



EV FACT SHEET

Nissan ZE0/AZEO Leaf

(2010 – 2017)

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Image: B Gaton

INTRODUCTION

When the original ZE0 Nissan Leaf was launched in late 2010, it became the first (current era) mass produced full battery electric vehicle (BEV) to be designed from the ground up. (To that time, the only others were based on petrol cars: the 2010 Mitsubishi iMiEV was based on the petrol i-car, and the only Tesla then available was built using a Lotus Elise body).

Ground-breaking in many ways – the Leaf won a multitude of motoring awards around the world.

Nissan Australia first began selling the ZE0 Leaf here in 2012 - but at \$60,000 plus, they did not sell well. As a result many sat quietly in dealer yards for several years before finally selling. Consequently, no more ZE0 Leafs were officially imported here other than 2011/2012 build date models. Australia dealer supported Leafs therefore missed out on the many improvements that occurred later in the ZE0 model run. These included:

2013: AZEO model update started here

- A move from 3.6kW to an optional 6.6kW battery charger (Note: larger charger generally NOT found in Japanese import Leafs);
- Introduction of a reverse cycle air conditioner to provide heating. (Reverse cycle A/C was much more efficient than the resistive element heater that preceded it);
- much smaller boot hump (= increased boot capacity);
- Improved driving Mode options.

2014/15

- Upgraded battery chemistry that was less prone to heat degradation.

2016:

- Increased battery size (from 24 to 30kWh).

INTRODUCTION (continued)

Note: a number of private (or 'grey') imports of Japanese model AZEO Leafs has occurred between Nissan Australia ceasing imports in 2013 and recommencing with the ZE1 Leaf in 2019, including the bulk-buy schemes offered by the GoodCarCompany (<https://www.goodcar.co/>).

Important note:

The biggest issues with private imports are service, warranty and recall support. Privately imported vehicles are generally not supported by the dealer networks who often refuse to work on them, or perform any warranty or recall work that would have been done for free in their country of origin.

BUYING SECOND-HAND

All Australian delivered (Nissan Australia supported) Leafs were the one spec with the only option being paint colour.

As Australian delivered ZE0 Leafs are 2011/12 (first generation) Leafs, they all have the early battery chemistry that degraded faster than later versions. It is therefore likely that if the battery has not been replaced, it will not be far off needing it - with some having already failed. As a result – Australian delivered 2011/12 Leafs can be quite cheap buys, but first check the current price of a replacement battery pack (and whether it is available).

If considering a later year (2013 – 2017) ZE0 Leaf – these are all private imports – and have many model specific features not offered here. It is worth doing your homework on the models and options before buying – including whether the controls and screens have been converted to English, as well as use Australian GPS maps.

Important note:

If your intended Leaf purchase is a private import, it is likely that the dealers will not be prepared to work on it – in particular they will not replace batteries in private import Leafs. It is therefore vitally important to check that the importer can both give a warranty, as well as provide the names of local repairers willing to work on it.

For information on US and some Japanese Leaf options:
<https://insideevs.com/news/325877/used-nissan-leaf-buying-guide/>

<http://j-spec.com.au/lineup/Nissan/Leaf/id-C88>

DRIVING RANGE

The 24kWh ZEO Leaf had a quoted range of around 170km – but in reality it was at best 130km. For Australian delivered 2011/12 Leafs - this is now likely to be, at most, 80km - or even less in winter as their heating system was quite inefficient compared to the later reverse cycle systems.

CHARGING SPEEDS/REQUIREMENTS

Charging port

The ZEO/AZEO Nissan Leafs were fitted with a Type 1 AC socket and a CHAdeMO DC fast-charge socket. Whilst CHAdeMO is now used only in the current ZE1 Leaf (all other EVs in Australia now use the CCS2 socket), CHAdeMO DC fast-charge plugs are continuing to be installed at most fast-charge stations, which is likely to continue for some years into the future. However ZEO/AZEO Leaf owners will need a Type 1 to Type 2 adaptor lead (at a cost of around \$250) to use most current AC chargers.



ZEO Leaf charging sockets: CHAdeMO (DC) left, Type 1 (AC) right.

AC charging:

The ZEO/AZEO Leaf is fitted with the single phase type 1 AC socket and charges at up to 3.6kW for the ZEO and up to 6.6kW for some AZEO models on AC EVSEs (EVSE = Electric Vehicle Supply Equipment, commonly referred to as an EV charger).

General charging note:

Charging speeds vary on the capacity of the EVSE it is connected to and the vehicle battery size. Charging times for the 3.6kW ZEO Leaf are shown in table 1.

EVSE type:				
10 A socket (2.4kW)	16 A 1 phase (3.6 kW)	32 A 1 phase (7.2 kW)	16 A 3 phase (11 kW)	Fast charge DC (to 80%)
10hrs	6.7hrs	6.7hrs	6.7hrs	27 min

Table 1: Charging times for the ZEO Leaf (3.6kW inbuilt charger)

DC fast charging

ZEO/AZEO Leafs electric uses the CHAdeMO DC fast-charge connector and have a maximum 46kW charging rate when connected to a DC charger.

HOME CHARGING CONSIDERATIONS

General

To get the shortest home charging time for a ZEO Leaf, a 3.6kW AC EVSE is all that is needed. For some AZEO Leafs, this increases to 6.6kW.

Note:

Depending on your existing power supply and/or charging needs, it may only be necessary (or practicable) to fit a lower rated EVSE. (See notes re home EVSE installations at the end of this section). Lower capacity EVSEs will increase charging times, as shown in table 1.

Both the ZEO and AZEO Leafs came with a Mode 2 EVSE ('portable charger') for plugging into a 15A power point.

When buying any second-hand EV, ensure the portable EVSE both comes with the car and is working.

Important note for any home EVSE installation:

Switchboard and/or electrical supply upgrades may be needed if your home is more than 20 years old. See article 'Is your home EV Ready' in ReNew magazine, edition 143.

SPECIFICATIONS

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

- Boot under parcel shelf: 330

Dimensions:

- Overall length 4450 mm
- Overall width: 1770 mm
- Overall height: 1550 mm

Battery:

- 24 kWh Lithium-ion (22 useable).

Energy consumption:

- 21.2 kWh/100km (US EPA rating).

Kerb weight:

- 1,525 kg

Maximum power:

- 80kW

0-100 km/h time:

- 11.9 sec

Note:

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