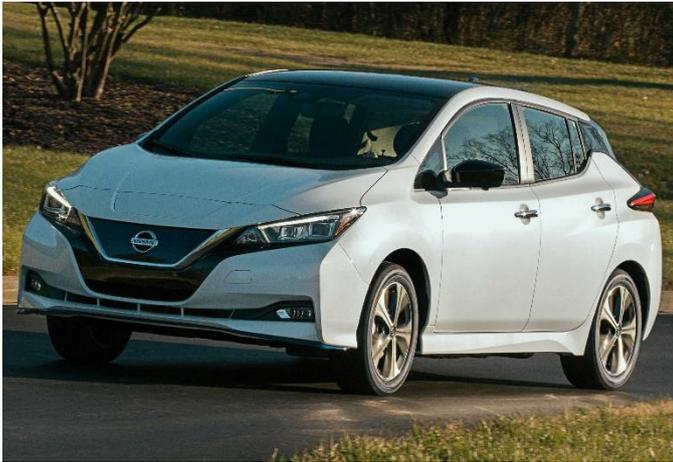




EV FACT SHEET

Nissan ZE1 Leaf

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ZE1 Leaf. Image: Nissan

INTRODUCTION

When the original ZE0 Nissan Leaf was launched in late 2010, it was the first (current era) mass produced full battery electric vehicle (BEV) to be designed from the ground up. (The Mitsubishi iMiEV was based on their earlier petrol i-car, and the only Tesla then available was based on a Lotus Elise body). Ground-breaking in many ways – the Leaf at the time won a multitude of motoring awards around the world.

However, updates to the first Leaf were slow in coming – particularly so here in Australia where only 2011/12 Leafs were ever officially brought in by Nissan. Australia therefore missed out on the upgraded battery chemistry in 2014, a larger battery charger, well as the increase in battery size to 30kWh in late 2016.

Note: some of these later first generation Leafs as well as second-generation ZE1 Leafs have come to Australia as second-hand 'private imports' from Japan. For more detailed information on the first generation Leaf as well as items to watch for in all private import Leafs, see the ZE0/AZE0 Second-hand EV Fact Sheet).

Only in early 2018 was a major upgrade to the Leaf released – designated the ZE1 Leaf, changes included were a 40kWh battery along with a number of interior and exterior styling changes. By early 2019 some further changes were made - in particular the inclusion of an option of an e+ version with a 62kWh battery. With that option, the Leaf could finally be said to have caught it up to its major competitors.

Note: The ZE1 e+ 62kWh Leaf was not released in Australia until 2021.

DRIVING RANGE

Unfortunately, the current Australian test standard cannot be relied on for an achievable driving range as it uses the superseded (and over optimistic) European NEDC test cycle. If doing mainly city to outer urban driving – the new European WLTP test cycle will provide a better estimate or, if doing outer suburban to regional driving – US EPA.

Battery	National testing system range estimates:		
	NEDC (Aust)	WLTP (Euro)	US EPA
40kWh	315km	270km	240km
62kWh	450km	385km	364km

Using the US EPA range - the Leaf e+ would, at its limit, make a round-trip from the Melbourne CBD to Avoca in central Victoria and back – provided neither the heating or air conditioning were used. For this sort of trip, a 1hr top-up AC charge over lunch using a power point, or a 10 – 15 minute DC fast charge in Ballarat would be recommended.

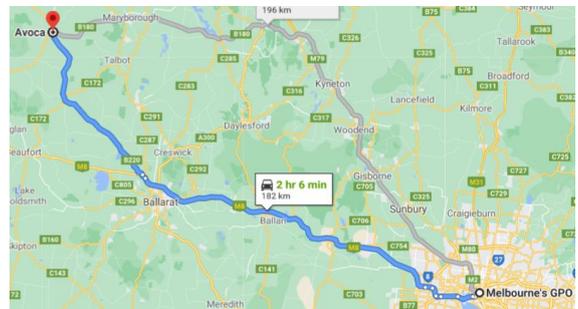


Image: Google maps

CHARGING SPEEDS/REQUIREMENTS

Charging port

Australian import ZE1 Leafs are fitted with the Type 2 AC socket¹ and CHAdeMO socket for DC charging.

