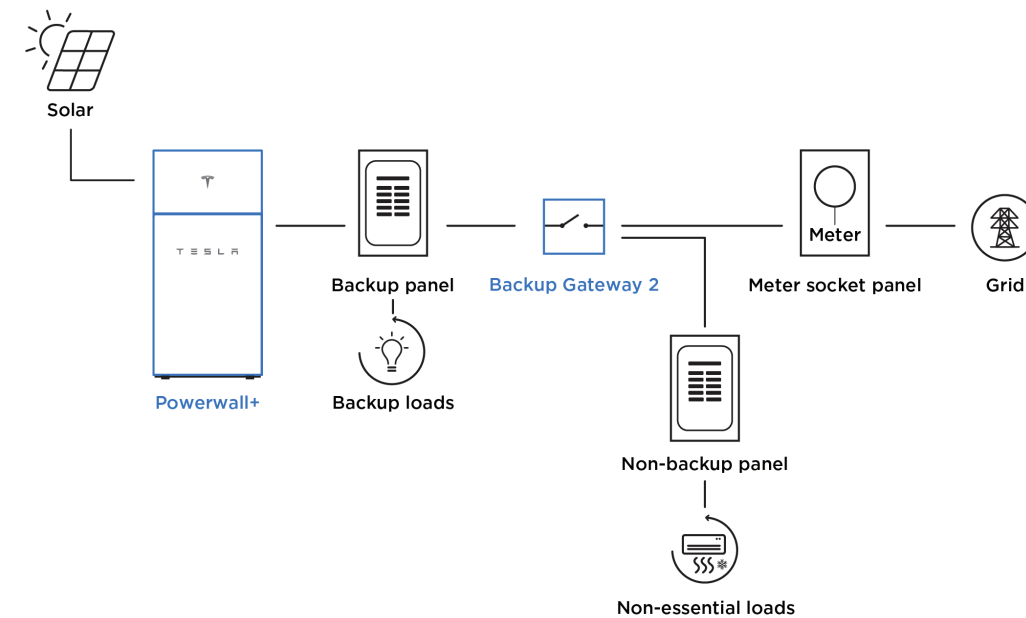
Powerwall+ with Backup Switch for Whole Home Backup



Powerwall+ with Backup Gateway 2 for Whole Home Backup



Powerwall+ with Backup Gateway 2 for Partial Home Backup



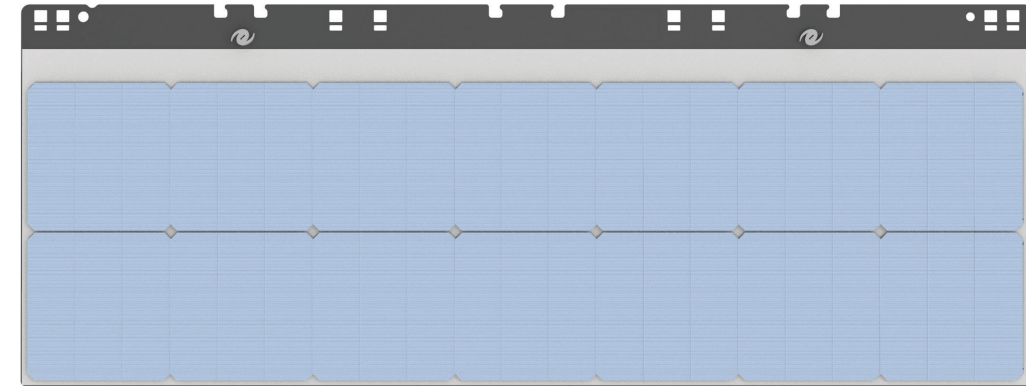
SOLAR ROOF DATASHEET

FOR FULL TEAR-OFF AND OVERLAY INSTALLATIONS



14-CELL PV MODULE

MODEL #: SR72T1



ELECTRICAL SPECIFICATIONS

Maximum open circuit voltage rating of connected branch circuits per diode (at STC): 14.2 V

Maximum series fuse rating: 10 A

Maximum system voltage: 600 V

Irradiance (W/m ²)	Temp. (Celsius)	Voc (V)	Vmp (V)	Isc (A)	Imp (A)	Pmax (W)
1000	25	14.20	11.34	6.80	6.32	71.67

These electrical characteristics are within $\pm 5\%$ of the indicated values of Isc, Voc, and Pmax under standard test conditions (irradiance of 1000 W/m², AM 1.5 spectrum, and a cell temperature of 25 °C or 77 °F).

MECHANICAL SPECIFICATIONS

Dimensions: 430 mm x 1140 mm

Thickness: Appx. 5 mm module thickness with 35.3 mm maximum height from deck

Principal Materials: Glass, Polymers, Fiberglass and Silicon

Installed System Weight: Textured Glass: 15 kg/m² or 3.1 psf

(Installed weights include all components of system above roof sheathing).

ROOF PITCH RANGE

2:12 - 24:12

Certain features can be installed up to 62:12

CERTIFICATIONS

UL 61730 (UL Listed); UL 9703 (UL Listed); UL 1741 (UL Listed)

UL 790 Class A (ETL Listed); ASTM D3161 Class F (ETL Listed); TAS100 (ETL Listed)

SHEATHING SPECIFICATIONS

Solar Roof will be installed over bare solid or closely fitted sheathing, as follows:

- DOC PS-1 compliant / exterior grade plywood: minimum 15/32" (11.9 mm) thick or
- DOC POS-2 OSB sheathing: minimum 7/16" thick (11.1 mm) or
- Closely-fitted sheathing boards: minimum of 3/4" (19.1 mm) thick

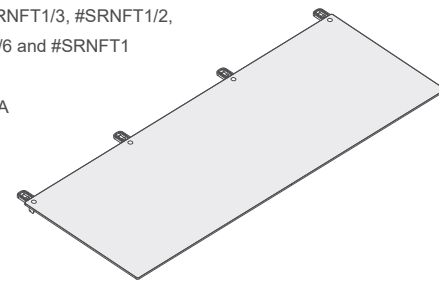
Solar Roof can also be installed over compatible existing roofs, as follows:

- Three-tab composition shingle, single layer
- Architectural composition shingle, single layer

Solar Roof will not be installed over raised presidential-style composition shingle, roofs with more than one layer of composition shingle, or existing non-composition shingle roof types like tiled roofs.

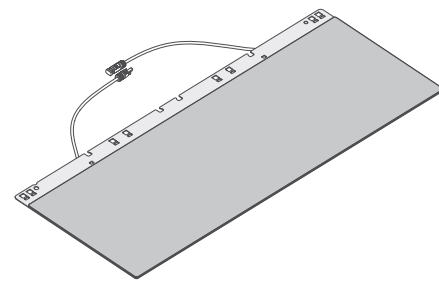
ROOFING MODULES, FULL AND PARTIAL

Model #SRNFT1/6, #SRNFT1/3, #SRNFT1/2,
#SRNFT2/3, #SRNFT5/6 and #SRNFT1
Listed to UL 61730
Listed to UL 790 Class A
ASTM D3161 Class F
TAS100



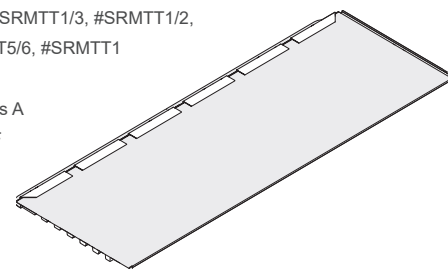
PV MODULE

Model #SR60T1
Listed to UL 61730
UL 790 Class A
ASTM D3161 Class F
TAS100



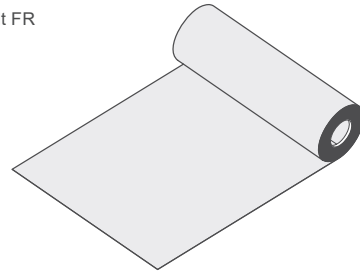
METAL TILES, FULL AND PARTIAL

Model #SRMTT1/6, #SRMTT1/3, #SRMTT1/2,
#SRMTT2/3, #SRMTT5/6, #SRMTT1
Listed to UL 1897
Listed to UL 790 Class A
ASTM D3161 Class F
TAS100



UNDERLAYMENT

Model #SR-SAUL-1 or FT Cobalt FR
ASTM D1970/ICC AC48
ICC AC188
ASTM E108 Class -A



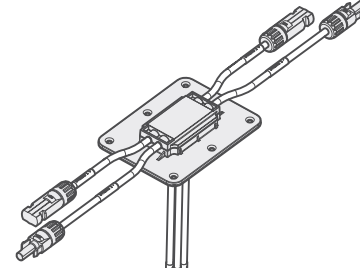
DIODE HARNESS

Model #SRDTH
UL 9703
Listed (ZKLA) "PV Wire"
Short and long lead variants
interchangeable



