



# The new eCitaro.

Technical information.

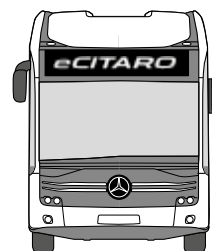
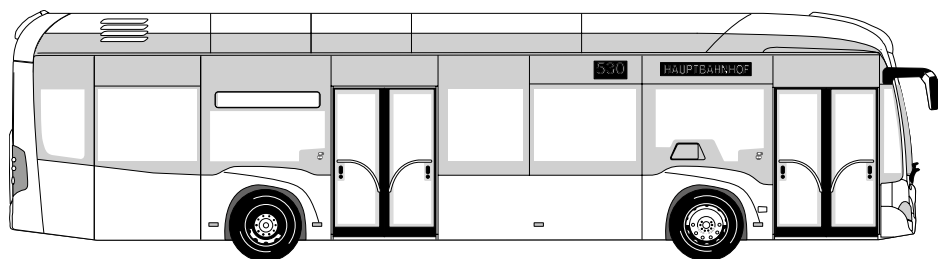
**Mercedes-Benz**

The standard for buses.

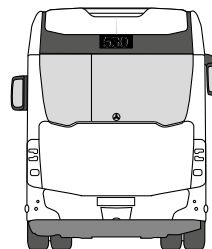
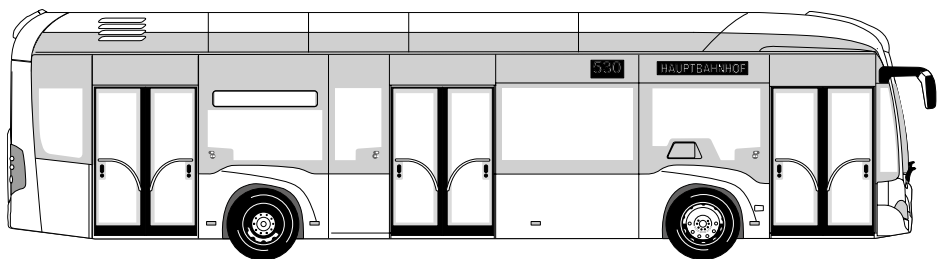


# Model designations

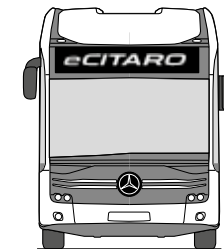
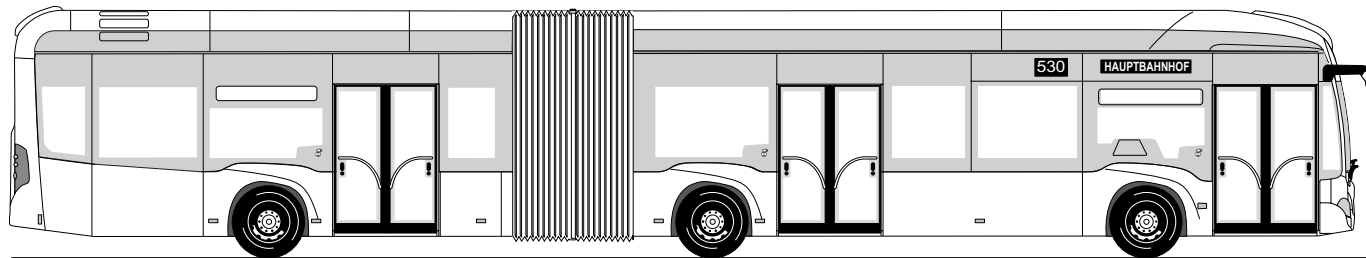
eCitaro (C 628.630-13)



