TOWN OF YORKTOWN
PLANNING BOARD

Yorktown Community and Cultural Center, 1974 Commerce Street, Yorktown Heights, New York 10598, Phone (914) 962-6565, Fax (914) 962-3986

SPECIAL USE PERMIT APPLICATION

If this application is not being made in conjunction with a request for site plan approval from the Planning Board, a site plan/plot plan and Short EAF must also be submitted with this application. The required fee is $625.00 for new applications and $312.00 for requests to renew an existing permit.

Date 1/12/21

1. **Tax Map Designation (Section, Block, Lot)** 59.1-1-10.1
2. **Property Address** 535 Jerome Road
3. **Zone:** R1-80 **Total Acreage:** 4.3 Acres
4. **Indicate requested special use permit:**

☐	§300-21(8)(a)[1]	Outdoor service in commercial districts.
☐	§300-40	Bus passenger shelters.
☐	§300-54	Religious institutions, social, cultural, charitable and recreational nonprofit uses.
☐	§300-55	Parochial, private elementary and high schools, colleges and seminaries.
☐	§300-69	Valet parking at banquet halls.
☐	§300-71	New and/or used car automobile sales.
☐	§300-73.1(A)(2)	Permanent seasonal outdoor sales in commercial districts.
☐	§300-75	Warehouse or storage in retail shopping centers.
☐	§300-78	Cemeteries.
☐	§300-79	Self-storage centers.
☐	§300-80	Sidewalk cafes. (outdoor dining for more than 12 seats)
☐	§300-81.1	Helistops.
☐	§300-81.2	Accessory recycling facilities.
☑	§300-81.4	Large-Scale Solar Power Generation Systems and Facilities
☐	§300-81.5	Tier 2 Battery Energy Storage Systems
☐	§300-238.1	Multifamily dwelling units in the Country Commercial Zone.

5. **Description of proposed use (if applying for outdoor dining, indicate proposed dining area square footage and number of seats):**

Large Scale Solar Power Generation System. Refer to attached Power Outline.

6. **Applicant**

Name Peder Scott

Firm PW Scott Engineering & Architecture, PC

Address 3871 Danbury Road, Brewster, NY 10509

Phone 845-278-2110

Email pwscott@pwscott.com

7. **Owner of Record**

Name Thomas Miressi

Firm

Address 499 North Broadway, White Plains, NY 10603

Phone 917-532-7238

Email luigie1@aol.com

In the event the permit is issued, the undersigned applicant will comply with all provisions of the Code of the Town of Yorktown and all other applicable laws, codes, rules and regulations of any Federal, State or County Government, bureau or department thereof, having jurisdiction over said premises and the use to be conducted thereat.

Applicant	**Owner of Record**
SIGNATURE	SIGNATURE
PEDER SCOTT	THOMAS MIRESSI
PRINT NAME	PRINT NAME
Peder Scott	Thomas Miressi
DATE	DATE
1/15/21	1/15/21

Note: By signing this document the owner of the subject property grants permission for Town Officials to enter the property for the purpose of reviewing this application.

F:\Office\WordPerfect\Application Forms\APP-SpecialPermit.wpd
This form last updated: September 2020

TOWN OF YORKTOWN PLANNING BOARD

Large Scale Solar Power Generation Systems & Facilities Special Permit Application Addendum

GENERAL PROJECT INFORMATION

Project Name: 535 Jerome Road

Section, Block, Lot: 59.1-1-10.1

Existing Site Use: ☑ Residential ☐ Commercial Zone: R1-80

Is Applicant? ☑ Property Owner ☐ Lessee

Proposed Lot Coverage: Roof Top: 5,400 SF (3% Coverage)

PROVIDE THE TOTAL SYSTEM CAPACITY RATING

A Large Scale Solar Energy system is a Solar Energy System that exceeds 20 kW DC as rated by its nameplate capacity. The maximum system capacity and the maximum area of land upon which the system shall be erected are as follows:

(1) Up to one megawatt AC on an area of land no larger than 10 acres, excluding any easement for accessing the parcel; or over1 but not to exceed 5 Megawatt AC on an area of land no larger than 20 acres, excluding any easement for accessing the parcel.