PASS THROUGH BOX

Model #SRPTB-4
UL 1741, File #E318357



WARNING: To Reduce the Risk of Injury, read all instructions

PV Hazard Control System: Solarglass Roof PVHCS with Powerwall+				
UL 3741 Report Date 8-12-21				
PV Rapid Shutdown Array, UL 1741 Category QIIR, Report Date: 2021-06-11 (Rev 8-10-21)				
PV Hazard Control Equipment and Components				
Function	Manufacturer	Model No.	Firmware Versions and Checksums	Certification Standard
PVRSE Mid Circuit Interrupter (MCI)	Tesla	MCI-1 1550379 ¹	N/A	UL 1741 PVRSE
Powerwall+ (Inverter)	Tesla	7.6 kW: 1850000 ¹	V4, CEA4F802	UL 1741, 1998 PVRSS/PVRSE
PV Module	Tesla	SR60T1, SR72T1	N/A	UL 61730
Diode Harness	Tesla	SRDTH	N/A	UL 9703
PV Wire Jumper(s)	Tesla	SR-BJ2X SR-BJ3X SR-BJ4X SR-BJMini	N/A	UL 9703
Pass-Through Box	Tesla	SRPTB-4	N/A	UL 1741
PVHCS Initiator (See installation instructions below)	Non-Specific	Emergency stop device (NISD)- Listed "Emergency Stop Button" or "Emergency Stop Device" or "Emergency Stop Unit"	N/A	UL 508 or UL 60947 Parts 1, 5-1 and 5-5.
¹ Applies to variations of this part number with suffix of two numbers and one letter. Note: PVHCS installation requirements may reduce the effective equipment and component ratings below the individual equipment and component PVRSE ratings in order to achieve PVHCS shock hazard reduction requirements.				
PVHCS Installation Requirements				
Max System Voltage			600 Vdc	
PVHC Maximum Circuit Voltage (Array Internal Voltage After Actuation)			165 Vdc (cold weather open circuit)	
Max Series-Connected Panels between MCIs:			10	
Other Installation Instructions:				
1. An MCI must be connected to one end of each series string or mounting plane sub-array string.				
2. Verification that MCIs are installed with 10 or fewer modules between MCIs shall be documented for inspection, by voltage measurement logs and/or as-built string layout diagrams.				
3. The PVHCS emergency stop initiator shall have the following minimum ratings: Outdoor (Type 3R or higher), 12V, 1A, and shall be installed in accordance with NEC requirements. The specific part shall be identified on the as-built system drawings. Refer to the Powerwall+ installation manual for further details.				



Certification Mark of UL on the installation instructions is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The Certification Mark for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number."

WARNING: To Reduce the Risk of Injury, read all instructions

PV Hazard Control System: ZS PVHCS with Powerwall+ (Applicable to ZS Comp, ZS Span, ZS Ramp, and ZS Seam)				
UL 3741 Report Date 8-12-21				
PV Rapid Shutdown Array, UL 1741 Category QIIR, Report Date: 2021-06-11 (Rev 8-10-21)				
PV Hazard Control Equipment and Components				
Function	Manufacturer	Model No.	Firmware and Checksums	Certification Standard
PVRSE Mid Circuit Interrupter (MCI)	Tesla	MCI-1 1550379 ¹	N/A	UL 1741 PVRSE
Powerwall+ (Inverter)	Tesla	7.6 kW 1850000 ¹	V4, CEA4F802	UL 1741, 1998 PVRSS/PVRSE
PV Module	Hanwha/ Q-CELLS Tesla (Longi)	Q.PEAK DUO BLK-G5/SC310-320 Q.PEAK DUO BLK G6+/SC330-345 Tesla TxxxS (where xxx = 405 to 450, increments of 5)	N/A	UL 1703 UL 61730
Interlock	Tesla	ZEP 850-1613-001 ZEP 850-1388-001 ZEP 850-1281-001	N/A	UL 2703
Ground Zep	Tesla	ZEP 850-1511-001 ZEP 850-1172-002	N/A	UL 467 UL 2703
DC Wire Clip	Tesla	ZEP 850-1509-001 ZEP 850-1448-001	N/A	UL 1565
Homerun Wire Clip	Tesla	ZEP 850-1510-001		UL 1565
PVHCS Initiator (See installation instructions below)	Non-Specific	Emergency stop device (NISD)- Listed "Emergency Stop Button" or "Emergency Stop Device" or "Emergency Stop Unit".	N/A	UL 508 or UL 60947 Parts 1, 5-1 and 5-5.
¹ Applies to variations of this part number with suffix of two numbers and one letter. Note: PVHCS installation requirements may reduce the effective equipment and component ratings below the individual equipment and component PVRSE ratings in order to achieve PVHCS shock hazard reduction requirements.				
PVHCS Installation Requirements				
Max System Voltage			600 Vdc	
PVHC Maximum Circuit Voltage (Cold weather array internal voltage after actuation)			165 Vdc	
Max Series-Connected Modules Between MCIs:			3*	
*Exception: Tesla (Longi) modules installed in locations where the max Voc for 3 modules at low design temperature exceeds 165V shall be limited to 2 modules between MCIs.				
Other Installation Instructions:				
1. An MCI must be connected to one end of each series string or sub-array string.				
2. Verification that MCIs are installed with 3 or fewer modules between MCIs shall be documented for inspection, by voltage measurement logs and/or as-built string layout diagrams.				
3. The PVHCS emergency stop initiator shall have the following minimum ratings: Outdoor (Type 3R or higher), 12V, 1A, and shall be installed in accordance with NEC requirements. The specific part shall be identified on the as-built system drawings. Refer to the Powerwall+ installation manual for further details.				



Certification Mark of UL on the installation instructions is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The Certification Mark for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number."

TESLA

SOLAR ROOF

DATASHEET



ROOFING SYSTEM SPECIFICATIONS

CERTIFICATIONS

UL Listed	ETL Listed
UL 61730	UL 790 Class A
UL 9703	TAS100
UL 1741	ASTM D3161 Class F

ELECTRICAL CHARACTERISTICS

Maximum open circuit voltage rating of connected branch circuits per diode (at STC): 13.34 V

Maximum series fuse rating: 10 A

Maximum system voltage: 600 V

ROOF PITCH RANGE

2:12 - 20:12

MODULE SPECIFICATIONS

MODEL #SR60T1 14-CELL MODULE

Irradiance (W/m ²)	Temp. (Celsius)	Voc (V)	Vmp (V)	Isc (A)	Imp (A)	Pmax (W)
1000	25	13.34	10.99	5.65	5.32	58.47

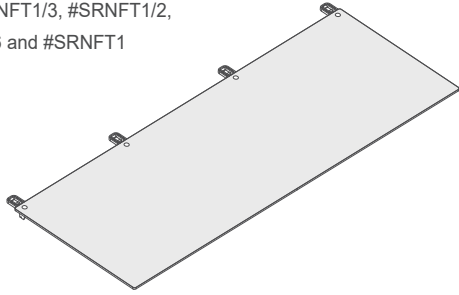
These electrical characteristics are within $\pm 5\%$ of the indicated values of Isc, Voc, and Pmax under standard test conditions (irradiance of 1000 W/m², AM 1.5 spectrum, and a cell temperature of 25 °C or 77 °F).



Dimensions	430 mm x 1140 mm Appx. 5 mm module thickness with 35.3 mm maximum height from deck
Principal Materials	Glass, Polymers, Fiberglass and Silicon
Installed System Weight	Textured Glass: 16.4 kg/m ² or 3.4 psf Installed weights include all components of system above roof sheathing

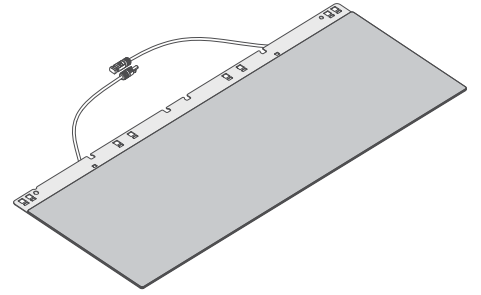
ROOFING MODULES, FULL AND PARTIAL

Model #SRNFT1/6, #SRNFT1/3, #SRNFT1/2,
#SRNFT2/3, #SRNFT5/6 and #SRNFT1
Listed to UL 61730
Listed to UL 790 Class A
ASTM D3161 Class F
TAS100



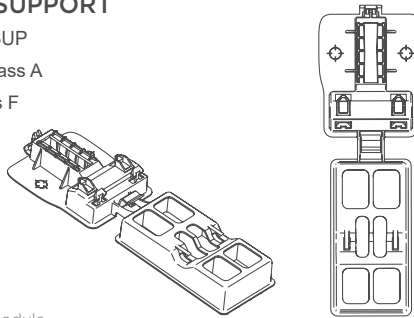
PV MODULE

Model #SR60T1
Listed to UL 61730
UL 790 Class A
ASTM D3161 Class F
TAS100



FOOT WITH SUPPORT

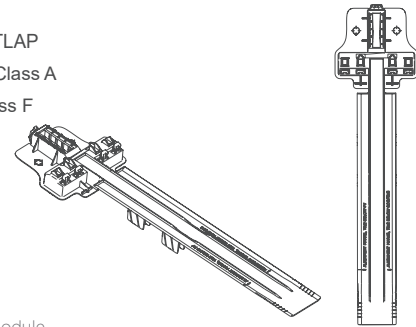
Model #SR-FOOTSUP
Listed to UL 790 Class A
ASTM D3161 Class F
TAS100



