



EV FACT SHEET

Tesla Model 3

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Image: Tesla

INTRODUCTION

Perhaps the most eagerly anticipated EV release ever from Tesla (or any other manufacturer!) has been Tesla's Model 3. Touted as an 'affordable' EV with a base price of US\$35,000 and a 350km range for the base model – its reveal to the world in March 2016 was followed by over 100,000 US\$1,000 (AU\$1,500) reservations in the first 24hrs, 350,000 by the end of the first week, and upwards of 500,000 by the time deliveries began in July 2017.

By the beginning of 2019 over 150,000 had been sold. It is currently built only in the USA, but construction of a second production facility in China is well under way and is expected to begin volume production in late 2019.

Improvements in the Model 3 over the S and X include an improved motor design, improved battery design and chemistry, plus the ability to take full advantage of the new V3 Tesla Superchargers that are capable of up to 250kW charging. (The roll-out of these chargers began mid-2019 in the US and will progressively expand into Europe and other markets).

It is worth noting here that whilst in the USA the Model 3 is called a 'small car' – at almost 4.7 metres long, it is by no means a 'small car' by Australian standards.

The Model 3 has been initially offered in Australia as two model options: the rear-wheel drive (RWD) 'Standard Range Plus' that is one step above the base model by including a 'partial premium' interior, and the top spec dual motor all-wheel drive Performance version with the long range battery.

Overseas, several other options are available: including a 'mid-range' battery, the full base model, and the choice of RWD with the long-range battery. (These may become available here at a later date).

DRIVING RANGE

The Model 3 has a quoted range of 560km (NEDC) for the dual motor, AWD 'Performance' model and 470km (NEDC) for the 'Standard Plus' version. Note that these are NEDC test cycle range estimates – which are notoriously over-optimistic. The US EPA test cycle is generally regarded as giving more realistic ranges. The US EPA ratings for the versions currently offered in Australia are 523km and 386km respectively.

The real-world driving range for the AWD Performance would therefore be around 520km – enabling (at its limit) a round-trip from the Melbourne CBD to Warnambool and back – provided neither the heating or air conditioning were used. For this sort of trip, a 30 min to 1hr AC top-up charge along the way, or a 5 – 10 min DC fast charge at the Warnambool Tesla Supercharger would be recommended.



Image: Google maps

CHARGING SPEEDS/REQUIREMENTS

Charging port

The Model 3 is fitted with a CCS2 socket. (Unlike all previous Teslas). The Model 3 therefore can charge at any Type 2 AC EVSE (or Type 1 with an adaptor), all CCS2 DC fast-chargers and at Tesla Superchargers where fitted with CCS2 leads.



Pic: Tesla

CHARGING SPEEDS/REQUIREMENTS (CONTINUED)

AC charging:

The Model 3 can charge at a maximum rate of 7.4 kW¹ using single phase AC, or 11kW using 3 phase AC.

Charging speeds vary on the capacity of the EVSE (Electric Vehicle Supply Equipment) it is connected to. Charging times for the Long Range (75kWh battery) are shown in table 1 below¹.

AC EVSE type:			DC EVSE type:		
15 A socket	16 A 1 phase (3.6 kW)	30 A 1 phase (7 kW)	16 A 3 phase (11 kW)	CHAdemo (50kW)	Tesla Supercharger (120kW)
35hr	22hr	12hr	8hr	<1.5hr (to 80%)	<1hr (to 80%)

Table 1: Charging times for the Model 3 75kWh battery

DC fast charging:

The current Model 3 can charge at any CCS2 DC fast charger. It can also charge at any Tesla Supercharger fitted with a CCS2 lead, or (with the use of a special adaptor – not currently available in Australia), at earlier Tesla Superchargers. The maximum charging rate for the Model 3 Long Range is 250kW and 170kW for the Standard Range Plus, however these will be slower if the charging station does not support that rate. For example, most Australian Tesla Superchargers are currently limited to 120kW², and many installed CCS chargers are limited to 50 or 100kW. However some ChargeFox DC installations are capable of up to 350kW.

Notes:

1. Given the flexibility of the Tesla charging system and the variety of charger options available, not all possible charging rates are shown.
2. Tesla has only recently begun rolling out the highest rate V3 Superchargers in Australia, with most still to be upgraded.

HOME CHARGING CONSIDERATIONS

General

To get the shortest home charging time for a new Model 3, an 11kW, 3 phase AC EVSE would be needed.

However, depending on your existing power supply and/or charging needs, it may only be practicable to fit a lower rated EVSE. (See notes below). Lower capacity EVSEs will increase the charging times shown in table 1.

Important notes for any home EVSE installation:

- a) High charging rates are generally not needed for overnight charging.
- b) Homes do not normally have three phase AC connected.
- c) Switchboard and/or electrical supply upgrades may be needed if your home is more than 20 years old. (See AEVA fact-sheet on 'Making your home EV ready', or read articles in:
 - i. EV News, (AEVA newsletter) issue 231, or
 - ii. ReNew edition 143. (The magazine published by Renew).

SPECIFICATIONS

Boot volumes in litres (1 litre = 10 x 10 x 10 cm)

- Total: (Front and rear boot, rear seats up): 425 L
- Rear boot: Not stated
- Front boot: Not stated
- Rear, with seats folded: not stated

Dimensions:

- Overall length: 4,694 mm
- Overall width (mirrors folded/mirrors out): 1,850/2,089 mm
- Overall height: 1,443 mm

Battery:

- 50 kWh (Standard Range model)
- 75 kWh (Performance model)

Energy consumption: (<https://greenvehicleguide.gov.au>)

- Not yet listed on the Australian GVG site.
- UK rating: approximately 150Wh/km

Kerb weight:

- 1611 - 1847 kg (depending on options selected)

Maximum towing mass:

- Braked trailer: 910 kg
- Non-braked trailer: 750 kg

WHERE TO BUY

The Tesla range is available from the five Tesla stores in Australia (two in Melbourne, two in Sydney and one in Brisbane), or via online orders anywhere in Australia.

For store locations, see:

https://www.tesla.com/en_AU/findus/list/stores/Australia

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