Total System Capacity Rating: 25 kWh Power Rating 25 kW (Select One) ☐ AC or ☑ DC

SELECT INSTALLATION TYPE

☐ Ground ☑ Rooftop

PROPOSED SOLAR ENERGY SYSTEM INSTALLATION INFORMATION

Sponsor Company

Contact Name Ted Finkle

Business Name Apex Solar Power

Address 64 Main Street, Queensbury, NY 12804

Phone 518.447.9631

Email tfinkle@apexsolarpower.cc

Contractor/Installation Company

Contact Name Ted Finkle

Business Name Same as above

Address

Phone

Email

PROPOSED OWNER AND/OR OPERATOR (IF DIFFERENT FROM ABOVE)

Name Thomas Miressi

Firm

Address 499 North Broadway, White Plains, NY 10603

Phone 917-532-7238

Email luigie@aol.com

SUBMITTAL REQUIREMENTS

In order to submit a complete permit application for a new large-scale solar power generation system, the applicant must include:

a) Completed Planning Board Special Use Permit Application with this Large Scale Solar Power Generation System Addendum.
b) A special permit application fee of $625.00 paid by check made payable to the Town of Yorktown.
c) Required documents as listed in Section 300-84.1(F):
   - Equipment specification sheets shall be submitted for all photovoltaic panels, significant components, mounting systems, and inverters that are to be installed.
   - A property Operation and Maintenance Plan shall be submitted.
   - A carbon sequestration for tree loss calculation.
   - Proposed tree loss mitigation, if applicable.
   - A Decommissioning Plan
d) All site plan application requirements pursuant to Section 300-85/1(I) of the Town of Yorktown Town Code.

TESLA TEXTURED GLASS SHINGLE EXAMPLE

HIP DETAIL

TYPICAL ROOF TEXTURE

P.W. Scott
Engineering & Architecture, P.C.
3871 Route 6
Brewster, NY 10509
pwscott@pwscott.com
www.pwscott.com
(845) 278-2110

535 Jerome Road

Yorktown, NY

Tesla Solar Power Outline

The proposed house proposes the use the of the Tesla Power system including the following components:

Solar Panel System: Tesla Series 3 roof shingle system - textured glass shingle
Approximately 80% of the shingles are BPIV PV module roofs with a yield of approximately 12KW per 2000 sf. The remainder are "dummy" shingles with identical architectural profiles as the active panels.

Roof size: 5040 sf
80% power shingles = 4000 sf = 25 kw (more than the 20 kw limit) This represents a 90% energy usage offset for this residence due to the two vehicle charging stations.
The limit is 25 kwh due to CESIR study requirements and upgrade of street transformers.

The project is considered a large-scale solar energy system per the zoning which requires a Special Permit (attached).
The entire system is mounted on the roof as weatherproof shingles.
The aesthetics of the roof shingles have been reviewed by ABACA and approved as submitted.

Battery Energy Storage System
The building proposes (3) Tesla Power Wall 2 units and (1) Tesla Power Wall systems ground mounted external wall placed units along the east side of the building with the fourth mounted on an east facing wall next to the fireplace. Refer to the site plan for location. These east wall locations face an existing Tennis Court on the adjacent lot with extensive natural buffer remaining within the side yard of this property and the placement of the house 12' below the elevation of the adjacent property line.

Each Power wall 2 is rated at 14 kwh and recharged by 5 Kw of the roof panels for a total of 42 kwh plus the fourth Power Wall unit rated at 13 Kwh dedicated to the vehicle charging station located in the garage and operating on either solar or service power for charging.

Total exterior power rated at 55 KwH < 80 KwH, residential limit.
The power walls are rated for exterior use and operate safely within the temperature range of the north-east climate.

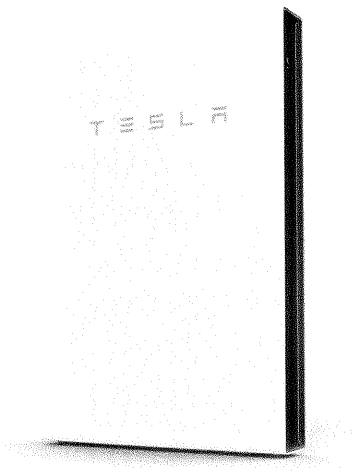
Vehicle Charging Station
Two Tesla vehicle charging stations provided are Tesla Gen 3 wall connector with WIFI monitoring. These are integral to the power system for safe and efficient charging. The wall connector is rated 11.5 kwh, 48-amp, 240 volt. One charger can support 2 vehicles with an 18-foot power cable and are mounted in the rear of the garage along the east wall.