Center foot for PV module

FOOTLAP

Model #SR-FOOTLAP
Listed to UL 790 Class A
ASTM D3161 Class F
TAS100

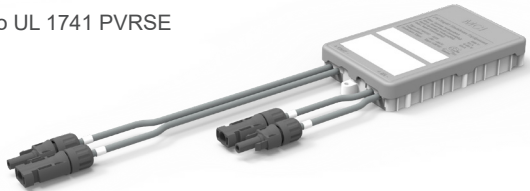


Edge foot for PV module

MCI RAPID SHUTDOWN

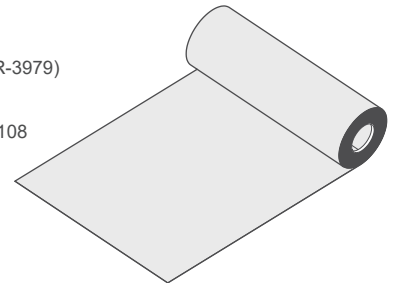
Model #EE-002605-003, Delta #GPI00010110
600V, 12A, NEMA 4X, MC4

Listed to UL 1741 PVRSE



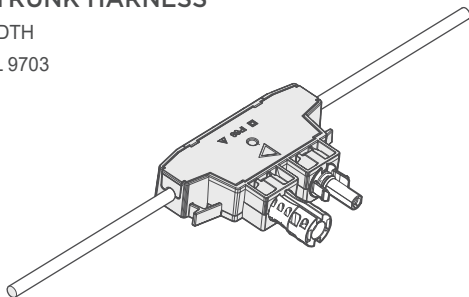
FIRESTONE UNDERLAYMENT

Clad-Gard SA FR
ASTM D226 Type I & II
Certified to ICC-ES AC188 (ESR-3979)
and ASTM D1970
Class A Fire Rated per ASTM E108



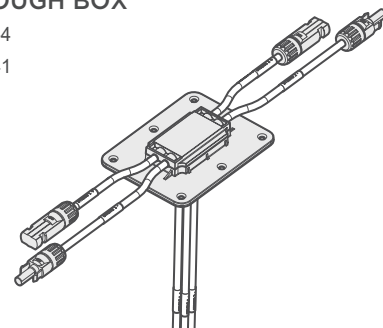
DIODE TRUNK HARNESS

Model #SRDTH
Listed to UL 9703



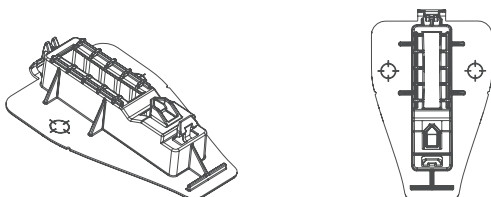
PASS THROUGH BOX

Model #SRPTB-4
Listed to UL 1741



ROOFING FOOT

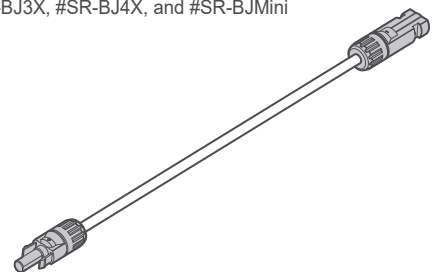
Model #SR-FOOT



Center foot for Roofing module

BRANCH JUMPER

Model #SR-BJ2X, #SR-BJ3X, #SR-BJ4X, and #SR-BJMini
Listed to UL 9703



TESLA

SOLARGLASS ROOF

FREQUENTLY ASKED QUESTIONS
FOR BUILDING AND FIRE OFFICIALS



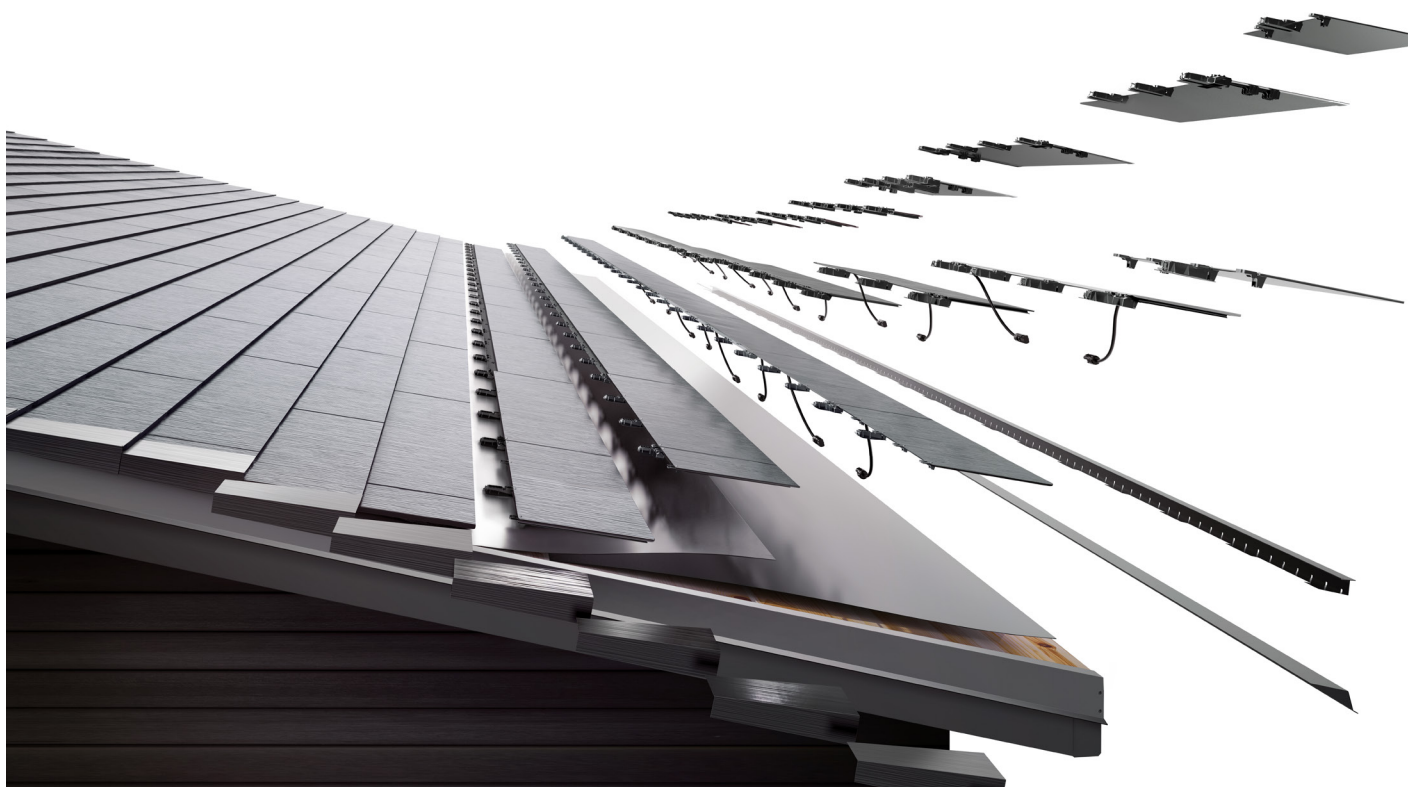
SOLARGLASS OVERVIEW

Tesla Solarglass combines roofing and photovoltaics (PV) into one product. As shown in the cover photo, it is different from other products that integrate photovoltaic roofing with existing roofing. A Solarglass roof replaces all existing roofing with materials that allow the roof to produce electricity.

The roofing components are tested to standards specific to roofing, including fire, wind, rain, and impact resistance. Likewise, the PV and electrical components are tested to applicable standards, including fire, electrical, mechanical, and rapid shutdown.

A complete list of certifications for each part may be found under **System Certifications**. **Certificates of Compliance** may be found at the end of this document.

We would like to answer any questions you have. Please feel free to email codecompliance@tesla.com.



SYSTEM CERTIFICATIONS

Q: TO WHAT STANDARDS HAS SOLARGLASS BEEN EVALUATED?

A: Because Solarglass must perform as both a roof covering and a solar array, it has been tested to standards that apply to each. The table under **System Certifications** shows those standards, and where applicable, the rating each component has achieved.

- UL 61730 for PV Modules
- UL 790 for Roof Fire Classification (Class A rated)
- ASTM D3161 for Wind Resistance of Steep Slope Roofing (Class F rated)
- TAS 100 for Wind-driven Rain

COMPONENT	PART #	PV MODULE SAFETY	FIRE ROOF CLASSIFICATION	WIND RESISTANCE	WIND DRIVEN RAIN
PV MODULE	SR60T1	UL 61730	UL 790 Class A	ASTM D3161 Class F	TAS 100
ROOFING MODULE	SRNFT1/6				
	SRNFT1/3				
	SRNFT1/2				
	SRNFT2/3				
	SRNFT5/6				
	SRNFT1				
FOOTLAP	SR-FOOTLAP		UL 790 Class A	ASTM D3161 Class F	TAS 100
FOOT WITH SUPPORT	SR-FOOTSUP				

- UL 9703 for Distributed Generation Wiring Harnesses
- UL 1741 for Interconnection System Equipment with Distributed Energy Resources

COMPONENT	PART #	WIRING HARNESSES	SYSTEM EQUIPMENT	OTHER
DIODE HARNESS	SRDTH	UL 703		
JUMPER	SR-BJMINI			
	SR-BJ2X			
	SR-BJ3X			
	SR-BJ4X			
RAPID SHUTDOWN DEVICE	Delta RSS-600 1-1		UL 1741	NEC Article 690.12 NEMA 3R
PASS THROUGH BOX	SRPTB-4			

Q: TO WHAT BUILDING CODES DOES SOLARGLASS COMPLY?

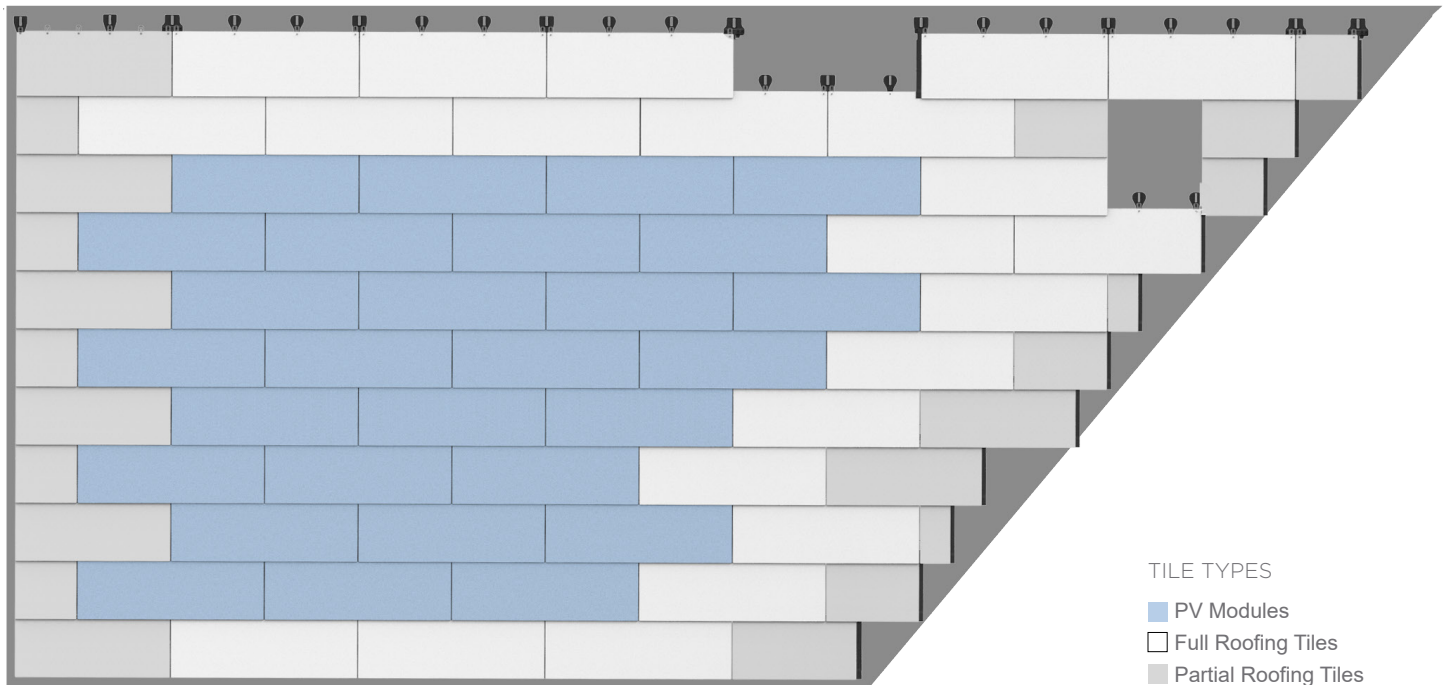
A: Solarglass complies with the applicable sections of IBC, IRC, IFC, NFPA 70 (NEC), and NFPA 1 (FIRE CODE) when installed in accordance with the installation instructions.

FREQUENTLY ASKED QUESTIONS

Q: DOES EVERY PART OF THE ROOF COVERING MAKE ELECTRICITY?

A: No. While much of the roof is made up of PV Modules, parts of the roof are covered with Roofing Modules or other typical roof details that do not produce electricity.

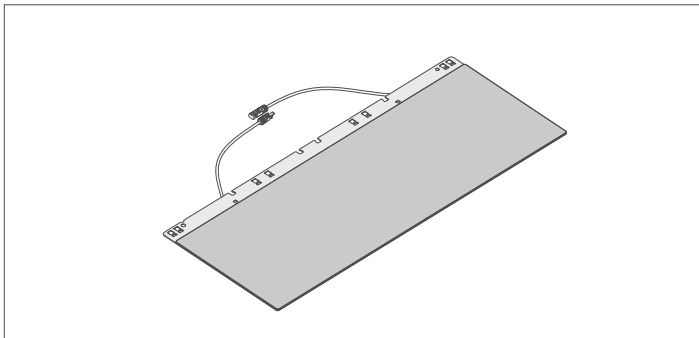
SAMPLE MOUNTING PLANE



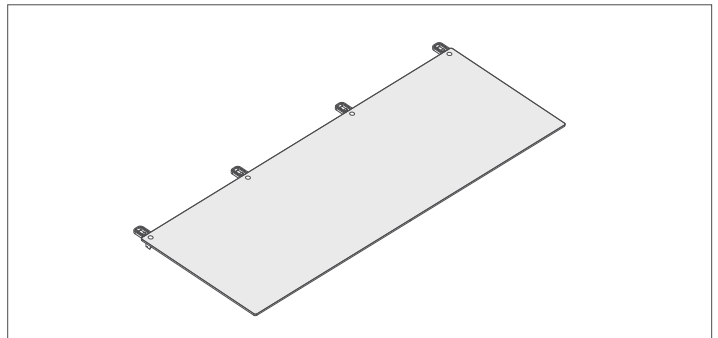
Q: IS SOLARGLASS A TILE OR A SHINGLE?

A: While Solarglass has an appearance similar to both tiles and shingles, it is unique. A typical Solarglass Module consists of a factory-built assembly with integral fasteners. Accordingly, resistance to wind loads has been evaluated through multiple test methods applicable to both roof covering types as well as PV mounting methods, including UL 1897, ASTM D3161 and UL 61730 (Mechanical).

PV MODULE

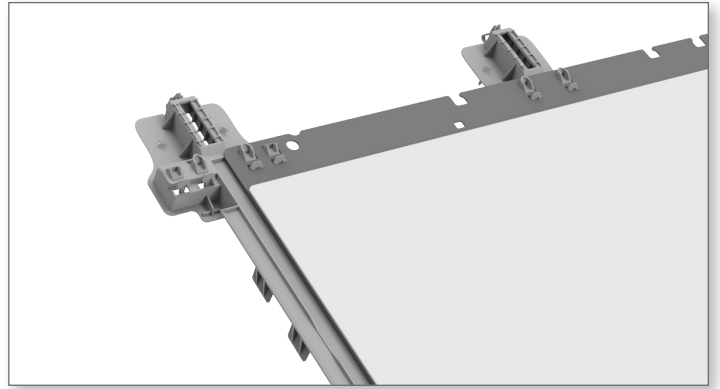
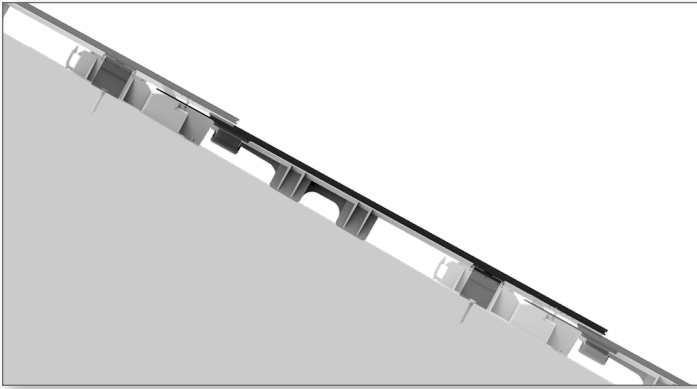


ROOFING MODULES



Q: HOW IS SOLARGLASS ATTACHED?

A: Each PV Module and Roofing Module is secured with traditional fasteners and recloseable fasteners. This attachment method has been evaluated to requirements in UL 1897, ASTM D3161 and UL 61730 (Mechanical).



Q: HOW MUCH DOES SOLARGLASS WEIGH?

A: Solarglass’s complete assembly weighs approximately 3.4 psf for textured tile. These figures include all elements above the roof sheathing, including underlayment and roof covering components.

Q: WHAT IS THE MAXIMUM WIND SPEED THAT SOLARGLASS CAN WITHSTAND?

Solarglass [Roof] is rated “Class F”, the highest attainable wind rating under ASTM D 3161. Refer to IRC 2015 Section R905.16.7, IRC 2018 Section R905.16.6, IBC 2015 Section 1507.17.8, and/or IBC 2018 Section 1507.17.8; for applicability of wind ratings.

Q: IS SOLARGLASS CERTIFIED CLASS “A” UNDER UL 790?

A: Yes. The roof assembly (including the PV Modules, Roofing Modules, and underlayment) have been evaluated to the requirements of UL 790 and has a Class “A” fire rating when installed in accordance with the installation instructions.

Q: CAN SOLARGLASS BE INSTALLED IN A HIGH FIRE HAZARD SEVERITY ZONE (HFHSZ) OR WILDLAND-URBAN INTERFACE (WUI)?

A: Yes. Solarglass has a UL 790 Class A fire rating and complies with the applicable sections of IRC and IWUIC for installation in areas of elevated fire risk when installed according to the manufacturer’s instructions using code-compliant flashings and accessory components.

