
adaptive cruise control with stop & go function

The central element of the Audi driver assistance systems is the adaptive cruise control with stop & go function, an automatic distance control system. The system, which is available in a number of larger models, regulates the speed and the interval to the vehicle ahead by automatically accelerating and braking in a speed range of 0 to 250 km/h (0 – 155.34 mph).

The ACC stop & go uses two radar sensors installed at the front of the vehicle which are automatically heated when it is cold. They transmit radar waves at a frequency of 76.5 gigahertz covering a roughly 40 degree wedge-shaped field measuring approx. 250 meters (820 ft) in length. A computer processes the signals and thus detects vehicles ahead.

The driver can influence the function of the ACC stop & go; the interval to the vehicle ahead and the control system dynamics are adjustable in steps. The system accelerates smoothly or sharply, depending on the setting. Deceleration is limited to roughly 4 m/s² (13.12 ft/s²), which is a good third of what is possible. In stop-and-go traffic, the ACC stop & go automatically slows the car to a stop. After a brief stop, the vehicle moves off again automatically and follows the vehicle ahead. After a longer stop, the driver must tap the accelerator or the cruise-control lever.

The adaptive cruise control with stop & go function is a highly intelligent system – thanks to its broad networking. It works closely together with other driver information systems, and each of them contributes its own specific strengths. All told, the ACC stop & go in the Audi A8 takes data from around 30 control units, with which it works to continuously analyze the complete area around the vehicle. This expanse of knowledge enables the system to recognize complex scenarios and predictively support the driver. Because it also cooperates with the navigation system, it knows the course of the selected route in advance and can also compute the lane in curves, for example.

The ACC stop & go uses its networked knowledge in numerous situations. Whether quickly passing a car turning right from an interurban road or if another vehicle pulls into the lane occupied by the vehicle on the highway, the system handles many situations with the reflection and composure of a skilled driver, making driving even more fluid and harmonious.

Audi offers the adaptive cruise control in a number of different versions, with and without stop & go function, depending on the model series. The function of the individual versions



varies slightly due to the different degrees of networking and the expansion levels.

Status: 2011