Model **all (CAR)**
  with code 504 (Speed Limit Assist)
Model **all (CAR)**
  with code 513 (Traffic Sign Assist)

Overview

This document contains the following information:

- **General**
- **Function requirements**
- **Traffic sign recognition**

General

Traffic sign recognition evaluates the information on traffic signs and interprets its meaning. This allows the maximum permissible speed and any passing restrictions in the current route, as well as crosswalks, to be identified and displayed to the driver. Restricting supplementary signs, such as speed limits in wet conditions, are also taken into account.

The driving speed is compared with the permissible maximum speed. The detected maximum permissible speed can be adopted as the new specified speed.

If set appropriately by the driver, a warning indicates when the permissible maximum speed is exceeded. No-entry signs are also recognized and the driver is prompted to check his direction of travel, if necessary. The driver can also be warned about people in the vicinity of crosswalks.

In vehicles with Traffic Sign Assist, the traffic sign recognition system evaluates additional information from the digital road map of the navigation system.

Traffic sign recognition can reduce the risk of traffic collisions or accidents. Traffic sign recognition is operated via the multimedia system.

Function requirements

The following conditions must be met so that traffic sign recognition can be activated:

- Circuit 15R ON
- Vehicle moving forward

Traffic sign recognition

The multifunction camera behind the windshield detects traffic signs e.g. at the edge of the road, on sign gantries or at construction sites. The integrated picture recognition module evaluates the picture data from the multifunction camera. The navigation system (vehicles with Connect 20 multimedia system) provides information from the digital road map.

When determining the maximum permissible speed, the traffic sign recognition system also takes into account the following information:

- Actions of the windshield wiper system, which indicate rain and a wet road
- Outside temperature, from which the danger of slippery conditions can be derived
- Trailer operation (vehicles with trailer hitch); different regulations apply for journeys with trailers

In addition, the traffic sign recognition system evaluates the following function-relevant parameters:

- Engine operating state
- Direction of travel
- Vehicle speed
- Vehicle longitudinal and lateral acceleration as well as yaw rate
- Distance and angle to other road users and objects
- Steering angle

Traffic sign recognition is continuously active in the background. In other words, the traffic signs are continuously recorded by the multifunction camera and evaluated by the integrated picture recognition module.

The picture recognition module compares the image data with stored data records and assigns credibility levels to all results. This allows the traffic signs to be matched to the respective valid road traffic regulations.

The multifunction camera evaluates both circular and square contours.

Speed limits, prohibitory and derestriction signs are detected, including restrictions in countries with signage according to the Vienna Convention as well as in the USA and Canada.

Non-relevant signals (supplementary signs that, for example, are relevant for a turnoff lane) are ignored.

If route guidance is active (vehicles with Connect 20 multimedia system), supplementary signs will be shown immediately if they are relevant for the currently active navigation.

Inadvertent "wrong-way" driving can be prevented by the visual and acoustic wrong-way warning function of the traffic sign recognition system. This is because the system also detects no-entry signs at slip roads of expressways, freeways and traffic circles, and compares them with the information from the navigation system.

The pictures recorded by the multifunction camera are compared with stored data records by the picture recognition module. The detected traffic signs are matched to the respective valid road traffic regulations.

	Function schematics		
	Recognise traffic signs, function schematic	Model 167 with code 504 (Speed Limit Assist) except code 23P (Driving Assistance package) except code 51B (EURO NCAP) except code P20 (Driving Assistance package Plus)Model 167 with code 513 (Traffic Sign Assist) except code 23P (Driving Assistance package) except code 51B (EURO NCAP) except code P20 (Driving Assistance package Plus)Model 177, 247 with code 504 (Speed Limit Assist) except code 23P (Driving Assistance package) except code 51B (EURO NCAP)Model 177, 247 with code 513 (Traffic Sign Assist) except code 23P (Driving Assistance package) except code 51B (EURO NCAP)	PE54.30-P-2502-97A
		Model 167, 177, 247 with code 23P (Driving Assistance package) with code 513 (Traffic Sign Assist)Model 167, 177, 247 with code 504 (Speed Limit Assist) with code 51B (EURO NCAP)Model 167, 177, 247 with code 513 (Traffic Sign Assist) with code 51B (EURO NCAP)Model 167 with code 513 (Traffic Sign Assist) with code P20 (Driving Assistance package Plus)	PE54.30-P-2502-97B
	Subsystems		
	Functional limitations of traffic sign recognition, detailed information		GF54.30-P-0021-01A
	Traffic sign recognition, detailed information		GF54.30-P-0022-01A

	Control units		
	Multifunction camera, basic function		GF54.71-P-9890A