Power Equipment components
The system includes 3 solar inverters for each Power Wall, a subpanel, a separate Tesla Backup Gateway unit connecting to a main panel of 400 amps to a power meter and subsurface conduit extending to Jerome Road and the grid. The 3" conduit follows the proposed driveway shoulder.

POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy[1]	14 kWh
Usable Energy[1]	13.5 kWh
Real Power, max continuous[2]	5 kW (charge and discharge)
Real Power, peak (10s, off-grid/backup)[2]	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/- 1.0 adjustable
Power Factor Range (full-rated power)	+/- 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency[1,3]	90%
Warranty	10 years

[1] Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
[2] In Backup mode, grid charge power is limited to 3.3 kW.
[3] AC to battery to AC, at beginning of life.

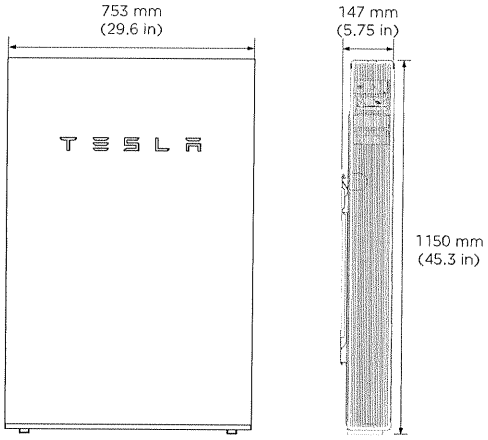
COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions[1]	1150 mm x 755 mm x 147 mm (45.3 in x 29.6 in x 5.75 in)
Weight[1]	114 kg (251.3 lbs)
Mounting options	Floor or wall mount

[1] Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.