Important note:

Private import Japanese ZE1 Leafs are fitted with the Type 1 AC socket. For these, an adaptor will be required to use Type 2 Australian AC chargers.

Type 1 AC socket (Japan, N. America)	Type 2 AC socket (rest of world)	CHAdeMO DC socket ²

Notes:

1. Australian specification ZE1 Leafs can be charged at any Type 1 or Type 2 AC EVSE, however an adaptor will be needed to use Type 1 EVSEs.
2. The only remaining new cars that the CHAdeMO DC socket is fitted to are the Nissan Leaf, Mitsubishi Outlander and Lexus UX300e.

CHARGING SPEEDS/REQUIREMENTS (CONTINUED)

AC charging:

Australian ZE1 Leafs and Japanese ZE1 e+ Leafs charge using single phase AC at a maximum of 6.6 kW (28A).

Important note:

Private import Japanese 40 kWh ZE1 Leafs charge at a maximum of 3.3 kW.

Charging speeds vary on the capacity of the EVSE (Electric Vehicle Supply Equipment) it is connected to and the chosen battery size. Charging times for Australian delivered ZE1 Leafs are shown in table 1.

EVSE type: 0 – 100% AC; 0 – 80% DC					
	15 A socket 1 phase (2.4kW)	16 A 1 phase (3.6 kW)	32 A 1 phase (7.2 kW)	16 A 3 phase (11 kW)	DC Fast charge (50kW)
ZE1 40kWh	20h	14h	7.5h	14h	40m
ZE1 e+ 62kWh	30h	21h	11.5h	21h	90m

Table 1: Charging times for the ZE1 Nissan Leaf

DC fast charging

The ZE1 Leaf uses the CHAdeMO fast-charge connector and can DC charge at up to 46 kW.

Note:

The only remaining cars manufactured using CHAdeMO are the current Nissan Leaf, Mitsubishi Outlander and Lexus UX300e. All other new EVs sold by dealers in Australia use the CCS2 socket - which is becoming the majority type of DC fast-charge connector in both Australia and overseas.

HOME CHARGING CONSIDERATIONS

General

To get the shortest home charging time for a ZE1 Leaf, a 7kW AC EVSE would be needed.

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

The ZE1 Leaf also comes with a Mode 2 portable EVSE for plugging into a 15A power point. Charging with this EVSE will take approx. 24hrs to reach full-charge from empty.

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. (For more information on this item - read articles in:
(a) Renew magazine edition 143. (EVSE wiring)
(b) Renew magazine edition 156. (EVSE buyer's guide)

SPECIFICATIONS

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

- Boot: 435 L
- Rear seat folded, loading space to roof: 1176 L

Dimensions:

- Overall length: 4,490 mm
- Overall width 1790 mm
- Overall height: 1,540 mm

Battery:

- 40kWh

Energy consumption: (Australian/NEDC test cycle)

- 171 Wh/km (Australian test cycle)

Kerb weight:

- 1,594 kg

Drive configuration:

- Front-wheel drive

Maximum power:

- 110kW (40kWh battery version)
- 160kW (62kWh battery version)

0-100 km/h time:

- 7.5 sec (40kWh battery version)
- 7.1 sec (62kWh battery version)

WHERE TO BUY

The Nissan ZE1 Leaf is available from most Nissan dealers. See Nissan Australia website to find the one closest to you. (<https://nissan.com.au/>)

Important note:

Always check all specifications with the manufacturer prior to any purchase. No responsibility accepted by AEVA or Bryce Gatton for errors factual or due to reproduction in this Fact Sheet. Whilst all efforts are made to ensure the accuracy of the material in this Fact Sheet, manufacturers regularly make changes (often unannounced) to their model ranges and specifications.