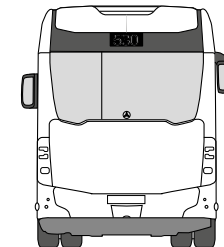
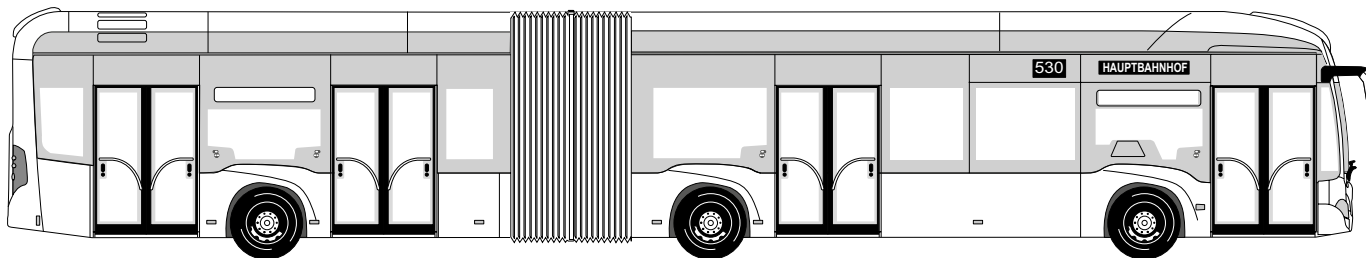
eCitaro (C 628.631-13)



eCitaro G (C 628.640-13)



eCitaro G (C 628.641-13)

