

# Tesla Solar Inverter with Site Controller

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 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
- 0.5% revenue-grade metering for Solar Renewable Energy Credit (SREC) programs included



# Tesla Solar Inverter Technical Specifications

<b>Electrical Specifications:</b>	<b>Model Number</b>	1538000-xx-y			
<b>Output (AC)</b>	<b>Output (AC)<sup>1</sup></b>	3.8 kW	5 kW	5.7 kW	7.6 kW
	<b>Nominal Power</b>	3,800 W	5,000 W	5,700 W	7,600 W
	<b>Maximum Apparent Power</b>	3,840 VA	5,040 VA	6,000 VA	7,680 VA
	<b>Maximum Continuous Current</b>	16 A	21 A	24 A	32 A
	<b>Breaker (Overcurrent Protection)</b>	20 A	30 A	30 A	40 A
	<b>Nominal Power Factor</b>	1 - 0.9 (leading / lagging)			
	<b>THD (at Nominal Power)</b>	<5%			

<b>Electrical Specifications:</b>	<b>MPPT</b>	4
<b>Input (DC)</b>	<b>Input Connectors per MPPT</b>	1-2-1-2
	<b>Maximum Input Voltage</b>	600 VDC
	<b>DC Input Voltage Range</b>	60 - 550 VDC
	<b>DC MPPT Voltage Range</b>	60 - 480 VDC <sup>1</sup>
	<b>Maximum Current per MPPT (<math>I_{MP}</math>)</b>	13 A <sup>2</sup>
	<b>Maximum Short Circuit Current per MPPT (<math>I_{SC}</math>)</b>	17 A <sup>2</sup>

<sup>1</sup>Maximum current.

<sup>2</sup>Where the DC input current exceeds an MPPT rating, jumpers can be used to allow a single MPPT to intake additional DC current up to 26 A IMP / 34 A ISC.

<b>Performance Specifications</b>	<b>Peak Efficiency</b>	98.6% at 240 V
	<b>CEC Efficiency</b>	98.0% at 240 V
	<b>Allowable DC/AC Ratio</b>	1.7
	<b>Customer Interface</b>	Tesla Mobile App
	<b>Internet Connectivity</b>	Wi-Fi (2.4 GHz, 802.11 b/g/n), Ethernet, Cellular (LTE/4G) <sup>3</sup>
	<b>Revenue Grade Meter</b>	Revenue Accurate (+/- 0.5%)
	<b>AC Remote Metering Support</b>	Wi-Fi (2.4 GHz, 802.11 b/g/n)
	<b>Protections</b>	Integrated arc fault circuit interrupter (AFCI), Rapid Shutdown
	<b>Supported Grid Types</b>	60 Hz, 240 V Split Phase
	<b>Warranty</b>	12.5 years

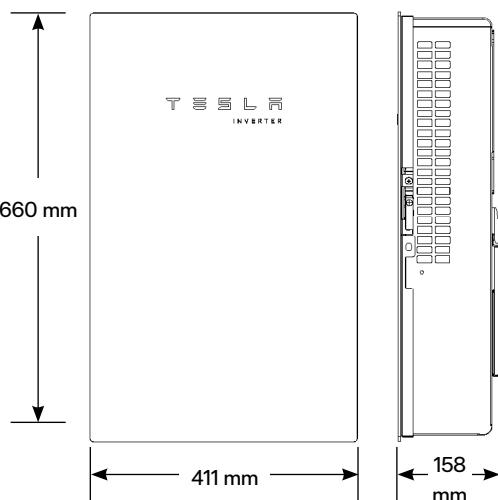
<sup>3</sup>Cellular connectivity subject to network operator service coverage and signal strength.

# Tesla Solar Inverter Technical Specifications

## Mechanical Specifications

### Dimensions

660 mm x 411 mm x 158 mm (26 in x 16 in x 6 in)



**Weight**

52 lb<sup>4</sup>

**Mounting Options**

Wall mount (bracket)

<sup>4</sup>Door and bracket can be removed for a mounting weight of 37 lb.

## Environmental Specifications

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

<sup>5</sup>Performance may be de-rated to 6.2 kW at 240 V when operating at temperatures greater than 45°C.

## Compliance Information

<b>Grid Certifications</b>	UL 1741, UL 1741 SA, UL 1741 SB, UL 1741 PCS, IEEE 1547-2018, IEEE 1547.1
<b>Safety Certifications</b>	UL 1741 PVRSS, UL 1699B, UL 1998 (US), UL 3741
<b>Emissions</b>	EN 61000-6-3 (Residential), FCC 47CFR15.109 (a)

# Solar Shutdown Device Technical Specifications

The Solar Shutdown Device is a Mid-Circuit Interrupter (MCI) and is part of the PV system rapid shutdown (RSD) function in accordance with Article 690 of the applicable NEC. When paired with Tesla Solar Inverter, solar array shutdown is initiated by any loss of AC power.

Electrical Specifications	Model	MCI-1	MCI-2	MCI-2 High Current
		13 A	13 A	
	Nominal Input DC Current Rating ( $I_{MP}$ )	13 A	13 A	15 A
	Maximum Input Short Circuit Current ( $I_{SC}$ )	19 A	17 A	19 A
	Maximum System Voltage (PVHCS)	600 V DC	1000 V DC <sup>6</sup>	1000 V DC <sup>6</sup>
	Maximum Disconnect Voltage <sup>7</sup>	600 V DC	165 V DC	165 V DC
<sup>6</sup> Maximum System Voltage is limited by Tesla Solar Inverter to 600 V DC.				
<sup>7</sup> Maximum Disconnect Voltage is the maximum voltage allowed across each MCI in the open position (Rapid Shutdown Initiated). An individual MCI-2 has a voltage rating of 165V but in combination (connected in the same string) their voltage ratings are additive.				
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	
Environmental Specifications	Operating Temperature	-40°C to 50°C (-40°F to 122°F)	-45°C to 70°C (-49°F to 158°F)	
	Storage Temperature	-30°C to 70°C (-22°F to 158°F)	-30°C to 70°C (-22°F to 158°F)	
	Enclosure Rating	NEMA 4X / IP65	NEMA 4X / IP65	
Mechanical Specifications	Electrical Connections	MC4 Connector	MC4 Connector	
	Housing	Plastic	Plastic	
	Dimensions	125 x 150 x 22 mm (5 x 6 x 1 in)	173 x 45 x 22 mm (6.8 x 1.8 x 1 in)	
	Weight	350 g (0.77 lb)	120 g (0.26 lb)	
	Mounting Options	ZEP Home Run Clip M4 Screw (#10) M8 Bolt (5/16") Nail / Wood screw	Wire Clip	
Compliance Information	Certifications	UL 1741 PVRSE, UL 3741, PVRSA (Photovoltaic Rapid Shutdown Array)		
	RSD Initiation Method	PV System AC Breaker or Switch		

## UL 3741 PV Hazard Control (and PVRSA) Compatibility

See [UL 3741 Application Addendum](#)