

EV FACT SHEET

Tesla Model X



Image: Tesla

INTRODUCTION

The Tesla Model X is a luxury all-electric, five-door large SUV with 5 seat passenger vehicle (NB: 6 or 7 seat options available) built by Tesla Inc. With its iconic 'falcon wing' doors – it has been described by Tesla CEO Elon Musk (in an oblique reference to the initial difficulties of building it) as “.. *an incredible vehicle and probably nothing like it will ever be made again and maybe it shouldn't ... But it is a work of art. It's a special work of art.*”

Sharing the electric drive train and platform with the Model S, it is currently built only in the USA, with US sales beginning in September 2015. Australian sales began in August 2016. Worldwide cumulative sales so far of the Model X (to the end of 2018) reached around 110,000 vehicles.

It is worth noting that in early 2019, both the pricing and model range of the Model X were overhauled – including prices dropping between 20 and 33%!

The Model X is however still priced as a luxury car competing indirectly with internal combustion engine vehicles from the likes of BMW, Mercedes and Jaguar. It also now has a direct competitor with the introduction in late 2018 of the all-electric Jaguar I-Pace SUV.

One particular feature of the Model X to note is it currently is the only all-electric vehicle with a significant tow rating.

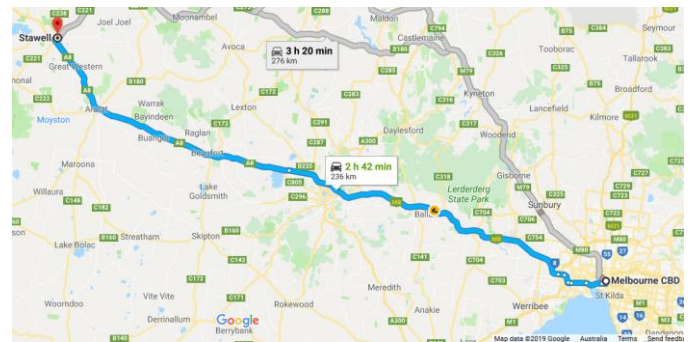
Having been on-sale in Australia since 2016, there is also some scope for second-hand buying as well as new purchasing. Note that earlier Model X versions had a range of smaller battery size options available other than the 100kW only version now available.

Note: between late April and mid-July 2019, Tesla again offer a 'Standard Range' version of the Model X with a 75kWh battery. (This option has been offered, and dropped, on a couple of occasions).

DRIVING RANGE

Under the old NEDC test cycle still used in Australia - the Model X has a test cycle range of 550 km for the 'Performance' and 575 km for the 'Long Range' according to the Australian Tesla website. (https://www.tesla.com/en_AU/).

Real world driving ranges however are generally found to be less than NEDC test cycle figures. For instance, the Long Range version typically has a real-world range in the order of 460km. As an example, the Model X Long Range would, at its limit, make a round-trip from the Melbourne CBD to Stawell in Victoria's west and back – provided neither the heating or air conditioning were used. For this sort of trip, a 30 min to 1hr top-up AC charge over lunch in Stawell, or a 5 – 10 min DC fast charge along the way at the Ballarat Tesla supercharger site would be recommended.



Example maximum best-case return trip range. Image: Google maps

CHARGING SPEEDS/REQUIREMENTS

Charging port

The Model X is fitted with a modified Type 2 socket that does (depending on EVSE to vehicle communications) single phase AC charging, three phase AC charging or DC fast-charging.



Pic: Tesla modified Type 2 socket (note notch at top to prevent use of Tesla Superchargers with normal Type 2 sockets). Source: Wikipedia

CHARGING SPEEDS/REQUIREMENTS (CONTINUED)

AC charging:

The current Model X can charge at a maximum rate of 7.7 kW on 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 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)
42hr	28hr	14.25hr	9hr	>2hr (to 80%)	>1hr (to 80%)

Table 1: Charging times for the Model X 100kWh battery

Notes re AC charging for the Model X:

1. Given the flexibility of the Tesla Wall Connector EVSE and the variety of charging rate options it can be set to (starting from 1.4kW), not all possible charging rates are shown.

DC fast charging:

The current Model X can DC fast-charge at up to 120kW at any Tesla supercharger, or with the use of a special adaptor, at CHAdEMO fast-chargers. (In Australia, these are currently limited to a 50kW maximum charge rate).

Notes re DC charging for the Model X:

- a) The coming Tesla Model 3 being shipped now to Europe (and soon to Australia) is fitted with the common standard CCS2 socket instead of the Tesla modified Type 2 socket. It is also rumoured that the Tesla models S and X will make the change to CCS2 in the not-too-distant future.
- b) The change to CCS2 by the Model 3 means that an adaptor from Tesla modified Type 2 to CCS2 is soon to come.
- c) Given there is already a Tesla adaptor available for CHAdEMO fast chargers, with the addition of a CCS2 to modified Type 2 adaptor, Teslas will be able to charge at ANY DC fast-charger!

HOME CHARGING CONSIDERATIONS

General

To get the shortest home charging time for a new Model X, 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 charging times, as shown in table 1.

Important notes for any home EVSE installation:

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

SPECIFICATIONS

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

- Front boot: 187 L
- Rear (seats up): Not specified
- Rear seat folded: 2,180 L

Dimensions:

- Overall length: 5,037 mm
- Overall width (mirrors folded/mirrors out): 2,070/2,271 mm
- Overall height: 1,626 mm

Battery:

- 100kWh

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

- Long range: 208 Wh/km
- Performance: 226 Wh/km

Kerb weight:

- 2,450 kg (depending on options selected)

Towing capacities: (braked/unbraked)

- 750/2250 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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