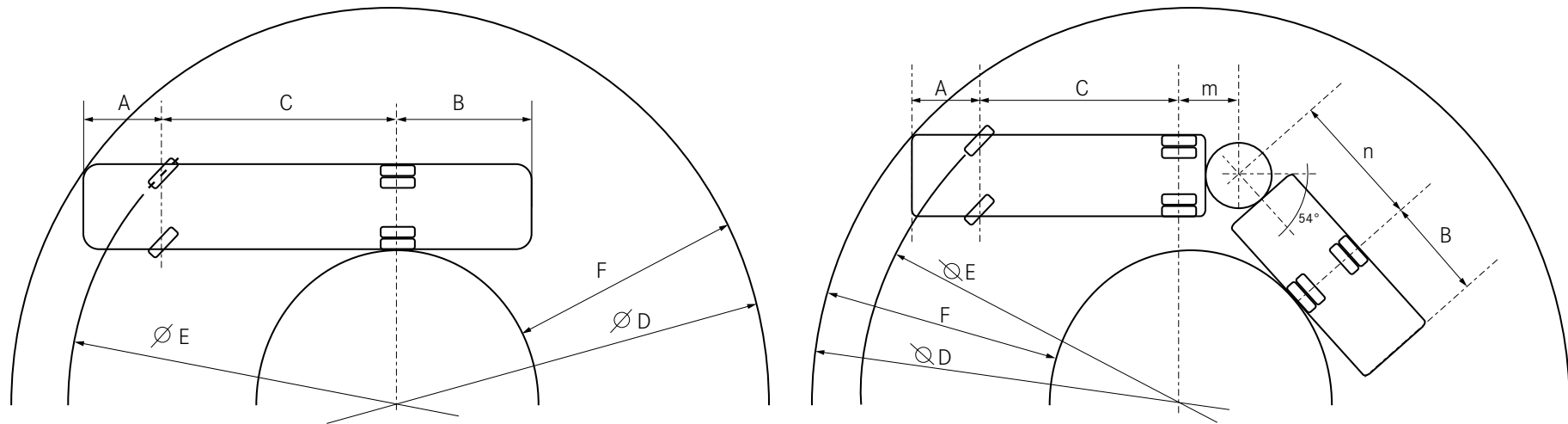


# Dimensions and weights

	eCitaro, 2 doors	eCitaro, 3 doors	eCitaro G, 3 doors	eCitaro G, 4 doors
Vehicle length	12,135 mm	12,135 mm	18,125 mm	18,125 mm
Vehicle width/Vehicle width (incl. mirrors)	2,550/2,950 mm	2,550/2,950 mm	2,550/2,950 mm	2,550/2,950 mm
Vehicle height (max. vehicle height results from customer-specific antennas)	3,400 mm	3,400 mm	3,400 mm	3,400 mm
Wheelbase, front axle-drive axle	5,900 mm	5,900 mm	–	–
Wheelbase, front axle-centre axle	–	–	5,900 mm	5,900 mm
Wheelbase, centre axle-drive axle	–	–	5,990 mm	5,990 mm
Front/rear overhang	2,805/3,430 mm	2,805/3,430 mm	2,805/3,430 mm	2,805/3,430 mm
Angle of approach/departure	7° /7°	7° /7°	7° /7°	7° /7°
Tyre size	275/70 R 22.5	275/70 R 22.5	275/70 R 22.5	275/70 R 22.5
Total passenger carrying capacity (ECE R107)				
- Vehicle with 6 batteries	(Standard) 1/93	(Standard) 1/90	1/93	1/90
- Vehicle with 8 batteries	1/88	1/85	1/88	1/85
- Vehicle with 10 batteries**	1/89	1/88	(Standard) 1/145	(Standard) 1/145
- Vehicle with 12 batteries**	1/80	1/78	1/136	1/136
Seats (standard)	29	26	45	41
Boarding height, door 1–4	320/320/–/– mm	320/320/320/– mm	320/320/320/– mm	320/320/320/320 mm
Standing height front/rear	2,313/2,021 mm	2,313/2,021 mm	2,313/2,021 mm	2,313/2,021 mm
Height of floor above road surface	370 mm	370 mm	370 mm	370 mm
Waistline height (above floor)	952 mm	952 mm	952 mm	952 mm
Load capacity, batteries NMC Wave 1, 6/8/10/12 pcs.	146/194/243/292 kWh	146/194/243/292 kWh	–/–/243/292 kWh	–/–/243/292 kWh
Load capacity, batteries NMC Wave 2, 6/8/10/12 pcs.	198/264/330/396 kWh	198/264/330/396 kWh	–/–/330/396 kWh	–/–/330/396 kWh
Load capacity, Solid state battery, 4/5/6/7 pcs.	252/315/378/441 kWh	252/315/378/441 kWh	–/–/378/441 kWh	–/–/378/441 kWh
Gross vehicle weight	20,000 kg	20,000 kg	20,000 kg	20,000 kg
Axle loads, max. permissible*				
- Front axle	8,000 kg	8,000 kg	8,000 kg	8,000 kg
- Centre axle	–	–	10,000 kg	10,000 kg
- Drive axle	13,000 kg	13,000 kg	13,000 kg	13,000 kg

\* design axle weight ratings (average speed up to 40 km/h) \*\* Front axle loaded to 8 t, tyre size 315/60 R 22.5