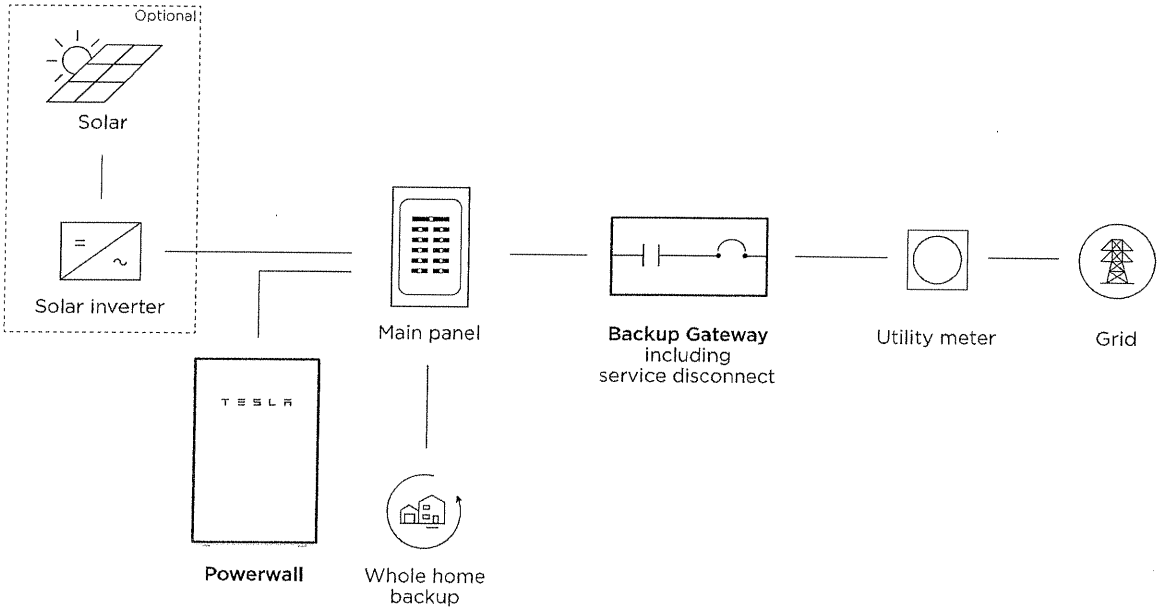


ENVIRONMENTAL SPECIFICATIONS

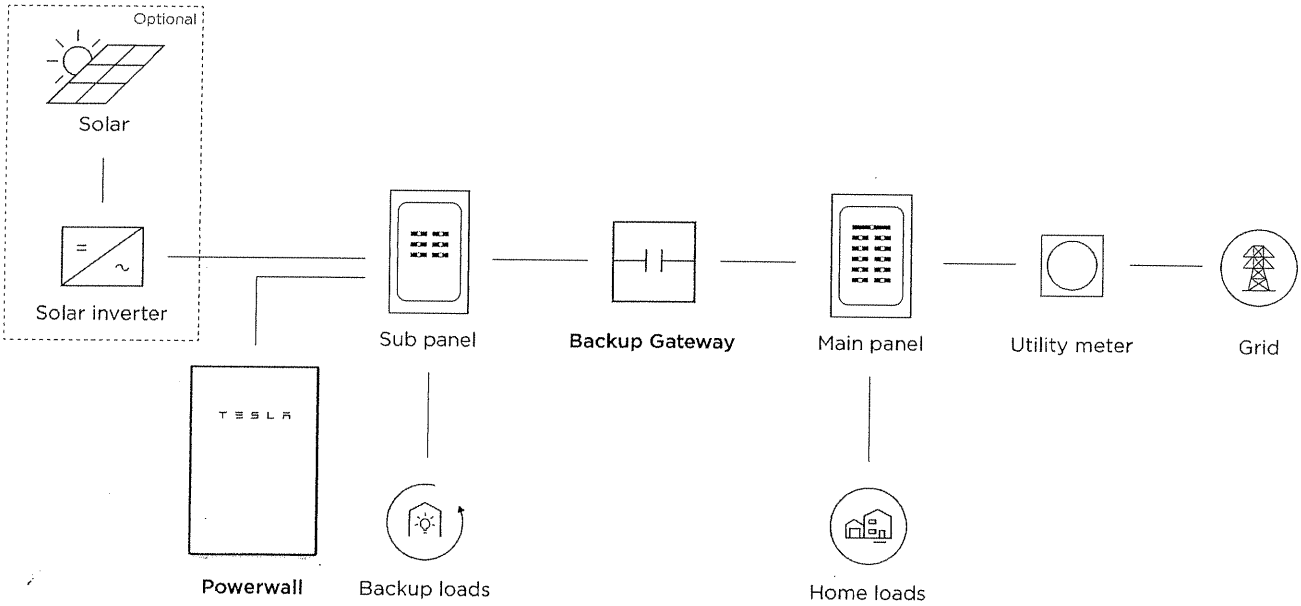
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Recommended Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

