Solar Inverter

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
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
- 2x the standard number of MPPTs for high production on complex roofs
- No neutral wire simplifies installation

**ELECTRICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>1534000-xx-y</th>
<th>1538000-xx-y</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUT (AC)</td>
<td>3.8 kW</td>
<td>7.6 kW</td>
</tr>
<tr>
<td>Nominal Power</td>
<td>3,800 W</td>
<td>7,600 W</td>
</tr>
<tr>
<td>Maximum Apparent Power</td>
<td>3,328 VA at 208 V 6,656 VA at 208 V</td>
<td>3,840 VA at 240 V 7,680 VA at 240 V</td>
</tr>
<tr>
<td>Maximum Continuous Current</td>
<td>16 A</td>
<td>32 A</td>
</tr>
<tr>
<td>Breaker (Overcurrent Protection)</td>
<td>20 A</td>
<td>40 A</td>
</tr>
<tr>
<td>Nominal Power Factor</td>
<td>1 - 0.9 (leading / lagging)</td>
<td></td>
</tr>
<tr>
<td>THD (at Nominal Power)</td>
<td>&lt;5%</td>
<td></td>
</tr>
</tbody>
</table>

**MECHANICAL SPECIFICATIONS**

- **Dimensions**: 660 mm x 411 mm x 158 mm (26 in x 16 in x 6 in)
- **Weight**: 52 lb
- **Mounting options**: Wall mount (bracket)

**ENVIRONMENTAL SPECIFICATIONS**

- **Operating Temperature**: -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

**PERFORMANCE SPECIFICATIONS**

- **Peak Efficiency**: 98% at 208 V, 98.1% at 240 V, 98.4% at 208 V, 98.6% at 240 V
- **CEC Efficiency**: 97.5% at 208 V, 97.5% at 240 V, 97.5% at 208 V, 98.0% at 240 V
- **Allowable DC/AC Ratio**: 1.7
- **Customer Interface**: Tesla Mobile App
- **Internet Connectivity**: Wi-Fi (2.4 GHz, 802.11 b/g/n), Ethernet, Cellular (LTE/4G)
- **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

1 Maximum current.
2 Cellular connectivity subject to network operator service coverage and signal strength.
3 Door and bracket can be removed for a mounting weight of 37 lb.

**COMPLIANCE INFORMATION**

- **Grid Certifications**: UL 1741, UL 1741 SA, IEEE 1547, IEEE 1547.1
- **Safety Certifications**: UL 1741 PVRSS, UL 1699B, UL 1998 (US), UL 3741
- **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

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

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

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 Tesla Solar Inverter and Solar Shutdown Devices. See the Tesla Solar Inverter Installation Manual for detailed instructions and for guidance on installing Tesla Solar Inverter and Solar Shutdown Devices with other modules.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Model</th>
<th>Required Solar Shutdown Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tesla</td>
<td>Solar Roof V3</td>
<td>1 Solar Shutdown Device per 10 modules</td>
</tr>
<tr>
<td>Tesla</td>
<td>Tesla TxxxS (where xxx = 405 to 450 W, increments of 5)</td>
<td>1 Solar Shutdown Device per 3 modules</td>
</tr>
<tr>
<td>Tesla</td>
<td>Tesla TxxxH (where xxx = 395 to 415 W, increments of 5)</td>
<td>1 Solar Shutdown Device per 3 modules</td>
</tr>
<tr>
<td>Hanwha</td>
<td>Q.PEAK DUO BLK-G5</td>
<td>1 Solar Shutdown Device per 3 modules</td>
</tr>
<tr>
<td>Hanwha</td>
<td>Q.PEAK DUO BLK-G6+</td>
<td>1 Solar Shutdown Device per 3 modules</td>
</tr>
</tbody>
</table>

Exception: 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.