



Mercedes-Benz

[EQ Power: new plug-in hybrid Mercedes-Benz S560e](#)

Press Information

More power, more range

September 12, 2017

Stuttgart/Frankfurt. The latest addition to the S-Class family is a new-generation plug-in hybrid. With an on-board 7.2-kW charger that allows for fast charging of the battery, the S560e has an approximate all-electric range of 25 miles. The S560e Sedan debuted at the 2017 Frankfurt International Auto Show in September and is expected to go on sale in the U.S. by late 2019.

Plug-in hybrids represent a key technology on the road to a locally emission-free future for the motor car. This is because they offer customers the best of both worlds; in the city they can drive on battery power alone, while on long journeys they benefit from the combustion engine's range. Hybridization also makes the internal combustion engine more efficient, and ensures more dynamic performance. The hybrid drive system in the S560e combines the 362 hp of the V6 spark-ignition engine with an electric output of 90 kW.

The third-generation hybrid transmission evolved on the basis of the 9G-TRONIC PLUS automatic transmission. The torque converter, clutch and electric motor are housed in the innovative hybrid drive unit. The compact design was achieved by integrating and connecting the separating clutch, torsional vibration damper and torque converter lock-up clutch within the rotor of the electric motor. The torque converter with its powerful and highly efficient hydraulic circuit offers smooth, effortless acceleration in hybrid mode.

Developed with Bosch as part of the EM-motive joint venture, the electric motor was specially designed for the 9G-TRONIC plug-in hybrid transmission. The new, significantly enhanced power electronics have allowed further increases in output and torque. The electric output of 90 kW and 325 lb-ft contributes to the effortlessly superior driving sensation in the S-Class.

The S560e has an approximate all-electric range of 25 miles. A crucial factor here is that, although the battery size remains unchanged, the new lithium-ion battery has an increased rated capacity of 13.5 kWh. Evolving the cell chemistry from lithium-iron-phosphate (LiFePo) to lithium-nickel-manganese-cobalt (Li-NMC) allowed the cell capacity to be increased from 22 to 37 Ah (amp hours). The highly efficient battery system in the S-Class comes, for the first time, from the wholly owned Daimler subsidiary Deutsche ACCUMOTIVE. U.S. range and overall electric motor specifications will be announced at the time of launch.

The power electronics are now housed in the engine compartment. Despite an increase of around 50 percent in its energy content, the dimensions of the new battery are smaller than those of its predecessor, increasing trunk capacity as a result.

Technical data at a glance

	S560e Sedan
Number of cylinders/arrangement	6/V
Displacement (cc)	2,996
Rated output of spark-ignition engine (hp)	362
Rated torque of spark-ignition engine (lb-ft)	369
Rated output of electric motor (kW)	90
Rated torque of electric motor (lb-ft)	325
Electric range (mi)*	25 est.
Acceleration 0-60 mph (s)	4.9
Top speed (mi) (electronically limited)	155 (electronically limited)

*U.S. range and overall electric motor specifications will be announced at launch.

Intelligent operating strategy with ECO Assist

The S560e provides comprehensive support to promote anticipatory and economical driving: the driver is prompted when it is appropriate to release the accelerator—for example when the S-Class is approaching a speed limit—and is assisted by innovative functions such as gliding and recuperation. To this end, navigation data, traffic sign recognition and information from the intelligent safety assistants (radar and stereo camera) are networked and processed.

ECO Assist takes the following traffic situations and information into account in its driving recommendations and efficiency strategy:

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- Route profile (bends, junctions, roundabouts)
- Speed limits
- Distance from vehicles ahead

ECO Assist continuously generates coasting simulations in the background. Depending on the charge level of the battery and the traffic situation, it computes whether the vehicle should ideally be allowed to coast freely ("sail") with the lowest possible driving resistance when releasing the accelerator, or whether it should be decelerated so that the battery can be efficiently charged (recuperation).

The haptic accelerator pedal helps the driver to achieve an economical and comfortable driving style. A variable point of resistance in the pedal, for example, indicates to the driver that maximum electric output is being delivered. If the driver continues to depress the pedal beyond this point, the combustion engine kicks in. A noticeable double pulse in the haptic accelerator pedal recommends the driver to take their foot off the accelerator. If the driver follows this recommendation, the combustion engine is switched off and decoupled from the drivetrain.

Within the limits of the system, ECO Assist regulates the impetus according to the situation as soon as the driver's foot leaves the accelerator. The driver is also given a visual prompt to do this by the appearance of a "release accelerator" symbol in the central display (or if installed, in the head-up display). At the same time a graphic gives the driver the reason for the recommendation (i.e. "Junction ahead" or "Gradient ahead").

To increase the driver's motivation to follow the recommendations of ECO Assist, the on-board computer records how many miles/for how much time during a journey the car has been driven with the engine switched off, and shows this in the central display. The reward not only takes the form of reduced fuel consumption, but also of an increased electric range.

The standard equipment for the S560e is extensive and includes special features such as extended pre-entry climate control. The S-Class is air-conditioned to the preset temperature ready for the start of the trip, assuming the driver has entered the departure time, for example via the Mercedes me app. This is possible due to the electrically driven refrigerant compressor and electric heating elements. Furthermore, preheating encompasses not just the interior air but also the heated seats, steering wheel and armrests in the doors and center console, while cooling also activates the seat ventilation (optional).

One of the broadest portfolios of plug-in hybrids

Because the strengths of plug-in hybrids come to the fore in larger vehicles and on mixed route profiles, Mercedes-Benz is opting for this powertrain concept from the C-Class on up. The strategic hybrid initiative is decisively facilitated by Mercedes-Benz's intelligent modular hybrid concept: it is scalable to allow it to be transferred to a large number of model series and body styles as well as left- and right-hand-drive variants. To underline the important role of hybrids in the process of electrifying the car, the Mercedes-Benz plug-in models will, in future, feature the technology badge EQ Power.

Mercedes-Benz has one of the broadest ranges of plug-in hybrids in the premium segment. In the U.S. this includes the C350e Sedan, GLE550e 4MATIC SUV, GLC350e 4MATIC SUV and the new S560e, the successor to the S550e. Globally, Mercedes-Benz also offers the C350e wagon and longwheelbase sedan, GLC350e 4MATIC Coupe and E350e Sedan.

The 2019 Mercedes-Benz S560e Sedan celebrated its World Premiere at the 2017 Frankfurt International Auto Show in September, and is expected to go on sale in the U.S. in late 2019.

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About Mercedes-Benz USA

Mercedes-Benz USA (MBUSA), headquartered in Atlanta, is responsible for the distribution, marketing and customer service for all Mercedes-Benz products in the United States. MBUSA offers drivers the most diverse lineup in the luxury segment with 15 model lines ranging from the sporty CLA-Class four-door coupe to the flagship S-Class and the Mercedes-AMG GT S.

MBUSA is also responsible for Mercedes-Benz Vans and smart products in the U.S. More information on MBUSA and its products can be found at www.mbusa.com, www.mbsprinterusa.com and www.smartusa.com.

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