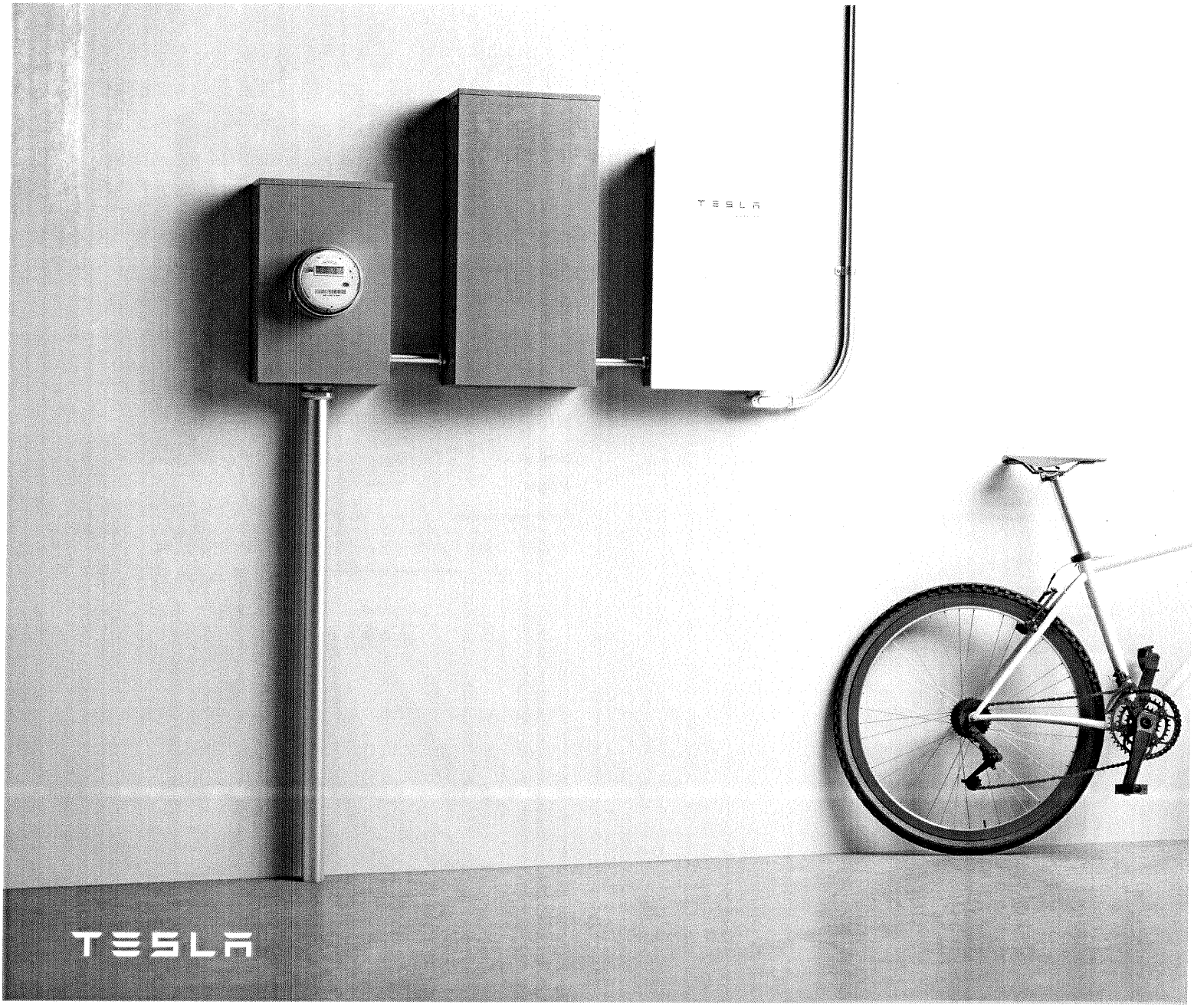
TYPICAL SYSTEM LAYOUTS

WHOLE HOME BACKUP



PARTIAL HOME BACKUP





SOLAR INVERTER

3.8 kW | 7.6 kW

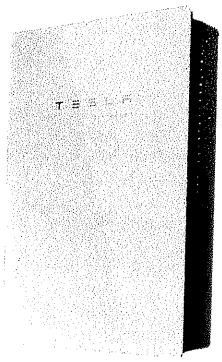
Tesla Solar Inverter completes the Tesla home solar system, converting DC power from solar to AC power for home consumption. Tesla's renowned expertise in power electronics has been combined with robust safety features and a simple installation process to produce an outstanding solar inverter that is compatible with both Solar Roof and traditional solar panels. Once installed, homeowners use the Tesla mobile app to manage their solar system and monitor energy consumption, resulting in a truly unique ecosystem experience.

KEY FEATURES

- Built on Powerwall 2 technology for exceptional efficiency and reliability
- Wi-Fi, Ethernet, and cellular connectivity with easy over-the-air updates
- Designed to integrate with Tesla Powerwall and Tesla App
- 3.8 kW and 7.6 kW models available

SOLAR INVERTER

Tesla Solar Inverter provides DC to AC conversion and integrates with the Tesla ecosystem, including Solar Panels, Solar Roof, Powerwall, and vehicle charging, to provide a seamless sustainable energy experience.



KEY FEATURES

- Integrated rapid shutdown, arc fault, and ground fault protection
- No neutral wire simplifies installation
- 2x the standard number of MPPTs for high production on complex roofs

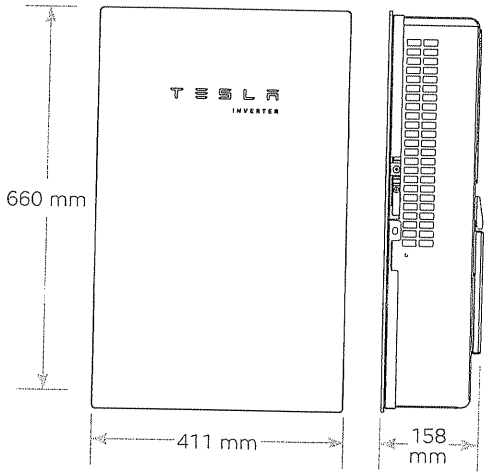
ELECTRICAL SPECIFICATIONS

OUTPUT (AC)	3.8 kW	7.6 kW
Nominal Power	3,800 W	7,600 W
Maximum Apparent Power	3,328 VA at 208 V 3,840 VA at 240 V	6,656 VA at 208 V 7,680 VA at 240 V
Maximum Continuous Current	16 A	32 A
Breaker (Overcurrent Protection)	20 A	40 A
Nominal Power Factor	1 - 0.85 (leading / lagging)	
THD (at Nominal Power)	<5%	
INPUT (DC)		
MPPT	2	4
Input Connectors per MPPT	1-2	1-2-1-2
Maximum Input Voltage	600 VDC	
DC Input Voltage Range	60 - 550 VDC	
DC MPPT Voltage Range[1]	60 - 480 VDC	
Maximum Current per MPPT (I_{mp})	11 A	
Maximum Short Circuit Current per MPPT (I_{sc})	15 A	

MECHANICAL SPECIFICATIONS

Dimensions	660 mm x 411 mm x 158 mm (26 in x 16 in x 6 in)
Weight	52 lb[4]
Mounting options	Wall mount (bracket)

[4] Door and bracket can be removed for a mounting weight of 37 lb.



PERFORMANCE SPECIFICATIONS

Peak Efficiency[2]	97.5%	98.0%
CEC Efficiency[2]	97.5%	
Allowable DC/AC Ratio	1.4	
Customer Interface	Tesla Mobile App	
Internet Connectivity	Wi-Fi (2.4 GHz, 802.11 b/g/n), Ethernet, Cellular (LTE/4G)[3]	
AC Remote Metering Support	Wi-Fi (2.4 GHz, 802.11 b/g/n), RS-485	
Protections	Integrated arc fault circuit interrupter (AFCI), Rapid Shutdown	
Supported Grid Types	60 Hz, 240 V Split Phase 60 Hz, 208 V Wye	
Required Number of Tesla Solar Shutdown Devices per Solar Module	See *Solar Shutdown Device Requirements per Module* on page 3	
Warranty	12.5 years	

[1] Maximum current.
[2] Expected efficiency pending final CEC listing.
[3] Cellular connectivity subject to network operator service coverage and signal strength.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[5]	-30°C to 45°C (-22°F to 113°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	-30°C to 70°C (-22°F to 158°F)
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Rating	Type 3R
Ingress Rating	IP55 (Wiring compartment)
Pollution Rating	PD2 for power electronics and terminal wiring compartment, PD3 for all other components
Operating Noise @ 1 m	< 40 db(A) nominal, < 50 db(A) maximum

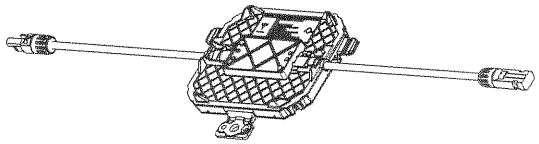
[5] For the 7.6 kW Solar Inverter, performance may be de-rated to 6.2 kW at 240 V or 5.37 kW at 208 V when operating at temperatures greater than 45°C.

COMPLIANCE INFORMATION

Grid Certifications	UL 1741, UL 1741 SA, IEEE 1547, IEEE 1547.1
Safety Certifications	UL 1699B, UL 1741, UL 1998 (US)
Emissions	EN 61000-6-3 (Residential), FCC 47CFR15.109 (a)

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 the Tesla Solar Inverter, solar array shutdown is initiated by any loss of AC power.