Q: DOES SOLARGLASS COMPLY WITH THE “COOL ROOF” RATING REQUIREMENTS OF CALIFORNIA TITLE 24?

A: Yes. Solarglass complies with the 2016 CEC Building Energy Efficiency requirements of Section 150.2(b)11 (a) (sometimes called the “cool roof” requirement) through its incorporation of an airspace between the roof deck and roof covering.

Q: CAN YOU WALK ON SOLARGLASS?

A: Yes. Solarglass is engineered to safely withstand applicable live loads required by the building code for steep slope applications. However, to ensure safety and maintain maximum roof life, walking should be avoided except by first responders and trained Solarglass installation professionals. This is a common recommendation for other high-end roof types, including slate, clay, concrete, and composite tile products.

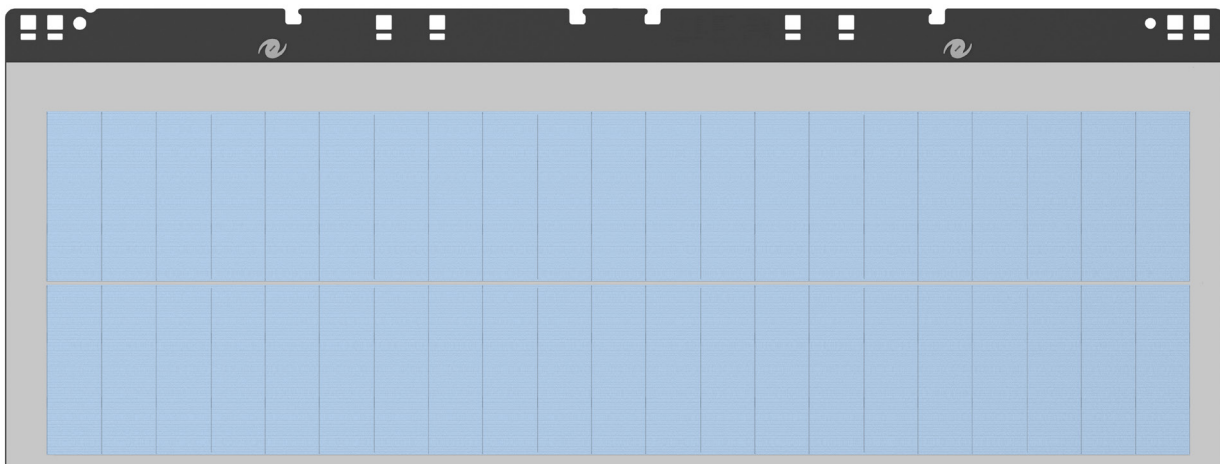
Q: HOW IS SOLARGLASS WIRED? IS IT DIFFERENT FROM TYPICAL PV INSTALLATIONS?

A: Solarglass wiring is similar in most respects to traditional PV systems. It uses the same industry standard, UL-certified wire and PV connectors to combine modules in series strings. UL certified wiring harnesses, called Diode Harnesses, aggregate series-connected PV Modules. The combined circuits exit the roof via a listed assembly, called the Pass Through Box, to listed rapid shutdown devices. The strings then connect to a conventional DC-AC inverter.

The wire routing and installation methods of the system have also been evaluated by UL.

Q: HOW MUCH VOLTAGE AND CURRENT ARE PRODUCED BY A SOLARGLASS PV MODULE?

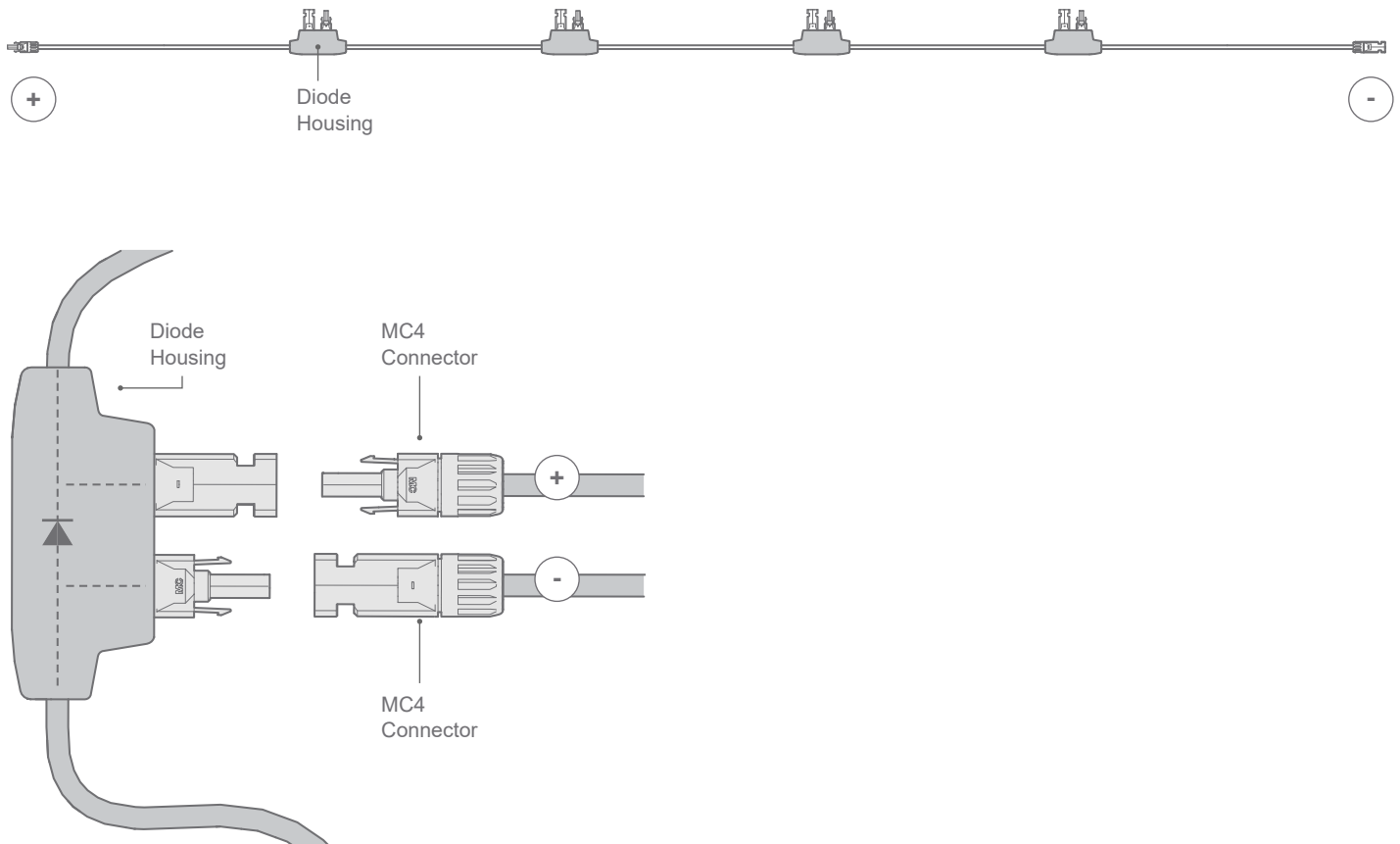
A: One PV Module produces about 10.99 Volts and 5.32 Amps with a nominal power output of approximately 58 Watts.



Q: WHAT IS THE FUNCTION OF THE DIODE HARNESS?

A: The Diode Harness is a UL listed, pre-manufactured cable assembly that connects PV Modules together in series and provides shading protection.

In traditional solar panels, bypass diodes are housed in junction boxes on the back of each module. In Solarglass, the bypass diodes are in the Diode Harness. Under partially shaded conditions, the diode diverts current away from the shaded PV Modules. The diode also diverts current if a connector opens in the series.