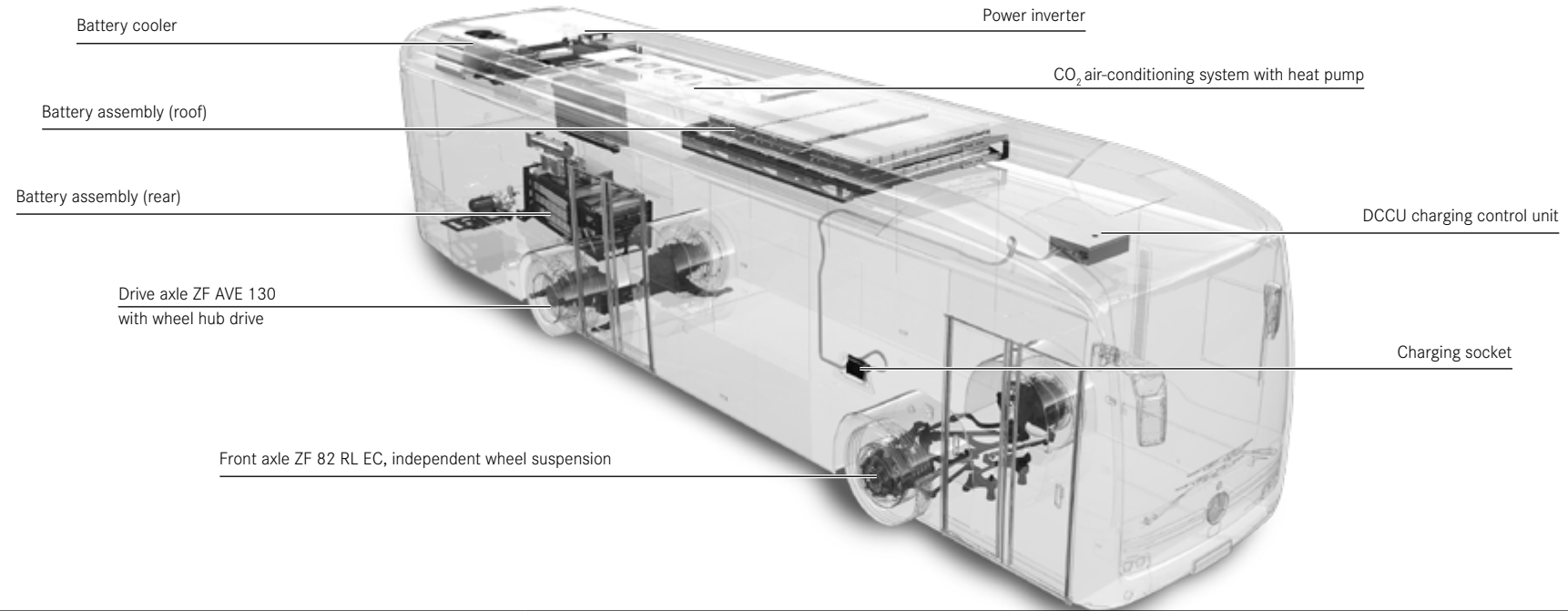
# Turning circle



	eCitaro, 2/3 doors	eCitaro G, 3/4 doors
A: Front overhang	2,805 mm	2,805 mm
B: Rear overhang	3,430 mm	3,430 mm
C: Wheelbase	5,900 mm	5,900 mm
m+n: Wheelbase, centre axle – drive axle	–	5,990 mm
D: Minimum turning circle	21,214 mm	22,928 mm
E: Minimum track circle	17,058 mm	19,160 mm
F: Swept annular width – minimum turning circle	6,803 mm	7,478 mm
D: BOKraft turning circle	25,000 mm	25,000 mm
F: BOKraft swept annular width	5,851 mm	6,791 mm
F: Maximum permissible swept annular width according to BOKraft	7,200 mm	7,200 mm
Maximum front axle turning angle, inside/outside wheel	53°/46°	47/38°

All dimensions apply to tyre sizes 275/70 R 22.5 and 315/60 R 22.5

# Drive train/Technology



Drive	Drive axle with two wheel hub motors
Rated voltage	400 V
Output (peak/continuous)	2 x 125 kW / 2 x 60 kW
Max. torque	2 x 485 Nm
acc. to final drive ratio	2 x 11,000 Nm
Steering	intelligent eco steering (electrohydraulic steering)
Axles	
- Front axle	ZF 82 RL EC, independent wheel suspension
- Centre axle (articulated bus standard equipment, optionally driven ZF AVE 130)	ZF AV 133
- Drive axle	ZF AVE 130
Brakes	Electropneumatic brake system with disc brakes
	Anti-lock Braking System (ABS)/ Acceleration Slip Regulation (ASR)/Electronic Stability Program (ESP®)/Anti-jackknife ATC (Articulation Turntable Controller)
	Wear-free brakes thanks to recuperation

# Modular concept for batteries NMC\* technology / Solid state batteries

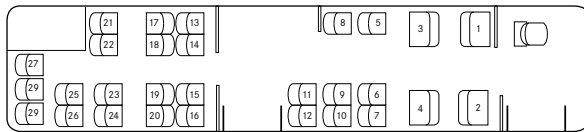


Technology	Solid state battery	NMC battery Lithium ion battery
Structure of battery modules	9 CMB battery cells with a total capacity of 63 kWh	12 prismatic battery cells, each with a capacity of 25/33 Ah
Structure of cell modules Wave 1/Wave 2	-	15 cell modules incl. control unit for monitoring and charge compensation
Number of high-voltage battery modules	4 - 7 pcs.	6 - 12 pcs
Battery arrangement		
- Rear	2 modules	4 modules
- Roof	up to 6 modules	up to 8 modules
Capacity per battery module	Approx. 63 kWh	Approx. 25/33 kWh
Max. total capacity of battery modules	Approx. 252/504 kWh	Approx. 292/396 kWh
Charging options		
- Combo2 charging plug (on exterior of the vehicle on the right above the front axle)	Standard	Standard
- Pantograph power consumer	(Special equipment)	Special equipment

\* NMC - nickel-manganese-cobalt

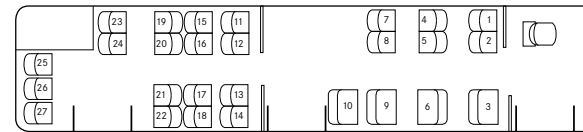
# Seating variants eCitaro

eCitaro, 2 doors (C 628.630-13)

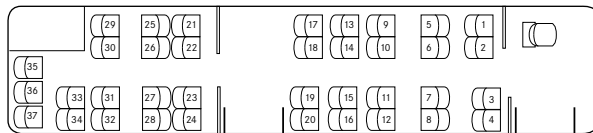


Standard: Number of seats: 1/29

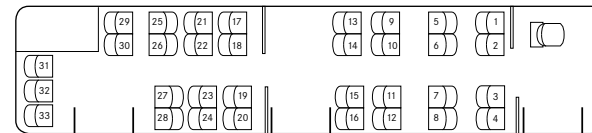
eCitaro, 3 doors (C 628.631-13)



Standard: Number of seats: 1/27



Special equipment (example) Number of seats: 1/37

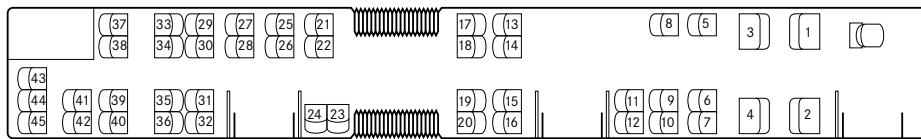


Special equipment (example): Number of seats: 1/33



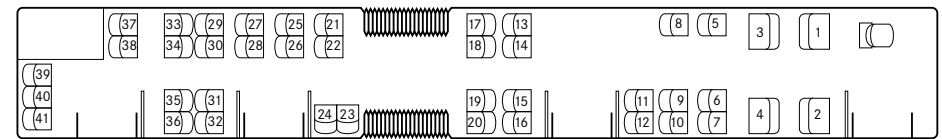
# Seating variants eCitaro G

eCitaro G, 3 doors (C 628.640-13)

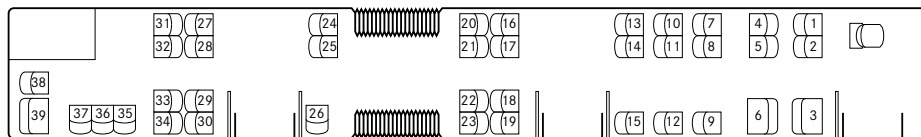


Standard: Number of seats: 1/45

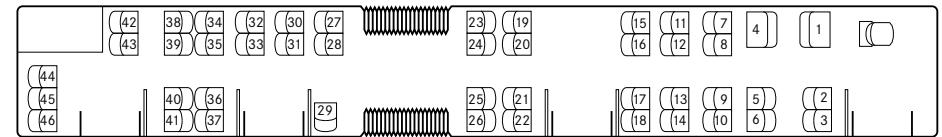
eCitaro G, 4 doors (C 628.641-13)