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 PVRSS PVRSA (Photovoltaic Rapid Shutdown Array)

PVRSA

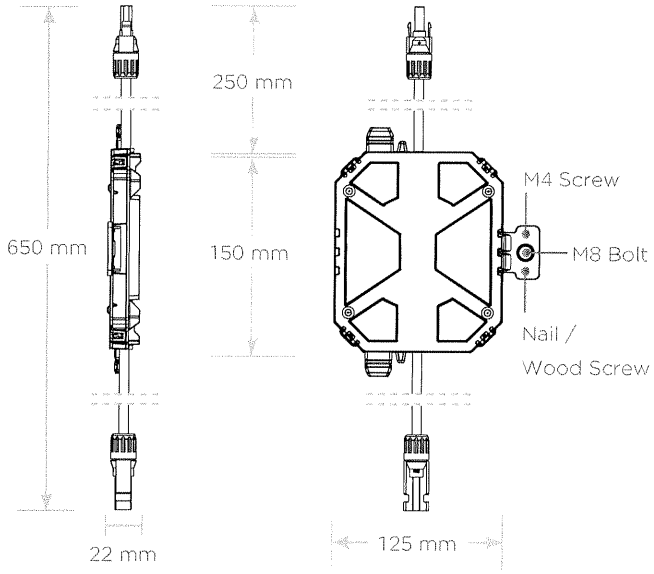
RSD Initiation Method	Loss of AC power
Compatible Equipment	Tesla Solar Inverter

ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature	-40°C to 50°C (-40°F to 122°F)
Storage Temperature	-30°C to 70°C (-22°F to 158°F)
Enclosure Rating	NEMA 4 / IP65

