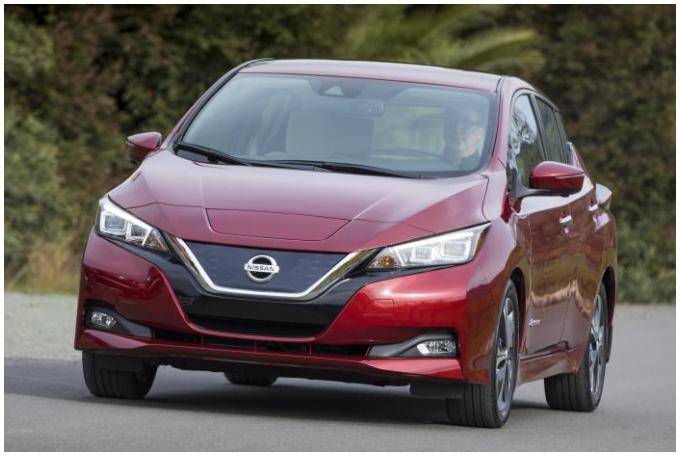
Australian Electric Vehicle Association

EV FACT SHEET

Nissan ZE1 Leaf



ZE1 Leaf. Image: Nissan

INTRODUCTION

When the original 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 – it won a multitude of motoring awards around the world.

However, updates to the first Leaf have been 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 that some of these later first generation Leafs have come to Australia as 'grey imports'.)

Only in early 2018 was a major upgrade to the Leaf released – called the Leaf 2.ZERO, the major changes were a 40kWh battery along with a number of interior and exterior styling changes. The Leaf 2.ZERO was followed in early 2019 by a minor upgrade called the 3.ZERO and the 3.ZERO+. The 3.ZERO+ in particular included the much anticipated 63kWh battery that finally caught it back up to Leaf's major competitors.

Note that the new generation Leaf finally launched for sale in Australia, starting in August 2019, is effectively the Leaf 2.ZERO as it does not include the minor improvements of the 3.ZERO, nor the 3.ZERO+ 63kWh battery option.

DRIVING RANGE

The ZE1 Leaf has a quoted range of 270 km under the new European WLTP test cycle# and 315 using the current Australian mandated test cycle. Real world driving range however is closer to 240 km.
For instance the Leaf would, at its limit, make a round-trip from the Melbourne CBD to Ballarat 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 Ballarat, or a 5 – 10 min DC fast charge (none yet available on this route) would be recommended.

Note:
WLTP range figures are not yet mandated in Australia.

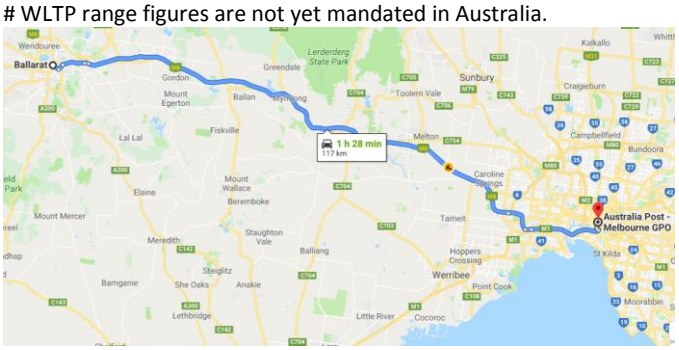
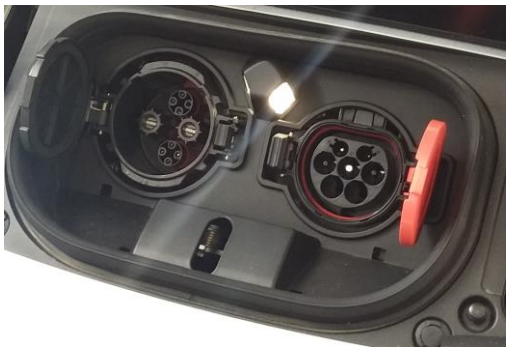


Image: Google maps

CHARGING SPEEDS/REQUIREMENTS

Charging port

The ZE1 Leaf is fitted with a Type 2 AC socket and a CHAdeMO socket for DC charging.



Nissan ZE1 Leaf charging ports (Type 2 AC on right, CHAdeMO DC on left)

Note: the ZE1 Leaf can be charged at any Type 1 or Type 2 AC EVSE, however an adaptor will be needed to use EVSEs fitted with Type 1 plugs.

CHARGING SPEEDS/REQUIREMENTS (CONTINUED)

AC charging:

Although fitted with the 3 phase type 2 AC socket, the ZE1 Leaf charges using single phase AC only at a maximum of 7kW (32A).

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

EVSE type:				
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)
24h	14h	7.5hrs	N/A	60m (to 80%)

Table 1: Charging times for the ZE1 Nissan Leaf

DC fast charging

The ZE1 Leaf uses the CHAdeMO fast-charge connector.

Note:

The only remaining car manufacturers using CHAdeMO are Nissan and Mitsubishi. Most other EVs fitted with DC fast charge 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. (See fact-sheet on '*Making your home EV ready*', or read articles in:
   (a) EV News, (AEVA newsletter) issue 231, or
   (b) ReNew, (ATA magazine) edition 143.

SPECIFICATIONS

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

- Boot: 668 L
- Rear seat folded, loading space to roof: 850 L

Dimensions:

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

Battery:

- 40kWh

Energy consumption:

- 171 Wh/km (Australian test cycle)

Kerb weight:

- 1,594 kg

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/)