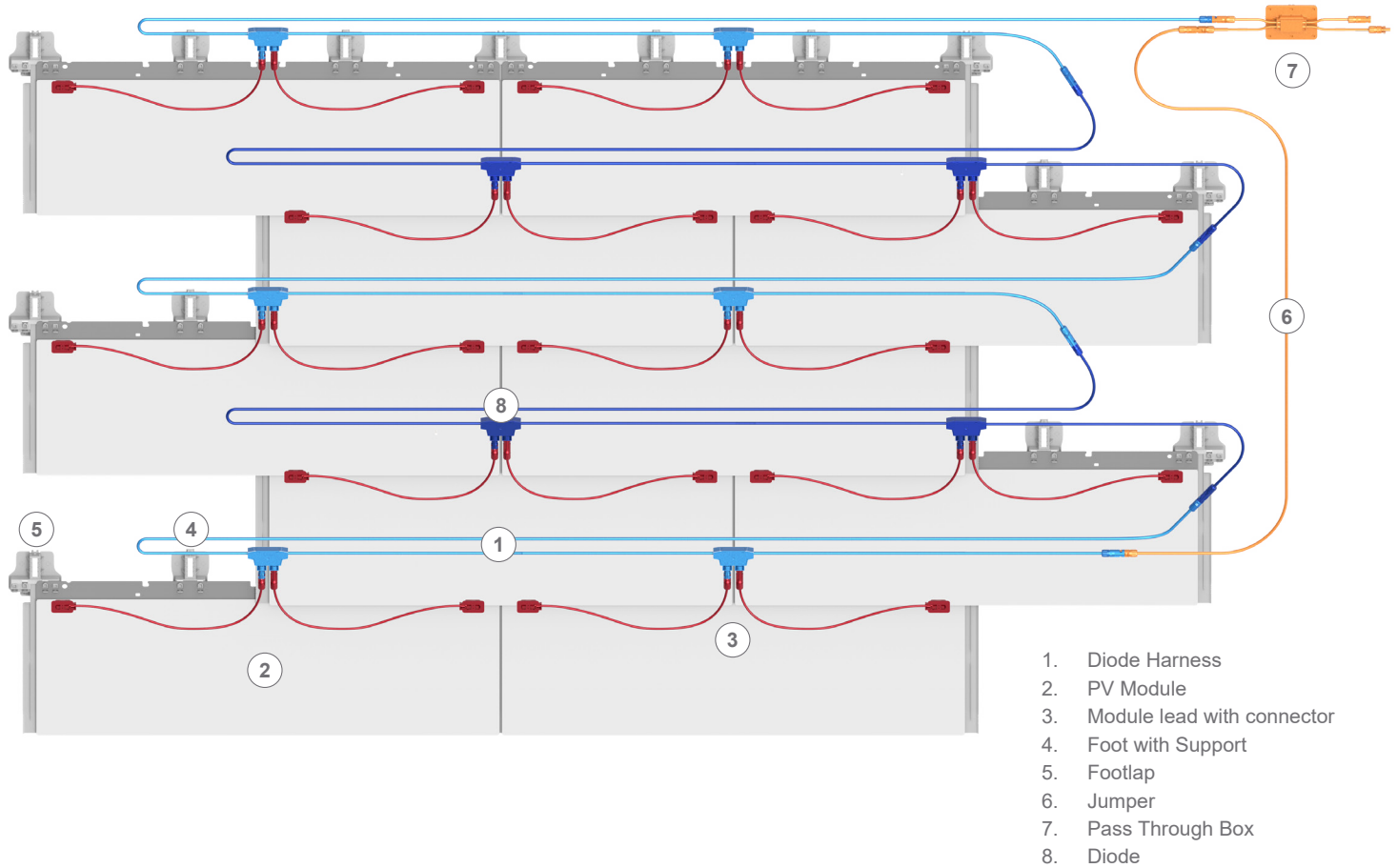
Q: WHAT IS THE MAXIMUM VOLTAGE AND CURRENT PRODUCED BY ANY SOLARGLASS CONDUCTOR?

A: Maximum voltage and current on any conductor beneath Solarglass is less than 600 V and 10 A.

Q: HOW ARE SOLARGLASS PV MODULES CONNECTED?

A: Solarglass PV modules are connected in series using the Solarglass Diode Harness. The diode harness provides module-level shading protection with an individual bypass diode for each PV module. Diode harnesses are prefabricated for sub-strings of 1-4 modules. Multiple Diode Harnesses (with attached modules) are joined in series to create a larger string.

PV STRING DIAGRAM



Q: WHAT IS THE MAXIMUM NUMBER OF PV MODULES THAT CAN BE CONNECTED IN SERIES WITH DIODE HARNESES?

A: The maximum number of PV Modules connected in a single string is 39.

TERM	DEFINITION
BYPASS DIODE	Housed in the Diode Harness, a bypass diode protects a shaded branch of PV Modules by diverting current.
DIODE HARNESS	A UL listed, pre-manufactured cable assembly that connects strings of 1 to 4 PV Modules together in series using MC4 connectors. The Harness houses 1 bypass diode per module.
PV MODULE	A UL listed roofing and DC power-producing assembly of six high-efficiency, mono-crystalline cells with a nominal power rating of 24 Watts.
ROOFING MODULE	A UL listed roofing assembly that is aesthetically similar to the PV Module, but produces no power.

Q: HOW IS THE SYSTEM GROUNDED?

A: Unlike traditional PV modules and racking systems, Solarglass PV and Roofing Modules do not incorporate any accessible metal components. By eliminating accessible metal on the roof that might become energized in the event of a fault, Solarglass does not require connection to an Equipment Ground Conductor (EGC) until the array wiring exits the roof.

Q: WHAT OTHER ELECTRICAL SAFETY FEATURES HAVE BEEN INCORPORATED INTO SOLARGLASS?

A: Wire management features built into Solarglass support all wiring to protect it from anything that might cut or abrade its insulation. Because the system is enclosed, the wiring is protected from vermin and contact by people.

Q: HOW DOES SOLARGLASS COMPLY WITH RAPID SHUTDOWN REQUIREMENTS?

A: Solarglass meets 2014 and 2017 NEC Rapid Shutdown requirements by incorporating automatic disconnecting devices in the circuits leaving the arrays. Rapid shutdown is initiated by disconnecting the home from the utility, or by opening the PV system's main AC disconnect. The rapid shutdown components are certified to UL standards, including UL 1741.

Q: DOES SOLARGLASS REQUIRE A SPECIAL INVERTER OR OTHER ELECTRONICS?

A: No. Solarglass uses conventional DC-AC inverters. PV Modules are wired into series strings to achieve a target DC voltage below 600 V. No specialized electronics are required.

Q: HOW DOES SOLARGLASS DEAL WITH ROOF OBSTRUCTIONS SUCH AS VENTS, SKYLIGHTS, DORMERS, VALLEYS, RIDGES, ETC.?

A: Solarglass uses conventional flashing details and practices employed by all roofers to seamlessly integrate with ordinary roof obstructions. Solarglass uses a dedicated metal ridge cap.

Q: IN AREAS SUBJECT TO "ICE DAMMING", WHAT UNDERLAYMENTS ARE USED?

A: To prevent ice damming, Solarglass uses an underlayment that complies with ASTM D1970 and is approved nationwide as a self-adhering ice and water barrier.

Q: WHO IS QUALIFIED TO INSTALL SOLARGLASS?

A: Solarglass can only be installed by Tesla-trained technicians. Solarglass will not be distributed to, or installed by, conventional roofing contractors.

Q: CAN SOLARGLASS BE ACCESSED FOR SERVICE?

A: Yes. The Modules may be removed for servicing. No special tools are required.

CERTIFICATES OF COMPLIANCE

CERTIFICATE OF COMPLIANCE

Certificate Number	20191115-E491360
Report Reference	E491360-201911108
Issue Date	2019-NOVEMBER-15

Issued to: TESLA INC
3500 DEER CREEK RD
PALO ALTO CA 94304

This certificate confirms that representative samples of BUILDING-INTEGRATED PHOTOVOLTAIC MODULES AND PANELS
USL – “Tesla Solarglass Roof” BIPV Roofing Modules, model numbers SR60T1, the associated “non-functional” Roofing Modules, Tesla model numbers SRNFT1/6, SRNFT1/3, SRNFT1/2, SRNFT2/3, SRNFT5/6 and SRNFT1, and their Roof Mounting System elements, which serve as part of the installed system.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.



Standard(s) for Safety: ANSI/UL 61730-1, Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, nd ANSI/UL 61730-2, Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing.

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahanobis, Director North American Certification Program
UL LLC
Any information and documentation involving UL Mark services are provided on behalf of UL LLC (LLC) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/customer-service>.

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CERTIFICATE OF COMPLIANCE

Certificate Number	20170512-E491361
Report Reference	E491361-20170509
Issue Date	2017-MAY-12

Issued to: Tesla Inc
3500 Deer Creek Rd
Palo Alto CA 94304



This is to certify that representative samples of DISTRIBUTED GENERATION WIRING SYSTEMS AND HARNESSES
Photovoltaic Wiring Harness: Tesla Solar Roof “Diode Trunk Harness” - Tesla Part No. 1122020-00-A.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL Subject 9703, Distributed Generation Wiring Harnesses.
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahanobis, Director North American Certification Program
UL LLC
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CERTIFICATE OF COMPLIANCE

Certificate Number	20180627-E318357
Report Reference	E318357-20180625
Issue Date	2018-JUNE-27

Issued to: TESLA INC
3500 Deer Creek Rd
Palo Alto CA 94304

This is to certify that representative samples of DISTRIBUTED GENERATION POWER SYSTEMS ACCESSORY EQUIPMENT
Photovoltaic Pass Through box, Model SRPTB-4



Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

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CERTIFICATE OF COMPLIANCE

Certificate Number	20180608-E491361
Report Reference	E491361-20170718
Issue Date	2018-JUNE-08

Issued to: Tesla Inc
3500 Deer Creek Rd
Palo Alto, CA 94304

This is to certify that representative samples of DISTRIBUTED GENERATION WIRING SYSTEMS AND HARNESSES
Photovoltaic Wiring Harness Products for installation of the Tesla Solar Roof System.



Solar Roof, Branch Jumpers, 1x, 2x, 3x, 4x, mini
Part Nos. 1121897-01-A, -02-A, -03-A, -04-A, -05-A
Part Nos. 1467674-01-A, -02-A, -03-A, -04-A, -05-A

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL Subject 9703, Distributed Generation Wiring Harnesses.
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

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UL LLC
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EVALUATION REPORTS

Report prepared for public access on 12/5/2019 5:49:38 PM

SpecDIRECT™ POWERED BY Intertek

LISTING INFORMATION

Tesla Solarglass Roof V3 is a BIPV roof covering.