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

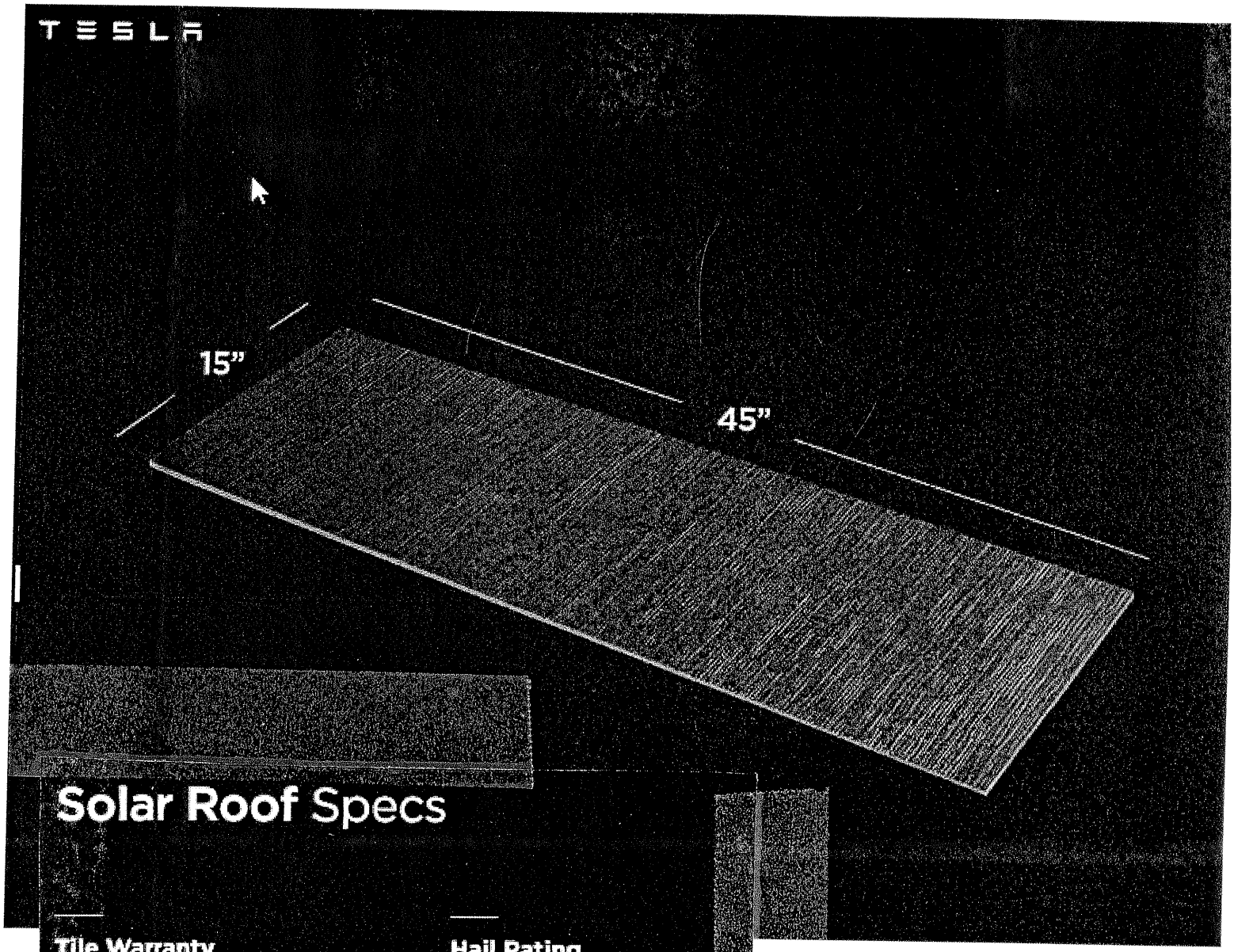


SOLAR SHUTDOWN DEVICE REQUIREMENTS PER MODULE

The following modules have been certified as part of a PV Rapid Shutdown Array (PVRSA) when installed together with the Tesla Solar Inverter and Tesla Solar Shutdown Devices. See the Tesla Solar Inverter Installation Manual for guidance on installing Tesla Solar Inverter and Solar Shutdown Devices with other modules.

Brand	Model	Required Solar Shutdown Devices
Tesla	Solar Roof V3	1 Solar Shutdown Device per 10 modules
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

TESLA



Solar Roof Specs

Tile Warranty
25 years

Power Warranty
25 years

Weatherization Warranty
25 years

Wind Rating
Class F ASTM D3161
(up to 166 mph winds)

Fire Rating
Class A UL 790
(best fire rating)

Hail Rating
Class 3 ANSI FM 4473
(up to 1.75" diameter hail)

Roof Pitch
2:12 to 20:12

Inverter Power
3.8kW / 7.6kW
97.5% efficiency

Inverter Dimensions
26" x 16" x 6"

Inverter Warranty
12.5 years

Service & Warranty

Tesla service crews are located both nationwide and locally so that any problem you may have can be resolved in a timely manner. Customers with subscription solar enjoy access to solar panels with the ability to cancel anytime. Solar owners enjoy the benefit of Tesla's industry leading warranties.

We want you to have the confidence that you're installing the right solar panel system. Tesla uses high quality equipment, and is your support partner in resolving any issues that may arise with your system.

Solar Warranty for Purchased Systems

25-Year Panel Performance Warranty

Your solar panels are guaranteed by their manufacturer to at least 80% of nameplate power capacity for at least 25 years. At your request, Tesla will process your claim and perform any related labor at our cost.

10-Year Comprehensive Warranty

Your entire Tesla solar system is covered by a 10-year comprehensive warranty. For a period of at least 10 years, at your request Tesla, will process your claim and perform any related labor at our cost. This includes the following aspects of your solar system. For details and exclusions, you can check your specific purchase agreement.

- Powerwall
- Solar inverter
- Roof mounting and leaks

Frequently Asked Questions

How long do solar panels last?

Your solar panel system is outfitted with durable solar panels and high-quality electrical equipment. Tesla does not make performance guarantees outside of your warranty period, but you can expect your solar panel system to continue to produce clean energy for years.

How do I get my system fixed?

Tesla has in-house crews in our service areas across the US. Many issues can be resolved remotely by our technical support line. If your system has an issue requiring onsite support, you will be able to schedule a time for a Tesla crew, Tesla-certified technician or subcontractor to come to your home to resolve your issue.

Do solar panels need maintenance?

Tesla solar systems do not require regular maintenance. You may, however, choose to occasionally clean your solar panels to improve energy generation.

How do I clean my solar panels?

If you decide to clean your solar system, you can rinse your panels with water from a garden hose or safely use soapy water with a non-abrasive sponge. Doing this once or twice a year can improve solar production by 3% to 5%.