Standard: Number of seats: 1/41



Special equipment (example): Number of seats: 1/39



Special equipment (example): Number of seats: 1/46

# Standard and special equipment (selected)

Engine and running gear	eCitaro	eCitaro G
Drive axle ZF AVE 130 with motors close to wheel hub	●	●
Roll-pitch control	○	○
Batteries, 6 pcs./ NMC*	●	-
Batteries, 8 pcs./ NMC*	○	-
Batteries, 10 pcs./ NMC*	○	●
Batteries, 12 pcs./ NMC*	○	○
Batteries, 4 pcs./ Solid state battery*	○	-
Batteries, 5 pcs./ Solid state battery*	●	-
Batteries, 6 pcs./ Solid state battery*	○	●
Batteries, 7 pcs./ Solid state battery*	○	○
Charging plug on exterior of the vehicle (Combo2 charging socket)	●	●
High-performance charging, contact arm (pantograph)	○	○
Electrohydraulic steering (intelligent eco steering)	○	○
Electropneumatic-Braking-System (EBS)	●	●
Anti-lock Braking System (ABS)	●	●
Acceleration Slip Regulation (ASR)	●	●
Electronic Stability Program (ESP®)	●	-
Anti-jackknife ATC (Articulation Turntable Controller)	-	●
Front axle, 7.5 t	●	●
Front axle, 8.0 t*	○*	○*
Automatic bus stop brake with pull-away lock	●	●
Air suspension via electronic level control system (ENR)	●	●
Air suspension via electronic level control system (ENR), incl. kneeling	○	○
Vehicle lift 70 mm, with button on instrument panel/console	○	○
Tyre pressure monitoring system	○	○
Rough road running gear	○	○

\* according to customer requirements

Driver's area	eCitaro	eCitaro G
Driver's seat GRAMMER Linea MSG 90.6 P, air-sprung	●	●
3-point seat belt for driver's seat	○	○
Seat heater for driver's seat	○	○
Driver's area air conditioning	●	●
Driver's cab door	●	●
Compartment for driver's bag at cab door, open	●	●
Compartment for driver's bag at cab door, lockable, hinged	○	○
Provision for a ticket machine printer	○	○
Steering column and instrument panel with height and tilt adjustment	●	●
Cruise control	○	○
Front collision protection based on pendulum impact test as laid down in ECE R29	●	●
Sideguard Assist	○	○
Preventive Brake Assist	○	○
Heated exterior mirror with school bus approval	●	●
Exterior mirrors heated, electrically adjustable with school bus approval	○	○
Driver's microphone	○	○
Reversing buzzer	○	○
Reversing camera	○	○
Blind across 1/2 of windscreen, electrically operated	●	●
Blind across 2/3 of windscreen, electrically operated	○	○
Fire detection system for engine compartment monitoring (only in conjunction with fossil auxiliary heater)	●	●
Extinguishing system (only in conjunction with fossil auxiliary heater)	○	○
Rain-light sensor	○	○
Flat wiper blades with water fed through wiper blade	●	●

● Standard equipment/Equipment at no extra charge    ○ Optional extras

<b>Interior</b>	<b>eCitaro</b>	<b>eCitaro G</b>
Seating CityStarEco (CSE)	●	●
Seating CityStarFunction (CSF)	○	○
New generation of folding seats	○	○
Wheelchair space	○	○
Wheelchair back wall with integrated fold-up seat	○	○
Stop request button	●	●
Stowage on front wheel arch, left / right	○ / ○	○ / ○
Emergency hammers (no anti-theft device)	○	○
Emergency hammers secured with rope, automatic retractor	●	●
Sidewall lining in needle felt	○	○
Design ceiling	●	●
Ambient lighting with LEDs	○	○
Video recording system in passenger compartment	○	○

<b>Information systems</b>	<b>eCitaro</b>	<b>eCitaro G</b>
Radio system for driver's workstation	○	○
Multi-function antenna for radio, mobile phone, navigation	○	○
Bus stop display inside, cross duct	○	○
Destination system LED or LCD	○	○
Wheelchair button inside/outside	○	○
TFT monitors in the interior	○	○
Video monitor for driver's workstation	○	○

<b>Climate control</b>	<b>eCitaro</b>	<b>eCitaro G</b>
Turbo roof ventilator	●	●
Evo Thematik Plus roof-mounted air-conditioning system (CO <sub>2</sub> air-conditioning system with heat pump)	●	●
Automatic air-conditioning system for driver's workstation	●	●
Heating with side panel heating units	●	●
Intelligent thermal management	●	●
Outdoor temperature-controlled and load-dependent control of the indoor temperature	●	●

<b>Other</b>	<b>eCitaro</b>	<b>eCitaro G</b>
Cornering light	○	○
Daytime driving lights with LED technology	●	●
Headlamps with LED technology	●	●
Side windows heat-absorbing, grey tint	●	●
Side windows double glazed	○	○
Hinged panes in side windows	●	●
Folding ramp at Door 2, mechanical	○	○
Modular ramp at Door 2, electric	○	○

● Standard equipment/Equipment at no extra charge    ○ Optional extras

# Glossary

**Acceleration slip regulation (ASR):**

ASR prevents wheelspin when driving away on a slippery surface. It provides no more power than the drive wheels are able to transfer to the road surface. Wheelspin by one wheel – e.g. on an icy roadside – is prevented by metered braking.

**Anti-jackknife ATC (Articulation Turntable Controller):**

The ATC is a dynamic drive system that controls the hydraulic damping of the articulation joint rapidly as required, as a function of the steering angle, articulation angle, speed, and load. For this purpose the ATC has access to the data of the CAN bus data.

The effect is as follows: If the otherwise normally high basic damping of the joint leads to a strong tendency to understeer in turns and increased tyre wear on the front axle, then under normal stable driving conditions the joint of the vehicle runs almost freely, and is damped solely through the friction of the elements.

**Anti-lock Braking System (ABS):**

The braking forces acting on the individual wheels are distributed by the ABS so that even in an emergency braking situation no wheel is blocked for any length of time and the steering performance of the bus is largely maintained.

**Body framework structure:**

The increased strength of the body shell improves the safety of the passenger compartment. This is achieved by the use of connection elements that resemble the hilt of a sword between the body shell elements.

**Cataphoretic dip priming (KTL in German):**

Cataphoretic dip priming is an electro-chemical process for coating the complete body shell in an immersion bath. It is ideal for painting intricate structures and large numbers of units. Water-based paint protects the bus so perfectly against corrosion because the paint coat is applied to every part of the body. Currently, cataphoretic dip priming is demonstrably the best protection available against corrosion in vehicle construction.

**Charging plug(s):**

The European industry favours the Combo2 plug as standard. It is communication-capable and suitable for high charge outputs and quick charging (CCS = Combined Charging System). It permits charge outputs of up to 150 kW and current strengths up to 200 A.

**Collision protection:**

For additional collision protection, a crash element is built into the extended front end. Together with a strengthened frame design, this channels impact forces directly into the substructure. The result is improved protection for the driver and the cockpit footwell area. The requirements based on the pendulum impact test as laid down in ECE R29 are met.

**Cornering lights/steering-dependent headlamps:**

When turning or cornering, the fog lamp on the inside of the bend is steered so that the road ahead is much better illuminated. The cornering light switches on automatically up to a speed of 40 km/h if the main headlamps are switched on, and the turn indicator is set or the steering wheel turned.

**Eco Driver Feedback (EDF):**

Eco Driver Feedback provides the driver with individual feedback on his or her personal driving behaviour. The objective is to exploit every potential in terms of fuel saving.

**Electronic level control:**

Passengers and luggage are not always evenly distributed in the vehicle. As a result, the height of the vehicle varies from wheel to wheel. The electronic level control automatically regulates the vehicle height at each wheel so that the step height is always the same.

**Electronic Stability Program (ESP®):**

In situations where the driving dynamics are critical, ESP® selectively controls engine output and the braking forces at each wheel individually. Within the boundaries of physics, finely regulating the braking of the vehicle in this way prevents any possible "breakaway" by the bus. ESP® therefore contributes noticeably to a reduction in the tendency to understeer and risk of skidding during cornering or evasive manoeuvres.

**Electropneumatic-Braking-System (EBS):**

EBS is a further development of the conventional air brake and offers numerous advantages. When braking, the control unit first activates the retarder. If greater deceleration is required, the control unit uses the information in the data network to determine the optimum braking pressure for every axle. The Electropneumatic-Braking-System thus results in much shorter stopping distances and significantly less wear on brake linings and discs.

**LED headlamps:**

The light cone of the LED headlamp can be defined with particular accuracy. The light colour is somewhat like daylight, thus ensuring that the driver's eyes tire less quickly. Increased brightness and a greater range further enhance safety. LED lamps are approximately two or three times more efficient than conventional light bulbs.

**Motor close to the wheel hub:**

In contrast to an internal combustion engine, an electric motor can, to a large extent, be positioned freely on the vehicle. Mercedes-Benz has chosen a compact design – the tried and tested ZF AVE 130 drive axle with motors close to the wheel hub, which has already been used in other Citaro variants.

This electric portal axle features a water-cooled asynchronous motor on each wheel. The motors each output 125 kW, making a total of 250 kW. The torque from a standstill therefore stands at 2 x 485 Nm, and even a torque of approx. 2 x 11,000 Nm is applied to the wheels thanks to the transmission ratio. The gained installation space from the combustion engine and the gearbox are used to house battery modules.

**Pantograph power consumer:**

The power consumer or pantograph transfers electrical power from a charging station to a vehicle. In city buses powered by an electric battery, it provides a stationary supply especially during opportunity charging, and more rarely during depot charging. A permanent installation on the vehicle is possible on the roof of the bus; a permanent installation at the charging stations is also possible. In both cases, the power consumer is advanced at the start of charging and then connects the vehicle to the charging station.

**Preventive Brake Assist:**

With Preventive Brake Assist, Mercedes-Benz is offering the world's first active brake assist system for city public service buses. The assist system issues a warning before a collision with standing or moving objects and, if there is an acute danger of a collision, it automatically initiates a braking operation with partial braking. The warning cascade and the braking intervention are designed precisely for use in city traffic.

In the event of a threat of a collision, the Preventive Brake Assist warns the driver both visually with a red triangle with a vehicle symbol lighting up in the central display and also acoustically, and at the same time the system initiates a partial braking. This braking continues until either the driver intervenes or the bus comes to a standstill.

The basis of the Preventive Brake Assist is a new generation of radar technology: the radar system continuously scans the traffic lane at a distance of up to 250 metres ahead of the bus, and works reliably even at night and in adverse weather conditions.

**Sideguard Assist:**

The turn assistant Sideguard Assist helps the driver to recognise critical situations in good time when turning. The system works in several stages: in the first stage, it informs the driver and, in the second stage, it emits an additional warning.

If there is a moving object in the side monitoring zone, the driver gets a visual warning. In the A0 pillar on the co-driver's side, an LED lamp lights up yellow in the form of a triangle. In addition, a warning message appears in the central display. If the driver initiates or continues an action that could lead to a collision, an additional visual warning is given: the LED lamp flashes red several times with increasing brightness and then stays on permanently. In addition, there is a vibration warning in the driver's seat.

Sideguard Assist also warns of stationary obstacles in the turning curve of the bus and can take on the additional task of a lane change assistant; in this case, it works with the same warning cascade.

**Tyre pressure monitoring system:**

The tyre pressure monitoring system indicates the actual pressure in the individual tyres, and warns of any deviation from the optimum pressure. This reduces wear on the tyres, has a positive effect on fuel consumption, and prevents dangerous tyre damage.

**Important for you. Important for us. Technical data stored in the vehicle.**

Electronic vehicle components (e.g. Engine Control Unit) contain data storage for vehicle Technical Data, including but not limited to Diagnostic Trouble Codes in the event of a malfunction, vehicle speed, braking force, or operating conditions of the Restraint System and Driver Assistance Systems in case of an accident (no audio and no video data recording). This data is either stored volatile, punctual as snapshot e.g. Diagnostic Trouble Codes, over a short period of time (a few seconds only) e.g. in case of an accident or in aggregated form e.g. for component load evaluation. The data can be read using interfaces connected to the vehicle. Trained technicians can process and utilize the data to diagnose and repair possible malfunctions. The manufacturer can use the data to analyze and improve vehicle functions. When requested by the customer, Technical Data can form the basis of additional optional services. In general, data from the vehicle is transferred to the manufacturer or a third party only according to legal allowance, or based on a contractual customer consent in accordance with data protection laws. Further information regarding storage of vehicle Technical Data is provided in the vehicle Owner's Manual. Mercedes-Benz Buses and Coaches naturally handles customer data confidentially.

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