This listing applies to the Solarglass Roof BIPV module/tile model No. SR60T-1 and the non-energy producing Solarglass Roof Tile models, SRNFT 1, SRNFT 1/6, SRNFT 1/3, SRNFT 1/2, SRNFT 2/3, and SRNFT 5/6

The Tesla Solarglass BIPV Tiles and non-energy producing Solarglass Roof Tiles are supported and attached by snap engagement to plastic mounting components that are mechanically fastened to prepared roofing. The mounting components are fastened to roof with two 1-1/2 in. ring shank roofing nails with 3/8" heads and 1/8" shanks.

Assemblies are intended for use in steep slope roof applications with roof slope of 2:12 to 12:12, installed over minimum 15/32-in. thick exterior grade plywood roof decks covered with two layers of Firestone Clad-Gard SA-FR underlayment.

WIND RESISTANCE

Test Standard	Rating	Assembly Details
ASTM D3161-12	CLASS F Rating	Deck: 15/32 in. plywood 1. Two layers of Firestone Class "A" CLAD GARD SA-FR underlayment 2. Tesla SolarGlass Roof (V3) System (with SR60T-1 or SRNFT models) Eave and rake flashing conditions and attachment per Tesla Installation instructions.

WIND DRIVEN RAIN

Test Standard	Rating	Assembly Details & Rating
TAS 100-95 Wind and Wind Driven Rain	PASS - No leakage	Deck: 15/32 in. plywood 1. Two layers of Firestone Class "A" CLAD GARD SA-FR underlayment 2. Tesla SolarGlass Roof (V3) System (with SR60T-1 or SRNFT models) Eave, Valley, and rake flashing conditions and attachment per Tesla installation instructions.

FIRE ROOF CLASSIFICATION: CLASS A - UL 790

Assembly No.	Tesla Solarglass Roof V3
Slope:	Qualifies for use with full range of roof slopes 2:12 to 12:12
Deck Type:	Combustible Deck 15/32 in. plywood
Details:	1. Two Layers of Firestone Class "A" CLAD GARD SA-FR underlayment 2. Tesla Solarglass Roof (V3) System (with SR60T-1 or SRNFT models) Attachment and installation per Tesla Installation instructions.

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Page 2 of 3

Report prepared for public access on 12/5/2019 5:49:38 PM

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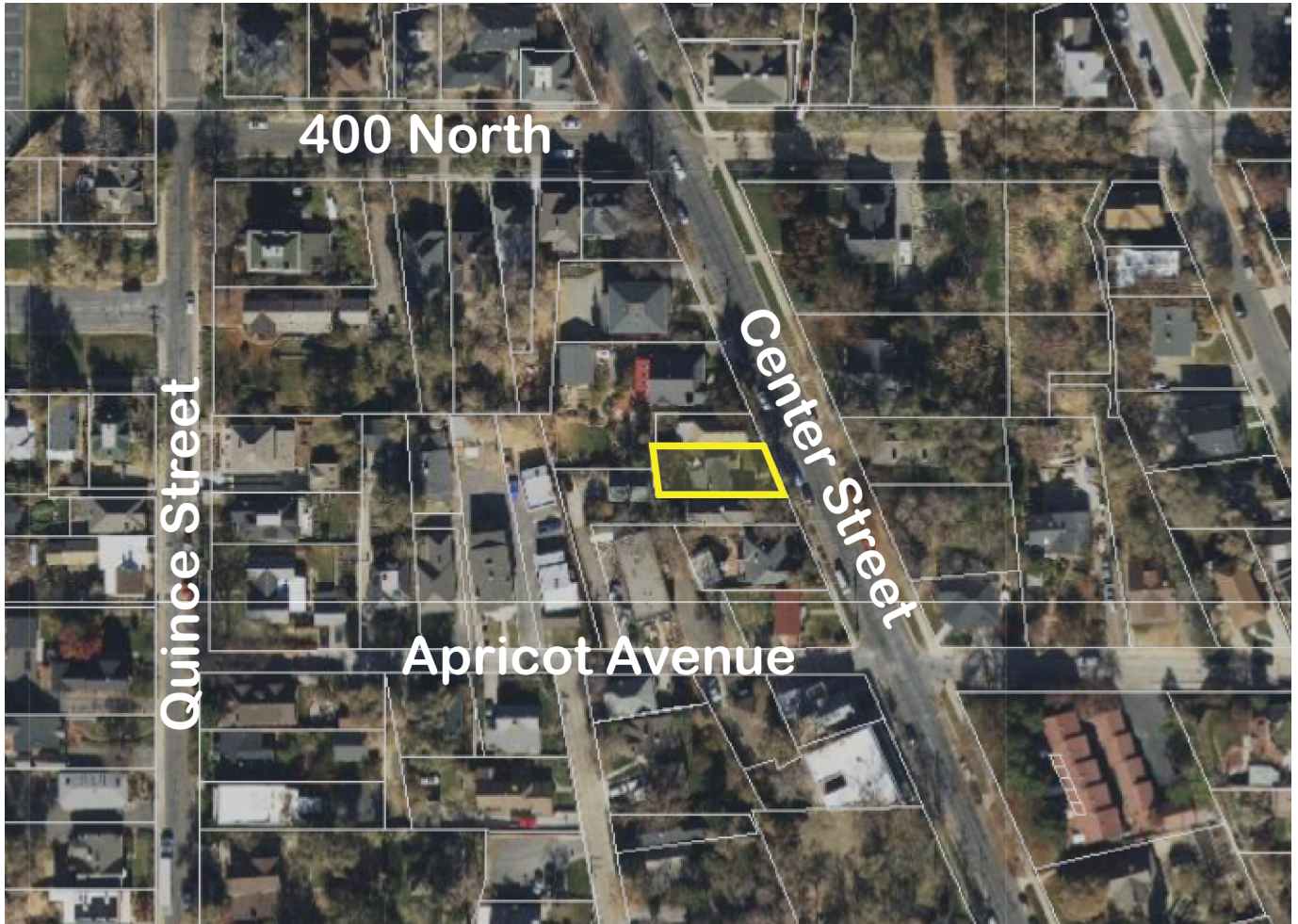
Note: the component materials of each system must be applied in the order in which they are listed above.

Attribute	Value
Criteria	ASTM D3161/D3161M (2012)
Criteria	UL 790 (2014)
Criteria	TAS 100 (1995)
CSI Code	07 32 00 Roof Tiles
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	ROOF COVERING SYSTEMS
Roofing: Deck Type	Combustible
Roofing: Fire Rating	Class A
Spec ID	52115

Tesla Inc. | 52115 | Rev: Nov 13 2019 5:18PM | Uncontrolled Copy

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ATTACHMENT B: CONTEXT MAP



ATTACHMENT C: BUILDING PHOTOGRAPHS



View of House, East Façade from Street



View of House, East Façade from Street

ATTACHMENT D: HISTORIC SURVEY INFORMATION

Structure/Site Information Form

IDENTIFICATION 1

Street Address: 365 Center St. UTM: 11381 11382
 Name of Structure: T. 01.0 N R. 01.0 W S. 36
 Present Owner: Devereaux, Lillian Telford, J.H.
 424 Bryan Ave
 Owner Address: SLC, UT 84115
 Year Built (Tax Record): 1901 Effective Age: 1920 Tax #: 04 2521
 Legal Description 01 Kind of Building: residence

com on E line of lot 1 blk 16 plat E SLC sur 124 ft NW'ly frse cor lot 1 W 101 1
 /2 ft NW'ly 21 ft NE'ly 21 ft E to center st S'ly on sd st to beg

STATUS/USE 2

Original Owner: Theophilus M. Davis Construction Date: c.1870-73 Demolition Date:
 Original Use: dwelling Present Use: dwelling
 Building Condition: Integrity: Preliminary Evaluation: Final Register Status:
 Excellent Site Unaltered Significant Not of the National Landmark District
 Good Ruins Minor Alterations Contributory Historic Period National Register Multi-Resource
 Deteriorated Major Alterations Not Contributory State Register Thematic

DOCUMENTATION 3

Photography: Date of Slides: 1978 Slide No.: Date of Photographs: 1979 Photo No.:
 Views: Front Side Rear Other Views: Front Side Rear Other

Research Sources:
 Abstract of Title Sanborn Maps Newspapers U of U Library
 Plat Records/Map City Directories Utah State Historical Society BYU Library
 Tax Card & Photo Biographical Encyclopedias Personal Interviews USU Library
 Building Permit Obituary Index LDS Church Archives SLC Library
 Sewer Permit County & City Histories LDS Genealogical Society Other

Bibliographical References (books, articles, records, interviews, old photographs and maps, etc.):

Salt Lake County Plat Records, 1860-1940
 Sanborn Maps, SLC, 1898,1911,1930,1969
 Sloan, SLC Directory, 1874
 Polk, " " , 1900
 "Theophilus M. Davis", Deseret News, December 5, 1895, p.5

Street Address: 365 Center St

Site No:

4
ARCHITECTURE

Architect/Builder:

Building Materials: brick, stuccoed

Building Type/Style: vernacular

Description of physical appearance & significant architectural features:

(Include additions, alterations, ancillary structures, and landscaping if applicable)

This is a one story simple gable facade vernacular plan. A pedimented gabled entrance hood now hovers over the front door and probably is not original. Moulded cornice. Two over two double hung sash windows.

5
HISTORY

Statement of Historical Significance:

Construction Date: 1870-73

This house appears to have been built about 1870-1873 for Theophilus Morris Davis. Davis was born in 1836 in Carmarthenshire, South Wales, to Thomas and Mary Davis. A convert in 1861, he came to Utah in 1862. She married Jane McElkinney, May 15, 1865, by whom he had four children. He worked on the Temple Block before and after completion of the temple. From 1887 to 1888 he served a mission to Wales.

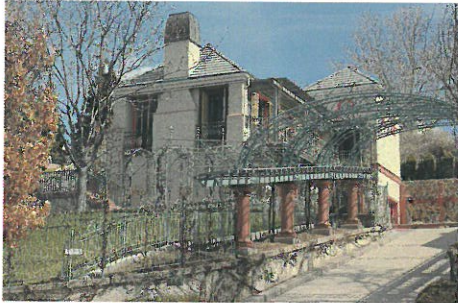
Architectural Survey Data for SALT LAKE CITY

Utah State Historic Preservation Office

Address/ Property Name	Eval./ Ht	OutB N/C	Yr.(s) Built	Materials	Styles	Plan (Type)/ Orig. Use	Survey Year RLS/ILS/Gen	Comments/ NR Status
318 N CENTER STREET	C	0/0	1873	REGULAR BRICK	NEO-ECLECT.: OTHER	CENTRAL PASSAGE	06	SAND BLASTED; LOOKS LIKE NEW HOUSE
ENGBERT OLSON		2			FEDERAL	SINGLE DWELLING		N05
323 N CENTER STREET CAPITOL HILL APARTMENTS	D	0/0 2	1970	REGULAR BRICK SHINGLE SIDING	MANSARD	OTHER APT./HOTEL MULTIPLE DWELLING	06 05	N05
328 N CENTER STREET	A	0/1	c. 1875	STUCCO/PLASTER	VICTORIAN GOTHIC	CENTRAL BLK W/ PROJ	06	UHF EASEMENT; SLC REGISTER; HISTORIC GARAGE AT STREET
PEARCE, ELIJAH F., HOUSE		1.5		ADOBE BRICK		SINGLE DWELLING	05	N05
341 N CENTER STREET	B	0/0	c. 1910	REGULAR BRICK STUCCO/PLASTER	20TH C.: OTHER 20TH C.: OTHER	ROW HOUSE	06	FRONT ENCLOSURE c. 1930
		2.5				MULTIPLE DWELLING		
347 N CENTER STREET	B	0/0 1.5	c. 1873 1890	SHIP-LAP SIDING REGULAR BRICK SHINGLE SIDING	VICTORIAN ECLECTIC	SIDE PASSAGE/ENTRY SINGLE DWELLING	06 79	MAJOR ALTERATIONS; NOW DUPLEX 345-347 N N05
353 N CENTER STREET	B	0/0	c. 1870	STUCCO/PLASTER	CLASSICAL: OTHER	RECTANGULAR BLOCK	06	MAJOR ALTERATIONS; CONSTRUCTION DATE: 1870s
BOLLWINKEL, FREDERICK,		1				SINGLE DWELLING	05	N05
357 N CENTER STREET	B	0/0	c. 1885	DROP/NOVELTY SIDING	VICTORIAN ECLECTIC	CROSSWING	06	CONSTRUCTION DATES: 1871- 1873?
JOHNSON, GUSTAVE, HOUSE		1		SHINGLE SIDING		SINGLE DWELLING	05	N05
361 N CENTER STREET	A	1/0	c. 1899	REGULAR BRICK	VICTORIAN ECLECTIC BUNGALOW	CENTRAL BLK W/ PROJ	06	
FRANKLAND, JOHN W., HOUSE		1.5				SINGLE DWELLING	05	N05
365 N CENTER STREET	B	0/0	c. 1870	BRICK:OTHER/UNDEF.	VICTORIAN: OTHER	OTHER RESIDENTIAL	06	RECENT REHAB; CONSTRUCTION DATES: 1870-1873
DAVIS, THEOPHILUS M., HOUSE		1		STUCCO/PLASTER		SINGLE DWELLING	05	N05
366 N CENTER STREET	B	0/0	c. 1908	REGULAR BRICK CONCRETE: OTHER	BUNGALOW	BUNGALOW	06	EARLY BASEMENT APT
JONES, JOSEPH HENRY, HOUSE		1.5				SINGLE DWELLING	05	N05
367 N CENTER STREET HAMLIN, RACHEL, HOUSE	B	0/0 1	c. 1906	DROP/NOVELTY SIDING	VICTORIAN ECLECTIC	SIDE PASSAGE/ENTRY SINGLE DWELLING	06 05	CONSTRUCTION DATES: 1906-1907 N05

?=approximate address

Evaluation Codes: A=eligible/architecturally significant B=eligible C=ineligible/altered D=ineligible/out of period U=undetermined/lack of info X=demolished



318 N Center Street
C



323 N Center Street
D



328 N Center Street
A



328 N Center Street
(garage)



341-343 N Center Street
B



347-345 N Center Street
B



353 N Center Street
B



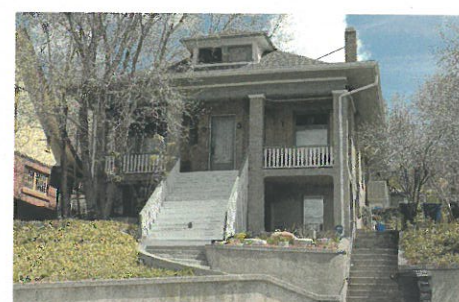
357 N Center Street
B



361 N Center Street
A



365 N Center Street
B



366 N Center Street
B



367 N Center Street
B

ATTACHMENT E: ANALYSIS OF STANDARDS FOR MINOR ALTERATIONS IN A HISTORIC DISTRICT

H Historic Preservation Overlay District – Standards for Certificate of Appropriateness for Alteration of a Contributing Structure (21A.34.020.G)

In considering an application for a certificate of appropriateness for alteration of a landmark site or contributing structure, the Historic Landmark Commission, or the Planning Director, for administrative decisions, shall find that the project substantially complies with all of the following general standards that pertain to the application and that the decision is in the best interest of the City.

Standard	Analysis	Finding
<p>1. A property shall be used for its historic purpose or be used for a purpose that requires minimal change to the defining characteristics of the building and its site and environment;</p>	<p>The structure was built as a single-family residence in approximately 1870, the structure will remain as a residential house.</p>	<p>Complies</p>
<p>2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided;</p>	<p>The historic character of the property will be retained, including the form of the building. The solarglass is removable and will not alter the overall shape or pitch of the existing roof. The dimension of the proposed solarglass is similar to the dimensions of a typical asphalt shingle.</p>	<p>Complies</p>
<p>3. All sites, structures and objects shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create a false sense of history or architecture are not allowed;</p>	<p>The propose solarglass does not mimic historic materials. The solarglass will be seen as a product of its own time.</p>	<p>Complies</p>
<p>4. Alterations or additions that have acquired historic significance in their own right shall be retained and preserved;</p>	<p>The asphalt shingle that is existing on the historic structure are not considered to be historic in nature. The proposed solarglass installation will not alter any significant historic alterations or additions.</p>	<p>Complies</p>

<p>5. Distinctive features, finishes and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved;</p>	<p>The pitched roof is one of the distinctive features of the historic home. The Applicant is not proposing altering the pitch of the roof and the proposed solar shingles will be mounted as shingles on the roof.</p>	<p>Complies</p>
<p>6. Deteriorated architectural features shall be repaired rather than replaced wherever feasible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other structures or objects;</p>	<p>The Applicant has not proposed the replacement of any architectural features or historic materials on the structure; the proposed shingles will be mounted flush to the existing roof and could be removed in the future.</p>	<p>Complies</p>
<p>7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible;</p>	<p>No chemical or physical treatments of historic materials are proposed with this request.</p>	<p>Complies</p>

<p>8. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural or archaeological material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood or environment;</p>	<p>The proposal does not destroy any significant cultural, historical, architectural or archaeological materials.</p> <p>The proposed shingles are a contemporary material the design of them is similar to asphalt shingles and wouldn't negatively affect the building form nor distract from the character of the neighborhood or environment.</p>	<p>Complies</p>
<p>9. Additions or alterations to structures and objects shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired. The new work shall be differentiated from the old and shall be compatible in massing, size, scale and architectural features to protect the historic integrity of the property and its environment;</p>	<p>The proposed solarglass material will not alter the roof structure and is removeable. The essential form and integrity of the building will remain intact, and the shingles will be easily distinguishable from historic materials.</p>	<p>Complies</p>
<p>10. Certain building materials are prohibited including the following:</p> <p>a. Aluminum, asbestos, or vinyl cladding when applied directly to an original or historic material.</p>	<p>The project does not involve the direct application of aluminum, asbestos, or vinyl cladding.</p>	<p>Not Applicable</p>

<p>11. Any new sign and any change in the appearance of any existing sign located on a landmark site or within the H Historic Preservation Overlay District, which is visible from any public way or open space shall be consistent with the historic character of the landmark site or H Historic Preservation Overlay District and shall comply with the standards outlined in chapter 21A.46 of this title.</p>	<p>The project does not involve changes to or any new signage.</p>	<p>Not applicable</p>
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