# EV FACT SHEET

## Mercedes eVito panel van

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**Mercedes eVito panel van. Image: Mercedes**

## INTRODUCTION

The Mercedes eVito panel van is one of the first electric light commercial vans to hit Australian shores – although more options will arrive through 2023. With a payload of 882kg, a range of 239km (WLTP) and a top speed of 120 km/h, it would make a viable local delivery van capable of short highway runs - unlike the LDV eDeliver9 which has a top speed of 90km/h.

Note: the eVito Tourer people moved is based on the eVito panel van, however the Tourer has a larger (90kWh) battery and more powerful motor - giving it a WLTP range in the vicinity of 370 km.

| Name | Range (km) | Payload (kg) | Available? |
|---|---|---|---|
| **LDV eDeliver9** | 280 | 1410 | Y |
| **Mercedes eVito Tourer** | 370 | 1045 | Y |
| **Renault Kangoo E-Tech** | 285 | 600-800 | H1, 2023 |
| **Ford E-Transit Custom** | 380 | 1,000 | Q1, 2024 |

**Table 1: potential alternatives to the eVito panel van.**

## DRIVING RANGE

Currently, the official Australian ADR 81/02 test cycle is based on the outdated (and highly over-optimistic) European NEDC test cycle. However few manufacturers now give this figure for their new releases. Instead they quote the more achievable ranges found using the newer European WLTP test cycle. Therefore, to avoid disappointment always check which test cycle has been used when assessing an EV for your needs. As a guide, NEDC is generally 30% too high, WLTP a good estimate if doing mostly urban and outer suburban driving and US EPA the better guide if doing mostly outer suburban to regional driving.

## DRIVING RANGE (continued)

| National testing system range estimates | | |
|---|---|---|
| **NEDC (Aust)** | **WLTP (Euro)** | **US EPA** |
| 260 | 239[1] | Not yet rated |

**Table 2: comparison of mandated test cycle driving ranges.**

## FLEET EV TRANSITION TIPS:

Key to increasing the efficient use of an electric LCV is recharging whilst loading and unloading at delivery points as well as during down-times at its home base. Installing the maximum AC charger size at the home base may be useful, as well as placing that charger adjacent to the loading area.

**Note:** Planning for a business EV transition where more than one LCV is used will include the need to review the business location's power supply situation as well as an overall EV fleet use-case charging needs assessment.

Knowing, finding and using three phase outlets and DC fast-chargers is important for longer trips in shorter range EVs like the eVito panel van. To navigate this new aspect of EV fleet management, fleet managers will need to provide information and training to drivers on higher power portable chargers (if supplied), DC charging and how to use the Apps from the major fast-charge providers. (These include Chargefox, Evie, BP Pulse and Ampol's AmpCharge, as well as the open source Plugshare[2]).

## CHARGING SPEEDS/REQUIREMENTS

### Charging port

The eVito panel van is fitted with a CCS2 socket allowing it to charge via Type 2 AC chargers[2] as well as via CCS2 DC fast-chargers.

**CCS2 charging plug and socket**

**Notes:**

1. in 'normal' drive mode
2. The eVito Tourer panel van can be charged at any AC EVSE, however an adaptor will be needed to use the (very few) remaining older EVSEs fitted with Type 1 (J1772) plugs.

## CHARGING SPEEDS/REQUIREMENTS (CONTINUED)

### AC charging:

Like all new EVs sold in Australia, the Mercedes eVito is fitted with a type 2 AC charging socket.

***Charging rates:***

**Single phase:** maximum of 7.4 kW (32A)
**Three phase:** maximum of 11 kW (16A per phase)

Charging speeds and times vary on the capacity of the EVSE (Electric Vehicle Supply Equipment) it is connected to and the chosen battery size. Approximate charging times for the eVito panel van are shown in table 3 below.

| (a) AC: 0 – 100% time | | | | DC: 0 – 80% time | |
|---|---|---|---|---|---|
| 10 A (power point) | 15 A 1 phase (Caravan outlet) | 32 A (1 phase Home EVSE) | 16 or 32 A (3 phase public AC EVSE) | DC Fast charge (50kW) | DC Fast charge (80+kW) |
| 30h | 17h | 8.5h | 6.5h | 1.1h | 40m |

**Table 3: Approximate charging times for the eVito panel van.**

### DC fast charging:

The eVito panel van uses the CCS2 DC fast-charge connector and can charge at up to 80 kW DC.

**V2X capability:** eVito is not capable of V2L, V2H or V2G.

**Notes:**

V2X is the generic term covering the options of getting 230V AC power from the battery and supplying it as:

- V2L: vehicle to load (230V power available from outlet in car)
- V2H: vehicle to home (supply home via special connection)
- V2G: vehicle to grid (supply home or grid via spec. connection)

## HOME CHARGING CONSIDERATIONS

### General

To get the shortest home charging time for the eVito panel van, an 11kW three phase 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 3 above.

**Note: Unlike most EVs for sale in Australia, the eVito panel van does NOT come with a Mode 2 portable EVSE for use with a 10A power point.** These are however easily bought from aftermarket EVSE retailers. Prices for portable EVSEs start from $400 for a 2kW unit to $2000 for a fully flexible 1.6 to 22kW unit with adaptors. If using a 2kW portable charger with a standard power point, a Mercedes eVito panel van will take approximately 30hrs for a 0 – 100% charge.

### Important notes for any 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 or business is more than 20 years old. For more information on this item - read EV Information articles at *EVchoice.com.au* or see:
   (a) Renew magazine edition 143. (EVSE wiring)
   (b) Renew magazine edition 156. (EVSE buyer's guide)

## SPECIFICATIONS

**Seating capacity:** 2 (3 with optional bench seat).

### Dimensions and weights:

| Dimensions/weights/volumes | |
|---|---|
| Length (mm) | 5140 |
| Width – mirrors in (mm) | 1928 |
| Width – mirrors out (mm) | 2244 |
| Height (mm) | 1912 |
| Wheel base (mm) | 3200 |
| Turning circle (m) | 11.1 |
| Cargo area length (mm) | 2398 |
| Cargo area width (mm) | 1391 |
| Cargo area height (mm) | 1261 |
| Width at wheel arches (mm) | 1270 |
| Rear door opening width (mm) | 1391 |
| Rear door opening height (mm) | 1261 |
| Side door opening width (mm) | 822 |
| Side door opening height (mm) | 1252 |
| Gross vehicle mass (kg) | 3200 |
| Payload (kg) | 882 |
| Tare weight (kg) | 2318 |
| Cargo volume ($m^3$) | 6 |

### Battery:

- 66 kWh (60 kWh usable)

### Charging:

- 1 phase AC: 7.4 kW (maximum)
- 3 phase AC: 11 kW (maximum)
- DC: 80 kW (maximum)

### Charge port location:

- Left-hand front corner (just under headlamp)

### Vehicle to Load connection (position and power):

- eVito is not V2X capable

### Energy consumption: (WLTP):

- 27.4 kWh/100 km

### Drive configuration:

- Front wheel drive

### Towing:

- Not rated for towing

### Performance:

- Maximum power: 85 kW
- 0 – 100km/hr: not specified.

## IMPORTANT NOTES: